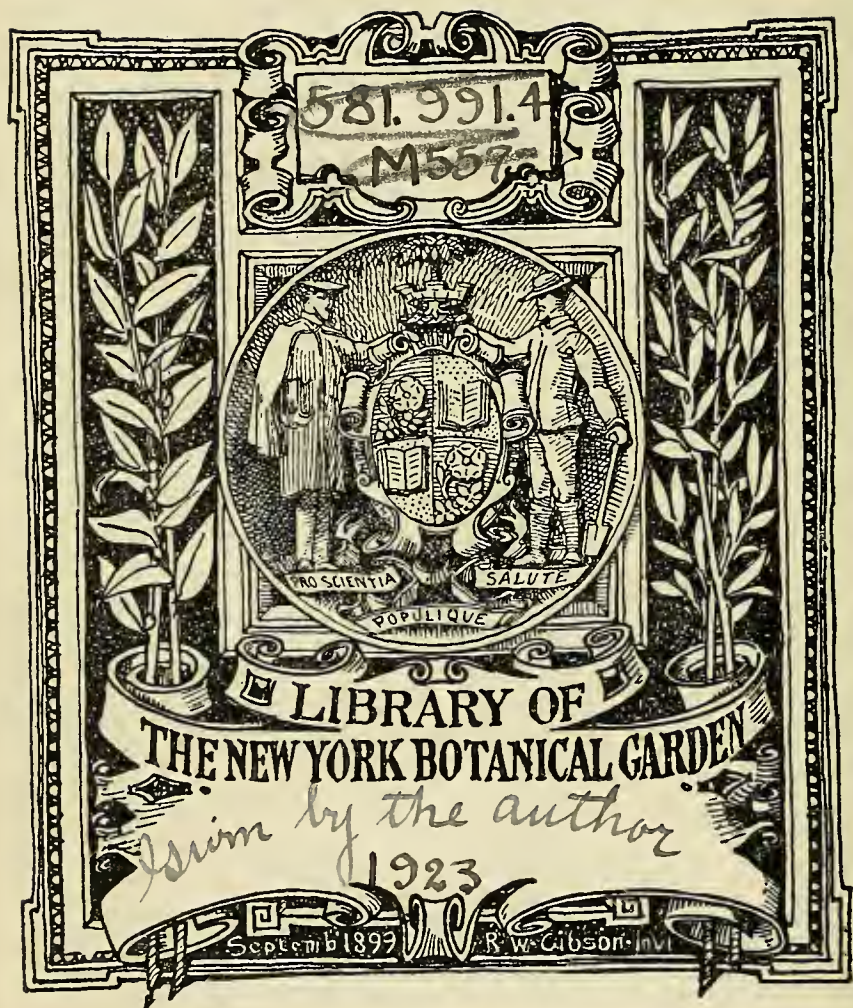




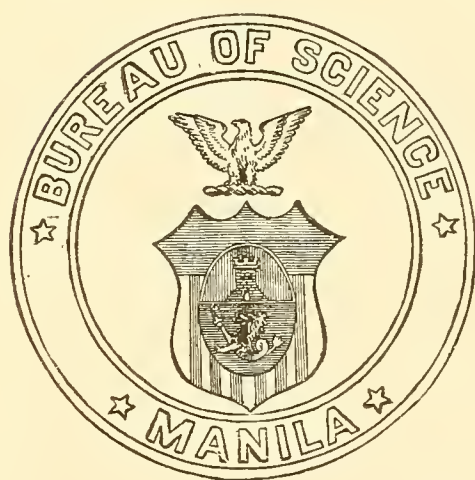
AN ENUMERATION OF PHILIPPINE FLOWERING PLANTS

BY

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AN ENUMERATION OF PHILIPPINE FLOWERING PLANTS

By ELMER D. MERRILL

Director and Botanist, Bureau of Science, Manila

VITACEAE

1. VITIS Linnaeus

VITIS FLEXUOSA Thunb. in Trans. Linn. Soc. 2 (1793) 103; F.-Vill. Novis. App. (1880) 50; Planch. in DC. Monog. Phan. 5 (1887) 347; Gagnep. in Bull. Soc. Hist. Nat. Autun 24 (1911) 28 (var. *malayana* Planch.); Merr. in Philip. Journ. Sci. 11 (1916) Bot. 144.

Luzon (Benguet), *Merrill Phil. Pl. 1714*, *Williams 1052*, *Elmer 5880*, *B. S. 13488* *Ramos, 3371* *Mearns, F. B. 5142* *Curran*. In thickets about cliffs and boulders, altitude 1,100 to 1,400 m. India to Japan southward to Java.

DOUBTFUL AND EXCLUDED SPECIES

VITIS CUMINGIANA Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 416; F.-Vill. Novis. App. (1880) 50; Planch. in DC. Monog. Phan. 5 (1887) 624; Vidal Phan. Cuming. Philip. (1885) 104, Rev. Pl. Vasc. Filip. (1886) 93.

Cuming 1173 is a *Vitex*; Planchon erroneously cites it as *1113*; Turczaninow's description, however, apparently applies to *Columella*.

VITIS ERIOCLADA W. & A.; F.-Vill. Novis. App. (1880) 49.

VITIS INDICA Linn.; F.-Vill. l. c.

VITIS LATIFOLIA Roxb.; F.-Vill. l. c.

VITIS LANCEOLARIA Roxb.; F.-Vill. Novis. App. (1880) 50; Vidal Rev. Pl. Vasc. Filip. (1886) 93; Usteri. Beitr. Ken. Philip. Veg. (1905) 114.

Both records are undoubtedly based on some erroneously identified species of *Tetrastigma*.

VITIS CAPRIOLATA Don; F.-Vill. Novis. App. (1880) 50.

VITIS TEYSMANNII Miq.; Usteri Beitr. Ken. Philip. Veg. (1905) 114 (*teysmanniana*).

Usteri's specimens from Cebu and Negros were probably not correctly identified; not seen.

VITIS VINIFERA Linn. Sp. Pl. (1753) 202; Planch. in DC. Monog. Phan. 5 (1887) 355; F.-Vill. Novis. App. (1880) 49; Ceron Cat. Pl. Herb. Manila (1892) 50; Usteri Beitr. Ken. Philip. Veg. (1905) 114.

The European grape; occasionally found in cultivation in the Philippines. It does not thrive in the Archipelago, and, at least in most regions where it has been grown, it seldom produces fruit.

2. AMPELOCISSUS Planchon

AMPELOCISSUS BOTRYOSTACHYS Planch. in DC. Monog. Phan. 5 (1887) 413; Gagnep. in Bull. Soc. Hist. Nat. Autun 24 (1911) 20; Merr. in Philip. Journ. Sci. 11 (1916) Bot. 126.

Luzon (Tayabas, Laguna), Panay, *Cuming* 820, *F. B.* 25568 *Yates*, 28835, 31212 *Ramos & Edaño*, 10994, 16660 *Ramos*. In damp primary forests at low altitudes. Endemic.

Local name: Ayong-balakbák (Tag.).

AMPELOCISSUS MARTINI Planch. in DC. Monog. Phan. 5 (1887) 373; Gagnep. in Bull. Soc. Hist. Nat. Autun 24 (1911) 20; Merr. in Philip. Journ. Sci. 11 (1916) Bot. 126.

Ampelocissus barbata Merr. in Philip. Journ. Sci. 3 (1908) Bot. 110, non Planch.

Vitis barbata Ceron Cat. Pl. Herb. Manila (1892) 51; Usteri Beitr. Ken. Philip. Veg. (1905) 114, non Wall.

Luzon (Batangas), Banton, Semirara, Culion, Coron, Palawan, Guimaras, *Merrill* 9425, 4150, *Phil. Pl.* 1879, *McGregor* 350, *B. S.* 21376 *Es-critor*, *F. B.* 43 *Ritchie*. In thickets at low altitudes. Indo-China.

Local name: Bika (P. Bis.).

AMPELOCISSUS MULTIFOLIOLA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 127.

Luzon (Laguna), Catanduanes, *B. S.* 16539, 30407 *Ramos*. In damp primary forests at low altitudes. Endemic.

AMPELOCISSUS OCHRACEA (Teysm. & Binn.) Merr. in Philip. Journ. Sci. 11 (1916) Bot. 125.

Cissus ochracea Teysm. & Binn. in Nat. Tijdschr. Nederl. Ind. 27 (1864) 35.

Vitis ochracea Teysm. & Binn. ex Planch. in DC. Monog. Phan. 5 (1887) 409, in syn.; Ceron Cat. Pl. Herb. Manila (1892) 51.

Ampelocissus imperialis Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 110, non Planch.

Culion, Balabac, Mindanao (Agusan, Bukidnon, Davao, Zamboanga, Lanao), Basilan, *Merrill* 668, *Warburg* 14473, *Elmer* 13600, *Wester* 41, *Clemens* 331, *Piper* 447, *B. S.* 36923, 36678 *Ramos & Edaño*. In thickets at low and medium altitudes. Celebes.

Var. **TRILOBATA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 125.

Luzon (Pangasinan, Tayabas, Camarines), Polillo, Catanduanes, Mindoro, Mindanao (Surigao), *B. S.* 10773 *McGregor*, 30076, 29916 *Fénix*, 9351 *Robinson*, 20785 *Escritor*, 33468 *Ramos & Edaño*, 30402, 30260, 39532 *Ramos*. In forests along streams at low altitudes. Endemic.

Local names: Ambau (Mbo.); saladai (Sub.).

AMPELOCISSUS PAUCIFLORA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 126.

Luzon (Union, Zambales, Bataan), Golo, Palawan, Calusa, Cuyo, Coron, Panay, *Merrill 3280, 9377, 11553, Lete 113, 332, B. S. 2116, 21363 Escritor, 15659 Fénix, 32255, 32243 McGregor*. In dry thickets along the seashore. Endemic.

Local names: Arínat (Ilk.); barinatnát (Ilk.); tagini (Tag.).

3. PTERISANTHES Blume

PTERISANTHES SINUOSA Merr. in Philip. Journ. Sci. 2 (1907) Bot. 423.

Mindanao (Lanao, Zamboanga), *Clemens 647, B. S. 36908 Ramos & Edaña*. In thickets or forests, altitude about 750 m. Endemic.

Local name: Dagui (Sub.).

4. TETRASTIGMA Planchon

TETRASTIGMA BRUNNEUM Merr. in Philip. Journ. Sci. 7 (1912) Bot. 84.

Luzon (Bontoc, Benguet, Tayabas, Bataan, Laguna), Mindanao (Davao). In forests, altitude 800 to 2,300 m. Endemic.

Local names: Gatlan (Ig.); gitlan (Ig.); kalit-kalitin (Tag.).

TETRASTIGMA CLEMENTIS Merr. in Philip. Journ. Sci. 11 (1916) Bot. 137.

Panay, Mindanao (Lanao), *Clemens 85, B. S. 18177 Robinson*. In thickets along streams, altitude 350 to 800 m. Endemic.

TETRASTIGMA CORNICULATUM Merr. in Philip. Journ. Sci. 13 (1918) Bot. 26.

Mindoro, Leyte, *Wenzel 1240, B. S. 41087 Ramos*. In forests at low or medium altitudes. Endemic.

TETRASTIGMA ELLIPTICUM Merr. in Philip. Journ. Sci. 11 (1916) Bot. 138.

Basilan, *B. S. 16173 Reillo*. In forests. Endemic.

TETRASTIGMA EVERETTII Merr. in Philip. Journ. Sci. 11 (1916) Bot. 139.

Negros, *F. B. 11217 Everett*. In forests, altitude about 90 m. Endemic.

Local name: Lañgiñgi (P. Bis.).

TETRASTIGMA GLABRATUM (Blume) Planch. in DC. Monog. Phan. 5 (1887) 430; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 210.

Cissus glabrata Blume Bijdr. (1825) 189.

Luzon (Laguna), Polillo, Mindoro, Palawan, *B. S. 10373 McGregor, 832 Foxworthy, F. B. 11497, 11442, 4050, 12041, 12135 Merritt*. In forests at low altitudes. Java.

Local names: Kalitkalit-gúbat (Tag.); lagitík (Tag.); lupiron (P. Bis.); pañgiñgit (Tagb.).

TETRASTIGMA HARMANDII Planch. in DC. Monog. Phan. 5 (1887) 436; Gagnep. in Not. Syst. 1 (1910) 320; Merr. Fl. Manila (1912) 310, Philip. Journ. Sci. 11 (1916) Bot. 136, Sp. Blancoanae (1918) 247.

Cissus pedata Blanco Fl. Filip. (1837) 71, ed. 2 (1845) 52, ed. 3, 1 (1877) 96, t. 398, non Lam.

Tetrastigma lanceolarium Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 88, 2 (1907) Bot. 433, non Roxb.

Tetrastigma strumarum Gagnep. in Not. Syst. 1 (1910) 267, 321, quoad Philip.

Luzon (Cagayan, Apayao, Abra, Lepanto, Union, Nueva Vizcaya, Bataan, Bulacan, Rizal, Laguna, Tayabas), Mindoro, Panay. In thickets at low and medium altitudes. Indo-China.

Local names: Alupidan (Bis.); arinat (Ilk.); áyo (Tag.); dipig (Bon.); hayok (Tag.); iyo (Tag.); kalit-kalit (Tag.); langnikit (C. Bis.).

TETRASTIGMA LITTORALE Merr. in Philip. Journ. Sci. 11 (1916) Bot. 141.

Palawan, *Merrill 7215*. In forests along the seashore. Endemic.

TETRASTIGMA LAXUM Merr. in Philip. Journ. Sci. 11 (1916) Bot. 140.

Luzon (Benguet, Bataan, Tayabas, Laguna), Mindanao (Agusan), *F. B. 2495 Borden, 2510 Meyer, B. S. 14924, 19540 Ramos, Elmer 13973*. In forests at low and medium altitudes. Endemic.

Local name: Nagitnít (Mbo.).

TETRASTIGMA LOHERI Gagnep. in Not. Syst. 1 (1910) 265, 323; Merr. in Philip. Journ. Sci. 11 (1916) Bot. 144.

Tetrastigma philippinense Merr. in Philip. Journ. Sci. 7 (1912) Bot. 86.

Tetrastigma angustifolium Merr. in Philip. Journ. Sci. 5 (1910) Bot. 360, non Planch.

Luzon (Ilocos Norte to Sorsogon), Mindoro, Palawan, Mindanao. In thickets and forests at low and medium altitudes, ascending to 1,400 m, often common. Endemic.

Local names: Áyo (Tag.); barinatnát (Ilk.); chanon (Ig.); nalah (Bag.); ragini (Bik.).

TETRASTIGMA MAGNUM Merr. in Philip. Journ. Sci. 11 (1916) Bot. 142.

Luzon (Rizal, Laguna), Mindoro *B. S. 13610, 39796 Ramos, 15152 Fé-nix, F. B. 25701 Foxworthy*. In forests. Endemic.

TETRASTIGMA MINDANAENSE Merr. in Philip. Journ. Sci. 17 (1920) 279.

Mindanao (Surigao), *B. S. 34463 Ramos & Pascasio*. In forests at low altitudes. Endemic.

TETRASTIGMA PAPILLOSUM (Blume) Planch. in DC. Monog. Phan. 5 (1887) 429; Gagnep. in Not. Syst. 1 (1910) 317; Merr. in Philip. Journ. Sci. 11 (1916) Bot. 137.

Cissus papillosa Blume Bijdr. (1825) 183.

Cissus suberosa Elm. Leaf. Philip. Bot. 2 (1908) 493.

Luzon (Laguna, Rizal, Sorsogon), Catanduanes, Biliran, Negros, Mindanao. In forests, altitude 500 to 1,200 m. Java, Borneo, New Guinea.

Local names: Mangiting (Sub.); nupol (Sub.); tumagisig (Bag.).

TETRASTIGMA ROBINSONII Merr. in Philip. Journ. Sci. 11 (1916) Bot. 142.

Luzon (Laguna, Tayabas), Polillo, Catanduanes, *B. S. 10400, 23035* McGregor, 19471, 19511, 16634, 30244 Ramos, *Elmer 18173* as *T. merrittii* Elm., *Warburg 13954*. In forests at low and medium altitudes. Endemic.

Local names: Bagnít (Tag.); kalit-kalítan (Tag.).

TETRASTIGMA SEPULCHREI Merr. in Philip. Journ. Sci. 7 (1912) Bot. 88.

Luzon (Bontoc, Benguet, Bataan), *Vanoverbergh 2751, 1215, Elmer 7004, Merrill 9702, Phil. Pl. 1786, B. S. 3371* Mearns. In thickets and forests, altitude 1,200 to 1,700 m. Endemic.

TETRASTIGMA STENOPHYLLUM Merr. in Philip. Journ. Sci. 11 (1916) Bot. 143.

Luzon (Union), *B. S. 12964 Fénix*. In thickets along streams at low altitudes. Endemic.

TETRASTIGMA TRIFOLIOLATUM Merr. in Philip. Journ. Sci. 9 (1914) Bot. 370.

Leyte, Samar, *Wenzel 544, B. S. 24482* Ramos. In forests up to 500 m altitude. Borneo.

5. AMPELOPSIS L. C. Richard

AMPELOPSIS HETEROPHYLLA Sieb. & Zucc. var. **HANCEI** Planch. in DC. Monog. Phan. 5 (1887) 457; Gagnep. in Bull. Soc. Hist. Nat. Autun 24 (1911) 6; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 419; 5 (1910) Bot. 360 (as *A. heterophylla* S. & Z.).

Vitis heterophylla Thunb. Fl. Jap. (1784) 103.

Vitis sinica Miq. in Journ. Bot. Néerl. 1 (1861) 125.

Ampelopsis heterophylla Sieb. & Zucc. in Abhandl. Bayer. Akad. Wissensch. IV 2 (1846) 197; Planch. in DC. Monog. Phan. 5 (1887) 455 (non Blume), var. *sinica* Merr. in Philip. Journ. Sci. 11 (1916) Bot. 128.

Batan Islands and northern Luzon to Mindanao and Palawan. In thickets chiefly at medium altitudes, ascending to 2,000 m in Benguet. Southern China, Indo-China, and Formosa.

Local names: Aguhip (If.); alip (Ig.); aso-aso (Bon.); bengbeñga (Bon.); maladolupang (P. Bis.); niop (Ig.); nitinit (Iv.).

Var. **HUMULIFOLIA** (Bunge) Merr. in Philip. Journ. Sci. 11 (1916) Bot. 129.

Ampelopsis humulifolia Bunge Enum. (1831) 12.

Vitis heterophylla Thunb. var. *humulifolia* Hook. f. in Curtis's Bot. Mag. t. 5682.

Ampelopsis heterophylla Sieb. & Zucc. var. *bungei* Planch. in DC. Monog. Phan. 5 (1887) 455; Gagnep. in Bull. Soc. Hist. Nat. Autun 24 (1911) 7.

Luzon (Bontoc, Lepanto, Nueva Vizcaya), Mindanao (Davao), *B. S.* 5973, 8170 *Ramos*, 14162 *McGregor*. In thickets at medium altitudes. China.

For an entirely different adjustment of synonyms and varieties see Rehder in *Journ. Arnold Arb.* 2 (1922) 174-177, sub *Ampelopsis brevipedunculata* Koehne.

6. CISSUS Linnaeus

CISSUS ADNATA Roxb. *Fl. Ind.* 1 (1820) 405; *Miq. Fl. Ind. Bat.* 1² (1858-59) 606; *Planch. in DC. Monog. Phan.* 5 (1887) 494; *Merr. in Philip. Journ. Sci.* 1 (1906) Suppl. 89; *Gagnep. in Not. Syst.* 1 (1911) 352.

Vitis adnata Wall. *Cat.* (1832) No. 5998; *F.-Vill. Novis. App.* (1880) 49; *Vidal Phan. Cuming. Philip.* (1885) 104, *Rev. Pl. Vasc. Filip.* (1886) 93; *Merr. in Philip. Bureau Forestry Bull.* 1 (1903) 35.

Cissus aristata Blume *Bijdr.* (1825) 183; *Merr. Fl. Manila* (1912) 311.

Vitis aristata F.-Vill. *Novis. App.* (1880) 50.

Northern Luzon to Mindanao, *Phil. Pl.* 1808 *Merrill*. In thickets at low and medium altitudes. India to Indo-China southward to Timor.

Local names: Ayong-kabáyo (Tag.); bolakau (Kuy.); linga-an (Bag.).

CISSUS ASSAMICA (Laws.) Craib. in *Kew Bull.* (1911) 31; *Gagnep. in Lecomte Fl. Gén. Indo-Chine* 1 (1912) 966.

Vitis assamica Laws. in *Hook. f. Fl. Brit. Ind.* 1 (1875) 648.

Luzon (Laguna to Sorsogon), Panay, *B. S.* 31188, 31063 *Ramos & Edaña*, 32372 *McGregor*, 26826 *Catalan*, *Elmer* 15588 as *Cissus ambigua* Elm. In thickets at low and medium altitudes. India to Indo-China and Malaya.

CISSUS DISCOLOR Blume *Bijdr.* (1825) 181; *Planch. in DC. Monog. Phan.* 5 (1887) 496; *Gagnep. in Not. Syst.* 1 (1911) 354; *Merr. in Philip. Journ. Sci.* 11 (1916) Bot. 129.

Mindanao (Misamis, Zamboanga), *F. B.* 4882 *Mearns & Hutchinson*, *Merrill* 8105. In forests, altitude 700 to 1,500 m. India to southern China southward through Malaya to the Moluccas.

CISSUS HASTATA (Miq.) *Planch. in DC. Monog. Phan.* 5 (1887) 502; *Gagnep. in Lecomte Fl. Gén. Indo-Chine* 1 (1912) 967, *fig. 120*.

Vitis hastata Miq. *Fl. Ind. Bat. Suppl.* (1861) 517.

Vitis sagittifolia Laws. in *Hook. f. Fl. Brit. Ind.* 1 (1875) 645; *F.-Vill. Novis. App.* (1880) 49; *Usteri Beitr. Ken. Philip. Veg.* (1905) 114.

Luzon (Benguet), *Merrill* 9695. In thickets, altitude about 1,200 m. Indo-China, Malay Peninsula, Sumatra, Java, Borneo.

CISSUS OBLONGIFOLIA *Merr. in Philip. Journ. Sci.* 11 (1916) Bot. 129. *Cissus rostrata* *Merr. op. cit.* 1 (1906) Suppl. 89, non Korth.

Luzon (Zambales, Bataan, Laguna), Palawan, Catanduanes, Panay, *F. B.* 2122, 1927 *Borden*, 2193 *Meyer*, 26375 *Catalan*, *B. S.* 26787 *Edaña*, 30164 *Ramos*, *Williams* 586, 248, *Whitford* 1056, *Merrill* 3793, *Elmer* 6669. In primary forests, altitude 100 to 900 m. Endemic.

Local name: Katimon-dagá (Tag.).

CISSUS QUADRANGULARIS Linn. Mant. 1 (1767) 39; Blanco Fl. Filip. (1837) 72, ed. 2 (1845) 52, ed. 3, 1 (1877) 97; Miq. Fl. Ind. Bat. 1² (1858-59) 606; Planch. in DC. Monog. Phan. 5 (1887) 509; Merr. Fl. Manila (1912) 311, Philip. Journ. Sci. 11 (1916) Bot. 130, Sp. Blancoanae (1918) 245.

Vitis quadrangularis Wall. Cat. (1832) No. 5992; Laws. in Hook. f. Fl. Brit. Ind. 1 (1875) 645; F.-Vill. Novis. App. (1880) 49.

Luzon (Cagayan, Batangas, Rizal), Negros, Cebu, Siquijor, *Merrill Sp. Blancoanae* 804. In dry thickets in and about towns at low altitudes; occasional, certainly introduced. India to tropical Africa and Java.

Local names: Sugpon-sugpon (Bis.); sulpa-sulpa (C. Bis.).

CISSUS REPENS Lam. Encycl. 1 (1783) 31; Miq. Fl. Ind. Bat. 1² (1858-59) 605; Planch. in DC. Monog. Phan. 5 (1887) 504; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 89, 11 (1916) Bot. 130, Fl. Manila (1912) 311, Sp. Blancoanae (1918) 246.

Vitis repens W. & A. Prodr. (1834) 125; Laws. in Hook. f. Fl. Brit. Ind. 1 (1875) 646; F.-Vill. Novis. App. (1880) 49.

Cissus vesicatoria Blanco Fl. Filip. ed. 2 (1845) 50 (*vexicatorius*), ed. 3, 1 (1877) 94, t. 318.

Luzon (Benguet, Zambales, Nueva Ecija, Bulacan, Bataan, Rizal, Laguna, Batangas, Sorsogon), Palawan, Balabac, Ticao, Panay, Negros, Mindanao. In thickets at low altitudes. India to southern China southward to Java, Sumatra, and Borneo.

Local names: Anupol (Buk.); áyo (Tag.); áyong-galá' (Tag.); kalitkalit (Tag.); kalitkalit-kalabáu (Tag.); kalitkalit-na-pulá (Tag.); kamkamot (Buk.); langitgít (Tag.); parapit-hángin (Tag.); ragini (P. Bis.); sogalom (Bag.); sinampai (Sub.).

Var **LUZONIENSIS** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 131.

Luzon (Bontoc, Pangasinan, Rizal), Palawan, Panay, Mindanao (Lanao), *B. S.* 13613, 4576, 22260 *Ramos*, 197 *Bermejos*, 17827 *Otanes*, *F. B.* 1840, 3317 *Ahern's collector*. In thickets and forests at low and medium altitudes. Endemic.

CISSUS SIMPLEX Blanco Fl. Filip. (1837) 72.

Cissus latifolia Blanco op. cit. ed. 2 (1845) 52, ed. 3, 1 (1877) 96, non Lam.

Cissus pyrrhodasys Miq. Fl. Ind. Bat. Suppl. (1861-62) 517; Merr. Sp. Blancoanae (1918) 246.

Vitis pyrrhodasys Ridl. in Journ. Str. Branch Roy. As. Soc. 75 (1917) 23.

Cissus assamica Craib. var. *pilosissima* Gagnep. in Not. Syst. 1 (1911) 353.

Luzon (Rizal, Laguna, Pangasinan, Benguet, Nueva Vizcaya), Busuanga, Cuyo, Palawan, Panay, Mindanao, *Merrill Sp. Blancoanae* 797, *Phil. Pl.* 1774, 1219, *B. S.* 21548 *Escritor*, 17789 *Otanes*, 31520, 31501 *Ramos & Edaño*, *F. B.* 23808, 25394 *Mabesa*. In thickets and borders of forests at low and medium altitudes, ascending to 1,400 m. India, through Malaya to New Guinea.

7. COLUMELLA Loureiro

(Cayratia Jussieu)

COLUMELLA APOENSIS (Elm.) comb. nov.

Cissus apoensis Elm. Leaf. Philip. Bot. 8 (1915) 2880.Mindanao (Davao), *Elmer* 11696. In forests, altitude about 1,200 m. Endemic.

Local name: Sumagisig (Bag.).

COLUMELLA CORNICULATA (Benth.) Merr. in Philip. Journ. Sci. 11 (1916) Bot. 133.

Vitis corniculata Benth. Fl. Hongk. (1861) 54.*Cissus corniculata* Planch. in DC. Monog. Phan. 5 (1887) 563.*Cayratia corniculata* Gagnep. in Not. Syst. 1 (1911) 347.*Cayratia japonica* Gagnep. Not. Syst. 1 (1911) 349, quoad Philip.; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 89, non *Vitis japonica* Willd.

Luzon (Bataan, Laguna, Tayabas, Sorsogon), Mindoro, Panay, Mindanao (Surigao, Butuan). In primary forests along streams, etc., altitude 100 to 800 m. Southern China, Formosa.

Local names: Kalit-kálit (Tag.); kalit-kalit-kalabáu (Tag.).

COLUMELLA GENICULATA (Blume) Merr. in Philip. Journ. Sci. 11 (1916) Bot. 132, Sp. Blancoanae (1918) 246.

Cissus geniculata Blume Bijdr. (1825) 184; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 272; Planch. in DC. Monog. Phan. 5 (1887) 572.*Vitis geniculata* Miq. Ann. Mus. Bot. Lugd.-Bat. 1 (1863) 81; F.-Vill. Novis. App. (1880) 49.*Cissus rubescens* Blanco Fl. Filip. (1837) 71.*Cissus alata* Blanco op. cit. ed. 2 (1845) 51, ed. 3, 1 (1877) 95, non Jacq.*Cayratia geniculata* Gagnep. in Not. Syst. 1 (1911) 345.Luzon (Cagayan, Ifugao, Benguet, Batangas, Laguna, Tayabas, Sorsogon), Catanduanes, Mindoro, Busuanga, Bancalan, Leyte, Mindanao, *B. S.* 19985 *McGregor*, 28858 *Ramos & Edaño*, 30359, 14975 *Ramos*, *Wenzel* 1187, 834, *Clemens* 776, *Merrill Sp. Blancoanae* 72, *Elmer* 14625. In forests up to 800 m altitude. Indo-China, Hainan, Malay Peninsula, Java, Borneo, Amboina.

Local names: Arinat (Ig.); bubulag (Sub.); dalung (C. Bis.); lobas Pamp.); ragi'ni' (Bik.); sampang (Tag.).

Var. SARCOCARPA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 133.

Luzon (Bataan, Laguna, Tayabas, Camarines), Catanduanes, *Merrill* 2531, *Phil. Pl.* 1115, *Elmer* 6700, *F. B.* 19136 *Curran*, *B. S.* 10951, 19539, 30502 *Ramos*. In forests at low and medium altitudes. Endemic.

COLUMELLA MOLLISSIMA (Wall.) comb. nov.

Vitis mollissima Wall. in Roxb. Fl. Ind. ed. 2, 2 (1832) 482; Laws. in Hook. f. Fl. Brit. Ind. 1 (1875) 656; Planch. in DC. Monog. Phan. 5 (1887) 575.*Cissus mollissima* Planch. in DC. Monog. Phan. 5 (1887) 575.*Cayratia mollissima* Gagnep. in Not. Syst. 1 (1911) 345.

Luzon (Ifugao, Pangasinan, Laguna, Bulacan, Tayabas, Nueva Ecija), Panay, Mindanao (Zamboanga), *B. S.* 31033, 26481, 29063 Ramos & Edaño, 35355 Martelino & Edaño, 23189, 20018 McGregor, 21721 Ramos. In thickets and forests at low and medium altitudes. Indo-China to the Malay Peninsula and Archipelago.

COLUMELLA PEDATA Lour. Fl. Cochinch. (1790) 85; Merr. in Philip. Journ. Sci. 11 (1916) Bot. 134.

Cissus pedata Lam. Encycl. 1 (1783) 31; Planch. in DC. Monog. Phan. 5 (1887) 558.

Cayratia pedata Juss. Dict. Class. Hist. Nat. 4 (1823) 136; Gagnep. in Not. Syst. 1 (1911) 346.

Vitis pedata Vahl ex Wall. Cat. (1832) No. 6027; Laws. in Hook. f. Fl. Brit. Ind. 1 (1875) 661; F.-Vill. Novis. App. (1880) 50.

Luzon (Ilocos Norte, Rizal), Mindanao (Bukidnon), *B. S.* 13628, 32813 Ramos, Loher 5827, Wester 56. In forested ravines at medium altitudes. India to Indo-China and Java.

COLUMELLA PTERITA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 135.

Panay, Sulu Archipelago (Ubian), Merrill 5388, *B. S.* 32373 McGregor. In thickets along and near the seashore. Endemic.

COLUMELLA SIMPLICIFOLIA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 135.

Leyte, *B. S.* 15308 Ramos. On forested slopes. Endemic.

COLUMELLA TENUIFOLIA (Heyne) Merr. in Philip. Journ. Sci. 11 (1916) Bot. 134.

Cissus tenuifolia Heyne in Wall. Cat. (1831) No. 6022; Planch. in DC. Monog. Phan. 5 (1887) 563.

Vitis tenuifolia W. & A. Prodr. (1834) 129.

Cayratia tenuifolia Gagnep. in Not. Syst. 1 (1911) 348.

Batan Islands, Luzon (Isabela), Mindanao, Basilan, Comiran, *B. S.* 3702 Félix, 3110 Mearns, Merrill Phil. Pl. 1099. In thickets and forests at low altitudes. Southern China, Formosa, Indo-China, Andaman Islands.

COLUMELLA TRIFOLIA (Linn.) Merr. in Philip. Journ. Sci. 11 (1916) Bot. 134, Sp. Blancoanæ (1918) 247.

Vitis trifolia Linn. Sp. Pl. (1753) 293.

Cissus carnososa Lam. Encycl. 1 (1783) 31; Planch. in DC. Monog. Phan. 5 (1887) 570.

Cissus acida Blanco Fl. Filip. (1837) 69, ed. 2 (1845) 50, ed. 3, 1 (1877) 94, t. 24, non Linn.

Vitis carnososa Wall. Cat. (1831) No. 6081; Laws. in Hook. f. Fl. Brit. Ind. 1 (1875) 654; F.-Vill. Novis. App. (1880) 49; Vidal Sinopsis Atlas (1883) 21, t. 33, f. A.

Cissus trifolia K. Schum. Fl. Kaiser Wilhelmsl. (1889) 71; Merr. Fl. Manila (1912) 311.

Cayratia carnososa Gagnep. in Not. Syst. 1 (1911) 347.

Throughout the Philippines in thickets at low altitudes. India to southern China through Malaya to the Moluccas and the Caroline Islands.

Var. **CINEREA** (Lam.) comb. nov.

Cissus cinerea Lam. Tabl. Encycl. 1 (1791) 332.

Range of the species, *B. S.* 16500 *Bacani*, *Merrill Phil. Pl.* 341, *Elmer* 17921, *B. S.* 21372 *Escritor*.

Local names: Alaṅgiṅgi (Bis.); arinat (Ilk.); barinatnát (Ilk.); kagindi (Bis.); kalit-kálit (Tag.); tagini (Kuy.); lagili (Sul.); lagini (Bik.); laṅgiṅgi (Bik.); lupo (Bik.); kabílan (Tag.); kulutpamo (Pamp.); nalalnát (Ig.); nagigni (Mbo.); pakopol (Tag.); ragindi (Bik.); ragi-níng-ayam (Bik.).

8. **LEE**A Royen

LEEA **ACULEATA** Blume Bijdr. (1825) 197; Miq. Mus. Bot. Lugd.-Bat. 1 (1863) 99; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 280, 3 (1908) Bot. 419; Interpret. Herb. Amb. (1917) 347, Sp. Blancoanae (1918) 247.

Ticorea aculeata Blanco Fl. Filip. (1837) 85.

Leea aculeata Blanco op. cit. ed. 2 (1845) 127, ed. 3, 1 (1877) 227, t. 306.

Leea biserrata Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 306, non Miq.

Babuyan Islands and northern Luzon to Mindanao and Palawan, in most or all islands and provinces. Common in thickets and secondary forests especially along streams at low and medium altitudes. Borneo, Java, Moluccas.

Local names: Amamáli (Sul.); anmamáli (S. L. Bis.); bulináunau (P. Bis.); garadat (Bik.); gemamáli (Buk.); hamamáli (Mbo.); hára (Tag.); kemamáli (Buk.); lumáli (Sub.); mali-mali (Pamp., Tag.); malmalig (Mag.); pamangkilon (Bis.); sipit-kahig (Tag.); sipit-kayin (Tag.).

LEEA **ACUMINATISSIMA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 281.

Luzon (Nueva Ecija), *B. S.* 2620 *Ramos & Edaño*. On forested slopes, altitude about 350 m. Endemic.

Local name: Paratalak (Neg.).

LEEA **AEQUATA** Linn. Mant. 1 (1767) 124; Vidal Rev. Pl. Vasc. Filip. (1886) 93; Usteri Beitr. Ken. Philip. Veg. (1905) 114.

Coron, Panay, Negros, Mindanao (Misamis, Zamboanga), *B. S.* 31185, 37084, 41166 *Ramos & Edaño*, 11761, 18138 *Robinson*, 18507 *Fénix*, *F. B.* 11205 *Everett*. In thickets and forests along streams at low altitudes. Andaman Islands, Indo-China, Malay Peninsula, Sumatra, Java, Borneo, Amboina.

Local names: Gulob (Sub.); pagutdon (P. Bis.).

LEEA **AGUSANENSIS** Elm. Leaf. Philip. Bot. 8 (1915) 2881.

Mindanao (Agusan, Butuan), Siargao, *Elmer* 13500, *B. S.* 34956 *Ramos & Pascasio*, 21507 *Escritor*. In primary forests up to 225 m altitude. Endemic.

Local names: Mamáli (Mbo.); nanayangsaṅgon (C. Bis.).

LEEAE ANGULATA Korth. in Ann. Mus. Bot. Lugd.-Bat. 1 (1863) 97; Koord. & Val. in Meded. Lands. Plantent. 9 (1903) 9.

Leea horrida Teysm. & Binn. Cat. Hort. Bogor. (1866) 169, *nomen nudum*; Ceron Cat. Pl. Herb. Manila (1892) 51.

Negros, Mindanao (Agusan, Davao, Zamboanga, Cotabato), Basilan, *Elmer* 13577, *Merrill* 5477, *Williams* 2156, *F. B.* 14242 *Tarroso*, 27514 *De-Mesa*. In thickets and secondary forests at low altitudes. Nicobar Islands, Malay Peninsula, Java, Sumatra.

Local names: Mamáli (Bil.); mamálig (Sul.); tonoganon (Mbo.).

LEEAE BANAHAENSIS Elm. Leaf. Philip. Bot. 1 (1908) 316.

Luzon (Tayabas, Rizal), *Elmer* 7509, 7615, *Baker* 2421, *B. S.* 28638, 40752 *Ramos*. In primary forests, altitude about 800 m. Endemic.

LEEAE CAPITATA Merr. in Philip. Journ. Sci. 17 (1920) 281.

Luzon (Tayabas, east coast), *B. S.* 19430, 28506 *Ramos & Edaña*, 25502 *Yates*. In primary forests along small streams at low and medium altitudes. Endemic.

LEEAE CONGESTA Elm. Leaf. Philip. Bot. 1 (1908) 318; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 209.

Luzon (Cagayan, Ilocos Norte, Benguet, Apayao, Nueva Ecija, Rizal, Tayabas, Camarines), Polillo, *Elmer* 8116, 6219, *B. S.* 28362 *Fénix*, 2165, 7730, 13412 *Ramos*, 26248, 29752, 33828 *Ramos & Edaña*, 10375 *McGregor*, 6850 *Robinson*. In primary forests at low and medium altitudes. Endemic.

Local name: Agusisiri (Ibn.).

LEEAE CUMINGII C. B. Clarke in Journ. Bot. 19 (1881) 166; Rolfe in Journ. Bot. 23 (1885) 211; Vidal Phan. Cuming. Philip. (1885) 104, Rev. Pl. Vasc. Filip. (1886) 44.

Luzon (Cagayan, Ilocos Norte, Nueva Vizcaya, Zambales, Rizal, Laguna, Tayabas), *Cuming* 1379, *B. S.* 32957, 13423, 13605, 1501, 20992, 14971 *Ramos*, *Merrill* 2277, *Phil. Pl.* 43. In forests along streams at medium altitudes. Endemic.

Local names: Buruhan (Neg.); magilek (Tag.).

LEEAE EUPHLEBIA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 452.

Luzon (Bontoc, Benguet), *Vanoverbergh* 444, *Merrill* 9687, *Sandkuhl* 268, *B. S.* 2479, 2853 *Mearns*, 31738 *Santos*. In thickets, altitude 1,200 to 1,400 m. Endemic.

Local names: Ayumáni (Bon.); dinamait (Ig.).

LEEAE INDICA (Burm. f.) Merr. in Philip. Journ. Sci. 14 (1919) 245.

• *Staphylea indica* Burm. f. Fl. Ind. (1768) 75, t. 23, f. 2.

Aquilicia sambucina Linn. Mant. 2 (1771) 211.

Leea sambucina Willd. Sp. Pl. 1 (1797) 1177; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 274; Miq. Fl. Ind. Bat. 1² (1858-59) 611; F.-Vill. Novis. App. (1880) 50; Vidal Sinopsis Atlas (1883) 21, t. 33, f. A, Phan. Cuming. Philip. (1885) 104, Rev. Pl. Vasc. Filip. (1886) 94; Koord. & Val. Bijdr. Boom. Jav. 9 (1903) 8; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 89, 3 (1908) Bot. 80.

Mindoro, Mindanao (Davao, Bukidnon), Panay, Sulu Archipelago, *Elmer* 10818, *Piper* 451, *B. S.* 18036 *Robinson*, 24980 *Fénix*, 39459 *Ramos*, 39095 *Ramos & Edaño*. In thickets at low altitudes, apparently very rare and local in the Philippines. Numerous specimens, so named, including those collected by Cuming, do not belong here. India to Indo-China, the Malay Peninsula, Java, Sumatra, Borneo.

Local names: Amamáli (Bis.); hamamáli (Bis.); mamáli (Bag., Bis.); nutub (Sul.).

LEE A JAVANICA Blume Bijdr. (1825) 197; Miq. Fl. Ind. Bat. 1² (1858-59) 610; Koord. & Val. Bijdr. Boom. Java 9 (1903) 12; Vidal Rev. Pl. Vasc. Filip. (1886) 93; Merr. in Philip. Bureau Forestry Bull. (1903) 36.

Palawan, Balabac, Panay, Samar, Mindanao (Agusan), Basilan, Sulu Archipelago, *B. S.* 9984, 11770 *Robinson*, 496 *Mangubat*, 14121 *Ramos*, *F. B.* 3493, 3483 *Curran*, *Merrill* 9460, *Elmer* 12924, 14308. In thickets at low altitudes; not certainly identical with Blume's Javan type, as I have seen no specimens from Java. Malay Peninsula, Sumatra, Java.

Local names: Karadat (Bis.); kalog (Mbo.); garadat (Bik.); panayangtagon (Bis.).

LEE A LONGIPETIOLATA Merr. in Philip. Journ. Sci. 17 (1920) 282.

Luzon (Camarines), *B. S.* 33633 *Ramos & Edaño*. In damp primary forests at low altitudes. Endemic.

LEE A MAGNIFOLIA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 37.

Luzon (Tayabas, Rizal, Sorsogon), Alabat, Catanduanes, Mindoro, *McGregor* 187, *Merrill* 10432, *Elmer* 14692, *Whitford* 644, *B. S.* 13234, 19441, 30512, 40889 *Ramos*, 40670 *Ramos & Edaño*. In primary forests along small streams at low altitudes. Endemic.

LEE A MANILLENSIS Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 314, Repert. 5 (1845) 378; Vidal Phan. Cuming. Philip. (1885) 104, Rev. Pl. Vasc. Filip. (1886) 94; C. B. Clarke in Journ. Bot. 19 (1881) 166; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 89, 3 (1908) Bot. 419, Fl. Manila (1912) 312, Sp. Blancoanae (1918) 247.

Aquilicia sambucina Blanco Fl. Filip. (1837) 178, non Linn.

Leea sambucina Blanco op. cit. ed. 2 (1845) 126, ed. 3, 1 (1877) 226, t. 60, non Willd.

Leea rubra F.-Vill. Novis. App. (1880) 50; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 33, non Blume.

Leea palawanensis Elm. Leaf. Philip. Bot. 5 (1913) 1851.

Throughout the Philippines from the Batan Islands and northern Luzon to Palawan and Mindanao. Common in thickets and secondary forests at low and medium altitudes. Formosa, *Henry* 79!, *Faurie* 6! *Kawakami & Nakahara* 963!, all as *Leea sambucina*, non Willd. Caroline Islands, Yap, *Volkens* 54, as *Leea sambucina*, non Willd.

The type of the species was from Jala Jala, Laguna Province, Luzon, and the typical form is represented by *Merrill Phil. Pl.* 1989, *Sp. Blancoanae* 587. It is very common in the Philippines, its bright red flowers at once distinguishing it from *Leea sambucina* Willd. = *L. indica* (Burm. f.) Merr. with which it has been confused. Gagnepain suggests, Bull. Soc.

Bot. France 57 (1910) 336, that it may be referable to *Leea acuminata* Wall., a view I cannot indorse.

Local names: Abang-ábang (Tag.); alumamáni (Ilk.); amamáli (Pang., P. Bis.); ayaman-kilat (Sbl.); garadat (Bik.); himamalak (P. Bis.); imamañgal (Tagb.); kalakal Ig.); kaliañtan (Tag.); kulatai (Tagb.); mali-mali (Tag., Pamp.); taliañtan (Tag.); tumbosut (P. Bis.); ulumamáni (Pang.); vodadin (Iv.).

LEEa NEGROSENSIS Elm. Leaf. Philip. Bot. 2 (1908) 494; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 209.

Leea luzonensis Elm. op. cit. 8 (1919) 3104.

Luzon (Cagayan to Sorsogon), Mindoro, Negros, Biliran, Leyte, Panay, Cebu, Mindanao. In forests at low and medium altitudes; closely allied to *Leea manillensis* Walp. but with much larger leaflets. Endemic.

Local names: Alumamáni (Ilk.); aratat (Bik.); garadat (Bik.); garagdat (Bik.); gekanton (Chab.); gutub (Sub.); hinagkulan (P. Bis.); kutog (Sub.); mamáli (C. Bis.); sipit-kábig (Tag.); sipit-káing (Tag.); tarosop (Bag.); tinatatintagan (P. Bis.).

LEEa NITIDA Merr. in Philip. Journ. Sci. 20 (1922) 406.

Luzon (Apayao, Laguna, Tayabas), *B. S. 28428 Fénix, 20406 Ramos, 28830 Ramos & Edaño*. In damp forests along streams at low and medium altitudes. Endemic.

LEEa PAPILLOSA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 307.

Catanduanes, *B. S. 30338 Ramos*. Along streams in forests at low altitudes. Endemic.

LEEa PARVA Elm. Leaf. Philip. Bot. 1 (1908) 317; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 210.

Luzon (Tayabas, Nueva Ecija, Rizal), Palawan, Polillo, Alabat, Masbate, *Elmer 9175, B. S. 19366, 13553 Ramos, 15570 Fénix, 26490, 26314 Ramos & Edaño, 6854 Robinson, Merrill 3038, 3378, 10445*. In primary forests at low and medium altitudes. Endemic unless referable to the Malayan *Leea acuminata* Wall.

Local names: Kutalog (Neg.); pislitan (Mbo.); sípit-káid (Tag.).

LEEa PARVIFOLIOLA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 145.

Mindanao (Cotabato), *F. B. 14241 Tarrosa*. In thickets or forests at low altitudes; perhaps but a variety of *Leea manillensis* Walp. Endemic.

Local name: Mamálig (Mag.).

LEEa PHILIPPINENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 89, 3 (1908) Bot. 419.

Batan Islands, Luzon (Cagayan, Pangasinan, Nueva Ecija, Zambales, Bataan, Rizal, Laguna, Tayabas), Mindoro. In primary forests at low and medium altitudes. Endemic.

Var. **PAUCIFLORA** (Elm.) comb. nov.

Leea pauciflora Elm. Leaf. Philip. Bot. 8 (1919) 3103.

Luzon (Laguna, Nueva Ecija, Bataan), *Elmer 18029* (not 18092), 6696, *F. B. 149 Barnes, 22434, 21378 Alvarez*. In primary forests, altitude 600 to 950 m; a form apparently with somewhat reduced leaflets due to alti-

tude. *Elmer 18447* distributed as *Leea pauciflora* is typical *L. philippinensis*.

Local names: Baybaylanon (Mbo.); kalakal (Ig.); kaliaantan (Tag.); magilik (Tag.); mamáli (Bag.); niblaoen (Iv.); sipit-káhit (Tag.); taliantan (Tag.); talienten (Tag.); taliangtang-kalabáu (Tag.).

LEEALATYPHYLLA Merr. in Philip. Journ. Sci. 17 (1920) 280.

Mindanao (Surigao), *B. S. 34397 Ramos & Pascasio*. In primary forests at low altitudes. Endemic.

LEEALQUADRIFIDA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 196.

Luzon (Cagayan, Ilocos Norte, Benguet, Nueva Vizcaya, Laguna), *F. B. 13309 Tamesis, 19645, 13169 Curran, B. S. 13873, 32722 Ramos, Elmer 17765, Loher 5820*. In primary forests, altitude up to 800 m. Endemic.

Local name: Alongmaman (Ilk.).

LEEALRAMOSII Merr. in Philip. Journ. Sci. 17 (1920) 282.

Mindanao (Surigao), Siargao, *B. S. 34550, 34945, 34907 Ramos & Pascasio*. In forests at low altitudes. Endemic.

LEEALUNIFOLIOLATA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 193.

Samar, *B. S. 24873 Ramos*. In primary forests along streams at low altitudes. Endemic.

EXCLUDED SPECIES

LEEALBISERRATA Miq.; F.-Vill. Novis. App. (1880) 50.

LEEALFULIGINOSA Miq.; F.-Vill. l. c.

LEEALHIRTA Roxb.; F.-Vill. l. c.

LEEALROBUSTA Roxb.; F.-Vill. l. c.

ELAEOCARPACEAE

1. ELAEOCARPUS Linnaeus

ELAEOCARPUS AFFINIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 372.

Leyte, *Wenzel 788*. In forests, altitude about 600 m. Endemic.

ELAEOCARPUS APOENSIS Elm. Leaf. Philip. Bot. 4 (1911) 1185.

Leyte, Mindanao (Davao), *Elmer 10524, Wenzel 1831*. In primary forests up to an altitude of 1,250 m. Endemic.

Local name: Tapaok (Bag.).

ELAEOCARPUS ARGENTEUS Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 26, Philip. Journ. Sci. 2 (1907) Bot. 280; Aug. DC. in Leaf. Philip. Bot. 2 (1909) 637.

Luzon (Benguet, Rizal, Zambales, Tayabas, Laguna, Sorsogon), Mindoro incl. *Elmer 17133* as *E. merrillii* Elm. On exposed ridges on the higher mountains, altitude 1,100 to 2,250 m. Endemic.

ELAEOCARPUS BONTOCENSIS Merr. in Philip. Journ. Sci. 13 (1918) Bot. 27.

Luzon (Bontoc), *Vanoverbergh 3892*. In forests, altitude 1,700 m. Endemic.

ELAEOCARPUS BUREBIDENSIS Elm. Leaf. Philip. Bot. 4 (1911) 1180.

Mindanao (Davao), *Elmer 11837*. On forested ridges, altitude 1,200 m. Endemic.

Local name: Onas (Bag.).

ELAEOCARPUS CALOMALA (Blanco) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 43, Sp. Blancoanae (1918) 248.

Vallea calomala Blanco Fl. Filip. (1837) 439.

Ageratium calomala Blanco op. cit. ed. 2 (1845) 306, ed. 3, 2 (1878) 204.

Monocera isotricha Turcz. in Bull. Soc. Nat. Mosc. 19² (1846) 494; Walp. Ann. 1 (1848) 112.

Elaeocarpus isotrichus F.-Vill. Novis. App. (1880) 31; Aug. DC. in Leaf. Philip. Bot. 2 (1909) 638.

Elaeocarpus philippinensis Warb. in Perk. Frag. Fl. Philip. (1904) 101; Aug. DC. in Leaf. Philip. Bot. 2 (1909) 636.

Elaeocarpus oblongus F.-Vill. Novis. App. (1880) 31; Vidal Sinopsis Atlas (1883) 17, t. 21, f. A, Rev. Pl. Vasc. Filip. (1886) 72; Perk. Frag. Fl. Philip. (1904) 100; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 90; Aug. DC. in Leaf. Philip. Bot. 2 (1909) 636, non Gaertn.

Elaeocarpus bataanensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 41.

Luzon (Isabela, Rizal, Bataan, Laguna, Tayabas, Albay), Mindoro, *Cuming 836*, *Merrill Sp. Blancoanae 276*, *Phil. Pl. 1065*, *F. B. 2937 Borden*, *2906 Ahern's collector*. In primary forests at low altitudes. Endemic.

Local names: Boṅgani (Tag.); bunsilak (P. Bis.); hunggó (Tag., Bik.); kalomála (Tag.); kunakun (C. Bis.); maglúmboi (Tag.); malarópit (Tag.); unggó (Tag.).

ELAEOCARPUS CANDOLLEI Elm. Leaf. Philip. Bot. 4 (1911) 1184.

Busuanga, Palawan, Cebu, Panay, *Elmer 12974*, *Merrill 9524*, *F. B. 3883 Curran*, *25365 Achacoso*, *28341 Cenabre & Cruz*, *27886 Cenabre*, *Baldemor*, & *Aduviso*, *B. S. 41234 Ramos*. In forests, altitude 1,000 to 1,300 m. Endemic.

Local names: Impaparai (Tagb.); nangkaon (C. Bis.).

ELAEOCARPUS CUERNOSENSIS Elm. Leaf. Philip. Bot. 4 (1911) 1173.

Negros, Camiguin de Misamis, Mindanao (Misamis), *Elmer 9653*, *Merrill Phil. Pl. 1355*, *F. B. 4780 Mearns & Hutchinson*. On ridges in the mossy forest, altitude 1,200 to 1,500 m. Endemic.

ELAEOCARPUS CUMINGII Turcz. in Bull. Soc. Nat. Mosc. 19² (1846) 491; Walp. Ann. 1 (1848) 112; F.-Vill. Novis. App. (1880) 31; Vidal Phan. Cuming. Philip. (1885) 99, Rev. Pl. Vasc. Filip. (1886) 72; Aug. DC. in Leaf. Philip. Bot. 2 (1909) 637.

Elaeocarpus nitidus Turcz. in Bull. Soc. Nat. Mosc. 19² (1846) 491; F.-Vill. Novis. App. (1880) 31, non Jack.

Elaeocarpus oblongus Turcz. op. cit. 31¹ (1858) 235, non Gaertn.

Elaeocarpus versicolor Elm. Leaf. Philip. Bot. 4 (1911) 1178.

Luzon (Nueva Vizcaya, Bataan, Laguna, Tayabas, Camarines), Sorsogon, Albay, Palawan, Samar, Cebu, Mindanao, Basilan, *Cuming 807*, *893*, *F. B. 24875 Mabesa*, *B. S. 20173 McGregor*, *24202 Ramos*, *Elmer 14623*,

18051, 16740, 12761, *Merrill Phil. Pl.* 1515. In forests at low altitudes. Celebes.

Local names: Bago (S. L. Bis.); hunggó (Bik., Tag.); konakon (C. Bis.); paki (Tagb.); pañgutanang-bágio (S. L. Bis.); rokambur (Bag.); saritang-bágio (S. L. Bis.); talot (C. Bis.).

ELAEOCARPUS CURRANII Merr. in *Philip. Journ. Sci.* 4 (1909) Bot. 288.

Luzon (Cagayan, Ilocos Norte, Zambales, Pampanga, Bataan, Tayabas, Camarines), *F. B.* 4 *Ware*, 11314 *Klemme*, 22995 *Adduru*, 25095 *Paraiso*. In forests at low altitudes. Endemic.

Local names: Banglés (Ilk.); kalumbágu (Pamp.); kalumbáya (Ilk.); kamaysáhan (Tag.); kumáu (Ibn.); malakadiós (Tag.); tagatoi (Tag.).

ELAEOCARPUS DOLICHOPETALUS Merr. in *Philip. Journ. Sci.* 9 (1914) Bot. 372.

Panay, Leyte, *B. S.* 25438 *Martelino & Edaño*, *Wenzel* 897. In primary forests up to 500 m altitude. Endemic.

ELAEOCARPUS ELMERI Aug. DC. in *Leaf. Philip. Bot.* 2 (1909) 637.

Luzon (Benguet, Bontoc, Nueva Vizcaya), Mindoro, *Elmer* 8870, 8967, *F. B.* 11260 *Klemme*, *B. S.* 11346 *McGregor*, 37898 *Ramos & Edaño*, 39504 *Ramos*. In thickets and forests, altitude 1,100 to 1,400 m. Endemic.

ELAEOCARPUS FISSISTIPULUS Miq. *Fl. Ind. Bat.* 1² (1858-59) 210; Aug. DC. in *Elm. Leaf. Philip. Bot.* 2 (1909) 636.

Luzon (Bulacan), (*Llanos* in hb. DeCandolle). Not seen. Java.

The status of Miquel's species is doubtful, as it is not placed by Koorders and Valeton, *Bijdr. Boomsoort. Java. Meded. Lands. Plantent.* 11 (1894) 240-264, although op. cit. 33 (1900) 419 they place it as a doubtful synonym of *E. stipularis* Blume. *Elaeocarpus villosiusculus* Warb. is suggested as the proper identification of Llanos's specimen. The identification of the Luzon specimen must be considered as doubtful.

ELAEOCARPUS FORBESII Merr. in *Philip. Journ. Sci.* 12 (1917) Bot. 282.

Luzon (Benguet), *F. B.* 24726 *Leaño*, *Sandkuhl* 342. In forested ravines, altitude about 1,500 m. Endemic.

ELAEOCARPUS FOXWORTHYI Merr. in *Philip. Journ. Sci.* 3 (1908) Bot. 244; Aug. DC. in *Leaf. Philip. Bot.* 2 (1909) 638; *Elm. op. cit.* 4 (1911) 1172.

Palawan, *F. B.* 4158 *Curran*, *B. S.* 858 *Foxworthy*, *Elmer* 13739. In forests along streams at low altitudes. Endemic.

ELAEOCARPUS FULVUS *Elm. Leaf. Philip. Bot.* 4 (1911) 1179.

Mindanao (Davao), *Elmer* 10825. In primary forests, altitude about 1,100 m. Endemic.

Local name: Lanauti (Bag.).

ELAEOCARPUS FUSICARPUS *Elm. Leaf. Philip. Bot.* 4 (1911) 1174.

Mindanao (Davao), *Elmer* 10819, 10828, 11769. In forests, altitude 900 to 1,100 m. Endemic.

Local names: Lanauti (Bag.); marinlok (Bag.).

ELAEOCARPUS GIGANTIFOLIUS Elm. Leaf. Philip. Bot. 4 (1911) 1182.

Leyte, Mindanao (Agusan), *Elmer 11184*, *Wenzel 616, 1084*. In forests, altitude 500 to 750 m. Endemic.

Local name: Nabol (Bag.).

ELAEOCARPUS GITINGENSIS Elm. Leaf. Philip. Bot. 4 (1911) 1177.

Sibuyan, *Elmer 12050a, 12470*. In forests, altitude about 225 m. Endemic.

ELAEOCARPUS GRANDIFLORUS Sm. in Rees Cyclop. 12 (1809) No. 5; Pierre Fl. Forest. Cochinch. 2 (1889) t. 142; Gagnep. in Lecomte Fl. Gén. Indo-Chine 1 (1910) 568; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 295.

Busuanga, *Weber 1554bis*. In forests at low altitudes. Burma, Indo-China, Java.

ELAEOCARPUS ILOCANUS Merr. in Philip. Journ. Sci. 14 (1919) 418.

Luzon (Ilocos Norte), *B. S. 33271 Ramos*. On forested slopes, altitude about 1,000 m. Endemic.

ELAEOCARPUS LAXIRAMEUS Elm. Leaf. Philip. Bot. 4 (1911) 1186.

Mindanao (Davao), *Elmer 11222, 11945*. On forested ridges, altitude about 1,100 m. Endemic.

Local name: Balintodog (Bag.).

ELAEOCARPUS LEYTENSIS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 383.

Leyte, *Wenzel 212*. In forests at low altitudes. Endemic.

ELAEOCARPUS LUZONICUS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 289.

Luzon (Camarines, Sorsogon), Panay, Mindoro, Camiguin de Misamis, *F. B. 10488 Curran*, *B. S. 30698 Ramos & Edaño, 11494, 14655 Ramos, Elmer 16022*. On forested slopes, altitude about 1,000 m. Endemic.

ELAEOCARPUS MACRANTHUS Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 38; Aug. DC. in Leaf. Philip. Bot. 2 (1909) 635.

Luzon (Benguet, Rizal, Laguna, Tayabas, Camarines), Leyte, Panay, *Merrill 2298, 1883, Phil. Pl. 1959, B. S. 20415, 22175 Ramos, F. B. 2688, 3260, 2897 Ahern's collector, 24871 Mabesa, Elmer 7127, 17848*. In primary forests, altitude 200 to 1,000 m. Endemic.

Local names: Balarambu (Tag.); bayukbok (Tag.); malarambu (Tag.).

ELAEOCARPUS MERRITTII Merr. in Philip. Journ. Sci. 2 (1907) Bot. 280.

Luzon (Tayabas), Mindoro, *Merrill 5582, 5616, F. B. 4427 Merritt, B. S. 28474 Ramos & Edaño*. In primary forests, altitude 900 to 1,500 m. Endemic.

ELAEOCARPUS MICROPHYLLUS Elm. Leaf. Philip. Bot. 4 (1911) 1189.

Mindanao (Davao), *Elmer 11860*. In primary forests, altitude about 1,350 m. Endemic.

Local name: Magaring (Bag.).

ELAEOCARPUS MINDANAENSIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 150; Aug. DC. in Leaf. Philip. Bot. 2 (1909) 636.

Mindanao (Bukidnon, Lanao), *Clemens* 910, s. n., *B. S.* 38710 *Ramos & Edaño*. In forests, altitude about 750 m; allied to the Bornean *E. gambir* Becc. Endemic.

Local name: Pilokálau (Buk.).

ELAEOCARPUS MOLLIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 373.

Leyte, *Wenzel* 416, 698, 990, 1199. In primary forests, altitude 60 to 500 m. Endemic.

ELAEOCARPUS MONOCERA Cav. Ic. 6 (1801) 1, t. 501; DC. Prodr. 1 (1824) 519; F.-Vill. Novis. App. (1880) 31; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 90; Aug. DC. in Leaf. Philip. Bot. 2 (1909) 637; Merr. in Philip. Journ. Sci. 13 (1918) Bot. 29.

Monoceras luzonicum Miq. Fl. Ind. Bat. 1² (1858-59) 213.

Elaeocarpus megacarpus Elm. Leaf. Philip. Bot. 7 (1915) 2627.

Luzon (Cagayan, Isabela, Ilocos Sur, Bataan, Rizal, Laguna, Tayabas, Camarines), Samar, Mindanao (Zamboanga, Agusan), *F. B.* 17916, 23687 *Bernardo*, 26809 *Paraíso*, 1574, 1804 *Borden*, 20484 *Villamil*, 13150 *Curran*, *B. S.* 20564, 24451 *Ramos*, 36911 *Ramos & Edaño*, *Merrill* 1993, *Phil. Pl.* 1051, *Elmer* 14059, 17707, 18204. In primary forests, ascending to 1,000 m. Endemic.

Local names: Balingbíngan (Tag.); litók (Tag.); mamitak (Sub.); opong-ópong (Bik.); panuláuen (Ilk.); sala (Mbo.); salak (Mbo.); tabian (Neg.); talísay-gúbat (Tag.); upong-úpong (S. L. Bis.).

ELAEOCARPUS MULTIFLORUS (Turcz.) F.-Vill. Novis. App. (1880) 31; Vidal Phan. Cuming. Philip. (1885) 99, Rev. Pl. Vasc. Filip. (1886) 77; Perk. Frag. Fl. Philip. (1904) 100; Aug. DC. in Leaf. Philip. Bot. 2 (1909) 637.

Monocera multiflora Turcz. in Bull. Soc. Nat. Mosc. 19² (1846) 495; Walp. Ann. 1 (1848) 113.

Luzon (Tayabas, Camarines, Albay, Sorsogon), Mindoro, Leyte, Sibuyan, Camiguin de Misamis, Mindanao, *Cuming* 873, *Elmer* 9323, 15061, 12117, 14134, 11635, 10872, *B. S.* 23376 *Ramos*, *Merrill* 2400, 2377, *Phil. Pl.* 1200, 1516, *McGregor* 335. In primary forests at low and medium altitudes. Celebes (?) fide Koorders.

Local names: Chepidiso (Mbo.); kuríbang (Neg.); lanauti (Bag.); malagañgau (Bik.); paitan (Bik.); rokambur (Bag.); ticalot (Bis.); tabung-hañgin (C. Bis.).

ELAEOCARPUS NERVOSUS Elm. Leaf. Philip. Bot. 4 (1911) 1176.

Luzon (Benguet, Bontoc), Mindanao (Davao), *Elmer* 11566, 10802, *Van-overbergh* 1759, *F. B.* 18319 *Alvarez*. In forests, altitude 1,350 to 1,600 m; closely allied to *E. cumingii* Turcz. Endemic.

Local names: Kaliso (Bag.); onas (Bag.).

ELAEOCARPUS OCTOPETALUS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 149; Aug. DC. in Leaf. Philip. Bot. 2 (1909) 638.

Mindanao (Lanao), *Clemens* 1148. In forests, altitude about 750 m. Endemic.

ELAEOCARPUS OLIGANTHUS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 42.

Mindanao (Zamboanga), *F. B. 13398 Foxworthy, DeMesa, & Villamil*. In forests along streams at low altitudes. Endemic.

ELAEOCARPUS PENDULUS Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 27, Philip. Journ. Sci. 2 (1907) Bot. 280; Aug. DC. in Leaflet. Philip. Bot. 2 (1909) 637.

Elaeocarpus maquilangensis Elm. Leaflet. Philip. Bot. 8 (1919) 3080.

Luzon (Bontoc, Benguet, Lepanto, Nueva Vizcaya, Pangasinan, Zambales, Bataan, Laguna), Mindoro, Leyte, Mindanao (Bukidnon, Davao), *Elmer 5801, 18039, 11404, Williams 916, 1534, Merrill 5727, B. S. 8283 Ramos, 38553 Ramos & Edaño, F. B. 8102, 8117 Curran & Merritt*. On ridges in the mossy forest, altitude 1,000 to 2,200 m. Endemic.

Local names: Borosa (Ig.); onas (Bag.); pagapos (Buk.).

ELAEOCARPUS PROCERUS Aug. DC. in Leaflet. Philip. Bot. 2 (1909) 636.

Negros, *Elmer 10158*. In primary forests, altitude about 1,200 m. Endemic.

ELAEOCARPUS PUSTULATUS Merr. in Philip. Journ. Sci. 7 (1912) Bot. 295.

Luzon (Nueva Ecija, Tayabas, Laguna, Sorsogon), Sibuyan, Camiguin de Misamis, Mindanao (Bukidnon), *B. S. 14635, 23668 Ramos, 26404, 38999 Ramos & Edaño, Elmer 9164, 12568, 15252, Merrill Phil. Pl. 1413*, mostly as *E. verruculosus* Aug. DC. In forests, probably at or above 1,000 m altitude. Endemic.

Local name: Karukatol (Neg.).

ELAEOCARPUS RAMIFLORUS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 43.

Luzon (Laguna, Sorsogon), *B. S. 15115, 23588 Ramos, F. B. 21409, 22920 Villamil, Elmer 16754*. In primary forests, altitude 400 to 650 m. Endemic.

ELAEOCARPUS SUBGLOBOSUS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 290.

Elaeocarpus baclayanensis Elm. Leaflet. Philip. Bot. 4 (1911) 1188.

Luzon (Bontoc, Benguet), Mindanao (Davao), *Vanoverbergh 1066, Merrill Phil. Pl. 1765, Williams 1036, F. B. 18317 Alvarez, 27580 DeMesa, B. S. 40424, 40380 Ramos & Edaño, Elmer 11414, 11712, 11946, 11734*. In primary forests, altitude 1,000 to 1,600 m. Hainan.

Local names: Lanauti (Bag.); luguba (Mand.); magsañgod (Bag.).

ELAEOCARPUS SURIGAENSIS Merr. in Philip. Journ. Sci. 13 (1918) Bot. 28.

Mindanao (Surigao), *F. B. 26000 Ponce*. In primary forests at low altitudes. Endemic.

Local name: Yagau-yagau (C. Bis.).

ELAEOCARPUS VENOSUS C. B. Rob. in Bull. Torr. Bot. Club 35 (1908) 71, 75; Elm. Leaf. Philip. Bot. 4 (1911) 1172.

Luzon (Abra, Bontoc, Lepanto, Benguet), *Williams 2002, Elmer 14300, Merrill 4821, B. S. 31921 Santos, 37838, 37839 Ramos & Edaño, 8329 McGregor, F. B. 14591 Darling, 10831, 10953, 10883 Curran, 18370, 18371 Alvarez*. In the mossy forest, on the higher mountains, altitude 1,800 to 2,500 m. Endemic.

Local names: Buslúng (Ig.); konákon (Ig.); pakáuan (Ig.).

ELAEOCARPUS VERRUCULOSUS Aug. DC. in Leaf. Philip. Bot. 2 (1909) 635.

Luzon (Benguet), *Elmer 8645, 8734*. In thickets or forests, altitude about 1,500 m. Endemic.

ELAEOCARPUS VERTICILLATUS Elm. Leaf. Philip. Bot. 4 (1911) 1181.

Luzon (Laguna, Tayabas), Catanduanes, Mindoro, Sibuyan, *Elmer 12104, 12427, Merrill Phil. Pl. 1110 (as E. gitingensis Elm.), B. S. 15126, 30217 Ramos, 26559 Ramos & Edaño, 20888, 20796 Escritor, F. B. 11484 Merritt, 17646 Curran*. In primary forests, altitude 200 to 600 m. Endemic.

Local names: Alimbabayáni (Neg.); karot (P. Bis.).

ELAEOCARPUS VILLOSIUSCULUS Warb. in Perk. Frag. Fl. Philip. (1904) 101; Elm. Leaf. Philip. Bot. 2 (1909) 638.

Luzon (Batangas, Tayabas, Camarines), *Warburg 13071, F. B. 22648 Alvarez, 7665 Merritt & Curran*. In primary forests, altitude 200 to 400 m. Endemic.

Local name: Lamóg (Tag.).

ELAEOCARPUS WENZELII Merr. in Philip. Journ. Sci. 9 (1914) Bot. 371.

Leyte, Samar, *Wenzel 365, 832, F. B. 28298 Parras, Aduviso, & Lucero*. In forests, altitude 100 to 500 m. Endemic.

DOUBTFUL AND EXCLUDED SPECIES

ELAEOCARPUS LANCEAEFOLIUS F.-Vill. Novis. App. (1880) 31; Vidal Sinopsis Atlas (1883) 17, t. 21, f. B, non Roxb.

The identity of the form figured by Vidal cannot be determined from the very crude drawing of an individual flower and a fruit; it is certainly not Roxburgh's species.

ELAEOCARPUS OBOVATUS Hook. & Arn.; F.-Vill. Novis. App. (1880) 31.

ELAEOCARPUS TUBERCULATUS Roxb.; F.-Vill. l. c.

ELAEOCARPUS SYLVESTRIS Blanco Fl. Filip. ed. 2 (1845) 306, ed. 3, 2 (1878) 203; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 26, Sp. Blancoanae (1918) 248; Aug. DC. in Leaf. Philip. Bot. 2 (1909) 638.

The exact identity of Blanco's species cannot be determined from his description and the data at present available. It was from Cebu, there known as *cabálte* or *cabílte*. *Elaeocarpus integrifolius* Blanco is *Urandra luzoniensis* Merr.

ELAEOCARPUS FLORIBUNDUS Rolfe in Journ. Bot. 23 (1885) 211; Vidal Rev. Pl. Vasc. Filip. (1886) 72; Perk. Frag. Fl. Philip. (1904) 100; Aug. DC. in Leaf. Philip. Bot. 2 (1909) 636, non Blume.

I have seen no Philippine specimens of Blume's species. Vidal's record is based on his numbers 111 and 1198 from Bulacan, Luzon, which I have not seen. Perkins's and Aug. de Candolle's records are based on *Ahern 403* from Surigao, an imperfect specimen, which I do not consider to represent Blume's species. *Elacocarpus floribundus* Blume is probably identical with *E. oblongus* Gaertn. (non Mast.) fide Hallier f. in lit.

2. SLOANEA Linnaeus

SLOANEA JAVANICA (Miq.) Szyszyl. ex K. Schum. in Engl. & Prantl Nat. Pflanzenfam. 3⁶ (1890) 5; Koord. & Val. Bijdr. Boom. Java 1 (1894) 239, Atlas Baumart. Java 3 (1914) f. 433 (after Miquel); Merr. in Philip. Journ. Sci. 14 (1919) 419.

Phoenicospermum javanicum Miq. Ann. Mus. Bot. Lugd.-Bat. 2 (1865) 68, t. 3.

Luzon (Cagayan, Laguna), Mindoro, Mindanao (Lanao), *F. B. 16988 Bacani, 14713 Darling, 19665 Racelis, 23373 Ponce, 11482 Merritt*. In primary forests at low altitudes. Java, Malay Peninsula.

Sloanea celebica Boerl. & Koord. should be critically compared; see Koorders Suppl. Fl. N. O. Celebes 1 (1918) 30, t. 10.

GONYSTYLACEAE

1. GONYSTYLUS Teysmann and Binnendyck

GONYSTYLUS BANCANUS (Miq.) Gilg in Engl. & Prantl Nat. Pflanzenfam. Nachtr. 1 (1897) 232; Perk. Frag. Fl. Philip. (1904) 79; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 90.

Aquilaria bancana Miq. Fl. Ind. Bat. Suppl. (1861-62) 141, 355.

Aquilaria macrophylla Miq. op. cit. 356.

Gonystylus miquelianus Teysm. & Binn. in Bot. Zeit. 20 (1862) 265.

Luzon (Cagayan, Nueva Ecija, Bataan, Laguna, Tayabas, Camarines), Mindoro, *Merrill 1078, Phil. Pl. 1392, F. B. 27143 Udasco, 21179, 21133 Miranda, 4098, 6837 Merritt, B. S. 39483 Ramos*. In primary forests at low altitudes. Sumatra, Banca, Java.

Local names: Asáua (Tag.); lanútan-bágio (Tag.); panakuráring (Mang.); pandit (Bik.).

GONYSTYLUS OBOVATUS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 283.

Babuyan Islands (Calayan), *F. B. 26713 Peñas*. In forests at low altitudes. Endemic.

GONYSTYLUS PHILIPPINENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2674.

Luzon (Cagayan, Isabela, Camarines, Sorsogon), Sibuyan, Samar, Mindanao (Surigao), *Elmer 12520, F. B. 20467 Barros, 21934 Bernardo, 21188 Alvarez, 10443, 10625 Curran, 25775 Phasis*. In primary forests at low and medium altitudes; ascending to 1,500 m; very closely allied to *G. bancanus* Gilg. Endemic.

Local names: Anáuan (Bik.); busilak (Klg.); pamaláuan (Ibn.); sambulauan (Bik.).

GONYSTYLUS RETICULATUS (Elm.) Merr. in Philip. Journ. Sci. 12 (1917) Bot. 284.

Thea reticulata Elm. Leaf. Philip. Bot. 8 (1915) 2838.

Mindanao (Agusan, Zamboanga), *Elmer 13478, F. B. 9244 Whitford & Hutchinson*. In primary forests at low and medium altitudes, ascending to 900 m. Endemic.

Local name: Magsudod (Mbo.).

TILIACEAE

1. BERRIA Roxburgh

BERRIA AMMONILLA Roxb. Hort. Beng. (1814) 42, *nomen nudum*, Pl. Coromandel 3 (1819) 60, *t. 264*; DC. Prodr. 1 (1824) 518; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 383; F.-Vill. Novis. App. (1880) 30; Vidal Sinopsis Atlas (1883) 17, *t. 21, f. E*, Rev. Pl. Vasc. Filip. (1886) 69, Phan. Cuming. Philip. (1885) 98; Koord. & Val. Bijdr. Boom. Java 5 (1900) 406; Merr. Sp. Blancoanae (1918) 248.

Triopteris polyandra Blanco Fl. Filip. (1837) 480; ed. 2 (1845) 268, ed. 3, 2 (1878) 133.

Hexagonotheca cordata Turcz. in Bull. Soc. Nat. Mosc. 19² (1846) 505; Walp. Ann. 1 (1848) 112.

Luzon (Union, Zambales, Bataan, Bulacan, Batangas), *Cuming 1433, Lete 246, F. B. 6344 Curran, Merrill Sp. Blancoanae 816*. On dry slopes at low altitudes. India, Ceylon, Burma, Malay Peninsula, Andaman Islands, Borneo, Java.

Local names: Anobrang (Ilk.); malibayo (Tag.); pakpak-bálang (Tag.).

2. BROWNLOWIA Roxburgh

BROWNLOWIA LANCEOLATA Benth. in Journ. Linn. Soc. Bot. 5 (1861) Suppl. 57; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 381; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 39.

Luzon (Tayabas), Samar, *Merrill 5217, Whitford 894, F. B. 25839 Valderrama*. In tidal thickets and nipa swamps. Bengal, Burma, Malay Peninsula.

Local name: Maragómon (S. L. Bis.).

BROWNLOWIA RIEDELII Hemsl. in Bot. Challenger Exped. 1³ (1885) 128.

Mindanao (Agusan), *F. B. 18644 Mallonga*. Along tidal streams. Malay Peninsula, Borneo, Moluccas, New Guinea, on or near the seashore.

BROWNLOWIA SULUENSIS Warb. in Perk. Frag. Fl. Philip. (1904) 102.

Sulu (*Warburg 14927*). This is suggestive of *Diplodiscus paniculatus* Turcz. Endemic.

3. DIPLODISCUS Turczaninow

DIPLODISCUS PANICULATUS Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 235; F.-Vill. Novis. App. (1880) 29; Vidal Sinopsis Atlas (1883) 17, *t. 20, f. D*, Phan. Cuming. Philip. (1885) 98, Rev. Pl. Vasc. Filip. (1886) 69; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 36; Perk. Frag. Fl. Philip. (1904) 102; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 202.

Brownlowia paniculata Pierre Fl. Forest. Cochinch. 2 (1889) sub *t. 130*.

Luzon (Cagayan to Sorsogon), Mindoro, Masbate, Ticao, Samar, Leyte, Cebu, Panay, Dinagat, Mindanao. Common in primary forests at low and

medium altitudes. A monotypic endemic genus, very close, however, to *Brownlowia*.

Local names: Badábo (Bag.); balábo (S. L. Bis.); balóbo (Tag., Lan., Mag., Mbo.); balúbo (Tag.); balúbu (Yak.); balúgo (Ilk.); banágo (Tag.); baróbo (Bik., S. L. Bis.); barúbo (P. Bis.); barúbu (Ibn., S. L. Bis.); bukad (Lan.); bulólo (Bik.); bulúbu (Mag.); bulúgug (Mag.); bulúgai (Mag.); búkad (Lan.); búru (Lan.); dupdupan (Sul.); kamiling (Tag.); kideng (Ilk.); malúbo (Tag., Bis.); manaring (Ibn.); mangábu (Sul.); maóbo (C. Bis.); maramani (Ilk.); maróbo (P. Bis.); marúbo (S. L. Bis.); mayóbo (P. Bis.); puyus (Tag.); tagpam (Mag.); talu-talu (Sul.).

4. CORCHORUS Tournefort

CORCHORUS ACUTANGULUS Lam. Encycl. 2 (1786) 104; DC. Prodr. 1 (1824) 504; Blanco Fl. Filip. ed. 2 (1845) 308, ed. 3, 2 (1878) 206, t. 141; Miq. Fl. Ind. Bat. 1² (1858-59) 195; F.-Vill. Novis. App. (1880) 31; Vidal Phan. Cuming. Philip. (1885) 99, Rev. Pl. Vasc. Filip. (1886) 71; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 90, Fl. Manila (1912) 315, Sp. Blancoanae (1918) 249; Perk. Frag. Fl. Philip. (1904) 103.

Corchorus aestuans Blanco Fl. Filip. (1837) 441.

In open waste places at low and medium altitudes, throughout the Philippines, certainly an introduced weed. Pantropic, but probably a native of tropical Asia.

Local names: Salsaluyut (Ilk.); saluyot (Ilk., Tag.); ubat-lagak (Sul.).

CORCHORUS CAPSULARIS Linn. Sp. Pl. (1753) 529; DC. Prodr. 1 (1824) 504; Blanco Fl. Filip. (1837) 442, ed. 2 (1845) 308, ed. 3, 2 (1878) 206; Miq. Fl. Ind. Bat. 1² (1858-59) 194; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 196; F.-Vill. Novis. App. (1880) 31; Vidal Sinopsis Atlas (1883) 17, t. 20, f. B, Rev. Pl. Vasc. Filip. (1886) 71; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 78, Fl. Manila (1912) 315, Sp. Blancoanae (1918) 249.

In clearings, on rice-paddy banks, and in open, low, usually wet places in and near settlements throughout the Philippines, but not planted. Pantropic, cultivated and naturalized. Jute.

Local names: Lumhai (Bis.); panigbin (S. L. Bis.); pasau-na-bilog (Tag.); saluyut (Ilk.); sumpa (S. L. Bis.).

CORCHORUS FASCICULARIS Lam. Encycl. 2 (1783) 104; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 398.

Luzon (Bulacan, Pampanga), *B. S. 33420, 41646 Ramos*. In open fallow lands, margins of swamps, etc., at low altitudes. India, Burma, tropical Africa, and tropical Australia, but not recorded from Malaya.

Local name: Pasau-dikot (Pamp.).

CORCHORUS OLITORIUS Linn. Sp. Pl. (1753) 529; DC. Prodr. 1 (1824) 504; Blanco Fl. Filip. ed. 2 (1845) 308, ed. 3, 2 (1878) 207; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 195; Miq. Fl. Ind. Bat. 1² (1858-59) 195; F.-Vill. Novis. App. (1880) 31; Vidal Sinopsis Atlas (1883) 17, t. 20, f. A, Rev. Pl. Vasc. Filip. (1886) 71; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 78, Fl. Manila (1912) 315, Sp. Blancoanae (1918) 249.

Corchorus catharticus Blanco Fl. Filip. (1837) 442.

In and near settlements, on rice-paddy banks, fallow paddies, etc., throughout the Philippines. Pantropic, but native of the Old World.

Local names: Pasau (Tag., Sbl.); pasau-na-haba (Tag.); saluyut (Ilk.); tagabang (Bis.); taka (Mag.); yaka (Mag.).

5. TRICHOSPERMUM Blume

TRICHOSPERMUM DISCOLOR Elm. Leaf. Philip. Bot. 5 (1913) 1641.

Trichospermum mindanaense Merr. ex Elm. l. c. in syn.

Luzon (Cagayan), Mindanao (Davao, Lanao), *Elmer 11903, Clemens 1134, F. B. 26969 Velasco*. In forests at low altitudes in Cagayan, in Mindanao 700 to 900 m. Endemic.

TRICHOSPERMUM ERIPODUM (Turcz.) Merr. in Philip. Journ. Sci. 11 (1916) Bot. 17.

Grewia eriopoda Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 231;

F.-Vill. Novis. App. (1880) 30; Vidal Phan. Cuming. Philip. (1885) 99, Rev. Pl. Vasc. Filip. (1886) 70.

Trichospermum leytense Merr. in Philip. Journ. Sci. 9 (1914) Bot. 374.

Luzon (Sorsogon), Leyte, Samar, Siargao, Mindanao (Zamboanga), *Cuming 1680, Wenzel 837, 1257, 1396, Merrill Phil. Pl. 1170, Elmer 16920, 16334, 16084, B. S. 23658 Ramos, 34984 Ramos & Pascasio, 37393 Ramos & Edaño*. In secondary forests at low and medium altitudes. Endemic.

TRICHOSPERMUM INVOLUCRATUM (Merr.) Elm. Leaf. Philip. Bot. 5 (1913) 1641.

Halconia involucrata Merr. in Philip. Journ. Sci. 2 (1907) Bot. 281.

Trichospermum cuneatum Elm. Leaf. Philip. Bot. 5 (1913) 1643.

Trichospermum negrosense Elm. op. cit. 1641.

Halconia negrosensis Elm. op. cit. 2 (1908) 495.

Mindoro, Sibuyan, Negros, *Merrill 5527, Elmer 9649, 12514*. On forested ridges, altitude 900 to 1,400 m. Endemic.

Local name: Langosig-daka (C. Bis.).

TRICHOSPERMUM LANIGERUM (Blanco) Merr. Sp. Blancoanae (1918) 250.

Eroteum lanigerum Blanco Fl. Filip. (1837) 440, ed. 2 (1845) 307, ed. 3, 2 (1878) 205.

Trichospermum trivalve Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 206; Elm. Leaf. Philip. Bot. 5 (1913) 1641.

Luzon (Rizal), Mindoro, *F. B. 4046 Merritt, 398, 1161 Ahern's collector, Whitford 1391, Merrill Phil. Pl. 498, Sp. Blancoanae 1032*. In forests at low altitudes. Endemic.

Local names: Agusos (Tag.); banikúlung (Mbo.); buriñgot (Tag.); hanadiung-putí (Tag.); sayapo (P. Bis.).

6. GREWIA Linnaeus

GREWIA ACUMINATA Juss. in Ann. Mus. Hist. Nat. Paris 4 (1804) 91; Perk. Frag. Fl. Philip. (1904) 103; Merr. Sp. Blancoanae (1918) 250.

Grewia umbellata Roxb. Hort. Beng. (1814) 42, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 591; F.-Vill. Novis. App. (1880) 30; Vidal

Phan. Cuming. Philip. (1885) 99, Rev. Pl. Vasc. Filip. (1886) 69; Perk. Frag. Fl. Philip. (1904) 105; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 91.

Mallococca crenata Blanco Fl. Filip. (1837) 442, non Forst.

Grewia multiflora Blanco op. cit. ed. 2 (1845) 309, ed. 3, 2 (1878) 209, non Juss.

Luzon (Ilocos Norte, Union, Pangasinan, Tarlac, Rizal, Laguna), Mindoro, Busuanga, Palawan, Balabac, Romblon, Negros, Cebu, Siquijor, Mindanao, Basilan, Sulu Archipelago. In thickets at low and medium altitudes, often abundant. Malay Peninsula, Sumatra, Java, Borneo, Celebes, Moluccas.

Local names: Alagat (Tag.); alagosi (P. Bis.); amboyuan (Ilk.); bagun (Tagb.); balagau (Tagb.); baloñgo (Mag.); banglad (Bis.); dilananung (Mbo.); danloi (Tag.); limponñgon (Sub.); reuaa (Bag.); uali (C. Bis.).

GREWIA ASIATICA Linn. Mant. 1 (1767) 122; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 386; Gagnep. in Lecomte Fl. Gén. Indo-Chine 1 (1910) 536; Perk. Frag. Fl. Philip. (1904) 103.

Luzon (Cagayan, Ilocos Sur), Warburg 12409, F. B. 23647 *Paraiso*; also cultivated at Lamao, Bataan Province, Gaerlan. On dry slopes at low altitudes. India to Siam and Indo-China.

Local name: Bariú'an (Ilk.).

GREWIA BILAMELLATA Gagnep. in Not. Syst. 1 (1909) 118, Fl. Gén. Indo-Chine 1 (1910) 541, fig. 54.

Grewia parva Merr. in Philip. Journ. Sci. 7 (1912) Bot. 301.

Luzon (Ilocos Norte, Abra, Ilocos Sur), Gaudichaud 268, B. S. 32710 Ramos, 26691 *Fénix*, F. B. 25872 *Adduru*, 5627 Klemme, 23641 *Paraiso*. In thickets at low altitudes. Indo-China.

Local names: Benglaleng (Ilk., Itn.); dongrareng (Ilk.); durareng (Ilk.).

GREWIA ERIOCARPA Juss. in Ann. Mus. Hist. Nat. Paris 4 (1804) 93; Koord. & Val. Bijdr. Boom. Java 1 (1894) 221.

Grewia inaequalis Blume Bijdr. (1825) 115.

Grewia negrosensis Elm. Leaf. Philip. Bot. 2 (1909) 631.

Grèwia asiatica Linn. var. *vestita* Warb. in Perk. Frag. Fl. Philip. (1905) 103, non Mast.

Luzon (Cagayan, Isabela, Ilocos Norte, Abra, Ilocos Sur, Union, Benguet, Pangasinan, Nueva Vizcaya, Zambales, Rizal, Tayabas), Mindoro, Semirara, Busuanga, Negros, Cebu, Mindanao (Zamboanga). In dry thickets at low and medium altitudes, often common. Indo-China, Java, Celebes.

Local names: Aniláu (C. Bis.); balilíuan (Sbl.); balitnóng (Ilk., P. Bis.); baráuan (Ilk.); bariú'an (Ilk.); bariáan (Ilk.); baronhási (Tag.); barúan (Ig.); damag (P. Bis.); danli (Tag.); diran (Ilk.); duran (Pang., Ilk.); kanas-kanas (Tag.); keddéng (Ilk.); lapi (Ibn.); lapnī (Ibn.); lapnit (Ibn.); laso (Ilk.); masaplak (Pamp.).

GREWIA INFLEXA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 194.

Samar, B. S. 24466, 24489 Ramos, Sablaya 17. In forests along streams at low altitudes. Endemic.

GREWIA MULTIFLORA Juss. in Ann. Mus. Hist. Nat. Paris 4 (1804) 89, t. 47, f. 1; Poir. in Lam. Encycl. Suppl. (1811) 845; DC. Prodr. 1 (1824) 508; Miq. Fl. Ind. Bat. 1² (1858-59) 200; F.-Vill. Novis. App. (1880) 30; Vidal Phan. Cuming. Philip. (1885) 99, Rev. Pl. Vasc. Filip. (1886) 69; Perk. Frag. Fl. Philip. (1904) 103; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 90, Fl. Manila (1912) 313, Sp. Blancoanae (1918) 250; Gagnep. in Not. Syst. 1 (1910) 130. *Mallococca parva* Blanco Fl. Filip. (1837) 443.

Grewia mallococca Blanco op. cit. ed. 2 (1845) 310, ed. 3, 2 (1878) 209, non Linn. f.

Grewia laevigata F.-Vill. Novis. App. (1880) 30; Vidal Rev. Pl. Vasc. Filip. (1886) 70; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 36; Usteri Beitr. Ken. Philip. Veg. (1905) 113, non Vahl.

Luzon (Cagayan to Tayabas), Mindoro, Palawan, Guimaras, Camiguin de Misamis, Mindanao. Common in thickets and secondary forests; scarcely distinct from the Malayan *Grewia laevigata* Vahl. According to K. Schumann extending from Malaya to New Guinea.

Local names: Alalináu (Ilk.); alináu (Ilk., Ig.); aniláu (Ilk.); aplit (Pamp.); alinó (Ig.); bagokon (P. Bis.); benglaling (Ting.); bulubukhon (P. Bis.); dallág (Gad.); dandí (Tag.); danglág (Ibn.); danglí (Tag.); danglín (Pamp., Ilk., Tag.); danglín (Tag.); danglóg (Ibn.); danlín (Tag.); donglóí (Sbl.); durarong (Ilk.); imbubuyukan (Kuy.); iua-an (Bag.); kalit-kalit (Tag.); kanaroset (Tagb.); lañgósig (C. Bis.); lanut (Neg.); langhasig (C. Bis.); lapnis (Tag.); siápo (Mang.); taroi (Bik.).

GREWIA PALAWANENSIS Merr. in Philip. Journ. Sci. 7 (1912) Bot. 300.

Palawan, *F. B.* 3522 Curran, *B. S.* 794, 864, 888 Foxworthy. In thickets and secondary forests at low altitudes. Endemic.

GREWIA PHILIPPINENSIS Perk. Frag. Fl. Philip. (1904) 103.

Grewia paniculata F.-Vill. Novis. App. (1880) 30; Gagnep. in Not. Syst. 1 (1910) 131, quoad Philip., non Roxb.

Grewia edulis Merr. in Philip. Journ. Sci. 7 (1912) Bot. 298.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Pangasinan, Nueva Ecija, Batangas, Camarines), *F. B.* 22153 Alvarez, 5646 Klemme, 28758 Simeon, *B. S.* 5292, 11174 McGregor, 33343, 27567, 32776 Ramos, 30044 Fénix, 26421 Ramos & Edaño, Merrill Phil. Pl. 1856, Cuming 1352. In forests at low altitudes. Endemic.

Local names: Anakseng (Pang.); bagiod (Tag.); balukok (Tag.).

GREWIA PYRIFORMIS Elm. Leaf. Philip. Bot. 8 (1915) 2841.

Luzon (Nueva Ecija), Mindanao (Agusan), *Elmer* 13996, *B. S.* 26476 Ramos & Edaño. In thickets and forests at low and medium altitudes. Endemic.

Local name: Karong (Mbo.).

GREWIA RETUSIFOLIA Pierre Fl. Forest. Cochinch. 2 (1889) t. 168;

Gagnep. in Lecomte Fl. Gén. Indo-Chine 1 (1910) 533.

Luzon (Rizal), Mindanao (Cotabato), Merrill 9825, Copeland, (Vidal 2212). Rare in open grasslands at low altitudes. Indo-China, Java, ? Australia.

The specimens agree with material from Indo-China which represents Pierre's species distinctly better than with the allied *Grewia hirsuta* Vahl and *G. polygama* Roxb. J. R. Drummond has identified Copeland's species with *Vidal 2212* as representing *G. polygama* Roxb., and as agreeing closely with the Australian form of the latter species.

GREWIA RIZALENSIS Merr. in Philip. Journ. Sci. 7 (1912) Bot. 303.

Luzon (Rizal, Cavite), *F. B. 1132, 3139 Ahern's collector, B. S. 29528 Ramos & Edaño, 22493 Ramos & Deroy, Merrill 2679, Phil. Pl. 265*. In thickets and forests at low and medium altitudes. Endemic.

Local names: Bágo (Tag.); balibágo (Tag.); maladanglín (Tag.).

GREWIA ROLFEI Merr. in Philip. Journ. Sci. 7 (1912) Bot. 302.

Grewia petitiana Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 231; F.-Vill. Novis. App. (1880) 30, non A. Rich.

Grewia tiliaefolia Rolfe in Journ. Bot. 23 (1885) 211; Vidal Rev. Pl. Vasc. Filip. (1886) 69; Perk. Frag. Fl. Philip. (1904) 105; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 91, non Vahl.

Luzon (Cagayan, Pampanga, Bulacan, Bataan, Laguna, Tayabas), Mindanao (Bukidnon), *Cuming 1319, Whitford 1288, F. B. 3048 Borden, 1489 Ahern's collector, B. S. 39165 Ramos & Edaño*. In thickets at low altitudes. Endemic.

Local names: Bagokung (Tag.); danglín (Pamp.).

GREWIA SERRATA Blanco Fl. Filip. (1837) 444; Merr. Sp. Blancoanae (1918) 251.

Columbia serratifolia Blanco Fl. Filip. ed. 2 (1845) 427, ed. 3, 2 (1879) 412, non DC.

Grewia columnaris F.-Vill. Novis. App. (1880) 30, non Sm.

Grewia ovata Merr. in Philip. Journ. Sci. 7 (1912) Bot. 299.

Luzon (Rizal, Bataan), *F. B. 1121, 1483 Ahern's collector, Merrill Dec. Phil. For. Fl. 237*. In thickets or secondary forests at low altitudes; rare or local. Endemic.

GREWIA SETACEA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 89.

Luzon (Benguet, Bontoc, Nueva Ecija), *F. B. 5022 Curran, 26168 Oteyza & Garcia, 15811 Curran & Merritt, B. S. 37976 Ramos & Edaño, Baker 4087, Vanoverbergh 1372*. In thickets and forests, altitude 1,300 to 2,000 m. Endemic.

Local names: Alináú (Ilk.); alinéú (Bon.); anlalasi (Bon.).

GREWIA STYLOCARPA Warb. in Perk. Frag. Fl. Philip. (1904) 104; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 90, Sp. Blancoanae (1918) 250.

Helianthemum triflorum Blanco Fl. Filip. ed. 2 (1845) 309, ed. 3, 2 (1878) 208, non *Grewia triflora* Walp.

Luzon (Cagayan to Sorsogon), Mindoro, Palawan, Sibuyan, Ticao, Masbate, Tablas, Biliran, Leyte, Panay, Negros, Samar, Mindanao, Basilan. Common in primary forests at low and medium altitudes in most or all islands and provinces. Borneo.

Local names: Agdang (Tag.); aporong (Bik.); apung (Bik.); bali-bágum-gúbat (Sbl.); balit (P. Bis.); barobó' (Bik.); balsákan (Tag.);

banalógon (P. Bis.); barbo (S. L. Bis.); basilalag (Klg.); íring (Tag.); kamíring (Tag.); kamóling (Tag.); kamúling (Tag.); lamót (Ilk.); lapnisan (S. L. Bis.); magunau (Sul.); makaya (Kuy.); mangulipit (Bag.); muling (Tag.); muling-muling (Tag., Bik.); namot (Ilk.); namut (Ilk.); ñgamo (Ibn.); paoli (Ibn.); papling (Tag.); patling (Sbl.); pepling (Neg.); poron (P. Bis.); porong (Mang.); puled (Ibn.); pulit (Ilk., Ibn.); susubiik (Pamp.); susumbiik (Tag.); tiua-a (Bag.).

DOUBTFUL AND EXCLUDED SPECIES

GREWIA CUMINGIANA Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 231; F.-Vill. Novis. App. (1880) 30.

"In coll. Cumingiana Asiatica, numero deperdito." This is possibly *Grewia eriocarpa* Juss. as represented by *Cuming 1434*.

GREWIA ORIENTALIS Linn.; Perk. Frag. Fl. Philip. (1904) 103.

The Philippine record is based on *Warburg 14442* from Davao, Mindanao, which I have not seen. I suspect it to represent *Grewia acuminata* Juss.

7. COLUMBIA Persoon

COLUMBIA BLANCOI Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 308; Vidal Rev. Pl. Vasc. Filip. (1886) 70; Perk. Frag. Fl. Philip. (1904) 105. *Columbia floribunda* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 312; F.-Vill. Novis. App. (1880) 30, non Wall.

Colona serratifolia Cav. var. *blancoi* O. Ktze. Rev. Gen. Pl. (1891) 82.

Colona blancoi Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 17.

Luzon (Rizal), *Loher 5595, 5576, 5565, Merrill 1703, Phil. Pl. 486, F. B. 3298 Ahern's collector, F. B. 10004 Curran*. In thickets and forests on slopes at low altitudes. Endemic.

Local names: Aniláu (Tag.); mamadling (Tag.); mamaued (Tag.).

COLUMBIA HASTATA Warb. in Perk. Frag. Fl. Philip. (1904) 105.

Luzon (Zambales, Bataan), *Warburg 13470, 13471, F. B. 22811 Diaz & Alambra*. In primary forests at low altitudes; apparently very rare or local. Endemic.

Local name: Aniláu (Tag.).

COLUMBIA HIRSUTA Warb. in Perk. Frag. Fl. Philip. (1904) 106.

Mindanao (Davao), *Warburg 14774* in herb. Berol. The type is a sterile specimen and appears as if the material was from a sapling. The validity of the species is doubtful. Endemic.

COLUMBIA JAGORI Warb. in Perk. Frag. Fl. Philip. (1904) 106.

Luzon, without definite locality, (*Jagor*). Not seen; the type is in the Berlin herbarium. Endemic.

COLUMBIA LANCEOLATA Warb. in Perk. Frag. Fl. Philip. (1904) 107.

Luzon (Pangasinan, Zambales), *Warburg 13475, 13476, Merrill 2937, F. B. 11838 Domingo, 14350 Villamil, 13491 Medina, 9627 Zschokke, 8265 Curran & Merritt*. In thickets along streams at low altitudes. Endemic.

Local names: Aniláu (Tag.); baliuan (Pang.); kadun (Pang.); lapnit (Pang.).

COLUMBIA LONGIPETIOLATA (Merr.) comb. nov.

Colona longipetiolata Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 16.

Luzon (Bataan), *Ahern 794, F. B. 20942 de Leon*. In dipterocarp forests at low altitudes. Endemic.

Local names: Aniláu (Tag.); aniláu-laláki (Tag.).

COLUMBIA MACGREGORII Merr. in Philip. Journ. Sci. 7 (1912) Bot. 297.

Luzon (Nueva Vizcaya), *B. S. 11492 McGregor*. In thickets or forests at medium altitudes. Endemic.

COLUMBIA MEGACARPA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 298.

Palawan, *F. B. 7416 Manalo, 3587 Curran*. In thickets and secondary forests at low altitudes. Endemic.

COLUMBIA MINDANAENSIS Warb. in Perk. Frag. Fl. Philip. (1904) 107.

Mindanao (Davao), *Warburg 14440* in herb. Berol., *F. B. 28174 Mataya*. In thickets or forests, altitude about 300 m; distinct from *C. serratifolia* DC.? Endemic.

Local name: Kanit (Bag.).

COLUMBIA MOLLIS Warb. in Perk. Frag. Fl. Philip. (1904) 108.

Luzon (Ilocos Norte, Ilocos Sur, Union, Pangasinan, Nueva Ecija), *Warburg 13473, Elmer 5743, F. B. 22979, 25858 Adduru, 24144 Tungol, B. S. 33101 Ramos*. In thickets and secondary forests up to 350 m altitude. Endemic.

Local names: Anitai (Ilk.); geddeng (Ilk.); gidin (Ting.); keddeng (Ilk.); padokó (Ilk.).

COLUMBIA PHILIPPINENSIS (Vidal) comb. nov.

Diplophractum philippinense Vidal Rev. Pl. Vasc. Filip. (1886) 71; Ceron Cat. Pl. Herb. Manila (1892) 33.

Luzon (Pampanga), (*Vidal 1001*). I do not consider *Diplophractum* to be generically distinct from *Columbia*. Vidal's species may prove to be identical with *Columbia mollis* Warb. Endemic.

COLUMBIA SERRATIFOLIA (Cav.) DC. Prodr. 1 (1824) 512; Miq. Fl.

Ind. Bat. 1² (1858-59) 205; F.-Vill. Novis. App. (1880) 30; Vidal Sinopsis Atlas (1883) 17, t. 21, f. C, Phan. Cuming. Philip. (1885) 99, Rev. Pl. Vasc. Filip. (1886) 70; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 17, Philip. Journ. Sci. 1 (1906) Suppl. 91, Fl. Manila (1912) 313, Sp. Blancoanae (1918) 251; Perk. Frag. Fl. Philip. (1904) 108.

Colona serratifolia Cav. Ic. 4 (1797) 47, t. 370; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 36.

Columbia americana Pers. Syn. 2 (1807) 66.

Columbia anilao Blanco Fl. Filip. (1837) 654, ed. 2 (1845) 426, ed. 3, 2 (1879) 412, t. 272; F.-Vill. Novis. App. (1880) 30.

Columbia javanica Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 272, non Blume.

Columbia inaequilatera Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 233; F.-Vill. Novis. App. (1880) 30.

Grewia manillensis Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 310, Repert. 5 (1845) 120; Garcke in Bonplandia 5 (1857) 257.

Babuyan Islands and northern Luzon to Mindanao and Palawan, in most islands and provinces. Usually common in secondary forests. Borneo, Celebes.

Local names: Alináu (Bik.); aniláu (Tag., Bik., P. Bis., S. L. Bis., C. Bis., Sul., Chab. Mag.); ariláu (Tag.); banhot (P. Bis.); baynud (Tag.); laho (Neg.); mamaued (Tag.); salag (Bik.).

COLUMBIA SUBAEQUALIS Planch. ex Vidal Phan. Cuming. Philip. (1885) 99, Rev. Pl. Vasc. Filip. (1886) 70.

Columbia celebica Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 232, non Blume.

Mindoro, *Cuming 1507*, *F. B. 9865 Merritt*, *B. S. 1536 Bermejos*. In secondary forests at low altitudes. Endemic.

Local name: Aniláu (Tag.).

COLUMBIA SUBINTEGRA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 323.

Mindanao (Zamboanga), *F. B. 21861 Villamil*, *13776 Foxworthy*, *De-Mesa*, & *Villamil*. In primary forests at low altitudes. Endemic.

Local name: Malakayan (Chab.).

8. TRIUMFETTA Linnaeus

TRIUMFETTA ANNUA Linn. Mant. 1 (1767) 73; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 310 (var. *glaberrima*); Rolfe in Journ. Bot. 23 (1885) 211; Vidal Rev. Pl. Vasc. Filip. (1886) 71.

Triumfetta suffruticosa C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 203, non (?) Blume.

Luzon (Bontoc, Benguet), Palawan, Panay, Mindanao (Davao), *Merrill 811*, *4285*, *7793*, *Vanoverbergh 138*, *Williams 2591*, *1162*, *B. S. 5562 Ramos*, *31279 Ramos & Edaño*. In ravines and on open slopes at low altitudes, in Benguet ascending to 1,500 m. India to tropical Africa and Malaya.

Local names: Kullukullút (Ilk.); puket (Ig.).

TRIUMFETTA BARTRAMIA Linn. Syst. ed. 10 (1759) 1044, Sp. Pl. ed. 2 (1763) 638; Merr. Fl. Manila (1912) 314, Philip. Journ. Sci. 7 (1912) Bot. 239, Sp. Blancoanae (1918) 251.

Triumfetta rhomboidea Jacq. Enum. Pl. Carib. (1762) 22, Stirp. Am. Hist. (1763) 147, t. 90; DC. Prodr. 1 (1824) 507; F.-Vill. Novis. App. (1880) 30; Vidal Phan. Cuming. Philip. (1885) 99, Rev. Pl. Vasc. Filip. (1886) 71; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 91, 3 (1908) Bot. 78; Perk. Frag. Fl. Philip. (1904) 109.

Triumfetta semitriloba Blanco Fl. Filip. (1837) 406, ed. 2 (1845) 283, ed. 3, 2 (1878) 161, non Linn.

Triumfetta luppula Vell. Fl. Flum. (1825) t. 5; Ceron Cat. Pl. Herb. Manila (1892) 33.

A common plant in open waste places in all islands and provinces at low and medium altitudes; certainly introduced in the Philippines. Pan-tropic.

Local names: Balanggót (Bik.); bulagun (Sul.); daupang (Sul.); kolokolót (Sbl., Ilk.); kolótang-bilóg (Tag.); kullukullót (Ilk.); kulútan (Tag.); kulutkulútan (Tag., Pang.); kupót (Ig.); moropoto (S. L. Bis.); pallopallót (Neg., Ilk.).

TRIUMFETTA BENGUETENSIS Sprague in Kew Bull. (1915) 345.

Luzon (Bontoc, Benguet), *Williams 1303, Merrill 4315, Elmer 8464, Merrill 4315, B. S. 5572 Ramos, Vanoverbergh 257*. In thickets, altitude about 1,200 m. Endemic.

TRIUMFETTA PILOSA Roth Nov. Pl. Sp. (1821) 233; Perk. Frag. Fl. Philip. (1904) 109; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 360. *Triumfetta cana* Blume Bijdr. (1825) 113.

Luzon (Abra, Bontoc, Kalinga, Benguet, Ifugao), Mindanao (Lanao, Bukidnon, Davao), *Clemens 837, B. S. 19947 McGregor, 37599, 37753, 36803 Ramos & Edaño, F. B. 16100 Curran, Merritt, & Zschokke*. In thickets and on open slopes up to 1,200 m altitude. India through Malaya to New Guinea.

Local names: Bakukad (Klg.); bolat (Ig.).

TRIUMFETTA PROCUMBENS Forst. f. Prodr. (1786) 35; Hemsl. in Journ. Bot. 28 (1890) 1, t. 293, f. 2; Sprague & Hutch. in Journ. Linn. Soc. Bot. 39 (1909) 246; Gagnep. in Not. Syst. 1 (1910) 170; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 296.

Comiran (Sulu Sea), *Merrill Phil. Pl. 410*. On sandy seashores. Seychelles, Diego Garcia, and Keeling Islands through Malaya to western Polynesia northward to the Marianne Islands.

TRIUMFETTA REPENS (Blume) Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 111.

Porpa repens Blume Bijdr. (1825) 198; Miq. Fl. Ind. Bat. 1² (1859) 198.

Triumfetta radicans Bojer in Ann. Sci. Nat. II 20 (1843) 103; Gagnep. in Not. Syst. 1 (1910) 172, Lecomte Fl. Gén. Indo-Chine 1 (1910) 555.

Triumfetta subpalmata Soland. ex Hemsl. in Journ. Bot. 28 (1900) 2, t. 293, f. 1.

Triumfetta procumbens Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 17, non Forst.

Luzon (Cagayan, Pangasinan, Camarines), Mindoro, *Merrill 2387, 3373, F. B. 13054 Wood, 11588, 11629 Curran, 8401 Merritt & Curran*. On sandy seashores. Indo-China to Java, Borneo, Keeling Islands, Madagascar, and the small islands off the coast of Queensland.

TRIUMFETTA SEMITRILOBA Jacq. Enum. Pl. Carib. (1760) 22, Select. Stirp. Am. (1763) 147; DC. Prodr. 1 (1824) 507; F.-Vill. Novis. App. (1880) 31; Merr. Fl. Manila (1912) 314; Perk. Frag. Fl. Philip. (1904) 109.

Widely distributed in the Philippines in dry thickets at low and medium altitudes. Pantropic.

Local names: Darakot (Bis.); kolótang-bílog (Tag.); kulútan (Tag.); kullukullút (Ilk.); kupút (Ig.).

TRIUMFETTA TOMENTOSA Boj. in Ann. Sci. Nat. II 20 (1843) 103; Mast. in Hook. f. Fl. Brit. Ind. 1 (1875) 394; Gagnep. in Lecomte Fl. Gén. Indo-Chine 1 (1910) 552.

Luzon (Bontoc), *Vanoverbergh* 833. On slopes, altitude 1,250 m. Very similar to *T. pilosa* Roth but with straight spines. India to East Africa, Indo-China, southern China, and Java.

9. MUNTINGIA Plumier

MUNTINGIA CALABURA Linn. Sp. Pl. (1753) 509; DC. Prodr. 1 (1824) 514; F.-Vill. Novis. App. (1880) 31; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 425; Vidal Sinopsis Atlas (1883) 17, t. 20, f. C, Rev. Pl. Vasc. Filip. (1886) 72; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 36, Govt. Lab. Publ. (Philip.) 6 (1904) 35, Fl. Manila (1912) 313; Perk. Frag. Fl. Philip. (1904) 102.

Widely distributed in the Philippines in and about towns, and often thoroughly naturalized. Introduced from tropical America, also in Siam and Java.

Local names: Cereza (Sp.); dátiles (Tag., Bik.); latíres (Tag.), manzanítas (Ilk., Ibn.); rátiles (Tag.); serésá (Ilk.).

EXCLUDED GENUS

APEIBA ULMIFOLIA DC.; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 101.

MALVACEAE

1. ABUTILON Tournefort

ABUTILON AURITUM (Wall.) Sweet Hort. Brit. (1826) 53; Rolfe in Journ. Bot. 23 (1885) 210; Vidal Phan. Cuming. Philip. (1885) 97, Rev. Pl. Vasc. Filip. (1886) 63; Baker in Journ. Bot. 31 (1892) 76.

Sida aurita Wall. in Link Enum. Hort. Berol. 2 (1822) 206; DC. Prodr. 1 (1824) 468.

Abutilon stipulare Presl Rel. Haenk. 2 (1830) 114; Miq. Fl. Ind. Bat. 1² (1858-59) 147; F.-Vill. Novis. App. (1880) 23.

Sida atropurpurea Blume Bijdr. (1825) 77.

Luzon (Ilocos Norte), *Haenke*, B. S. 7620, 27376 *Ramos*. In dry thickets at low altitudes. India, Java, Australia.

ABUTILON HIRTUM (Lam.) Sweet Hort. Brit. (1826) 53; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 197; Hochr. in Ann. Conserv. Jard. Bot. Genève 6 (1902) 17.

Sida hirta Lam. Encycl. 1 (1783) 7.

Abutilon graveolens W. & A. Prodr. 1 (1834) 56; F.-Vill. Novis. App. (1880) 23.

Abutilon graveolens W. & A. var. *hirtum* Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 327.

Babuyan Islands (Dalupiri), Palawan, Mindanao (Zamboanga), B. S. 10652 *McGregor*, 11741 *Robinson*, *Merrill* 9440, *Clemens* 675. In thickets and waste places at low altitudes. India to Indo-China and Malaya.

ABUTILON INDICUM (Linn.) Sweet Hort. Brit. (1826) 54; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 167; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 326; F.-Vill. Novis. App. (1880) 23; Vidal Phan. Cuming. Philip. (1885) 97, Rev. Pl. Vasc. Filip. (1886) 63;

Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 90, 3 (1908) Bot. 77, Fl. Manila (1912) 318, Sp. Blancoanae (1918) 251; Hochr. in Ann. Conserv. Jard. Bot. Genève 6 (1902) 19.

Sida indica Linn. Cent. Pl. 2 (1756) 26, Amoen. Acad. 4 (1759) 324; Blanco Fl. Filip. (1837) 547, ed. 2 (1845) 383, ed. 3, 2 (1879) 339, t. 337.

Throughout the Philippines in thickets and waste places in and about towns at low and medium altitudes; certainly introduced. Pantropic.

Local names: Dalúpang (Bis.); giling-gilíngan (Tag.); kuakuakohan (Tag.); lulupau (Ilk.); luplupau (Ilk.); málbas (Tag., Mbo.); malva, or malvas (Sp.); mális (Tag.); màrbas (Tag.); málbas-kastíla (Tag.); mél-bas (Tag.); palis (Bis.); pilis (Bis.); tabing (Tag.); taratakopes (Bis.); takbi-takbi (Sul.).

2. MALVASTRUM A. Gray

MALVASTRUM COROMANDELINUM (Linn.) Garcke in Bonplandia 5 (1857) 297; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 91, 3 (1908) Bot. 419, 7 (1912) Bot. 240, Fl. Manila (1912) 316, Sp. Blancoanae (1918) 252.

Malva coromandelina Linn. Sp. Pl. (1753) 687; Blanco Fl. Filip. (1837) 551.

Malva tricuspidata R. Br. in Ait. Hort. Kew. ed. 2, 4 (1812) 210.

Malva luzonica Blanco op. cit. ed. 2 (1845) 385, ed. 3, 2 (1879) 343, t. 251.

Malvastrum tricuspidatum A. Gray Pl. Wright. (1852) 16; Bot. Wilkes U. S. Explor. Exped. (1854) 148; F.-Vill. Novis. App. (1880) 22; Vidal Phan. Cuming. Philip. (1885) 97, Rev. Pl. Vasc. Filip. (1886) 62.

A common weed in and about towns throughout the Philippines. Pantropic, probably of American origin.

Local names: Babara (Ilk.); gagabuten (Ilk.); kinaylumpang (Tag.); salsalúyut (Ilk.); sinaguri-babái (Sul.); takkimbáka (Ilk.); tachin-kabáyo (Iv.).

EXCLUDED SPECIES

MALVASTRUM SPICATUM A. Gray; F.-Vill. Novis. App. (1880) 22.

3. SIDA Linnaeus

SIDA ACUTA Burm. f. Fl. Ind. (1768) 147; DC. Prodr. 1 (1824) 460; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 159; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 77, Fl. Manila (1912) 318, Sp. Blancoanae (1918) 253.

Sida carpinifolia Linn. f. Suppl. (1781) 307; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 323; F.-Vill. Novis. App. (1880) 22; Vidal Sinopsis Atlas (1883) 15, t. 16, f. A, Phan. Cuming. Philip. (1885) 97, Rev. Pl. Vasc. Filip. (1886) 63; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 91.

Sida lanceolata Retz. Obs. 4 (1786) 28; Blanco Fl. Filip. (1837) 548.

Sida frutescens Cav. Diss. 1 (1785) 12, t. 10, f. 1; Blanco Fl. Filip. ed. 2 (1845) 384, ed. 3, 2 (1879) 341, t. 366.

Throughout the Philippines in open waste places; a ubiquitous weed. Pantropic.

Local names: Attai-na-báka (Ibn.); basbasot (Ilk.); eskóbang-haba (Tag.); eskúba (C. Bis.); eskubílla (Tag., Bis.); herbára (Ilk.); higot-baláto (Tag., Pamp., Bis.); mamális (Tag., Pamp.); pamális (Tag., Bis.); silhigon (Bis.); sinaguri-lángau (Sul.); surusighíd (Bik.); salíki (C. Bis.); takling-báka (Pang.); taking-báka (Tag.); takkimbáka (Ilk.); ualisualisan (Tag.); uualísín (Tag.).

SIDA CORDIFOLIA Linn. Sp. Pl. (1753) 684; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 324; F.-Vill. Novis. App. (1880) 23; Vidal Phan. Cuming. Philip. (1885) 97, Rev. Pl. Vasc. Filip. (1886) 63; Perk. Frag. Fl. Philip. (1904) 109; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 91, Fl. Manila (1912) 23.

Sida rotundifolia Lam. Encycl. 1 (1783) 5; Presl Rel. Haenk. 2 (1830) 110.

In and about towns, a weed in open dry waste places, from northern Luzon to Mindanao. Pantropic, but probably a native of the Old World.

Local name: Gulípas (Sub.).

SIDA CORYLIFOLIA Wall. Cat. (1829) No. 1805, *nomen nudum*; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 342; E. G. Baker in Journ. Bot. 30 (1892) 240; Ceron Cat. Pl. Herb. Manila (1892) 27; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 111.

Sida balabacensis Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 111.

Luzon (Rizal), Balabac, *B. S. 456 Bermejós, 26866 Guerrero, 24073 Ramos, F. B. 2447 Ahern's collector*. In open places at low altitudes. Burma to southern China and southward to Java.

Local name: Timbuburokon (Sul.).

SIDA JAVENSIS Cav. Diss. 5 (1788) 10, *t. 134, f. 2*; Miq. Fl. Ind. Bat. 1² (1858-59) 139; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 160; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 77, Fl. Manila (1912) 317.

Sida humilis Cav. Diss. 5 (1788) 277; DC. Prodr. 1 (1824) 463; F.-Vill. Novis. App. (1880) 22; Vidal Phan. Cuming. Philip. (1885) 97, Rev. Pl. Vasc. Filip. (1886) 63; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 91.

Sida veronicaefolia Lam. var. *javanensis* Baker in Journ. Bot. 30 (1892).

Luzon (Union, Pangasinan, Bataan, Rizal, Manila, Laguna), *Williams 119, Merrill 3304, 5178, Phil. Pl. 2087, B. S. 10902 Ramos, 12420 McGregor*. In dry thickets, along trails, etc., at low altitudes. India to Malaya.

Local names: Hapúnang-nikník (Tag.); igat-igat (Ilk.); marmaraípus (Ilk.); padapadak-púsa (Ilk.).

SIDA LONGISTIPULA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 30.

Luzon (Ilocos Norte), *B. S. 27445, 27492, 27311, 32704 Ramos*. In dry open places and in thickets at low altitudes. Endemic.

SIDA MYSORENSIS W. & A. Prodr. (1834) 59; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 322; F.-Vill. Novis. App. (1880) 22; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 91, Fl. Manila (1912) 317.

Sida glutinosa Roxb. Fl. Ind. ed. 2, 3 (1832) 172, non Cav.

Sida viscosa Lour. Fl. Cochinch. (1790) 413, non Linn.

Luzon (Ilocos Norte, Bontoc, Lepanto, Ilocos Sur, Union, Pangasinan, Bataan, Rizal, Laguna). A weed in open waste places. India to southern China southward to Java.

Local names: Lagtikan (Tag.); márabas (Tag.); márbas-gúbat (Tag.).

SIDA PUBERULA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 90.

Luzon (Bontoc), *Vanoverbergh* 853. On wet slopes, altitude about 1,350 m. Endemic.

SIDA RETUSA Linn. Sp. Pl. ed. 2 (1763) 961; Miq. Fl. Ind. Bat. 1² (1858-59) 142; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 91, Fl. Manila (1912) 318, Sp. Blancoanae (1918) 252.

Sida truncatula Blanco Fl. Filip. (1837) 538, non Gmel.

Sida philippica Blanco op. cit. ed. 2 (1845) 383, ed. 3, 2 (1879) 340, non DC.

Sida rhombifolia Linn. var. *retusa* Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 324; Vidal Phan. Cuming. Philip. (1885) 97, Rev. Pl. Vasc. Filip. (1886) 62.

Northern Luzon to Mindanao. In open grasslands, on paddy banks, etc., at low and medium altitudes. India to Malaya.

Local names: Basbasot (Ilk.); eskóba (Tag., C. Bis.); eskóbang-bilog (Tag.); sasáang-párang (Tag.); siligun (C. Bis.).

SIDA RHOMBIFOLIA Linn. Sp. Pl. (1753) 684; DC. Prodr. 1 (1824) 462; Miq. Fl. Ind. Bat. 1² (1858-59) 142; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 158; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 323; F.-Vill. Novis. App. (1880) 22; Perk. Frag. Fl. Philip. (1904) 109; E. G. Baker in Journ. Bot. 30 (1892) 73; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 91, 3 (1908) Bot. 77, 400, 5 (1910) Bot. 361, Fl. Manila (1912) 318, Sp. Blancoanae (1918) 252.

Sida semicrenata Link Enum. Hort. Berol. 2 (1822) 202; Blanco Fl. Filip. ed. 2 (1845) 384, ed. 3, 2 (1879) 341, t. 248.

Sida philippica DC. Prodr. 1 (1824) 462; Miq. Fl. Ind. Bat. 1² (1858-59) 142.

Sida spinosa Linn. Sp. Pl. (1753) 683; Rolfe in Journ. Bot. 23 (1885) 210; Vidal Rev. Pl. Vasc. Filip. (1886) 63; Usteri Beitr. Ken. Philip. Veg. (1905) 112.

A common weed in and about towns throughout the Philippines. Pan-tropic.

Local names: Basbasot (Ilk.); eskóbang-haba (Tag., Bis., Pamp.); baseng-baseng (Bis.); lubluban (Bon.); nangnañg-isit (Ilk.); siñgitan (Ilk.); sinutan (Ibn.); sinaguri (Sul.); taching-báka (Iv.); takkim-báka (Ilk.); ualisualisan (Tag.).

SIDA VERONICAEFOLIA Lam. Encycl. 1 (1783) 5.

Sida supina L'Her. Stirp. Nov. (1784-85) 109 bis, t. 52; Gagnep. in Lecomte Fl. Gén. Indo-Chine 1 (1910) 404.

Sida humilis Cav. var. *veronicaefolia* Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 322.

Luzon (Manila) Merrill 9627, *Phil. Pl.* 1469. In open grasslands at sea level; certainly introduced. India to Indo-China and Malaya.

4. **MALACHRA** Linnaeus

MALACHRA CAPITATA Linn. Syst. ed. 12 (1767) 458; DC. Prodr. 1 (1824) 440; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 329; Gürke in Engl. Bot. Jahrb. 16 (1893) 348; F.-Vill. Novis. App. (1880) 23; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 23, Fl. Manila (1912) 319, Sp. Blancoanae (1918) 253.

Napaea latifolia Blanco Fl. Filip. ed. 2 (1845) 387, ed. 3, 2 (1879) 346, t. 295.

Luzon (Union, Nueva Ecija, Pampanga, Rizal, Cavite, Manila, Laguna). A common weed in open waste places. Pantropic, a native of tropical America.

Local names: Anábo (Ilk.); bakembákes (Ilk.); bulbúlin (Pamp.); bulúhan (Tag.); bulubulúhan (Tag.); labog-labog (Bis.); lapnis (Tag.); paang-baliuis (Tag.); tambaking (Sul.).

MALACHRA FASCIATA Jacq. Coll. 2 (1788) 352; Gürke in Engl. Bot. Jahrb. 16 (1893) 355 (var. *lineariloba* Gürke); Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 92, Fl. Manila (1912) 319, Sp. Blancoanae (1918) 253.

Napaea scabra Blanco Fl. Filip. (1837) 553, ed. 2 (1845) 386, ed. 3, 2 (1879) 346, non Linn.

Malachra lineariloba Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 206; Vidal Phan. Cuming. Philip. (1885) 97, Rev. Pl. Vasc. Filip. (1886) 63; Usteri Beitr. Ken. Philip. Veg. (1905) 112.

Malachra bracteata F.-Vill. Novis. App. (1880) 23, non Cav.

Luzon (Ilocos Norte, Abra, Lepanto, Union, Pangasinan, Bulacan, Rizal, Bataan, Manila, Cavite, Laguna), Mindanao (Zamboanga). A common weed in open waste places, introduced from tropical America, and now also found in Java.

Local names: Bakembákes (Ilk.); bokabul (Bis.); lapnis-na-bolohan (Tag.); paang-baliuis (Pang.); sutuyo (Sub.).

5. **URENA** Dillenius

URENA LOBATA Linn. Sp. Pl. (1753) 692; DC. Prodr. 1 (1824) 441; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 304; Miq. Fl. Ind. Bat. 1² (1858-59) 148; F.-Vill. Novis. App. (1880) 23; Vidal Phan. Cuming. Philip. (1885) 97, Rev. Pl. Vasc. Filip. (1886) 63; Hochr. in Ann. Conserv. Jard. Bot. Genève 5 (1901) 136; Perk. Frag. Fl. Philip. (1904) 109; Merr. Fl. Manila (1912) 319, Sp. Blancoanae (1918) 253.

Urena sinuata Linn. Sp. Pl. (1753) 692; F.-Vill. Novis. App. (1880) 23; Merr. in Philip. Journ. Sci. 1 (1906) 92.

Urena scabriuscula DC. Prodr. 1 (1824) 441.

Urena multifida Cav. Diss. 6 (1785-90) 336, t. 184, f. 2; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 304; Blanco Fl. Filip. (1837) 540, ed. 2 (1845) 378, ed. 3, 2 (1879) 332, t. 243.

Pavonia rubiformis Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 189; F.-Vill. Novis. App. (1880) 23.

Urena lobata Linn. var. *scabriuscula* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 169; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 329; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 77, 420, Fl. Manila (1912) 320.

Urena lobata Linn. var. *rubiformis* Gürke in Engl. Bot. Jahrb. 16 (1893) 373.

Urena lobata Linn. var. *pertomentosa* O. Kuntze Rev. Gen. Pl. (1891) 74; Hochr. in Ann. Conserv. Jard. Bot. Genève 5 (1901) 14.

Urena lobata Linn. var. *tomentosa* Hochr. op. cit. 139.

Urena lobata Linn. var. *sinuata* Miq. Pl. Jungh. (1854) 283; Hochr. in Ann. Conserv. Jard. Bot. Genève 5 (1901) 141; Gagnep. in Lecomte Fl. Gén. Indo-Chine 1 (1910) 414; Merr. Fl. Manila (1912) 320.

Throughout the Philippines in open waste places, thickets, etc., at low and medium altitudes, ascending to 1,600 m; polymorphous in vegetative characters. Pantropic.

Local names: Afulut (Gad.); anonongkót (Bik.); bagouan (If.); barranggót (Bik.); batikil (If.); dalúpang (P. Bis., Tag., Pamp.); daúpang (Sul.); dópong (Sul.); kolokót (Ting.); kollokollót (Ilk.); kulít (Pang.); kulót (Pang.); kulótan (Tag., Bis.); kullukullút (Ilk.); kulutkulút (Tag.); mangkit (Tag.); molopólo (Tag., Pamp.); palísín (Tag.); poot-si-núang (Is.); puriket (Neg.); saligut (Bon.); supang (Sub.); ta-panding (Mag.).

6. MALVAVISCUS Dillenius

MALVAVISCUS PILOSUS (Sw.) DC. Prodr. 1 (1824) 445; Ceron Cat. Pl. Herb. Manila (1892) 27; Merr. Fl. Manila (1912) 320.

Achania pilosa Sw. Fl. Ind. Occ. 2 (1800) 1224.

Occasionally planted for ornamental purposes but nowhere spontaneous. Introduced after 1880.

7. HIBISCUS Linnaeus

HIBISCUS BICALYCULATUS Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 39.

Luzon (Ilocos Sur, Benguet, Rizal). In forested ravines along streams at low and medium altitudes; a woody vine! Endemic.

Local name: Bosiuasi (Ig.).

HIBISCUS CANNABINUS Linn. Syst. ed. 10 (1759) 1149; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 339; Hochr. in Ann. Conserv. Jard. Bot. Genève 4 (1900) 114; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 244.

Luzon (Bontoc, Pangasinan, Manila), Mindanao (Surigao), Merrill 5434, B. S. 4904 Ramos. Occasionally planted for ornamental purposes, but scarcely naturalized. Pantropic in cultivation, a native of the Old World.

Local name: Á las doce (Sp.).

HIBISCUS MUTABILIS Linn. Sp. Pl. (1753) 694; Blanco Fl. Filip. (1837) 546, ed. 2 (1845) 381, ed. 3, 2 (1879) 336, *t.* 175; Hochr. in Ann. Conserv. Jard. Bot. Genève 4 (1900) 147; Merr. Fl. Manila (1912) 322, Sp. Blancoanae (1918) 254.

Occasionally planted for ornamental purposes in the larger towns of the Archipelago; not spontaneous. Pantropic in cultivation, a native of the Old World.

Local names: Amapóla (Tag.); mapúla (Tag., Bik.).

HIBISCUS PALUDOSUS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 151.

Mindanao (Lanao), *Clemens* 874. In swamps, altitude about 750 m. Endemic.

HIBISCUS ROSASINENSIS Linn. Sp. Pl. (1753) 694; Blanco Fl. Filip. (1837) 543, ed. 2 (1845) 379, ed. 3, 2 (1879) 333, *t.* 270; Miq. Fl. Ind. Bat. 1² (1858-59) 156; F.-Vill. Novis. App. (1880) 24; Perk. Frag. Fl. Philip. (1904) 109; Hochr. in Ann. Conserv. Jard. Bot. Genève 4 (1900) 133; Merr. Fl. Manila (1912) 323, Sp. Blancoanae (1918) 254.

Throughout the Philippines in cultivation for ornamental purposes, but nowhere spontaneous. It very rarely produces fruits in the Archipelago. Pantropic in cultivation, a native of the Old World.

Local names: Antoláñgan (Tag., Bis.); arotáñgan (Pamp.); gomaméla (Tag.); gumaméla (Tag., Bis., Pamp.); kayañga (Ilk., Bik., Bis.); say-saya (Bon.); tapoláñga (Tag., Pamp.); tapuráñga (Bis.); tarokáñga (Bis., Pamp.); taukangga (Sul.).

HIBISCUS SABDARIFFA Linn. Sp. Pl. (1753) 695; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 340; Hochr. in Ann. Conserv. Jard. Bot. Genève 4 (1900) 116; Merr. Fl. Manila (1912) 322.

Planted here and there for ornamental purposes and for its edible calyces; not spontaneous. Introduced early in the present century. Pantropic in cultivation, a native of tropical Asia. Roselle.

HIBISCUS SCHIZOPETALUS (Mast.) Hook. f. in Curtis's Bot. Mag. III 36 (1880) *t.* 6524; Usteri Beitr. Ken. Philip. Veg. (1905) 112; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 92, Fl. Manila (1912) 323.

Hibiscus rosa-sinensis Linn. var. *schizopetalus* Mast. in Gard. Chron. (1879) 282.

Widely planted for ornamental purposes, but rarely or never producing fruits and nowhere spontaneous; introduced after 1880. Pantropic in cultivation, a native of tropical Africa.

Local names: Araña (Sp.); kayáñga (Ilk.); tanim (Tag.); tañgáia (Bon.).

HIBISCUS SURATTENSIS Linn. Sp. Pl. (1753) 696; Miq. Fl. Ind. Bat. 1² (1858-59) 161; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 334; F.-Vill. Novis. App. (1880) 24; Vidal Rev. Pl. Vasc. Filip. (1886) 63, Phan. Cuming. Philip. (1885) 97; Hochr. in Ann. Conserv. Jard. Bot. Genève 4 (1900) 110; Perk. Frag. Fl. Philip. (1904) 110, Philip. Journ. Sci. 1 (1906) Suppl. 92, Sp. Blancoanae (1918) 254.

Hibiscus bifurcatus Blanco Fl. Filip. (1837) 545, ed. 2 (1845) 380, ed. 3, 2 (1879) 334, *t.* 347, non Cav.

Throughout the Philippines, in open grasslands at low and medium altitudes; in most islands and provinces; certainly introduced. Tropical Africa, Asia, and Malaya.

Local names: Ahimit (Gad.); andalahit (Sul.); barbarinit (Ilk.); inabu (Ilk.); kalitoitoi (Tagb.); lábneg (P. Bis.); lábog (Bis.); labuag (Ak., Bis.), sabnít (Tag.); sagmít (Tag.); sampínit (Sul.); sapínit (Tag.).

HIBISCUS SYRIACUS Linn. Sp. Pl. (1753) 695; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 344; F.-Vill. Novis. App. (1880) 25; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 346; Hochr. in Ann. Conserv. Jard. Bot. Genève 4 (1900) 76; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 111.

Occasionally planted for ornamental purposes, but nowhere naturalized. A native of tropical or subtropical Asia, now widely cultivated.

HIBISCUS TILIACEUS Linn. Sp. Pl. (1753) 694; Prodr. 1 (1824) 454; Blanco Fl. Filip. (1837) 541, ed. 2 (1845) 379, ed. 3, 2 (1879) 332, t. 274; Miq. Fl. Ind. Bat. 1² (1858-59) 153; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 344; F.-Vill. Novis. App. (1880) 24; Vidal Sinopsis Atlas (1883) 16, t. 16, f. B, Phan. Cuming. Philip. (1885) 97, Rev. Pl. Vasc. Filip. (1886) 63; Hochr. in Ann. Conserv. Jard. Bot. Genève 4 (1900) 62; Perk. Frag. Fl. Philip. (1904) 110; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 92, 3 (1908) Bot. 78, 419, Fl. Manila (1912) 323, Sp. Blancoanae (1918) 254.

Paritium tiliaceum St. Hil. Fl. Bras. Mer. 1 (1827) 156; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 178.

Throughout the Philippines along the seashore, and along tidal streams, occasionally planted inland for ornamental purposes. Pantropic along the seashore.

Local names: Bágo (Ilk., Bon., Ting.); balabágo (S. L. Bis.); balibágo (Tag., Bis.); bauan (Ibn.); dangliu (Tag.); danglog (Sul.); hanót (Iv.); laógo (Bag.); malabágo (Tag., P. Bis., S. L. Bis., Lan.); lambágu (Sul.); malabágu (Ilk.); malibágo (Tag., P. Bis., Sul.); malubágo (Tag., Bik.); marakápas (Ibn.); mayambágo (Bik., C. Bis.); mulabágo (Mag.); ragindi (Bis.).

HIBISCUS VITIFOLIUS Linn. Sp. Pl. (1753) 696, Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 338; Hochr. in Ann. Conserv. Jard. Bot. Genève 4 (1900) 168; Merr. in Philip. Journ. Sci. 13 (1918) Bot. 30.

Luzon (Union), *Lete* 117, 144, 403. In waste places or thickets at low altitudes, undoubtedly introduced. Old World Tropics, introduced in tropical America.

Local name: Mapua (Ilk.).

EXCLUDED SPECIES

HIBISCUS FURCATUS Roxb.; F.-Vill. Novis. App. (1880) 24.

HIBISCUS MICRANTHUS Linn.; F.-Vill. l. c.

HIBISCUS RADIATUS Linn.; F.-Vill. l. c.

HIBISCUS VRIESIANUS Hassk.; F.-Vill. op. cit. 25.

8. ABELMOSCHUS Medicus

ABELMOSCHUS ESCULENTUS (Linn.) Moench. Meth. (1794) 617; Miq. Fl. Ind. Bat. 1² (1858-59) 152; F.-Vill. Novis. App. (1880) 24; Merr. Fl. Manila (1912) 321.

Hibiscus esculentus Linn. Sp. Pl. (1753) 696; DC. Prodr. 1 (1824) 450; Hochr. in Ann. Conserv. Jard. Bot. Genève 4 (1900) 150.

Cultivated for its edible fruits, but not common or general, and nowhere naturalized. Pantropic in cultivation. Okra.

ABELMOSCHUS LUZONIENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 207.

Abelmoschus moschatus Perk. in Frag. Fl. Philip. (1904) 111, p. p.

Luzon (Abra, Lepanto, Bontoc, Benguet, Rizal), *B. S.* 7208, 5333, 26745
Ramos, F. B. 1864 *Ahern's collector, Merrill* 1307, 2328, *Phil. Pl.* 82, 2021.
In thickets at low and medium altitudes, ascending to 1,200 m. Endemic.

ABELMOSCHUS MINDANAENSIS Warb. in Perk. Frag. Fl. Philip. (1904) 111; Merr. Interpret. Herb. Amb. (1917) 358.

Mindanao (Davao), Balut, *Warburg* 14449, *Merrill* 5420. In old clearings up to an altitude of 500 m. Amboina.

Local name: Tilitbabau (Bag.).

ABELMOSCHUS MOSCHATUS Medic. Malv. (1787) 46; Moench. Meth. (1794) 617; Miq. Fl. Ind. Bat. 1² (1858-59) 151; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 172; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 92, 3 (1908) Bot. 78, 419, Fl. Manila (1912) 321, Sp. Blancoanae (1918) 254.

Hibiscus abelmoschus Linn. Sp. Pl. (1753) 696; Blanco Fl. Filip. (1837) 545, ed. 2 (1845) 380, ed. 3, 2 (1879) 335, *t.* 245; F.-Vill. Novis. App. (1880) 24; Hochr. in Ann. Conserv. Jard. Bot. Genève 4 (1900) 150.

Throughout the Philippines in open, usually moist grasslands, old clearings, etc., at low and medium altitudes; exceedingly variable in vegetative characters. Pantropic.

Local names: Agúkai (Sul.); dalak (Buk.); dalúpang (Tag.); dukum (Bis.); daópang (C. Bis.); kalupi (Tag.); kastúli (Tag.); kastio (Tag.); kastiokastiógan (Tag.); kastukastulian (Pamp.); marapoto (Bis.); marikum (Bis.); marukum (Bis.).

Var. **HAENKEANUS** (Presl) comb. nov.

Abelmoschus haenkeanus Presl Rel. Haenk. 2 (1830) 134; Miq. Fl. Ind. Bat. 1² (1858-59) 152.

Hibiscus haenkeanus F.-Vill. Novis. App. (1880) 25; Hochr. in Ann. Conserv. Jard. Bot. Genève 4 (1900) 152.

Widely distributed in the Philippines, but also matched by Indo-Malayan material. This is merely a form or variety of *A. moschatus* Medic. with deeply and narrowly lobed leaves. I have examined the type in the Prague herbarium.

Local name: Magalong (Sub.).

ABELMOSCHUS MULTILOBATUS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 208.

Luzon (Ilocos Norte, Union, Bataan), *F. B.* 1820, 1902 *Borden, B. S.* 27612 *Ramos, Fénix* 14. In thickets and on open slopes at low altitudes. Endemic.

Local name: Anabó-a-dadakkél (Ilk.).

ABELMOSCHUS PUNGENS Wall. Cat. (1829) No. 1924.

Hibiscus pungens Roxb. Hort. Beng. (1814) 50, *nomen*, Fl. Ind. ed. 2, 3 (1832) 213; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 341.

Hibiscus manihot Linn. var. *pungens* Hochr. in Ann. Conserv. Jard. Bot. Genève 4 (1900) 155.

Luzon (Ifugao, Bontoc, Benguet), *B. S.* 3494 *Mearns, 31884 Santos, 19655 McGregor, 5462 Ramos, 37742 Ramos & Edaño, Williams 1317, Merrill 4329*. In open grasslands, altitude 1,200 to 2,000 m. India.

Local names: Gigi (Ig.); gugu (Ig.); marakápas (Ilk.).

ABELMOSCHUS SHARPEI Copel. ex Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 29.

Abelmoschus vanoverberghii Merr. in Philip. Journ. Sci. 13 (1918) Bot. 29.

Abelmoschus todayensis Elm. Leaf. Philip. Bot. 8 (1915) 2752.

Hibiscus sharpei Hochr. in Ann. Conserv. Jard. Bot. Genève 20 (1919) 161.

Hibiscus todayensis Hochr. op. cit. 162.

Abelmoschus bolsteri Merr. ex Hochr. l. c. in syn.

Luzon (Cagayan, Lepanto, Bontoc, Nueva Vizcaya), Masbate, Negros, Cebu, Biliran, Mindanao, *Copeland 364, Elmer 11028, Vanoverbergh 1221, Weber 1464, B. S. 15694, 26033 Fénix, 38462 Ramos & Edaño, 1694 McGregor, F. B. 1011 Clark, 4237 Everett, 3933 Hutchinson, Bolster 122, Merrill 4480*. In open grasslands at low and medium altitudes. Endemic.

As here interpreted this species presents as great a range of variation in vegetative characters as does the allied *A. moschatus* Medic. It differs constantly in its thickened woody base, smaller flowers and fruits, and nonmusky seeds.

Local names: Labog-labog (Buk.); tilingkaran (Bag.).

9. KOSTELETZKYA Presl

KOSTELETZKYA BATAENSIS (Blanco) F.-Vill. Novis. App. (1880) 24; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 290, Fl. Manila (1912) 321, Sp. Blancoanae (1918) 19, 255.

Hibiscus bataensis Blanco Fl. Filip. (1837) 544, ed. 2 (1845) 380, ed. 3, 2 (1879) 334.

Luzon (Ilocos Norte, Pampanga, Rizal), *B. S. 2215 Mearns, Gregorio 444, Llana 327, Merrill Sp. Blancoanae 877* (probably, specimens sterile). In open waste places, probably introduced from Mexico although as yet not matched with any known Mexican species.

10. THESPESIA Solander

THESPESIA LAMPAS (Cav.) Dalz. & Gibs. Bomb. Fl. (1861) 19; Mast. in Hook. f. Fl. Brit. Ind. 1 (1875) 345, F.-Vill. Novis. App. (1880) 25; E. G. Baker in Journ. Bot. 35 (1897) 52; Perk. Frag. Fl. Philip.

- (1904) 11; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 92, Fl. Manila (1912) 324, Sp. Blancoanae (1918) 256.
Hibiscus lampas Cav. Diss. 3 (1787) 154, t. 56, f. 2; Lam. Encycl. 3 (1789) 353; Willd. Sp. Pl. 3 (1800) 811; DC. Prodr. 1 (1824) 447; Miq. Fl. Ind. Bat. 1² (1858-59) 154; Hochr. in Ann. Conserv. Jard. Bot. Genève 4 (1900) 57.
Thespesia sublobata Blanco Fl. Filip. ed. 2 (1845) 362, ed. 3, 2 (1879) 338, t. 355.
Azanza lampas Alefeld in Bot. Zeit. 19 (1861) 298.

Luzon (Abra, Lepanto, Bontoc, Union, Pangasinan, Bulacan, Rizal, Bataan, Laguna), Culion, Negros, Panay. In open places, thickets, etc., at low and medium altitudes. India to tropical Africa, Indo-China, and Malaya.

Local names: Amagong (Tag.); bulak-búlak (Tag.); bulak-bulákan (Tag.); daldallupang (Neg.); dalimokan (Bag.); kapas-kápas (Ilk.); marakápas (Ting.); maratárong (Ilk.).

- THESPESIA POPULNEA** (Linn.) Soland. ex Corr. in Ann. Mus. Paris 9 (1807) 290; DC. Prodr. 1 (1824) 456; Blanco Fl. Filip. ed. 2 (1845) 381, ed. 3, 2 (1879) 337, t. 247; Miq. Fl. Ind. Bat. 1² (1858-59) 150; Mast. in Hook. f. Fl. Brit. Ind. 1 (1875) 345; F.-Vill. Novis. App. (1880) 25; Vidal Rev. Pl. Vasc. Filip. (1886) 64; Koord. & Val. Bijdr. Boom. Java 2 (1895) 118; E. G. Baker in Journ. Bot. 35 (1897) 51; Perk. Frag. Fl. Philip. (1904) 112; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 92, 3 (1908) 78, 419, Fl. Manila (1912) 324, Interpret. Herb. Amb. (1917) 360, Sp. Blancoanae (1918) 255.
Hibiscus populneus Linn. Sp. Pl. (1753) 694.
Thespesia macrophylla Blume Bijdr. (1825) 73, 106; Miq. Fl. Ind. Bat. 1² (1858-59) 151; F.-Vill. Novis. App. (1880) 25; Vidal Sinopsis Atlas (1883) 16, t. 16, f. D; Koord. & Val. Bijdr. Boom. Java 2 (1895) 119; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 37; E. G. Baker in Journ. Bot. 35 (1897) 52.
Thespesia banalo Blanco Fl. Filip. ed. 2 (1845) 382, ed. 3, 2 (1879) 338, t. 269.

Throughout the Philippines along the seashore. Pantropic in similar habitats.

Local names: Balu (Sul.); banág (Kuy.); banágo (Tag., P. Bis.); banàgo-pulá (Tag.); banálo (Tag.); banáro (Pang.); ba-ot (Sul.); iden (Ting.); tuba-túba (Bik.); válo (Iv.).

11. BOMBYCIDENDRON Zollinger

- BOMBYCIDENDRON CAMPYLOSIPHON** (Turcz.) Warb. in Perk. Frag. Fl. Philip. (1904) 110.
Hibiscus campylosiphon Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 193; F.-Vill. Novis. App. (1880) 25.
Thespesia campylosiphon Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 308; Vidal Phan. Cuming. Philip. (1885) 97, Rev. Pl. Vasc. Filip. (1886) 64; E. G. Baker in Journ. Bot. 35 (1897) 54.
Bombycidendron parvifolium Warb. l. c.

Luzon (Cagayan, ? Zambales), *Cuming* 1063, *F. B.* 4285 Klemme. In forests at low altitudes. Endemic.

Local name: Paṅgardisen (Ilk.).

BOMBYCIDENDRON VIDALIANUM (Naves) Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 112.

Hibiscus vidalianus Naves in Blanco Fl. Filip. (1877-83) t. 333; Vidal Cat. Pl. Prov. Manila (1880) 19, Sinopsis Atlas (1883) 16, t. 16, f. C, descr.

Hibiscus grewiaefolius F.-Vill. Novis. App. (1880) 24, non Hassk.

Bombycidendron glabrescens Warb. in Perk. Frag. Fl. Philip. (1904) 110.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Abra, Bontoc, Benguet, Nueva Ecija, Bulacan, Rizal, Bataan, Laguna), Mindoro, Coron, Palawan. Common in forested ravines and in secondary forests at low and medium altitudes, ascending to 1,200 m; scarcely differing from *B. campylosiphon* Warb. except in its glabrous or nearly glabrous leaves. Endemic.

Local names: Bitnong (Ig.); Ianútan (Bon., Tag., Bis.); losóban (Ilk.); lusúban (Ilk.); takulau (Ilk.).

12. GOSSYPIUM Linnaeus

GOSSYPIUM ARBOREUM Linn. Sp. Pl. (1753) 693; Miq. Fl. Ind. Bat. 1² (1858-59) 163; F.-Vill. Novis. App. (1880) 26; Watt Cotton Pl. (1907) 81, t. 7-8; Merr. Sp. Blancoanae (1918) 256.

Gossypium perenne Blanco Fl. Filip. (1837) 537, ed. 2 (1845) 376, ed. 3, 2 (1879) 330.

Gossypium herbaceum Vidal Phan. Cuming. Philip. (1885) 97, non Linn.

Mindanao (Misamis), (*Cuming* 1647).

The identification of *Cuming* 1647 is after Watt, op. cit. 96, who refers it to *Gossypium arboreum* Linn. var. *neglectum* (Tod.) Watt. Widely distributed in cultivation, but now extinct or at least very rarely planted in the Philippines.

GOSSYPIUM BRASILIENSE Macf. Fl. Jam. 1 (1837) 72; Watt Cotton Pl. (1907) 295, t. 49, 50; Merr. Fl. Manila (1912) 325.

Gossypium lapideum Tussac Fl. Antil. 2 (1818) 67, *nomen subnudum*.

Gossypium barbadense Vidal Sinopsis Atlas (1883) 16, t. 16, f. E. non Linn.

Throughout the Philippines, planted here and there about houses chiefly for ornamental purposes. Pantropic, but native of tropical America. Kidney cotton.

Local names: Búlak (Pang.); bulak-kastíla (Tag.); gápas (S. L. Bis., Bik.); kápas (Ilk.); kápas-a-dadakel (Ilk.); kápas-ti-igorot (Ilk.); kápas-uag-uag (Ilk.); pernambúko (Tag., Bik.).

GOSSYPIUM HIRSUTUM Linn. Sp. Pl. ed. 2 (1763) 975; Watt Cotton Pl. (1907) 183, t. 29-31; Merr. Fl. Manila (1912) 324.

Occasionally planted in Luzon, *Holman*; grown from American seeds. It may not persist in cultivation in the Philippines. Pantropic in cultivation.

GOSSYPIUM MICROCARPUM Tod. Hort. Bot. Pan. 1 (1876) 63, *t.* 14;
Watt Cotton Pl. (1907) 210, *t.* 36.

Gossypium herbaceum Ceron Cat. Pl. Herb. Manila (1892) 28, non Linn.

Sulu Archipelago (Siasi), (*Vidal 2183*). The identification is after Watt l. c.; certainly introduced. Tropical America and Africa.

GOSSYPIUM NANKING Meyen Reise 2 (1836) 326; Watt Cotton Pl. (1907) 114, *t.* 15.

Gossypium herbaceum Perk. Frag. Fl. Philip. (1904) 112; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 37, non Linn.

Mindoro, Culion, Leyte, Cebu, Negros, Mindanao (Misamis, Davao), *Merrill 562, Copeland, F. B. 9873 Merritt*. Planted here and there in clearings, occasionally subspontaneous, certainly introduced. Japan to Malaya, India, and Africa, usually cultivated.

Local names: Búlak-káhoi (Tag.); gápas (C. Bis.); búlak (Tag.); ka-dába (Bis.); kandába (Bis.); kápes (Bon.).

GOSSYPIUM OBTUSIFOLIUM Roxb. Fl. Ind. ed. 2, 3 (1832) 183; Watt Cotton Pl. (1907) 139, *t.* 19, 20.

Ticao, Negros, Cebu, Mindanao (Misamis), *Piper 3, 130, Eskridge*. In cañings, etc., occasionally planted; certainly introduced. India to Africa and Malaya.

GOSSYPIUM PANICULATUM Blanco Fl. Filip. (1837) 539, ed. 2 (1845) 378, ed. 3, 2 (1878) 331; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 343; Merr. Sp. Blancoanae (1918) 256.

Gossypium barbadense F.-Vill. Novis. App. (1880) 25, non Linn.

Luzon (Abra, Amburayan, Bontoc, Ilocos Sur), *B. S. 7197 Ramos, Merrill Sp. Blancoanae 980, Vanoverbergh 3659, Weaver*. Cultivated fairly extensively in the Ilocano provinces; apparently distinct as the various species are interpreted by Watt. Endemic ?

Local names: Kápas (Ting., Ilk.); kastil (Bon.).

GOSSYPIUM PUNCTATUM Sch. & Thon. Beskr. Guin. Pl. (1827) 309; Watt Cotton Pl. (1907) 168, *t.* 27, 28; Merr. Sp. Blancoanae (1918) 256.

Gossypium herbaceum Blanco Fl. Filip. (1837) 534, ed. 2 (1845) 374, ed. 3, 2 (1879) 329; F.-Vill. Novis. App. (1880) 25, non Linn.

Luzon (Batangas), *Merrill Sp. Blancoanae 761*; the commonly cultivated cotton in Batangas. Widely cultivated in both hemispheres, perhaps derived from *G. hirsutum* Linn.

GOSSYPIUM TAITENSE Parl. Sp. Cot. (1866) 39, *t.* 6, *f.* A; Watt Cotton Pl. (1907) 248, *t.* 43.

Basilan, Sulu Archipelago, *B. S. 16342 Reillo, (Vidal 2185)*. Near houses or settlements, certainly introduced. Mascarene Islands, Malaya, and Polynesia.

EXCLUDED GENERA

ALTHAEA ROSEA Cav. Diss. 2 (1785) 91, *t.* 29, *f.* 3; Blanco Fl. Filip. ed. 2 (1845) 386, ed. 3, 2 (1879) 345; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 23, Sp. Blancoanae (1918) 252.

Althaea sinensis Blanco Fl. Filip. (1837) 552, non Cav.

Blanco knew this species only from cultivated specimens which he observed in northern Luzon. I have seen no Philippine material representing the hollyhock, which if still grown in the Archipelago must be of very rare occurrence.

PAVONIA ZEYLANICA Cav.; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 305; F.-Vill. Novis. App. (1880) 23.

I suspect that Meyen's plant from Manila, on which Walper's record was based, was erroneously identified.

BOMBACACEAE

1. BOMBAX Linnaeus

BOMBAX CEIBA Linn. Sp. Pl. (1753) 511; DC. Prodr. 1 (1824) 479; Blanco Fl. Filip. ed. 2 (1845) 372, ed. 3, 2 (1879) 324, *t.* 226; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 92, Fl. Manila (1912) 325, Sp. Blancoanae (1918) 257.

Bombax malabaricum DC. Prodr. 1 (1824) 479; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 349; F.-Vill. Novis. App. (1880) 26; Vidal Sinopsis Atlas (1883) 16, *t.* 17, *f.* B; Rev. Pl. Vasc. Filip. (1886) 64; Koord. & Val. Bijdr. Boom. Java 2 (1895) 122.

Melaleuca grandiflora Blanco Fl. Filip. (1837) 615.

Luzon (Abra, Bulacan, Nueva Ecija, Bataan, Rizal), Mindoro, Camiguin de Misamis, Mindanao. Scattered in secondary and primary forests at low and medium altitudes. India to southern China southward to Sumatra and Java.

Local names: Bobor (Ilk.); buboi-gúbat (Tag.); malabúlak (Tag.); taglinau (Tag.); taroktok (Ilk.).

2. CEIBA Medicus

CEIBA PENTANDRA (Linn.) Gaertn. Fruct. 2 (1791) 244, *t.* 133; Perk. Frag. Fl. Philip. (1894) 112; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 37, Philip. Journ. Sci. 1 (1906) Suppl. 93, Fl. Manila (1912) 326, Sp. Blancoanae (1918) 257.

Bombax pentandrum Linn. Sp. Pl. (1753) 511; Blanco Fl. Filip. (1837) 531, ed. 2 (1845) 371, ed. 3, 2 (1879) 324, *t.* 238.

Eriodendron anfractuosum DC. Prodr. 1 (1824) 479; Miq. Fl. Ind. Bat. 1² (1858-59) 166; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 350; F.-Vill. Novis. App. (1880) 26; Vidal Sinopsis Atlas (1883) 16, *t.* 17, *f.* A.

Planted in the settled areas throughout the Philippines. Pantropic, possibly a native of tropical America.

Local names: Balios (Tag.); basánglai (Ilk.); bóboi (Bik., Tag.); bóiboi (Ak., Bis.); búboi (Tag.); búlak (Tag., Pamp.); búlak-dóndol (C. Bis.); búlak-kastila (Pamp.); búlak-káhoi (Tag.); búlak-sina (Tag.); dál dol (Bis.); dóldol (Bis.); dógdol (C. Bis.); dóndol (Ilk., C. Bis.); gataoua (If.); gápas (C. Bis.); káyo (Bik., Bis.); kasánglai (Pang.); kapak (Sbl.); kápas (Sbl.); kápas-sánglai (Ilk.); kápos (Pang.); kapók (Bis., Sul.); kápuk (Sul.); kúlak (Ilk.); sánglai (Ting., Bon.)

3. CAMPTOSTEMON Masters

CAMPTOSTEMON PHILIPPINENSE (Vidal) Becc. Malesia 3 (1889) 273.

Cumingia philippinensis Vidal Phan. Cuming. Philip. (1885) 212, *t. 1*, Rev. Pl. Vasc. Filip. (1886) 64; Ceron Cat. Pl. Herb. Manila (1892) 28.

Neesia altissima F.-Vill. Novis. App. (1883) 356, non Blume.

Luzon (Tayabas), Palawan, Masbate, Panay, Negros, Bohol, Mindanao (Zamboanga), Basilan. In the margins of mangrove swamps and bordering tidal streams. Borneo.

A second species occurs in northern Australia, while the third species of the genus occurs in the Aru Islands.

Local names: Buñgálon (Tag.); dandúlit (Sul.); gapas-gápas (P. Bis.) libatong-putí (Tag.); nígi-putí (Tag.); lapa-lapa (C. Bis.).

4. DURIO Adanson

DURIO ZIBETHINUS Murr. Syst. (1774) 591; DC. Prodr. 1 (1824) 480;

Miq. Fl. Ind. Bat. 1² (1858-59) 167; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 351; F.-Vill. Novis. App. (1880) 26; Becc. Malesia 3 (1887) 230, *t. 12, f. 1-5, t. 36, f. 1-12*; Vidal Sinopsis Atlas (1883) 16, *t. 17, f. C*; Ceron Cat. Pl. Herb. Manila (1892) 29; Koord. & Val. Bijdr. Boom. Java 2 (1895) 132.

Mindanao (Agusan, Butuan, Lanao, Zamboanga, Cotabato, Davao), Sulu Archipelago. Cultivated for its highly prized fruit, not definitely known from the Philippines in a wild state. Indo-China, Malay Peninsula, Java, Sumatra, Borneo, Celebes, and the Moluccas, mostly in cultivation.

Local names: Dulian (Lan., Sul., Mag., Bag.); durian (Lan.); durio (Bag.); duyan (Sul.).

EXCLUDED GENUS

NEESIA SYNANDRA Mast.; F.-Vill. Novis. App. (1883) 356.

STERCULIACEAE

1. PENTAPETES Linnaeus

PENTAPETES PHOENICEA Linn. Sp. Pl. (1753) 698; Miq. Fl. Ind. Bat.

1² (1858-59) 180; F.-Vill. Novis. App. (1880) 28; Vidal Phan. Cuming. Philip. (1885) 98, Rev. Pl. Vasc. Filip. (1886) 68; Naves in Blanco Fl. Filip. ed. 3 (1877-83) *t. 235*.

Pentapetes coccinea Blanco Fl. Filip. (1837) 529.

Pentapetes cebuana Blanco op. cit. ed. 2 (1845) 369, ed. 3, 2 (1879) 319, *t. 235*.

Luzon (Cagayan, Union, Tayabas, Bataan, Pampanga, Laguna), Samar, Negros, Mindanao. In open, rather damp grasslands; local, sometimes cultivated. Probably an introduced plant in the Philippines, but now thoroughly naturalized. India to Indo-China and Malaya.

Local name: Yamyampaka (Sub.).

2. MELOCHIA Dillenius

MELÓCHIA CONCATENATA Linn. Sp. Pl. (1753) 675; Merr. Sp. Blancoanae (1918) 258.

Melochia supina Linn. l. c.; Blanco Fl. Filip. (1837) 524, ed. 2 (1845) 365, ed. 3, 2 (1879) 310.

Melochia corchorifolia Linn. l. c.; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 191; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 374; F.-Vill. Novis. App. (1880) 28; Vidal Phan. Cuming. Philip. (1886) 98; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 93, 3 (1908) Bot. 78, 420, Fl. Manila (1912) 330.

Riedelia corchorifolia DC. Prodr. 1 (1824) 492; Miq. Fl. Ind. Bat. 1² (1858-59) 188.

Geruma subtriloba Blanco Fl. Filip. (1837) 182, ed. 2 (1845) 130, ed. 3, 1 (1877) 232.

Throughout the Philippines at low and medium altitudes in the settled areas; a weed in waste places, open grasslands, fallow fields, etc. Pantropic.

Local names: Bankalánan (Ilk.); kalíñgan (P. Bis.).

MELOCHIA UMBELLATA (Houtt.) Stapf in Kew Bull. (1913) 317; Merr. in Philip. Journ. Sci. 9 (1914) Bot. 315, Sp. Blancoanae (1918) 258. *Visenia umbellata* Houtt. Handl. 8 (1777) 309.

Visenia indica Gmel. Syst. 2 (1791) 515; Miq. Fl. Ind. Bat. 1² (1858-59) 189.

Melochia indica A. Gray ex F.-Vill. Novis. App. (1880) 29; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 25.

Melochia arborea Blanco Fl. Filip. (1837) 524, ed. 2 (1845) 365, ed. 3, 2 (1879) 311, t. 189; Vidal Rev. Pl. Vasc. Filip. (1886) 68, Phan. Cuming. Philip. (1885) 98; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 258; Perk. Frag. Fl. Philip. (1904) 112.

Hypericum pentandrum Blanco Fl. Filip. (1837) 614, ed. 2 (1845) 430, ed. 3, 2 (1879) 417.

Melochia velutina Wall. ex Bedd. For. Man. Bot. 35 t. 5, f. 3; F.-Vill. Novis. App. (1880) 29; Vidal Sinopsis Atlas (1883) 17, t. 19, f. B.

Batan Islands and northern Luzon to Palawan and Mindanao, in most or all islands and provinces. A common and characteristic shrub or small tree in old clearings, secondary forests, etc., at low and medium altitudes. India to Mauritius, Cochinchina, and Malaya.

Local names: Balignon (Bis.); balíknon (P. Bis.); balítnon (Tag.); balítong banítlon (P. Bis.); bígnon (Pang.); bunot-búnót (Tag.); dalítan (Sul.); hanut-nu-dahdah (Iv.); kalagto (Bag.); labayo (Tag.); lap-nís (Tag.); siápo (Tag.).

3. WALTHERIA Linnaeus

WALTHERIA AMERICANA Linn. Sp. Pl. (1753) 673; DC. Prodr. 1 (1824) 492; Blanco Fl. Filip. (1837) 523, ed. 2 (1845) 364, ed. 3, 2 (1879) 309; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 93, Fl. Manila (1912) 330, Sp. Blancoanae (1918) 258.

Waltheria indica Linn. Sp. Pl. (1753) 673; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 310; Miq. Fl. Ind. Bat. 1² (1858-59) 187; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 374; F.-Vill. Novis. App. (1880) 29; Vidal Phan. Cuming. Philip. (1885) 98, Rev. Pl. Vasc. Filip. (1886) 68; Perk. Frag. Fl. Philip. (1904) 113.

A common weed in dry open places in the settled areas of the Philippines at low and medium altitudes. Pantropic.

Local names: Barulad (Ilk.); kanding-kanding (C. Bis.).

4. COMMERSONIA Forster

COMMERSONIA BARTRAMIA (Linn.) Merr. Interpret. Herb. Amb. (1917) 362, Sp. Blancoanae (1918) 259.

Muntingia bartramia Linn. Amoen. Acad. 4 (1759) 124.

Commersonia echinata Forst. Char. Gen. (1776) 44, t. 22; DC. Prodr. 1 (1824) 486; Blanco Fl. Filip. ed. 2 (1845) 160, ed. 3, 1 (1877) 287.

Commersonia platyphylla Andr. Bot. Rep. t. 603; DC. Prodr. 1 (1824) 486; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 378; F.-Vill. Novis. App. (1880) 29; Vidal Sinopsis Atlas (1883) 17, t. 19, f. D, Rev. Pl. Vasc. Filip. (1886) 69; Perk. Frag. Fl. Philip. (1904) 113; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 37, Philip. Journ. Sci. 1 (1906) Suppl. 93.

Northern Luzon to Palawan and Mindanao, in most islands and provinces; often common in thickets and second-growth forests at low and medium altitudes. Indo-China and the Malay Peninsula through the Malay Archipelago to Polynesia.

Local names: Adupi (Ig.); aniláu-babáe (Tag.); anitap (Neg.); bàgo (Tag.); bágun (Klg.); baliturug (P. Bis.); bulo-bulo (Tag.); kaddeng (Ig.); kakáag (Ilk.); kanit (Sub.); kulilio (Tag.); kurikai (Sul.); labáya (Tag.); labáio (Tag.); mayamága (Bis.); mayamágan (C. Bis.); patálo (P. Bis.); patólo (Tag.); pamínta (Ig.); tolo (Bag.); toñgílaw (Yak.).

5. BUETTNERIA Loeffling

BUETTNERIA ECHINATA Wall. Cat. (1829) No. 1149, *nomen nudum*; Gagnep. in Lecomte Fl. Gén. Indo-Chine 1 (1911) 520; Merr. in Philip. Journ. Sci. 9 (1914) Bot. 316.

Mindoro, B. S. 21268 *Escriitor*. In thickets or second-growth forests at low altitudes. Nepal, Burma, Indo-China.

6. LEPTONYCHIA Turczaninow

LEPTONYCHIA BANAHANENSIS (Elm.) Merr. in Philip. Journ. Sci. 4 (1909) Bot. 291.

Grewia banahaensis Em. Leaf. Philip. Bot. 1 (1908) 319.

Luzon (Cagayan, Ilocos Norte, Apayao, Nueva Vizcaya, Nueva Ecija, Bulacan, Rizal, Laguna, Tayabas, Camarines), Samar. In primary forests at low and medium altitudes; very similar to *L. heteroclita* (Roxb.) Kurz, differing in its floral characters. Endemic.

Local names: Baniakau (Ibn.); maladañglín (Tag.); malatúngas (S. L. Bis.); musar (Tag.).

7. ABROMA Jacquin

ABROMA AUGUSTA (Linn.) Linn. f. Suppl. (1781) 341 (*Ambroma*); DC. Prodr. 1 (1824) 485; Miq. Fl. Ind. Bat. 1² (1858-59) 183; F.-Vill. Novis. App. (1880) 29; Vidal Sinopsis Atlas (1883) 17, t. 19, f. C; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 93, 3 (1908) Bot. 420. *Theobroma augusta* Linn. Syst. ed. 12 (1767) 233.

Abroma fastuosa Jacq. Hort. Vind. 3 (1776) 3, t. 1; Vidal Phan. Cuming. Philip. (1885) 98, Rev. Pl. Vasc. Filip. (1886) 259; Perk. Frag. Fl. Philip. (1904) 113; Merr. Interpret. Herb. Amb. (1917) 365, Sp. Blancoanae (1918) 259.

Abroma obliqua Presl Rel. Haenk. 2 (1830) 143.

Abroma mollis DC. Prodr. 1 (1824) 485; Ceron Cat. Pl. Herb. Manila (1892) 31.

Ambroma communis Blanco Fl. Filip. (1837) 606, ed. 2 (1845) 423, ed. 3, 2 (1879) 404, t. 425bis.

Ambroma alata Blanco op. cit. 605, 422, 404; F.-Vill. Novis. App. (1880) 29.

Batan Islands and northern Luzon to Mindanao. In thickets, waste places, and open secondary forests at low and medium altitudes. India to southern China and Malaya.

Local names: Ambóng (Tag.); anabó (Ibn., Ilk., Ting., Tag., Bis.); anabóng (Bik.); anibóng (Tag.); anibióng (Tag.); anabú (Pang.); anafú (Is.); bágo (Bik.); bodo-bódo (Ilk.); labón (P. Bis.); nabó (Ibn., C. Bis.); negnegan (Iv.); pakalkal (Pamp.); sayápo (Mag.); sayápu (Mag.).

8. THEOBROMA Linnaeus

THEOBROMA CACAO Linn. Sp. Pl. (1753) 782; DC. Prodr. 1 (1824) 485; Blanco Fl. Filip. (1837) 601, ed. 2 (1845) 419, ed. 3, 2 (1879) t. 275; F.-Vill. Novis. App. (1880) 29; Merr. Fl. Manila (1912) 328, Sp. Blancoanae (1918) 259.

Widely scattered in cultivation at low and medium altitudes but nowhere spontaneous. Introduced from Mexico. Universally known in the Philippines by its Spanish name, *cacao*.

9. PTEROSPERMUM Schreber

PTEROSPERMUM CUMINGII Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 113.

Luzon (Zambales, Pangasinan), *Cuming 1860, B. S. 29990, 29942 Fénix, F. B. 8266 Curran & Merritt, 13506 Medina, 6981 Curran*. On dry slopes in secondary forests. Endemic.

Local names: Balói (Pang.); taliñgauan (Sbl.).

PTEROSPERMUM DIVERSIFOLIUM Blume Bijdr. (1825) 88; Miq. Fl. Ind. Bat. 1² (1858-59) 192; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 194; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 367; F.-Vill. Novis. App. (1880) 28; Koord. & Val. Bijdr. Boom. Java 2. (1895) 183; Vidal Phan. Cuming. Philip. (1885) 98, Rev. Pl. Vasc. Filip. (1886) 67; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 37, Philip. Journ. Sci. 3 (1908) Bot. 78, Fl. Manila (1912) 330, Sp. Blancoanae (1918) 260.

Pterospermum hastatum Blanco Fl. Filip. (1837) 528, ed. 2 (1845) 367, ed. 3, 2 (1879) 317, t. 182.

Pterospermum acerifolium Rolfe in Journ. Bot. 23 (1885) 211; Vidal Rev. Pl. Vasc. Filip. (1886) 67, non Willd.

Luzon (Cagayan to Camarines), Mindoro, Palawan, Ticao, Masbate, Guimaras, Negros, Mindanao, Basilan. Common in forests at low and medium altitudes. Indo-China, Malay Peninsula, Sumatra, Borneo, Java, and the Moluccas.

Local names: Bagud (Tag.); bayóng (Tag.); báloi (Ilk.); balaibáyan (Sbl.); bároi (Neg., Ilk.); bayóg (Tag., Bik., Pamp., P. Bis.); barog-bayóg (Chab.); bayóng (Tag.); bayók (Tag., Bik., P. Bis.); bayúg (Tag.,

Sul.); bayúk (Tag.); dibual (Yak.); kabislak (Sul.); malibayo (Tag.); rayók (Tagb.); taliñgauan (Sbl.).

PTEROSPERMUM ELMERI Merr. in Philip. Journ. Sci. 7 (1912) Bot. 304.

Mindanao (Davao), *Elmer 11928*. In thin forests, altitude about 750 m. Endemic.

Local name: Bayóg (Bag.).

PTEROSPERMUM LONGIPES Merr. in Philip. Journ. Sci. 7 (1912) Bot. 304.

Camiguin de Misamis, *B. S. 14632 Ramos*. In forests at low or medium altitudes. Endemic.

PTEROSPERMUM MEGALANTHUM Merr. in Philip. Journ. Sci. 14 (1919) 420.

Panay, *B. S. 31269 Ramos & Edaño, F. B. 25359 Achacoso*. In forests at low altitudes. Endemic.

Local name: Bayóg (P. Bis.).

PTEROSPERMUM NIVEUM Vidal Rev. Pl. Vasc. Filip. (1886) 67; Perk.

Frag. Fl. Philip. (1904) 113; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 93.

Pterospermum formosanum Matsum. in Bot. Mag. Tokyo 15 (1901) 53.

Luzon (Abra to Camarines), Mindoro, Catanduanes, Mindanao (Agusan, Misamis, Zamboanga, Cotabato). Common in thin or secondary forests at low altitudes. Formosa, Botel Tobago, *Kawakami & Nakahara 1002*, *Kanehira & Sasaki*.

Local names: Bároi (Ting., Ibn., Ilk.); barúi (Ibn.); bayóg (Tag. Mbo.); bayók (Tag., Mag.); bayok-bayókan (Bik.); bayói (Sbl.); bayug (Bik.); bayugtin (Tag.); bayuk-bayúkan (Bik.); buliluian (Tag.); kantíngan (Mang.); kokóg (Ig.); tamók (Tag.); tingan-tiñgan (Tag.).

PTEROSPERMUM OBLIQUUM Blanco Fl. Filip. (1837) 529; Vidal Phan.

Cuming. Philip. (1885) 98, Rev. Pl. Vasc. Filip. (1886) 67; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 93, Sp. Blancoanae (1918) 260.

Pterospermum semisagittatum Blanco op. cit. ed. 2 (1845) 368, ed. 3, 2 (1879) 318, t. 456, non Ham.

Szegleewia involucrata Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 234.

Pterospermum szegleewia Turcz. op. cit. 36¹ (1863) 573; Rolfe in Journ. Bot. 23 (1885) 211.

Pterospermum rubiginosum F.-Vill. Novis. App. (1880) 28; Vidal Sinopsis Atlas (1883) 17, t. 19, f. A, non Ham.

Pterospermum blumeanum Merr. in Philip. Bureau Forestry Bull. 1 (1903) 37, non Korth.

Luzon (Ilocos Norte, Lepanto, Benguet, Ilocos Sur, Union, Pampanga, Bulacan, Nueva Ecija, Bataan, Zambales, Rizal, Laguna, Tayabas), Mindoro, Palawan, Burias, Samar, Guimaras, Mindanao (Zamboanga). In primary forests at low and medium altitudes; often common. Endemic.

Local names: Agbói (Tagb.); bároi (Ilk.); batuang (Ig.); bayóg (Tag., Bag., S. L. Bis.); bayóg-bayóg (Sul.); bayóp (Tag.); bayói (Pamp.); ba-

yúg (Sul.); bayúko (P. Bis.); butnong (Ilk.); kolikatíngan (Ig.); kolokatíngan (Ig.); kolokotíngan (Tag.); kulakatíngan (Tag.); kulukutíngan (Tag.); kulatíngan (Bik.); pangaltíngaan (Ilk.); panglíngain (Tag.); talingáan (Ilk.); tarongatíngan (Bik.); tíngan-tíngan (Tag.); tualintiang (Tag.).

PTEROSPERMUM PERRINII Elm. Leaf. Philip. Bot. 5 (1913) 1840.

Palawan, *Elmer 12841*. In densely forested stream depressions, altitude about 450 m. Endemic.

PTEROSPERMUM SUBPELTATUM Merr. in Philip. Journ. Sci. 3 (1908) Bot. 204.

Samar, Mindanao (Lanao, Zamboanga), Basilan, *Williams 2350*, *Clemens 522*, *B. S. 17513*, *17630 Ramos*. On forested slopes, at low and medium altitudes. Endemic.

Local name: Bayóg (S. L. Bis.).

10. HELICTERES Plukenet

HELICTERES ANGUSTIFOLIA Linn. Sp. Pl. (1753) 963; DC. Prodr. 1 (1824) 476; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 365; F.-Vill. Novis. App. (1880) 28; Vidal Phan. Cuming. Philip. (1885) 98, Rev. Pl. Vasc. Filip. (1886) 67; Perk. Frag. Fl. Philip. (1904) 113. *Helicteres salicifolia* Presl Rel. Haenk. 2 (1830) 139; F.-Vill. Novis. App. (1880) 28.

Luzon (Cagayan, Isabela, Ilocos Norte, Abra, Bontoc, Benguet, Nueva Vizcaya), Cullion, Busuanga, Panay, Negros, Mindanao (Bukidnon, Davao). On open grassy slopes chiefly at medium altitudes, locally occurring at sea level. India to southern China southward to Borneo, Malay Peninsula, and Java.

HELICTERES HIRSUTA Lour. Fl. Cochinch. (1790) 530; DC. Prodr. 1 (1824) 426; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 309; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 93, Fl. Manila (1912) 329, Sp. Blancoanae (1918) 260.

Helicteres spicata Colebr. ex Roxb. Hort. Beng. (1814) 97; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 366; F.-Vill. Novis. App. (1880) 28; Vidal Sinopsis Atlas (1883) 16, t. 18, f. E, Phan. Cuming. Philip. (1885) 98, Rev. Pl. Vasc. Filip. (1886) 66; Perk. Frag. Fl. Philip. (1904) 114; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 25.

Alicteres hispida Presl Rel. Haenk. 2 (1830) 140.

Dombeya decanthera Blanco Fl. Filip. (1837) 349, non Cav.

Dombeya biserrata Blanco op. cit. ed. 2 (1845) 244, ed. 3, 2 (1878) 90, t. 91.

Mimusops talosan Blanco Fl. Filip. (1837) 284, ed. 2 (1845) 198, ed. 3, 2 (1878) 6.

Helicteres hispida F.-Vill. Novis. App. (1880) 28.

Luzon (Ilocos Norte to Laguna), Mindoro, Calamian Islands, Palawan. Common in thickets, deserted clearings, and secondary forests at low and medium altitudes. India to southern China, southward to Java.

Local names: Alinú (Ig.); bakit-bákit (Ilk.); bakin bákit (Ilk.); bali-bágo-bulbúsin (Pamp.); buntot-usá (Tag.); danglín-kalabáu (Tag.); danglín-áso (Tag.); kakàab (Ilk.); kakáag (Ilk.); kolokolót-ti-bau (Ig.); kubal

(Pang.); lagin-laginán (Tag.); laylayginan (Tag.); malakaton (Ting.); pakinbákir (Ilk.); sarungkar-a-dadakkél (Ilk.); talakao (Neg.); talosan (Tag.); tolosan (Ilk.); tongtongking (Ig.).

EXCLUDED SPECIES

HELICTERES ISORA Linn.; F.-Vill. Novis. App. (1880) 28.

11. KLEINHOVIA Linnaeus

KLEINHOVIA HOSPITA Linn. Sp. Pl. ed. 2 (1763) 1365; DC. Prodr. 1 (1824) 488; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 309; Miq. Fl. Ind. Bat. 1² (1858-59) 186; Blanco Fl. Filip. (1837) 652, ed. 2 (1845) 455, ed. 3, 3 (1879) 57, t. 328; F.-Vill. Novis. App. (1880) 27; Vidal Sinopsis Atlas (1883) 16, t. 18, f. G, Rev. Pl. Vasc. Filip. (1886) 66; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 38, Philip. Journ. Sci. 1 (1906) Suppl. 94, 3 (1908) Bot. 420, Fl. Manila (1912) 329, Sp. Blancoanae (1918) 260.

Kleinhovia serrata Blanco Fl. Filip. (1837) 653, ed. 2 (1845) 456, ed. 3, 3 (1879) 58.

Grewia meyeniana Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 313, Repert. 5 (1845) 120; F.-Vill. Novis. App. (1880) 30; Garcke in Bonplandia 5 (1857) 258.

Throughout the Philippines at low and medium altitudes, a characteristic tree of thickets, second-growth forests, and deserted clearings. The var. *velutina* Koord. & Val. occurs in the Philippines, but is less common than the typical form although having the same range. India to tropical Africa and Malaya.

Local names: Apung-ápung (Sul.); balansi (Mang.); bantana (P. Bis.); bignon (Ilk.); biknong (Ilk.); biluan (P. Bis.); binong (Ilk.); bitanag (C. Bis., Mbo.); bitnong (Ilk.); bitnung (Ilk.); butnong (Ilk.); hunung (Ilk.); hamitanágo (Bik.); lapnis (C. Bis.); marakápas (Ilk.); pampas (Ilk.); panampat (Pamp.); táag (Tag.); tagnág (Chab.); tamanág (Bag., Mag.); tanág (Tag., Bik., S. L. Bis.); tanák (Tag.); tañgág (Tag.); toloktok (Ilk.); unapong (Sul.).

12. STERCULIA Linnaeus

STERCULIA BLANCOI Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 308; Merr. Sp. Blancoanae (1918) 261.

Sterculia alata Blanco Fl. Filip. ed. 2 (1845) 525, ed. 3, 3 (1879) 165, t. 401; Vidal Sinopsis Atlas (1883) 16, t. 18, f. B; F.-Vill. Novis. App. (1880) 27, non Roxb.

Luzon (Nueva Ecija, Bulacan, Rizal), Mindoro, Ticao, Masbate, Merrill 2260, Sp. Blancoanae 741, Loher 5594, 5573, F. B. 10308 Curran, 22376 Alvarez, 4083 Merritt, 1039 Clark, 12536 Rosenbluth, B. S. 18756 McGregor. In forests at low altitudes. Endemic.

Local names: Kandol-kandol (Tag., P. Bis.); magolipak (Bik.); magoripak (P. Bis.); magulipak (P. Bis.); maguripag (P. Bis.); malóbo (Tag.); panakitín (Tag.).

STERCULIA BREVIPETIOLATA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 40, Philip. Journ. Sci. 1 (1906) Suppl. 94.

Luzon (Bataan), *Elmer* 6829, *Whitford* 1226, *F. B.* 25593 *Borromeo*, 12918, 12940 *Alvarez*, 7376 *Curran*, 1907, 3028 *Borden*, 200 *Barnes*, 3023 *Meyer*, 27427 *Sajor*, 28773 *Pascual*. In primary forests on Mt. Mariveles, altitude 200 to 500 m. Endemic.

Local names: Malabunót (Tag.); putat-hulo (Neg.).

STERCULIA CERAMICA R. Br. in Benn. Pl. Jav. Rar. (1844) 233; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 184; Vidal Rev. Pl. Vasc. Filip. (1886) 65; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 78.

Sterculia luzonica Warb. in Perk. Frag. Fl. Philip. (1904) 115; Merr. Fl. Manila (1912) 327.

Sterculia halmahairae Scheff. in Ann. Jard. Bot. Buitenz. 1 (1876) 88, *nomen nudum*.

Batan Islands and northern Luzon to Mindanao and Palawan. In thickets and forests along the seashore, usually immediately back of the beach. Botel Tobago, Celebes, and the Moluccas.

Local names: Alimun (Bik.); anagas (Bik.); banilad (Tagb.); balinad-kadligan (P. Bis.) boboi-gúbat (Tag.); hoos (Bik.); kadlihan (C. Bis.); kalúpang (P. Bis.); lapnít (Ilk., Ibn.); malakalumpáng (Bik.); tontung lontong (Sul.).

STERCULIA CRASSIRAMEA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 28, Philip. Journ. Sci. 1 (1906) Suppl. 94.

Luzon (Benguet, Ilocos Sur, Union, Bulacan, Rizal, Bataan, Laguna, Tayabas), Mindoro, *Merrill Phil. Pl.* 1929, *Whitford* 1363, *Loher* 5564, *F. B.* 1882, 3338 *Ahern's collector*, 20717 *Villamil*, 17548 *Curran*. In primary forests at low and medium altitudes; allied to *S. macrophylla* Vent. Endemic.

Local names: Adupong (Ig.); balinad (Bis.); banikad (Mang.); baniakálau (Ilk.); banilad (Tag.); bannakálau (Ilk.); kalukalumpaňgan (Tag.); malakápai (Tag.); malapapáya (Tag.); tapinag (Tag.).

STERCULIA CUNEATA R. Br. in Benn. Pl. Jav. Rar. (1844) 232; Walp. Repert. 5 (1845) 101; Miq. Fl. Ind. Bat. 1² (1858-59) 175; F.-Vill. Novis. App. (1880) 27; Vidal Phan. Cuming. Philip. (1885) 98; Rev. Pl. Vasc. Filip. (1886) 65; Pierre Fl. Forest. Cochinch. 2 (1889) t. 193, f. C; Perk. Frag. Fl. Pilip. (1904) 114; Merr. Fl. Manila (1912) 328, Sp. Blancoanae (1918) 261.

Sterculia malabonot Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 340.

Sterculia balanghas Blanco Fl. Filip. (1837) 765, ed. 2 (1845) 525, ed. 3, 3 (1879) 165, non Linn.

Sterculia rubiginosa F.-Vill. Novis. App. (1880) 27; Vidal Sinopsis Atlas (1883) 16, t. 18, f. C, non Vent.

Throughout the Philippines at low and medium altitudes in open forests and in thickets and secondary forests. Endemic.

Local names: Anting (Ilk.); balinad (Kuy.); bayayat (Klg.); bisong (Ilk.); bonotan (Ilk.); buňgat (Ilk.); kakao-kakáo (Tag.); kalukalumpaňgan (Tag.); labnai (Ilk.); malabunot (Tag.); malagasaha (Tag.);

malakakào (Tag.); malakalumpáng (Bik.); maratarong (Ilk.); opong-opong-uós (Bik.); pinilis (P. Bis.); putilin (Tag.); rapok (Ilk.); salimbubu (Tag.); tambobonat (Ilk.); upak (Pamp.).

STERCULIA DIVARICATA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 384.

Leyte, Samar, *Wenzel 93, B. S. 15309, 17550, 24918, 24289 Ramos*. In primary forests at low altitudes. Endemic.

STERCULIA FERRUGINEA R. Br. in Benn. Pl. Jav. Rar. (1844) 232; Walp. Repert. 5 (1845) 101; Miq. Fl. Ind. Bat. 1² (1858) 175; F.-Vill. Novis. App. (1880) 27; Vidal Phan. Cuming. Philip. (1885) 98, Rev. Pl. Vasc. Filip. (1886) 65; Pierre Fl. Forest. Cochinch. 2 (1889) t. 194, f. J.

Luzon (Cagayan, Ilocos Norte, Bontoc, Rizal, Laguna, Tayabas, Camarines), Catanduanes, Polillo, Palawan, Negros, Leyte, Panay, Mindanao, *Cuming 503, Wenzel 1331, B. S. 20523, 13772, 15114 Ramos, 6899 Robinson, 27414, 30437 Ramos, 31259, 39041 Ramos & Edaño, 10390 McGregor, Elmer 9181, F. B. 21132 Fischer, 9006 Whitford & Hutchinson, 20567 Miranda*. In thickets and forests at low and medium altitudes; variable and by no means certainly distinct from *S. cuneata* R. Br. Endemic.

Local names: Banilad (Kuy.); malakalumpáng (Bik.); sinalígan (Ibn.); taligki (Sul.).

STERCULIA FOETIDA Linn. Sp. Pl. (1753) 1008; Blanco Fl. Filip. (1837) 763, ed. 2 (1845) 524, ed. 3, 3 (1879) 162, t. 134; Miq. Fl. Ind. Bat. 1² (1858-59) 172; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 354; F.-Vill. Novis. App. (1880) 26; Vidal Sinopsis Atlas (1883) 16, t. 18, f. A, Phan. Cuming. Philip. (1885) 64; Merr. Fl. Manila (1912) 327, Sp. Blancoanae (1918) 261.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces, along the seashore and in semiopen forests at low and medium altitudes. India to tropical East Africa through Malaya to northeastern Australia.

Local names: Bañgád (Ibn.); bañgág (Ibn.); bañgár (Ilk., Neg.); bobó (P. Bis.); bobóg (P. Bis.); bobór (Ilk.); boñgóg (Ibn.); bubóg (Tagb., Sul., P. Bis.); bubúr (Ilk.); kalumpáng (Tag., Bik., Bis., Pamp.); kurúmpang (Mag.); kúmpang (Sul.).

STERCULIA GLABRIFOLIA Merr. in Philip. Journ. Sci. 17 (1920) 283.

Mindanao (Surigao), *B. S. 34517 Ramos & Pascasio*. In forests at low altitudes.

STERCULIA GRACILIFLORA Perk. Frag. Fl. Philip. (1904) 114.

Luzon (Nueva Ecija, Laguna, Batangas, Camarines), Mindoro, Palawan, Biliran, Negros, Bucas Grande, Mindanao, *Merrill 1177, Phil. Pl. 1414, 5261, Elmer 13119, 12633, 13556, 11194, Whitford 1442, 1460, F. B. 3646 Merritt, 22201, 21446 Alvarez, B. S. 15065 Ramos, 27860 McGregor*. In thickets and forests at low altitudes. Endemic.

Local names: Anitap (Mbo.); bolat (Bag.); balokanád (Tagb.).

STERCULIA HUMILIS Elm. Leaf. Philip. Bot. 2 (1910) 681.

Panay, Mindanao (Lanao, Davao), *Clemens 533, Elmer 11204, B. S. 31361 Ramos & Edaño*. In dense forests, altitude about 750 m. Endemic.

STERCULIA JAGORI Warb. in Perk. Frag. Fl. Philip. (1904) 115.

Pterocymbium gigantifolium Elm. Leaf. Philip. Bot. 1 (1908) 320.

Luzon (Sorsogon), Samar, Leyte, Siargao, Mindanao (Agusan, Davao), Basilan, *Elmer* 7369, 15777, 15288, 13322, *Williams* 2691, *Wenzel* 267, 1568, *B. S.* 34912, 34358 *Ramos & Pascasio*, 24361 *Ramos*, *F. B.* 17895 *Rafael*, 20074 *Miranda*. In primary forests at low altitudes. Endemic.

Local names: Anitap (Mbo.); paysan (Bag.).

STERCULIA MONTANA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 40, Philip. Journ. Sci. 1 (1906) Suppl. 94, 3 (1908) Bot. 420.

Babuyan Islands (Camiguin), Luzon (Cagayan, Nueva Vizcaya, Bulacan, Bataan, Laguna), *Elmer* 6761, *Whitford* 1221, *B. S.* 4113 *Fénix*, 13911 *Ramos*, 34191 *Ramos & Edaño*, *F. B.* 7505, 17573, 10103 *Curran*, 14809 *Darling*. In primary forests up to 900 m altitude. Endemic.

Local name: Ubian (Ibn.).

STERCULIA MULTISTIPULARIS Elm. Leaf. Philip. Bot. 2 (1908) 497.

Luzon (Benguet, Nueva Vizcaya), *Elmer* 8525, *B. S.* 20171 *McGregor*. In forested ravines up to 1,200 m altitude. Endemic.

STERCULIA OBLONGATA R. Br. in Benn. Pl. Jav. Rar. (1844) 232; Walp. Repert. 5 (1845) 101; Miq. Fl. Ind. Bat. 1² (1858-59) 176; F.-Vill. Novis. App. (1880) 27; Vidal Phan. Cuming. Philip. (1885) 98, Rev. Pl. Vasc. Filip. (1886) 65; Pierre Fl. Forest. Cochinch. 2 (1889) t. 193, f. D; Perk. Frag. Fl. Philip. (1904) 116; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 94, 3 (1908) Bot. 420, Fl. Manila (1912) 327.

Batan and Babuyan Islands, Luzon (Cagayan to Sorsogon), Mindoro, Busuanga, Samar, Leyte, Negros, Mindanao (Lanao). In secondary and open primary forests at low and medium altitudes. Celebes.

Local names: Bakau (Tag.); balinad (Bik.); banilad (Tag.); bulinad (Bik.); janták (Iv.); lapnít (Ilk.); malabanilad (Tag.); malabubo (Tag.); malakakáo (Tag.); saripongpong (Bik.); sinaligan (Ilk.); taroi (C. Bis.); uós (Bik.).

STERCULIA OBOVATA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 28.

Luzon (Bontoc, Benguet, Laguna), *Elmer* 5999, 8419, *Vanoverbergh* 3901, *Merrill Phil. Pl.* 1125, *F. B.* 26167 *Oteyza & Garcia*, 10133 *Curran*. In forested ravines, altitude 1,200 to 1,600 m; and in forests at lower altitudes; scarcely distinguishable from *S. ferruginea* R. Br. Endemic.

Local name: Chamosil (Ig.).

STERCULIA PHILIPPINENSIS Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 29, 27 (1905) 24, Sp. Blancoanae (1918) 262.

Sterculia cordifolia Blanco Fl. Filip. (1837) 764, ed. 2 (1845) 525, ed. 3, 3 (1879) 163, non Cav.

Sterculia urens F.-Vill. Novis. App. (1880) 26, non Roxb.

Luzon (Ilocos Sur, Nueva Ecija, Laguna, Camarines), Mindoro, Palawan, Catanduanes, Samar, Guimaras, *Merrill* 2159, *F. B.* 22178 *Alvarez*, 6187, 4052, 8683 *Merritt*, 225 *Gammill*, *B. S.* 30177 *Ramos*. In forests up to 700 m altitude. Endemic.

Local names: Aguiendaon (Kuy.); bagnád (Bik.); banikád (Bis.); banilad (Tag., P. Bis.); banakaláu (Ilk.); malagasaha (Tag.).

STERCULIA RAMOSII Merr. in Philip. Journ. Sci. 11 (1916) Bot. 195.

Luzon (Camarines, Sorsogon), Samar, *B. S.* 24549, 22138 Ramos, Elmer 16976, *F. B.* 21249 Alvarez, 22737 Lasquety. In forests at low or medium altitudes. Endemic.

Local names: Banilad (Bik.); malapáñgi (S. L. Bis.).

STERCULIA SPATULATA Warb. in Perk. Frag. Fl. Philip. (1904) 116.

Jolo, Dumarán, Warburg 14914, Link 129, *F. B.* 21497 Fernandez. On dry forested slopes at low altitudes. Endemic.

Local names: Anitap (Sub.); banitád (Kuy.).

STERCULIA STIPULARIS R. Br. in Benn. Pl. Jav. Rar. (1844) 232; Walp. Repert. 5 (1845) 101; Miq. Fl. Ind. Bat. 1² (1858-59) 176; F.-Vill. Novis. App. (1880) 27; Vidal Phan. Cuming. Philip. (1885) 98, Rev. Pl. Vasc. Filip. (1886) 65, Pierre Fl. Forest. Cochinch. 2 (1889) t. 194, f. I.

Luzon (Ilocos Sur), Cuming 1143, variously accredited to Zambales, and Albay. While numerous Philippine specimens collected within the past twenty years have been referred to this species, I now consider most of them to represent *S. cuneata* R. Br. The Celebes specimen tentatively referred here by Koorders probably does not represent this species. Endemic.

DOUBTFUL AND EXCLUDED SPECIES

STERCULIA BALANGHAS Linn.; F.-Vill. Novis. App. (1880) 27.

STERCULIA GLANDULOSA Blanco Fl. Filip. (1837) 764, ed. 3, 3 (1879) 164; F.-Vill. Novis. App. (1880) 27; Merr. Sp. Blancoanae (1918) 384.

This is unrecognizable from Blanco's very short and imperfect description.

STERCULIA GUTTATA Roxb.; F.-Vill. Novis. App. (1880) 26.

STERCULIA LAEVIS Wall.; F.-Vill op. cit. 27; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 38.

The specimen referred here by myself is *S. oblongata* R. Br.

STERCULIA LANCEOLATA Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 448; F.-Vill. Novis App. (1880) 27, non Cav.

The drawing is very crude and imperfect and some myristicaceous plant may have been intended; there is no description.

STERCULIA MACROPHYLLA Vent.; F.-Vill. Novis. App. (1880) 27; Vidal Rev. Pl. Vasc. Filip. (1886) 65.

Vidal 1180 referred here with doubt by Vidal l. c. is not this species, but is *Sterculia crassiramea* Merr.

STERCULIA NOBILIS R. Br.; F.-Vill. Novis. App. (1880) 27.

13. FIRMIANA Marsigli

FIRMIANA MERRITTII Merr. in Philip. Journ. Sci. 9 (1914) Bot. 314.

Mindoro, *F. B.* 8555 Merritt. In forests at low altitudes. Endemic.

FIRMIANA SIMPLEX (Linn.) W. F. Wight in U. S. Dept. Agr. Bur. Pl. Ind. Bull. 142 (1909) 67; Merr. in Philip. Journ. Sci. 13 (1918) Bot. 308.

Hibiscus simplex Linn. Sp. Pl. ed. 2 (1763) 977.

Sterculia platanifolia Linn. f. Suppl. (1781) 423.

Luzon (Pangasinan), *B. S. 29858 Fénix*. On forested slopes, altitude about 400 m. Japan to central and southern China and Indo-China.

Local name: Bitnong (Pang.).

14. TARRIETIA Blume

TARRIETIA JAVANICA Blume Bijdr. (1825) 227, Rumphia 3 (1847) 184, *t. 172c, f. l*; Miq. Fl. Ind. Bat. 1² (1858-59) 179; Koord. & Val. Bijdr. Boom. Java 2 (1895) 166; Foxw. in Philip. Journ. Sci. 3 (1908) Bot. 171, *t. 1-3*.

Tarrietia riedeliana Merr. in Philip. Journ. Sci. 2 (1907) Bot. 424, non (?) Oliver.

Tarrietia cochinchinensis Pierre Fl. Forest. Cochinch. 2 (1889) *t. 205*; Gagnep. in Lecomte Fl. Gen. Indo-Chine 1 (1910) 482.

Mindanao (Misamis, Lanao, Zamboanga, Cotabato), Basilan. Common in primary forests at low and medium altitudes. The leaves are indifferently 3- and 5-foliolate; *T. riedeliana* Oliv. may not prove to be distinct. Indo-China, Java, ? Celebes.

Local names: Dún̄gon (Sul.); gisang (Sul.); lumbayau (Sub., Sul.); lumbayau-bató (Sul.).

TARRIETIA SYLVATICA (Vidal) Merr. in Philip. Bureau Forestry Bull. 1 (1903) 38, Philip. Journ. Sci. 1 (1906) Suppl. 94; Perk. Frag. Fl. Philip. (1904) 116.

Heritiera sylvatica Vidal Rev. Pl. Vasc. Filip. (1886) 66.

Luzon (Cagayan to Albay), Mindoro, Samar, Masbate, Panay. In dry primary forests at low and medium altitudes; locally abundant. Celebes.

Local names: Bayui (Pang.); dún̄gon (Ilk., Sbl., Tag., Pamp., Bik., Bis.); dún̄gol (Tag.); dún̄gu (Sbl.); palogapig (Ilk.); palonapin (Ilk.); palonapoi (Pang., Sbl.); palugapig (Ibn., Ilk.); paranapoi (Pang.); paranipin (Sbl.); paronapin (Ilk., Pang.); parunapin (Ilk.).

15. PTEROCYMBIUM R. Brown

PTEROCYMBIUM MACROCRATER Warb. in Perk. Frag. Fl. Philip. (1904) 117.

Luzon (Cagayan), *Warburg 12406, F. B. 14797 Darling*. In forests along streams at low altitudes; not certainly distinct from *P. tinctorium* Merr. Endemic.

PTEROCYMBIUM TINCTORIUM (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 24, Philip. Journ. Sci. 1 (1906) Suppl. 94, Sp. Blancoanae (1918) 262.

Heritiera tinctoria Blanco Fl. Filip. (1837) 653, ed. 2 (1845) 456, ed. 3, 3 (1879) 59.

Pterocymbium javanicum R. Br. in Benn. Pl. Jav. Rar. (1844) 219; *t. 45*; Miq. Fl. Ind. Bat. 1² (1858-59) 179; Koord. & Val. Bijdr. Boom. Java 2 (1895) 162; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 38; Perk. Frag. Fl. Philip. (1904) 117.

Sterculia campanulata Wall. ex Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 362; F.-Vill. Novis. App. (1880) 27.

Babuyan Islands and northern Luzon to Palawan and Mindanao. In secondary and thin primary forests at low and medium altitudes. Malay Peninsula, Java.

Local names: Abigon (Tag.); balulau (Mbo.); bañgat (Sbl., Tag.); bañgot (Tag.); bayuó (Mbo.); busain (S. L. Bis.); duidui (Tag.); libtuk (Ibn.); malasapsáp (Tag.); mayuo (Mbo.); taguntuñgan (C. Bis.); ta-kúng (C. Bis.); talóto (Tag.); talúto (Tag., Bik.); taóto (Tag.); taótu (S. L. Bis.); taúto (Tag.); telúto (Tagb.); túto (Tag.); tulúto (Tag.).

16. HERITIERA Dryander

HERITIERA LITTORALIS Dryand. in Ait. Hort. Kew. 3 (1789) 546; DC. Prodr. 1 (1824) 484; Miq. Fl. Ind. Bat. 1² (1858-59) 179; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 184; Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 363; F.-Vill. Novis. App. (1880) 27; Vidal Sinopsis Atlas (1883) 16, t. 18, f. F, Phan. Cuming. Philip. (1885) 98, Rev. Pl. Vasc. Filip. (1886) 65; Merr. in Phil. Journ. Sci. 1 (1906) Suppl. 94, 3 (1908) Bot. 78, Fl. Manila (1912) 328, Sp. Blancoanae (1918) 262.

Helicteres apetala Blanco Fl. Filip. (1837) 383, non Jacq.

Sterculia cymbiformis Blanco op. cit. ed. 2 (1845) 526, ed. 3, 3 (1879) 167, t. 341.

Along the seashore throughout the Philippines; common. India to tropical Africa through Malaya to Polynesia.

Local names: Barit (Sul.); baut (Sul.); dógnon (Bik.); dumdum (Ibn.); dúmon (Ibn., Neg.); dúñgon (Ibn., Tag., Bik., Bis., Lan.); dúñgon-dáгат (Bik.); dúñgon-lalau (Tag.); dúñgon-láte (Tag., Bis., Sul.); dúñgon-latían (Tag.); dúñgon-mángle (C. Bis.); magayau (Ibn.); maladúñgon (Tag.); malarúñgon (Tag.); palugapig (Ibn.); paluñgapoi (Ilk.); paronapin (Ibn., Ilk.); paunopin (Ibn.); paronapoi (Sbl.).

EXCLUDED GENUS

GUAZUMA TOMENTOSA HBK.; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 309.

I strongly suspect that Walper's Philippine record was based on an erroneously named specimen. This species has recently been introduced into the Philippines but occurs only in cultivation in a few gardens.

DILLENACEAE

1. TETRACERA Linnaeus

TETRACERA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 375.

Tetracera obliquinervia Elm. Leaf. Philip. Bot. 7 (1915) 2621.

Tetracera borneensis Rolfe in Journ. Bot. 23 (1885) 209; Vidal Rev. Pl. Vasc. Filip. (1886) 36, non Miq.

Luzon (Laguna, Tayabas), Leyte, Camiguin de Misamis, Mindanao (Agusan, Zamboanga), *Elmer 9202, 13862, Wenzel 812, Williams 2769, B. S. 14605, 10938 Ramos*. In thickets and forests at low and medium altitudes, ascending to 1,000 m altitude. Endemic.

Local name: Balau-bálau (Mbo.).

TETRACERA SCANDENS (Linn.) Merr. Interpret. Herb. Amb. (1917) 365.

Tragia scandens Linn. in Stickman Herb. Amb. (1754) 18, Amoen. Acad. 4 (1759) 128.

Delima sarmentosa Linn. Syst. ed. 10 (1759) 1076; DC. Prodr. 1 (1824) 69; Miq. Fl. Ind. Bat. 1² (1858) 7; F.-Vill. Novis. App. (1880) 2; Vidal Sinopsis Atlas (1883) 11, t. 2, f. C, Phan. Cuming. Philip. (1885) 91, Rev. Pl. Vasc. Filip. (1886) 36 (var. *hebecarpa* Hook. f. & Th.).

Delima frangulaefolia Presl Rel. Haenk. 2 (1830) 73; F.-Vill. Novis. App. (1880) 2.

Tetracera sarmentosa Vahl Symb. 3 (1794) 70; Blanco Fl. Filip. ed. 2 (1845) 320, ed. 3, 2 (1878) 227; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 15, Philip. Journ. Sci. 1 (1906) Suppl. 94, Fl. Manila (1912) 331.

Delima aspera Blanco Fl. Filip. (1837) 429, ed. 2 (1845) 299, ed. 3, 2 (1878) 191, t. 190.

Tetracera monocarpa Blanco op. cit. (1837) 450.

Tetracera macrophylla F.-Vill. Novis. App. (1880) 2, non Wall.

Tetracera volubilis Merr. Sp. Blancoanae (1918) 262, sphalm. (*T. scandens* intended).

Delima hebecarpa DC. Syst. 1 (1818) 407.

Luzon (Pangasinan, Zambales, Tarlac, Bataan, Rizal, Cavite, Laguna), Mindoro, Busuanga, Palawan, Biliran, Mindanao. In dry thickets at low altitudes, often common. India to southern China and Malaya.

Local names: Dañgilian (Bag.); malakatmón (Tag., Pamp.); malbas-tigbálang (Tag.); pakiling (Sbl.).

TETRACERA SUBROTUNDATA Elm. Leaf. Philip. Bot. 5 (1913) 1771.

Palawan, *Elmer* 13048. In primary forests at low altitudes. Endemic.

EXCLUDED SPECIES

TETRACERA ASSA DC.; Miq. Fl. Ind. Bat. 1² (1858) 8; F.-Vill. Novis. App. (1880) 2.

I do not know on what collection Miquel's Philippine record was based; the species is unknown to me as Philippine. Its proper name is *Tetracera indica* (Christm. & Panz.) Merr. Interpret. Herb. Amb. (1917) 367.

2. DILLENIA Linnaeus

DILLENIA BOLSTERI Merr. in Philip. Journ. Sci. 7 (1912) Bot. 305.

Mindanao (Surigao), *Bolster* 311, *Wenzel* 1886, *Piper* 224, 515, *B. S.* 34784 *Ramos & Pascasio*. In forests at low altitudes. Endemic.

DILLENIA CATMON Elm. Leaf. Philip. Bot. 7 (1915) 2610.

Mindanao (Agusan), *Elmer* 13564. On forested ridges and peaks, altitude about 1,200 m; very similar to and manifestly a close ally of *D. philippinensis* Rolfe. Endemic.

Local name: Katmón (Mbo.).

DILLENIA CAULIFLORA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 517.

Samar, Leyte, *Cuming* 1726, *Wenzel* 954, *Merrill Phil. Pl.* 1695. In primary forests at low altitudes. Endemic.

DILLENIA EXCELSA (Jack) Gilg in Engl. & Prantl Nat. Pflanzenfam. 3^{6a} (1893) 123.

Wormia excelsa Jack in Malay Miscel. 2⁷ (1822) 69.

Balabac, *B. S.* 15653 *Fénix*. In forests at low altitudes. Sumatra, Borneo.

DILLENIA FISCHERI Merr. in Philip. Journ. Sci. 9 (1914) Bot. 518.

Mindanao (Butuan), *F. B.* 20500 *Ponce*, 20534 *Miranda*. In semiopen forests at low altitudes. Endemic.

DILLENIA LUZONIENSIS (Vidal) Martelli ex Jackson & Durand *Index Kew. Suppl.* 1 (1901-06) 136; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 95.

Wormia luzoniensis Vidal *Rev. Pl. Vasc. Filip.* (1886) 36; *Ceron Cat.*

Pl. Herb. Manila (1892) 8; *Elm. Leaf. Philip. Bot.* 7 (1915) 2622.

Luzon (Cagayan, Pangasinan, Zambales, Bataan, Nueva Vizcaya), Palawan, *B. S.* 5114 *Ramos*, 549 *Foxworthy*, *F. B.* 3764 *Aguilar*, 5900, 17079, 7361, 17598, 3855 *Curran*, 21574 *Danao*, 3063 *Borden*, *Elmer* 12906. In primary forests at low and medium altitudes, ascending to 1,200 m. Endemic.

Martelli did not publish *Dillenia luzoniensis* in *Becc. Malesia* 3 (1887) 164 as indicated by Jackson and Durand.

Local names: Atpúi (Tagb.); katmón (Is., Sbl., Tag.); magatali (Ibn.); malakatmón (Sbl., Tag., Kuy.); malaliring (Neg.); pañgilinon (Sbl.); paningginon (Sbl.); pamalalién (Pang.).

DILLENIA MEGALANTHA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 519.

Luzon (Tayabas, Camarines, Sorsogon), Samar, Leyte, *B. S.* 17581, 23685, 24483 *Ramos*, 28959, 29145 *Ramos & Edaño*, *F. B.* 10712 *Curran*, 22924 *Fajatin*, *Elmer* 15408. In primary forests at low altitudes. Endemic.

Local names: Katmón (Bik., S. L. Bis.); katmón-bayani (Tag.).

DILLENIA MEGALOPHYLLA Merr. in Philip. Journ. Sci. 14 (1919) 421.

Luzon (Ilocos Norte), *B. S.* 33034 *Ramos*. In primary forests at low altitudes. Endemic.

DILLENIA MINDANAENSIS Elm. *Leaf. Philip. Bot.* 7 (1915) 2611.

Mindanao (Agusan, Zamboanga, Davao), *Elmer* 11883, 13880, *B. S.* 36629, 37445 *Ramos & Edaño*. In primary forests, altitude about 450 m; not certainly distinct from *D. megalantha* Merr. In the original description the width of the leaves is erroneously given as 2 to 2.5 cm; it should read 2 to 2.5 dm. Endemic.

Local names: Kalambóg (Bag.); katmón (Bag.); lumbóg (Sub.); paláli (Sub.).

DILLENIA MONANTHA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 321.

Culion, Busuanga, Palawan, Dumarán, *B. S.* 15647 *Fénix*, 21555, 21642 *Escritor*, *F. B.* 4518 *Curran*, *Merrill* 9237. In dry secondary forests and in open grasslands at low altitudes. Endemic.

DILLENIA OCHREATA Teysm. & Binn. Cat. Hort. Bogor. (1866) 178, *nomen nudum*.

Wormia ochreata Miq. Ann. Mus. Bot. Lugd.-Bat. 4 (1868) 77, descr.

Catanduanes, *B. S. 30344* Ramos. On forested slopes, altitude about 400 m. Celebes.

DILLENIA PAPYRACEA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 520.

Mindanao (Zamboanga), Basilan, *B. S. 16339* Reillo, *F. B. 15226* Klemme. In primary forests at low altitudes. Endemic.

Local name: Malaígang (Sul.).

DILLENIA PHILIPPINENSIS Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 307; Vidal Rev. Pl. Vasc. Filip. (1886) 37; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 39, Philip. Journ. Sci. 1 (1906) Suppl. 95, 3 (1908) Bot. 420, Fl. Manila (1912) 331, Sp. Blancoanae (1918) 263.

Dillenia indica Blanco Fl. Filip. (1837) 472, F.-Vill. Novis. App. (1880) 3; Vidal Sinopsis Atlas (1883) 11, t. 2, f. A, non Linn.

Dillenia speciosa Blanco op. cit. ed. 2 (1845) 329, ed. 3, 2 (1878) 244, t. 199, non Thunb.

Babuyan Islands, Luzon (Cagayan to Sorsogon), Mindoro, Polillo, Masbate, Leyte, Guimaras, Negros, Cebu, Mindanao (all provinces), Basilan. Common in forests at low and medium altitudes. Endemic.

Var. **PUBIFOLIA** var. nov.

A typo differt inflorescentiis sepalisque hirsutis, foliis subtus pilosis.

Luzon (Pangasinan, Zambales, Tayabas), *F. B. 6919* Curran, 8280 Curran & Merritt, *B. S. 13257* Ramos. On slopes near streams, altitude about 80 m. Endemic.

Local names: Balale (Ibn.); bihis (Ig.); biskan (Ig.); bolobayáuak (P. Bis.); diñgin (Sbl.); kalambúgui (Lan.); kambúg (Sul.); katmón (Tag., Pamp., Bis., Bik., Mbo., Sul., Mag.); kalambók (Bag.); kulambúg (Bag.); paláli (Ilk., Ibn., Sub., Pang.); palále (Ibn.); pamamalien (Pang.).

DILLENIA REIFFERSCHIEDIA Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 344; F.-Vill. Novis. App. (1880) 3; Merr. Sp. Blancoanae (1918) 18; Vidal Sinopsis Atlas (1883) 11, t. 2, f. B, Rev. Pl. Vasc. Filip. (1886) 38.

Reifferscheidia speciosa Presl Rel. Haenk. 2 (1830) 74, t. 26; Vidal Phan. Cuming. Philip. (1885) 91.

Dillenia speciosa Gilg in Engl. & Prantl Pflanzenfam. 3⁶ (1893) 124, non Thunb.

Luzon (Rizal, Laguna, Tayabas, Camarines, Albay, Sorsogon), Mindoro, Catanduanes, Negros, Mindanao (Zamboanga), *Elmer 18045, 15619, Cuming 930, B. S. 23351, 13627, 23807* Ramos, *F. B. 11391* Merritt, 10405, 10169, 17409, 10608 Curran. In primary forests at low and medium altitudes. Endemic.

Var. **ROSEA** Elm. Leaf. Philip. Bot. 8 (1919) 3079.

Luzon (Laguna). In primary forests on Mt. Maquiling at medium altitudes. Endemic.

Local names: Baláli (Bik.); katmón (Tag., P. Bis.); katmón-kadlagan (Bik.); katmón-kalabáu (Tag.); paláli (Bik.).

DILLENIA SIBUYANENSIS (Elm.) comb. nov.

Wormia sibuyanensis Elm. Leaf. Philip. Bot. 5 (1913) 1772.

Sibuyan, *Elmer 12087*, *F. B. 18856 Fischer*. Scattered along forested river banks from about sea level to 300 m. Endemic.

EXCLUDED SPECIES

DILLENIA INDICA Linn.

There are a very few trees of this species planted in Manila; introduced about 1908.

DILLENIA AUREA Sm.; F.-Vill. Novis. App. (1883) 347.

DILLENIA BRACTEATA Wight; F.-Vill. op. cit. (1880) 3.

WORMIA PULCHELLA Jack; F.-Vill. op. cit. (1883) 347.

WORMIA SUFFRUTICOSA Griff.; F.-Vill. l. c.

The last is now sparingly cultivated in Manila, introduced from Singapore.

3. **SAURAUIA** Willdenow

SAURAUIA ALVAREZII Merr. in Philip. Journ. Sci. 13 (1918) Bot. 31.

Mindanao (Lanao), *F. B. 25202 Alvarez*. In primary forests, altitude about 1,000 m. Endemic.

Local name: Karimog (Lan.).

SAURAUIA AMPLA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 521.

Saurauia succulenta Elm. Leaf. Philip. Bot. 7 (1915) 2617.

Samar, Mindanao (Agusan), *Merrill Phil. Pl. 1694, Elmer 13408, B. S. 24258 Ramos*. In damp forested ravines at low altitudes. Endemic.

Local names: Liuoyosan (Mbo.); migadon (Mbo.); tari-tári (S. L. Bis.).

SAURAUIA AVELLANA Elm. Leaf. Philip. Bot. 2 (1908) Bot. 498.

Negros, Mindanao (Lanao, Bukidnon), *Elmer 10055, B. S. 15792, 21422 Escritor, 38845 Ramos & Edaño, Clemens 185* as *S. reticulata* Merr., *Wester*. On forested slopes, altitude 700 to 900 m. Endemic.

Local names: Baring (Bag.); kalimug (Buk.); karimug (Lan.).

SAURAUIA BAKERI Merr. in Philip. Journ. Sci. 9 (1914) Bot. 521.

Luzon (Tayabas, east coast), Catanduanes, *Baker 3259, F. B. 10746 Curran, B. S. 28483, 28536, 28874, 28980 Ramos & Edaño, 30460 Ramos*. In primary forests at low altitudes. Endemic.

SAURAUIA BICOLOR Merr. in Philip. Journ. Sci. 13 (1918) Bot. 32.

Luzon (Tayabas, east coast), *B. S. 28735 Ramos & Edaño*. On forested ridges, altitude 300 m or more. Endemic.

SAURAUIA BONTOCENSIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 453.

Luzon (Abra, Bontoc, Kalinga, Ifugao, Lepanto), *Vanoverbergh 445, 2565, B. S. 7098, 5947 Ramos, 37600, 37691 Ramos & Edaño, 19739 McGregor*. In thickets and forests, altitude 1,200 to 1,800 m. Endemic.

Local name: Deguai (Bon.).

SAURAUIA CINNAMOMEA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 42.

Luzon (Rizal, Tayabas), *Whitford* 779, *Loher* 5632, *Warburg* 13295, *B. S.* 29223, 29018 *Ramos & Edaño*, 9482 *Robinson*. In primary forests at low altitudes. Endemic.

Local name: Kalap (Tag.).

SAURAUIA CLEMENTIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 208.

Leyte, Panay, Camiguin de Misamis, Mindanao (Surigao, Agusan, Davao, Bukidnon, Lanao, Zamboanga), *Clemens* 57, *Wenzel* 17, 752, *Merrill* 5417, 7308, *Phil. Pl.* 1120, *Warburg* 14428, *B. S.* 35648, 30697, 38862, 38880, 39068 *Ramos & Edaño*, 15736, 24985 *Fénix*, *F. B.* 26670 *Rola*, 25260 *Alvarez*. In damp primary forests at low altitudes, ascending to 900 m. Endemic.

Local names: Kalimupog (Buk.); kalimog-usá (Buk.); karimog (Lan.); nugnug (C.-Bis.); taliñguhag (Buk.); saliñgobad (Bag.).

SAURAUIA CONFUSA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 522.

Luzon (Laguna, Camarines, Sorsogon), Mindanao (Zamboanga), *Merrill Phil. Pl.* 1134 as *S. altissima* Zipp., *B. S.* 22181 *Ramos*, 36814, 36873 *Ramos & Edaño*, *Elmer* 15281, 15518, 16187 as *S. vulcanica* Elm. In primary forests at low altitudes. Endemic.

SAURAUIA COPELANDII Elm. Leaf. Philip. Bot. 7 (1915) Bot. 2613.

Camiguin de Misamis, Mindanao (Bukidnon, Davao), *Elmer* 10555, *Warburg* 14427, *B. S.* 14624 *Ramos*, 38647, 38736 *Ramos & Edaño*. In primary forests, altitude about 1,000 m. Endemic.

Local name: Baliñgog (Bag.).

SAURAUIA DENTICULATA C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 205.

Mindanao (Zamboanga), *Williams* 2167, *Merrill* 8197. In primary forests, altitude 200 to 800 m. Endemic.

SAURAUIA ELEGANS (Choisy) F.-Vill. Novis. App. (1880) 19; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 42, Philip. Journ. Sci. 2 (1907) Bot. 282, 5 (1910) Bot. 361.

Scapha elegans Choisy in Mém. Soc. Phys. Hist. Nat. Genève 14 (1855) 119, t. 1.

Saurauia rugosa Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 245; F.-Vill. Novis. App. (1880) 19; Vidal Phan. Cuming. Philip. (1885) 96, Rev. Pl. Vasc. Filip. (1886) 57.

Luzon (Ilocos Norte, Bontoc, Lepanto, Benguet, Nueva Vizcaya, Nueva Ecija, Tayabas, Bataan, Camarines, Albay), Mindoro. In forested ravines and on exposed forested ridges, altitude 700 to 2,300 m. Endemic.

Local names: Palayauan (Neg.); uyok (Bon., Ig.).

SAURAUIA ELMERI Merr. in Philip. Journ. Sci. 9 (1914) Bot. 523.

Luzon (Tayabas), *Elmer* 9225, *B. S.* 26640 *Ramos & Edaño*. In primary forests at medium altitudes. Endemic.

SAURAUIA ERYTHROTRICHA Elm. Leaf. Philip. Bot. 7 (1915) 2614.

Mindanao (Agusan), *Elmer 13821*. In the mossy forest, altitude about 1,600 m. Endemic.

Local name: Malaboáya (Mbo.).

SAURAUIA FASCICULIFLORA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 524.

Palawan, *Merrill 9508*. On forested ridges, altitude about 800 m. Endemic.

SAURAUIA GLABRIFOLIA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 33.

Mindanao (Surigao), *Wenzel 1866*, *Bolster 306*, *B. S. 34321*, *34453*, *34391* *Ramos & Pascasio*. In primary forests at low altitudes. Endemic.

SAURAUIA GRACILIPES Merr. in Philip. Journ. Sci. 9 (1914) Bot. 524.

Saurauia ferox Stapf in Trans. Linn. Soc. Bot. 4 (1894) 134, quoad *Cuming 1712*.

Catanduanes, Samar, Mindanao (Lanao, Agusan, Surigao), *Clemens 849*, *Wenzel 1809*, *Cuming 1712*, *Elmer 13357*, *13847* as *S. negrosensis* Elm., *Sablaya 104*, *B. S. 24222*, *24367* *Ramos*. In primary forests at low altitudes, ascending to 900 m. Endemic.

SAURAUIA INVOLUCRATA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 41.

Mindanao (Davao), *Copeland 1237*. In forests, altitude about 800 m. Endemic.

Local name: Baliñgag (Bag.).

SAURAUIA KLEMMEI Merr. in Philip. Journ. Sci. 9 (1914) Bot. 525.

Luzon (Isabela, Apayao), *F. B. 6640 Klemme*, *B. S. 28246 Fénix*. In primary forests at low altitudes. Endemic.

Local names: Asuson (Ibn.); bahisudsud (Ibn.).

SAURAUIA LANAENSIS Merr. in Philip. Journ. Sci. 17 (1920) 286.

Mindanao (Lanao, Misamis), *Clemens 868*, *F. B. 4683 Mearns & Hutchinson*. On forested slopes, altitude 700 to 900 m. Endemic.

SAURAUIA LATIBRACTEA Choisy in Zoll. Syst. Verzeich. (1854) 148; Miq. Fl. Ind. Bat. 1² (1858-59) 479; F.-Vill. Novis. App. (1880) 19; Vidal. Phan. Cuming. Philip. (1885) 96, Rev. Pl. Vasc. Filip. (1886) 56, Synopsis Atlas (1883) 14, *t. 13, f. B*; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 41, Philip. Journ. Sci. 2 (1907) Bot. 282 (as *S. latibracteata*).

Saurauia cumingiana De Vriese Pl. Ind. Bat. Orient. (1856) 38.

Saurauia exasperata De Vriese op. cit. 56; Miq. Fl. Ind. Bat. 1² (1858-59) 483; F.-Vill. Novis. App. (1880) 19; Vidal Phan. Cuming. Philip. (1885) 96, Rev. Pl. Vasc. Filip. (1886) 56.

Luzon (Cagayan to Sorsogon), Polillo, Mindoro, Cebu, incl. *Elmer 14581*, *15219* as *S. irosinensis* Elm. In primary forests at low altitudes, often common. Endemic.

Local names: Barosang (Tag.); kolalabang (Tag.); sanot (Bik.); salimisim (Bik.); supsupun (Bik.); tagibokbok (C. Bis.); takuai (Bon.); tarauas (Neg.).

SAURAUIA LEYTENSIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 526.

Leyte, Biliran, Bucas Grande, *Wenzel 748, 1054, B. S. 15240 Ramos & Pascasio, 18948 McGregor*. In primary forests, altitude about 500 m. Endemic.

SAURAUIA LONGIPEDICELLATA Merr. in Philip. Journ. Sci. 20 (1922) 407.

Mindanao (Zamboanga), *B. S. 36897 Ramos & Edaño*. In forests along streams at low altitudes. Endemic.

SAURAUIA LONGISTYLA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 209.

Palawan, *Merrill 835, F. B. 21480 Fernandez*. In primary forests, altitude about 450 m. Endemic.

Local name: Muta-múta (Tagb.).

SAURAUIA LUZONIENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 209.

Luzon (Zambales, Rizal, Laguna, Tayabas), *F. B. 2902, 3101 Ahern's collector, 21402 Villamil, B. S. 29217, 29328, 29660, 29678, 29695 Ramos & Edaño, 2668, 2132, 13614 Ramos, Merrill Phil. Pl. 302, Loker 5627, 5634, 5649, Elmer 8302, 17521*. In primary forests at low and medium altitudes. Endemic.

SAURAUIA MACGREGORII Merr. in Philip. Journ. Sci. 7 (1912) Bot. 306.

Luzon (Nueva Vizcaya), *B. S. 11407, 20187 McGregor*. In forests at medium altitudes. Endemic.

SAURAUIA MERRILLII Elm. Leaf. Philip. Bot. 1 (1908) 321.

Leyte, Samar, *Elmer 7350, Wenzel 1797, Merrill Phil. Pl. 1692*. In primary forests at low altitudes. Endemic.

SAURAUIA MINDORENSIS Merr. in Philip. Journ. Sci. 17 (1920) 284.

Mindoro, *F. B. 6849 Merritt*. In primary forests at low altitudes. Endemic.

SAURAUIA NEGROSENSIS Elm. Leaf. Philip. Bot. 2 (1908) 499.

Negros, Panay, *Elmer 10139, B. S. 35316 Ramos & Edaño*. In primary forests, altitude about 450 m. Endemic.

SAURAUIA OLIGANTHA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 18.

Luzon (Sorsogon), *B. S. 23426 Ramos, Elmer 16407, 14369, 16580* as *S. bulusanensis* Elm. In primary forests, altitude about 450 m. Endemic.

SAURAUIA OLIGOPHLEBIA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 308.

Catanduanes, *B. S. 30323 Ramos*. In primary forests at low altitudes. Endemic.

SAURAUIA PALAWANENSIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 527.

Palawan, *B. S. 681 Foxworthy*. Along streams in forests, altitude about 1,100 m. Endemic.

SAURAUIA PANAYENSIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 528.

Panay, Merrill 6701, B. S. 35707, 35306 Martelino & Edaño, 32529 McGregor, 31366, 31008, 31295 Ramos & Edaño. In forests along streams, altitude 100 to 800 m. Endemic.

SAURAUIA PANDURIFORMIS Elm. Leaf. Philip. Bot. 2 (1909) 580.

Luzon (Kalinga, Benguet, Batangas, Laguna, Tayabas), Elmer 9209, 12482, Merrill 9651, B. S. 14086 Robinson, 37529 Ramos & Edaño, 27971 Ocampo, F. B. 21550 Tamesis, 24135 Santos. In primary forests, altitude 650 to 1,400 m; very similar to *S. polysperma* (Blanco) Merr. Endemic.

SAURAUIA PAPILLULOSA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 529.

Luzon (Bontoc, Ifugao), B. S. 19640, 19762 McGregor, 38008, 37805 Ramos & Edaño. In thickets or forests on Mt. Polis, probably above an altitude of 1,500 m. Endemic.

Local name: Papayang (Bon.).

SAURAUIA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 2 (1907) Bot. 282.

Mindoro, Mindanao (Misamis, Zamboanga), Basilan, Merrill 5633, 5529, 8086, F. B. 4011 Hutchinson, 4394 Merritt, 21854 Villamil, 4693 Mearns & Hutchinson, B. S. 36964, 37292, 37240 Ramos & Edaño. In primary forests, altitude 500 to 1,400 m; a close ally of *S. tristyla* DC. Endemic.

Local name: Salalong (Sub.).

SAURAUIA POLYSPERMA (Blanco) Merr. Sp. Blancoanae (1918) 263.

Gordonia polysperma Blanco. Fl. Filip. (1837) 549, ed. 2 (1845) 384, ed. 3, 2 (1879) 342.

Saurauia subglabra Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 43, Philip. Journ. Sci. 1 (1906) Suppl. 95.

Luzon (Ilocos Norte, Benguet, Union, Nueva Vizcaya, Pampanga, Bataan), F. B. 2767 Meyer, 6230 Curran, B. S. 12697 Fénix, Loher 5611, Elmer 8860, Williams 740, Whitford 268. In primary forests, altitude 750 to 1,400 m. Endemic.

Local names: Dogi (If.); lubag (Pamp.); sapuan (Ig.).

SAURAUIA SAMARENSIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 530.

Samar, Merrill Phil. Pl. 1693, B. S. 17484, 24306 Ramos. In damp primary forests at low altitudes. Endemic.

Local name: Taritari-gihapon (S. L. Bis.).

SAURAUIA SAMPAD Elm. Leaf. Philip. Bot. 7 (1915) 2616.

Mindanao (Agusan), Elmer 13825. In damp ravines, altitude about 1,600 m. Endemic.

Local name: Sampad (Mbo.).

SAURAUIA SANTOSII Merr. in Philip. Journ. Sci. 14 (1919) 422.

Luzon (Benguet, Bontoc), B. S. 31937 Santos, 37685, 40414 Ramos & Edaño. On slopes, altitude about 2,200 m. Endemic.

Local name: Uyok (Bon.).

SAURAUIA SIBUYANENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1492.

Sibuyan, *Elmer 12535*. Along streams, altitude about 150 m. Endemic.

SAURAUIA SORSOGONENSIS Merr. in Philip. Journ. Sci. 11 (1916) Bot. 17.

Luzon (Sorsogon), *B. S. 23681 Ramos*. In the mossy forest, at or above an altitude of 900 m. Endemic.

SAURAUIA SPARSIFLORA Elm. Leaf. Philip. Bot. 1 (1908) Bot. 322.

Luzon (Ilocos Norte, Benguet, Nueva Ecija, Bulacan, Tayabas), *Elmer 8364, Merrill 4803, Williams 1333, B. S. 31857 Santos, 2749, 2523 Mearns, 26473, 40399 Ramos & Edaño, F. B. 5048 Curran, 14155 Merritt, 25138 Leaño*. In the mossy forest, altitude 1,700 to 2,200 m. Endemic.

Local names: Sanakarun (Ig.); sapuan (Ig.).

SAURAUIA TRUNCIFLORA Merr. in Philip. Journ. Sci. 17 (1920) 285.

Mindanao (Lanao, Bukidnon, Zamboanga), *F. B. 3918 Hutchinson, 25172 Alvarez, B. S. 36651, 39005, 39115 Ramos & Edaño, Clemens 426*. On forested slopes, altitude 700 to 1,100 m. Endemic.

Local names: Kalimog-usá (Buk.); pulakgalau (Sub.).

SAURAUIA URDANETENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2619.

Mindanao (Agusan), *Elmer 13638*. In wet ravines, altitude about 1,050 m. Endemic.

Local name: Liuoyosan (Mbo.).

SAURAUIA VANOVERBERGHII Merr. in Philip. Journ. Sci. 7 (1912) Bot. 91.

Luzon (Benguet, Lepanto, Bontoc), *Vanoverbergh 1014, 1049, B. S. 40270, 40438 Ramos & Edaño*. In forests, altitude about 1,550 m. Endemic.

SAURAUIA WENZELII Merr. in Philip. Journ. Sci. 9 (1914) Bot. 376.

Leyte, Samar, *Wenzel 324, 747, F. B. 12867 Rosenbluth*. In primary forests at low altitudes. Endemic.

Local name: Lomo-lomo (S. L. Bis.).

SAURAUIA WHITFORDII Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 42; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 210.

Luzon (Tayabas), Polillo, *Whitford 1006, Elmer 7505, 8196, B. S. 28870 Ramos & Edaño, 10258 Robinson*. In primary forests up to an altitude of 800 m. Endemic.

EXCLUDED SPECIES

SAURAUIA LANCEOLATA DC.; F.-Vill. Novis. App. (1880) 19.

SAURAUIA FEROX Korth.; Stapf in Trans. Linn. Soc. Bot. 4 (1894) 134.

Stapf referred *Cuming 1712* from Samar to Korthals's species with doubt; it is *Saurauia gracilipes* Merr.

SAURAUIA REINWARDTIANA Blume; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 39.

Ahern 337 referred to Blume's species certainly was erroneously identified.

OCHNACEAE

1. OCHNA Linnaeus

OCHNA FASCICULARIS Blanco Fl. Filip. ed. 2 (1845) 245, ed. 3, 2 (1878) 92; Vidal Sinopsis Atlas (1883) 19, t. 27, f. A, Rev. Pl. Vasc. Filip. (1886) 79; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 29, Sp. Blancoanae 1918) 263.

Brackenridgea fascicularis F.-Vill. Novis. App. (1880) 40.

Notochnella fascicularis Van Tiegh. in Ann. Sci. Nat. Bot. VIII 16 (1902) 403.

Diporidium sp. Van Tiegh. in Journ. de Bot. 16 (1902) 203.

Luzon (Bulacan, Rizal, Laguna, Tayabas, Camarines), Sibuyan, Mindanao (Surigao). In primary forests at low and medium altitudes. Endemic.

Local names: Aniatan (Tag.); bansilai (Bis.); dirigkalin (Tag.); bitas (Tag.); malakitingkiting (Tag.); masalisi (Tag.).

OCHNA FOXWORTHYI Elm. Leaf. Philip. Bot. 5 (1913) 1823.

Palawan, B. S. 903 *Foxworthy*, Elmer 13074. In secondary forests at low altitudes. Endemic.

2. OURATEA Aublet

OURATEA ANGUSTIFOLIA (Vahl) Baill. ex Hallier f. in Beihefte Bot. Centralbl. 34² (1916) 35.

Gomphia angustifolia Vahl Symb. 2 (1791) 49; DC. Prodr. 1 (1824) 736; Hook. f. Fl. Brit. Ind. 1 (1875) 525; F.-Vill. Novis. App. (1880) 39; Vidal Sinopsis Atlas (1883) 19, t. 27, f. B, Rev. Pl. Vasc. Filip. (1886) 79, Phan. Cuming. Philip. (1885) 101.

Campylospermum angustifolium Van Tiegh. in Ann. Sci. Nat. Bot. VIII 16 (1902) 298, Journ. de Bot. 16 (1902) 197.

Campylospermum cumingii Van Tiegh. Journ. de Bot. 18 (1903) 22, Bull. Mus. Hist. Nat. Paris 9 (1903) 80.

Luzon (Cagayan, Ilocos Norte, Zambales, Tayabas, Camarines), Mindoro, Culion, Busuanga, Palawan, Balabac, Masbate, Romblon, Panay, Guimaras, Negros, Mindanao. In primary forests at low altitudes, often common. India to Malaya.

Local names: Añgali (P. Bis.); bansilai (Tag.); barsik (Tag.); bulanan (Bis.); bulokanan (Bis.); buluk (P. Bis.); fugauil (Ibn.); inbibinnga (Tagb., Kuy.); karanian (Bis.); marabúnai (Ibn.) mata-mata (P. Bis.); pagulíngon (C. Bis.); paul (Neg., Ibn.); pinulug (Sul.); talokton (Sbl.).

OURATEA MINDANAENSIS Merr. in Philip. Journ. Sci. 17 (1920) 287.

Mindanao (Surigao), B. S. 34479 *Ramos & Pascasio*. In thickets or forests at low altitudes. Endemic.

3. SCHUURMANSIA Blume

SCHUURMANSIA ELEGANS Blume Mus. Bot. Ludg.-Bat. 1 (1850) 177, f. 32?

Mindanao (Agusan), F. B. 24353 *Cortez & Fernandez*. In forests at low altitudes; a leaf specimen only, the identification with Blume's species not certain, although certainly a *Schuurmansia*. Moluccas.

Local name: Tanang (Mbo.).

SCHUURMANSIA VIDALII (F.-Vill.) Merr. in Philip. Journ. Sci. 11 (1916) Bot. 19.

Calophyllum vidalii F.-Vill. ex Ceron Cat. Pl. Herb. Manila (1892) 229, plate.

Calophyllum cuneatum Vidal ex F.-Vill. l. c. in syn.

Schuurmansia parvifolia Merr. in Philip. Journ. Sci. 11 (1916) Bot. 19.

Luzon (Camarines, Sorsogon), *Vidal 2134, B. S. 23648 Ramos*. In the mossy forest at and above 1,000 m altitude. This genus now comprises eight species, extending from southern Luzon through the Moluccas to New Guinea, but not occurring in the Sunda Islands.

Local name: Balagnan (Bik.).

THEACEAE

1. THEA Linnaeus

THEA LANCEOLATA (Blume) Pierre Fl. Forest. Cochinch. 2 (1887) t. 119; Szysz. in Engl. & Prantl Nat. Pflanzenfam. 3⁶ (1895) 183; Kochs in Engl. Bot. Jahrb. 27 (1900) 586.

Calpandria lanceolata Blume Bijdr. (1825) 178; Korth. Verh. Nat. Gesch. Bot. (1839-42) 148, t. 31; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 213.

Salceda montana Blanco Fl. Filip. ed. 2 (1845) 374, ed. 3, 2 (1879) 327.

Camellia lanceolata Seem. in Trans. Linn. Soc. 22 (1859) 345; F.-Vill. Novis. App. (1880) 19; Cohen-Stuart in Bull. Jard. Bot. Buitenz. III 1 (1919) 281, f. 12.

Pyrenaria camelliaeflora Vidal Sinopsis Atlas (1883) 14, t. 13, f. D, [Rev. Pl. Vasc. Filip. (1886) 57 as *Pyrenaria* sp.], non Kurz.

Theaphylla lanceolata Raf. Sylva Tellur. (1838) 139.

Thea montana Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 21, 35 (1906) 44, Philip. Journ. Sci. 1 (1906) Suppl. 95, Sp. Blancoanae (1918) 264.

Luzon (Cagayan to Sorsogon), Polillo, Mindoro, Panay, Negros, Mindanao (Lanao, Zamboanga). In primary forests, altitude 700 to 2,000 m, often very common. Siam to Sumatra, Java, Borneo, and Celebes.

Additional synonyms, according to Cohen-Stuart, op. cit., are *Calpandria quiscosaura* Korth., *Camellia quincosaura* Seem., *Camellia minahassae* Koord., *Thea lasiostyla* Kochs, and *Thea connata* Craib.

Var. **MOLLIS** var. nov.

A typo differt foliis subtus molliter villosis.

Luzon (Cagayan, Bulacan, Rizal, Tayabas), Mindoro, *B. S. 34071, 22299, 13848, 13346 Ramos, F. B. 8724, 4328 Merritt*. In primary forests at medium altitudes.

Var. **MICROPHYLLA** var. nov.

A typo differt foliis multo minoribus, 3 ad 4 cm longis, 1 ad 1.7 cm latis.

Luzon (Nueva Ecija), *F. B. 22401 Alvarez*. In primary forests, altitude about 500 m.

Var. **STENOPHYLLA** var. nov.

A typo differt foliis anguste lanceolatis, 5 ad 7 cm longis, 1.2 ad 1.5 cm latis.

Luzon (Ilocos Norte), *B. S. 33005 Ramos*. In primary forests, altitude about 450 m.

Local names: Te-6lo (Lan.); susuno (Sub.).

THEA MEGACARPA Elm. Leaf. Philip. Bot. 5 (1913) 1842.

Camellia megacarpa Cohen-Stuart in Bull. Jard. Bot. Buitenz. III 1 (1919) 245.

Palawan, *Elmer 12822*. On forested ridges, altitude about 300 m. Endemic.

THEA SINENSIS Linn. Sp. Pl. (1753) 515; Kochs in Engl. Bot. Jahrb. 27 (1900) 587.

Thea chinensis Sims in Curtis's Bot. Mag. t. 998.

Camellia theifera Griff. Not. 4 (1854) 558, t. 601, f. 1-3; Cohen-Stuart in Bull. Jard. Bot. Buitenz. III 1 (1919) 275.

Camellia thea Link Enum. Hort. Berol. 2 (1822) 73.

Camellia sinensis O. Kuntze in Act. Hort. Petrop. 10 (1887) 195.

Luzon (Benguet), *Merrill 4324*, *Santos 36*. The common tea plant is occasionally planted about Baguio for hedges, etc., but not for the production of tea. Introduced shortly before 1905.

DOUBTFUL AND EXCLUDED SPECIES

CAMELLIA DRUPIFERA Lour.; F.-Vill. Novis. App. (1880) 19.

CAMELLIA JAPONICA Linn.; F.-Vill. l. c.

CAMELLIA SASANQUA Blanco Fl. Filip. (1837) 530, ed. 2 (1845) 371, ed. 3, 2 (1879) 322, non Thunb.

Blanco's description was based on a plant cultivated in Manila, and its status is indeterminable from his imperfect description.

2. **GORDONIA** Ellis

GORDONIA BENGUETICA Burkill in Philip. Journ. Sci. 15 (1919) 478.

Luzon (Benguet), *F. B. 5083 Curran*. In stream depressions, altitude about 1,200 m. Endemic.

GORDONIA LUZONICA Vidal Rev. Pl. Vasc. Filip. (1886) 57; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 114; Burkill in Journ. Str. Branch Roy. As. Soc. 76 (1917) 149, f. 8, Philip. Journ. Sci. 15 (1919) 478.

Gordonia fragrans Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 95.

Gordonia welbornei Elm. Leaf. Philip. Bot. 2 (1908) 500; Burkill in Journ. Str. Branch Roy. As. Soc. 76 (1917) 150.

Luzon (Benguet, Bataan, Zambales, Laguna, Sorsogon), Negros, Panay, Mindanao (Lanao, Bukidnon, Surigao). In primary forests and on exposed forested ridges, altitude 600 to 1,300 m. New Guinea.

Local names: Kalambug (Mbo.); suran-surán (Bis.); tabanko (Lan.); tagililúmboi (C. Bis.).

GORDONIA POLISANA Burkill in Philip. Journ. Sci. 15 (1919) 478.

Benguet (Ifugao), *F. B. 18384 Álvarez, Sandkuhl 316*. In the mossy forest, altitude 1,200 to 1,600 m. Endemic.

GORDONIA SUBCLAVATA Burkill in Philip. Journ. Sci. 15 (1919) 478.

Luzon (Bontoc, Sorsogon), *Vanoverbergh 1465, Elmer 16373, B. S. 23391 Ramos, 40420 Ramos & Edaño*. In forests up to 1,700 m altitude. Endemic.

GORDONIA sp.; Burkill in Philip. Journ. Sci. 15 (1919) 478.

Mindoro, *F. B. 9757 Merritt*. On exposed forested ridges, altitude about 1,000 m. Endemic.

3. PYRENARIA Blume

PYRENARIA MINDANAENSIS Merr. in Philip. Journ. Sci. 20 (1922) 407.

Mindanao (Lanao, Bukidnon), *B. S. 38839 Ramos & Edaño, F. B. 25181 Alvarez*. In damp forests, altitude about 1,200 m. Endemic.

4. SCHIMA Reinwardt

SCHIMA PULGARENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1843.

Schima noronhae Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 113, non Reinw.

Palawan (Mt. Pulgar), *Elmer 13191, B. S. 568 Foxworthy, F. B. 3881 Curran*. In the mossy scrub on ridges, altitude 1,100 to 1,250 m; very close to *S. noronhae* Reinw. Endemic.

5. TERNSTROEMIA Mutis

TERNSTROEMIA GITINGENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1480.

Luzon (Cagayan, Tayabas, east coast), Catanduanes, Palawan, Sibuyan, Panay, *Elmer 12397, Merrill 1040, Phil. Pl. 1209* as *T. obovata* Merr., *B. S. 20727 Escritor, 30499 Ramos, 25448 Martelino & Edaño*. In forested ravines at medium altitudes. Endemic.

Local names: Apín (Tag.); palilag (Ibn.); tapmis (C. Bis.).

TERNSTROEMIA GYMNANTHERA (W. & A.) Sprague in Journ. Bot. 61 (1823) 17.

Cleyera gymnanthera W. & A. Prodr. (1834) 87.

Ternstroemia japonica Dyer in Hook. f. Fl. Brit. Ind. 1 (1874) 280; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 324, non Thunb.

Adinandra coriacea Elm. Leaf. Philip. Bot. 1 (1908) 322.

Luzon (Cagayan, Zambales, Batangas, Tayabas), Mindoro, Palawan, *Elmer 7438, 9214, B. S. 4696, 5077 Ramos, 28775 Ramos & Edaño, 646 Foxworthy, F. B. 8075 Curran & Merritt, 28051 Mabesa*. In the mossy forest, altitude 1,400 to 2,000 m. Japan to India southward to Malaya.

TERNSTROEMIA MEGACARPA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 309.

Mindanao (Lanao, Bukidnon), *Clemens 959, B. S. 39047 Ramos & Edaño*. In forests, altitude about 700 m. Endemic, unless the New Guinea form referred here by Diels is correctly placed.

Local name: Baletis (P. Bis.).

TERNSTROEMIA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 11 (1916) Bot. 196.

Luzon (Cagayan, Ilocos Norte, Nueva Vizcaya, Rizal, Laguna, Camarines), Mindoro, Camarines, *B. S.* 20477, 33302, 39642, 41070 *Ramos*, 29773, 33841 *Ramos & Edaño*, *Merrill* 2692, *F. B.* 10642 *Curran*, 14261 *Aguilar*, 6856 *Merritt*. In primary forests at low and medium altitudes. Endemic.

Local names: Arana (Bik.); barañgoi (Tag.); hindang (S. L. Bis.); pamintugon (S. L. Bis.).

TERNSTROEMIA TOQUIAN (Blanco) F.-Vill. Novis. App. (1880) 19; Vidal Rev. Pl. Vasc. Filip. (1886) 55; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 39, Philip. Journ. Sci. 1 (1906) Suppl. 95, 3 (1908) Bot. 113, Sp. Blancoanae (1918) 19, 264.

Llanosia toquian Blanco Fl. Filip. (1845) 314, ed. 3, 2 (1878) 225.

Ternstroemia penangiana Vidal Sinopsis Atlas (1883) 14, t. 13, f. E, non Choisy.

Ternstroemia lobbiana Pierre Fl. Forest. Cochinch. 2 (1887) sub t. 123.

Taonabo toquian Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 21.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Apayao, Benguet, Pampanga, Nueva Ecija, Pangasinan, Zambales, Bataan, Rizal, Tayabas, Laguna, Camarines), Mindoro, Palawan, Mindanao (Agusan). In primary forests at medium altitudes, variable. Celebes.

Local names: Bigag (Tag.); bikag (Tag.); boalau (Mbo.); debaak (Ilk.); garamansatai (Tag.); malapuyau (Tag.); sambinuluka (Sbl.); tabak (Ilk.); tokian (Tag.).

6. ADINANDRA Jack

ADINANDRA ELLIPTICA C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 206.

Adinandra integerrima Vidal Rev. Pl. Vasc. Filip. (1886) 56, non T. Anders.

Adinandra dumosa Vidal Sinopsis Atlas (1883) 14, t. 13, f. A, non Jack.

Luzon (Bontoc, Benguet, Nueva Ecija, Laguna, Tayabas, Sorsogon), Mindoro, Negros, Panay, *Merrill* 4650, *Phil. Pl.* 886, 1766, *Williams* 1369, 1115, *Elmer* 7853, 10185, *B. S.* 26470, 40276, 40398 *Ramos & Edaño*, 27938 *Ocampo*, 32537 *McGregor*, 23359, 39415, 39487 *Ramos*. In the mossy forest on slopes in forested ravines, and on exposed ridges and peaks, altitude 700 to 1,500 m. Endemic.

Local name: Puyaka (Mang.).

ADINANDRA LEYTENSIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 377.

Adinandra apoensis Elm. Leaf. Philip. Bot. 8 (1915) 2833.

Adinandra merrillii Elm. op. cit. 2834.

Leyte, Mindanao (Agusan, Davao), *Elmer* 11265, 14088, *Wenzel* 760. In primary forests, altitude 500 to 1,300 m. Endemic.

Local names: Malagsam (Bag.); sangnauan (Mbo.).

ADINANDRA LOHERI Merr. in Philip. Journ. Sci. 9 (1914) Bot. 318.

Luzon (Rizal), *Loher* 5604. In primary forests at medium altitudes. Endemic.

ADINANDRA LUZONICA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 29, Philip. Journ. Sci. 1 (1906) Suppl. 95.

Luzon (Bontoc, Zambales, Bataan, Tayabas), *Whitford 446, 1184, Elmer 6906, F. B. 8255 Curran & Merritt, 1360 Borden, B. S. 26630, 28736, 37819 Ramos & Edaño*. On ridges in the mossy forest, altitude 1,000 to 1,400 m. Endemic.

Local name: Kamiin (Sbl.).

ADINANDRA MACGREGORII Merr. in Philip. Journ. Sci. 9 (1914) Bot. 319.

Luzon (Benguet), *B. S. 8425 McGregor, 31924 Santos, Clemens 9234, Sandkuhl 262, F. B. 18372 Alvarez*. In the mossy forest at Pauai, altitude 2,200 to 2,400 m. Endemic.

Local name: Batinai (Ig.).

ADINANDRA MAQUILINGENSIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 317.

Luzon (Laguna), *B. S. 13650 Ramos, Elmer 17685, 18200*. On forested slopes, altitude about 1,000 m. Endemic.

ADINANDRA MONTANA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 363.

Luzon (Ilocos Norte, Benguet, Nueva Ecija, Tayabas, Camarines), Mindoro, Panay, Mindanao (Bukidnon, Misamis, Davao). In the mossy forest on the higher mountains, altitude 1,000 to 2,300 m. Endemic.

Local names: Abuabu (Bag.); darukorauin (Tag.); morara (Sul.); paniasan (Bag.); sauili (Ig.); tikam (Ig.).

ADINANDRA NIGRO-PUNCTATA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 320.

Leyte, *B. S. 15355 Ramos*. In primary forests at medium altitudes. Endemic.

ADINANDRA ROBINSONII Elm. Leaflet. Philip. Bot. 8 (1915) 2836.

Mindanao (Davao, Bukidnon), *Elmer 11461, B. S. 38496, 38981 Ramos & Edaño*. In the mossy forest, altitude about 2,000 m. Scarcely more than a form or variety of *A. elliptica* C. B. Rob. Endemic.

Local names: Kaliligatig (Buk.); marintok (Bag.).

ADINANDRA ROSTRATA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 316.

Adinandra coriacea Merr. op. cit. 317.

Luzon (Laguna), *F. B. 19667 Racelis, 24663, 24659 Amarillas, Merrill Phil. Pl. 1567*. In primary forests, altitude up to 500 m. Endemic.

Local name: Malambot (Tag.).

ADINANDRA URDANETENSIS Elm. Leaflet. Philip. Bot. 8 (1915) 2837.

Luzon (Sorsogon), Mindanao, *Elmer 14078, 17317, 15851 as Ternstroemia epiphytica* Elm., *B. S. 23671 Ramos*. On forested ridges in the mossy forest, altitude 1,200 to 1,500 m. Endemic.

Local name: Sangnauan (Mbo.).

EXCLUDED SPECIES

ADINANDRA DUMOSA Jack; Choisy in Mém. Soc. Phys. Hist. Nat. Genève 14 (1855) 112; F.-Vill. Novis. App. (1880) 19.

Choisy's record of this species as Philippine was probably based on an erroneously localized specimen of Lobb's collection.

7. EURYA Thunberg

EURYA ACUMINATA DC. Mém. Soc. Phys. Hist. Nat. Genève 1 (1821) 26, Prodr. 1 (1824) 525; Rolfe in Journ. Bot. 23 (1885) 210 (var. *euprista* Dyer); Vidal Rev. Pl. Vasc. Filip. (1886) 56; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 95, 2 (1907) Bot. 283.

Luzon (Abra, Lepanto, Bontoc, Benguet, Pampanga, Zambales, Bataan, Rizal, Laguna, Tayabas), Mindoro, Leyte, Mindanao (Bukidnon, Davao). In forests, especially on ridges, chiefly from an altitude of 1,000 to 1,500 m. India to Formosa, through Malaya to Polynesia; variable.

Local names: Balasbas (Ig.); diligit (Bon.); hindang-magamai (C. Bis.); halinghiñgon (C. Bis.); malapauas (Buk.); masalísi (Tag.); mariritak (Bag.); palatsik (Tag.); siligit (Ig.); sitsit (Ig.); tabsik (Tag.).

EURYA AMPLEXICAULIS Moore in Journ. Bot. 37 (1899) 168.

Eurya auriculata Elm. Leaf. Philip. Bot. 2 (1908) 501.

Mindoro, Negros, Merrill 5745, Elmer 9544. In the mossy forest on ridges, altitude 1,500 to 2,400 m. Endemic.

EURYA BUXIFOLIA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 362.

Luzon (Benguet, Bontoc, Lepanto), *F. B.* 18064, 18044, 16170 Curran, Zschokke, & Merritt, 14445 Darling, *B. S.* 31719 Santos, 5834 Ramos, Merrill 4527. In the mossy forest, altitude 1,500 to 2,500 m. Formosa, Kanehira, Faurie.

Local names: Basbasit (Bon.); palunsisiñgin (Ig.); salingsiñgan (Ig.).

EURYA CORIACEA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 361.

Luzon (Bontoc, Benguet), *F. B.* 18108, 18047, 18066, 18052 Curran, Merritt, & Zschokke, 14173 Merritt, *B. S.* 8327 McGregor, 37695, 38092 Ramos & Edaña. In the mossy forest on the higher mountains, altitude 2,000 to 2,700 m. Endemic.

Local names: Bakig (Bon.); sana (Ig.).

EURYA JAPONICA Thunb. Fl. Jap. (1784) 191, t. 25; Dyer in Hook. f. Fl. Brit. Ind. 1 (1874) 284; Rolfe in Journ. Bot. 23 (1885) 210; Vidal Sinopsis Atlas (1883) 14, t. 13, f. C (var. *parvifolia*), Rev. Pl. Vasc. Filip. (1886) 56, Phan. Cuming. Philip. (1885) 96; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 283, 3 (1908) Bot. 421.

Batan Islands, Luzon (Ilocos Norte to Sorsogon), Mindoro, Negros, Mindanao (Davao). In ravines, mossy forests, and on exposed ridges, altitude 1,000 to 2,000 m. The Philippine form is apparently for the most part referable to var. *nitida* (Korth.) Dyer. India to Japan through Malaya to Polynesia; variable.

Local names: Balinsisiñgung (Ig.); batik (Ig.); bogna (Bis.); kasing-sing (Bon.); kolo (Ig.); marintok (Bag.); patalsik (Tag.); tabsik (Tag.).

EURYA PACHYPHYLLA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 309.

Luzon (Tayabas, Laguna, Zambales, Camarines), *B. S.* 26525, 28473 Ramos & Edaña, 5014 Ramos, *F. B.* 8062 Curran & Merritt, 21699 Miranda. On ridges in the mossy forest, altitude up to 2,000 m. Endemic.

EURYA PACHYRHACHIS Merr. in Philip. Journ. Sci. 13 (1918) Bot. 310.

Luzon (Tayabas, east coast), *B. S.* 26579 Ramos & Edaño. Probably in the mossy forest at or above 1,000 m altitude. Endemic.

Local name: Darakdok (Neg.).

EXCLUDED GENERA

ANNESLEA CRASSIPES Hook. f.; F.-Vill. Novis. App. (1880) 18; Miq. Fl. Ind. Bat. 1² (1858-59) 488.

The Philippine credit was based on *Cuming* 2347 which was from Malacca, not from the Philippines.

ARCHYTAEA ALTERNIFOLIA (Vahl) Szysz. in Engl. & Prantl Nat. Pflanzenfam. 3⁶ (1893) 181; Hochr. in Bull. N. Y. Bot. Gard. 6 (1910) 274.

Archytaea vahlii Choisy in Mém. Soc. Phys. Hist. Nat. Genève 14 (1855) 163; F.-Vill. Novis. App. (1880) 19; Vidal Rev. Pl. Vasc. Filip. (1886) 58.

F.-Villar's record was based on an erroneous reduction of *Helianthemum triflorum* Blanco, which is *Grewia stylocarpa* Warb.; Choisy's and Vidal's records were based on a specimen collected by Lobb and labeled as originating in Luzon. Lobb's specimen was from Singapore, the Malay Peninsula, or Borneo, not from the Philippines.

GUTTIFERAE

1. **HYPERICUM** Tournefort

HYPERICUM JAPONICUM Thunb. Fl. Jap. (1784) 295, *t.* 31; Lév. in Bull. Soc. Bot. France IV 7 (1908) 591; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 364.

Luzon (Cagayan, Ifugao, Bontoc, Lepanto, Benguet, Nueva Vizcaya), Mindanao (Lanao). In open waste places, paddy banks, along streams, and in cultivated ground, altitude 700 to 2,400 m; common in the Mountain Province. Japan to India southward to Australia and New Zealand.

Local names: Dagbob (Ig.); dalipug (If.); puket (Ig.).

HYPERICUM LOHERI Merr. in Philip. Journ. Sci. 4 (1909) Bot. 294.

Luzon (Benguet, Zambales), *Loher* 66, *Merrill Phil. Pl.* 864, *B. S.* 5716 Ramos, 2562 Foxworthy, 40501 Ramos & Edaño. On banks, recent slides, etc., altitude 700 to 1,600 m; rare and local. Endemic.

HYPERICUM PULOGENSE Merr. in Philip. Journ. Sci. 5 (1910) Bot. 364.

Luzon (Benguet, Mt. Pulog), *Merrill* 6577, *B. S.* 8880, 8875 *McGregor*, *F. B.* 16097 *Curran*, *Zschokke*, & *Merritt*. In open grasslands above the timber line, altitude about 2,800 m. Endemic.

2. **CRATOXYLON** Blume

CRATOXYLON BLANCOI Blume Mus. Bot. Lugd.-Bat. 2 (1852) 17; Vidal Phan. Cuming. Philip. (1885) 95, Rev. Pl. Vasc. Filip. (1886) 51; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 96, 4 (1909) Bot. 293, *Sp. Blancoanae* (1918) 265.

Hypericum olympicum Blanco Fl. Filip. (1837) 613, ed. 2 (1845) 429, ed 3, 2 (1878) 219, non Linn.

Ancistrolobus micradenius Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 382.

Cratoxylon micradenium F.-Vill. Novis. App. (1880) 16.

Cratoxylon hornschurchii Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 254, non (?) Blume.

Cratoxylon arborescens F.-Vill. Novis. App. (1880) 16; Vidal Sinopsis Atlas (1883) t. 10, f. A, non Blume.

Cratoxylon sumatranum F.-Vill. Novis. App. (1880) 16, non Blume.

Babuyan Islands, Luzon (Cagayan to Sorsogon, incl. *Elmer 15479* as *C. punctulatum* Elm.), Mindoro, Palawan, Catanduanes, Masbate, Samar, Leyte, Negros, Panay, Bohol, Mindanao, Basilan. In thickets and secondary forests at low altitudes; common but apparently intergrading with *C. celebicum* Blume. Endemic unless referable to the Malayan *C. hypericinum* (Blume) Merr. (*Hornschurchia hypericina* Blume); Gagnepain, Not. Syst. 1 (1908) 21, is wrong in reducing this to *Cratoxylon arborescens* (Vahl) Blume.

Local names: Alinggogon (Bik.); bagatubang (S. L. Bis.); bansilai (C. Bis.); baringkokorong (Ilk.); barinkukuron (Pang.); baringkukurung (Ilk.); gansilai (Sul., Yak.); goyong-goyong (Pang.); kansilan (P. Bis.); kansilai (Tag., P. Bis., Sul.); guyong-guyong (Tag., Bik.); oringon (P. Bis.); pagulingan (C. Bis.); pagulingin (Tag.); pagulingon (P. Bis.); paguringon (Bis.); salinggogon (Bik.); ugilingan (Ibn.); uling (Ig.); uring (Ig.).

Var. **APICULATUM** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 294.

Guimaras, *F. B. 31 Ritchie*. In secondary forests at low altitudes. Endemic.

CRATOXYLON CELEBICUM Blume Mus. Bot. Lugd.-Bat. 2 (1852) 16; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 39, Philip. Journ. Sci. 4 (1909) Bot. 293, Sp. Blancoanae (1918) 265.

Ancistrolobus floribundus Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 382.

Cratoxylon floribundum F.-Vill. Novis. App. (1880) 16; Vidal Phan. Cuming. Philip. (1885) 95, Rev. Pl. Vasc. Filip. (1886) 92; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 96.

Cratoxylon hornschurchii Llanos Frag. Pl. Filip. (1851) 86; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 65, non Blume.

Cratoxylon sumatranum Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 308, non Blume.

? *Cratoxylon clandestinum* Blume Mus. Bot. Lugd.-Bat. 2 (1852) 15; Gagnep. Not. Syst. 1 (1908) 20.

Cratoxylon arboreum Elm. Leaf. Philip. Bot. 8 (1919) 3085.

Luzon (Cagayan to Sorsogon), Mindoro, Masbate, Leyte, Bucas Grande, Mindanao. Common in thickets and secondary forests at low and medium altitudes. Celebes.

Local names: Bansilai (C. Bis.); baringkokoring (Ilk.); baringkukurung (Ilk.); bariuan-uring (Ibn.); barikokoroi (Ilk.); biro (Neg.); guyong-guyong (Tag.); kaminoringen (Ilk.); kansilai (P. Bis.); kuelan (Ig.); kuttu (Ibn.); olingon (C. Bis., Mbo., Sul.); pagoringon (P. Bis.); panagulingon (Tag.); panagulingum (Sbl.); paguringan (Mag.); salinggogon (Bik.); suilak (Ibn.); ugilingan (Ilk.); uling (Ting.); ulingon

(C. Bis.); uliñgun (Mbo.); uríng (Bag.); utto (Ibn.); uttu (Neg.); uugin (Ap.).

CRATOXYLON COCHINCHINENSE (Lour.) Blume Mus. Bot. Lugd.-Bat. 2 (1852) 17.

Hypericum cochinchinense Lour. Fl. Cochinch. (1790) 472.

Elodea formosa Jack in Hook. Journ. Bot. 1 (1834) 374.

Tridesmis ochnoides Spach Suit. Buff. 5 (1836) 358.

Hypericum olympicum Blanco Fl. Filip. (1837) 615, ed. 2 (1845) 430, ed. 3, 2 (1879) 418, non Linn.

Tridesmis formosa Korth. Verh. Nat. Gesch. Bot. (1839-42) 179, t. 137.

Cratoxylon formosum Dyer in Hook. f. Fl. Brit. Ind. 1 (1874) 258; F.-Vill. Novis. App. (1880) 16; Vidal Sinopsis Atlas (1883) 14, t. 10, f. B, Phan. Cuming. Philip. (1885) 95, Rev. Pl. Vasc. Filip. (1886) 52; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 294, Sp. Blancoanae (1918) 265.

Luzon (Cagayan, Nueva Vizcaya, Zambales, Bulacan, Rizal, Laguna, Tayabas, Batangas, Camarines, Sorsogon), Culion, Palawan, Polillo, Busuanga, Samar, Leyte, Sibuyan, Panay, Negros, Mindanao. In thickets and secondary forests at low altitudes, often abundant. Indo-China and the Malay Peninsula through Malaya to the Moluccas.

Local names: Alibágon (Tag.); aligógon (Tag.); aligúgon (Tag.); aligúgum (Tag.); apang (Tag.); daraya (Tag.); guyong-gúyong (Tag.); isinagian (Ibn.); kamontayo (P. Bis.); kayantol (Sbl.); muógon (Tagb.); papaka (Sbl.); paguríñgon (S. L. Bis.); saligógon (Bik.); salinggógon (Bik.); sinagáyan (Neg.); ugíng (Ibn.).

CRATOXYLON LIGUSTRINUM (Spach) Blume Mus. Bot. Lugd.-Bat. 2 (1852) 16; Merr. in Philip. Journ. Sci. 17 (1920) 287.

Ancistrolobus ligustrinus Spach Suit. Buff. 5 (1836) 358, Ann. Sci. Nat. II 5 (1836) 352, t. 6.

Hypericum chinense Retz. Obs. 5 (1789) 27, non Linn.

Hypericum biflorum Lam. Encycl. 4 (1797) 170.

Cratoxylon polyanthum Korth. Verhandl. Nat. Gesch. Bot. (839-42) 175, t. 36; Miq. Fl. Ind. Bat. 1² (1858-59) 516; Dyer in Hook. f. Fl. Brit. Ind. 1 (1874) 257; F.-Vill. Novis. App. (1880) 15; Vidal Rev. Pl. Vasc. Filip. (1886) 52.

Cratoxylon biflorum Turcz. in Bull. Soc. Nat. Mosc. 36¹ (1863) 580.

Cratoxylon chinense Merr. in Philip. Journ. Sci. 4 (1909) Bot. 292.

Cratoxylon hypoleucum Elm. Leaf. Philip. Bot. 5 (1913) 1787.

Culion, Palawan, Merrill 454, Elmer 12913, F. B. 28900 Ponce. In thickets and secondary forests at low and medium altitudes. Burma, Siam, and Indo-China to southeastern China, Malay Peninsula, Sumatra, Borneo.

Cratoxylon biflorum Turcz. was based on Wallich 4820, with no reference whatever to *Hypericum biflorum* Lam.

3. OCHROCARPUS Thouars

OCHROCARPUS RAMIFLORUS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 325.

Luzon (Tayabas, Camarines, east coast), B. S. 28511 Ramos & Edaña, F. B. 22795 Tabat. In primary forests along streams at low altitudes. Endemic.

DOUBTFUL SPECIES

OCHROCARPUS LONGIFOLIUS Vidal Sinopsis Atlas (1883) 14, t. 12, f. E, non Thouars.

A single leaf is figured, apparently representing some species of *Kayea*.

4. CALOPHYLLUM Linnaeus

CALOPHYLLUM AURICULATUM Merr. in Philip. Journ. Sci. 4 (1909) Bot. 291.

Mindanao (Lanao, Zamboanga), Basilan, *Williams 2339, Clemens 1019, B. S. 16129 Reillo, F. B. 18937 Miranda, 6126 Hutchinson*. In primary forests, ascending to 700 m. Endemic.

CALOPHYLLUM BLANCOI Pl. & Tr. in Ann. Sci. Nat. Bot. IV 15 (1861) 272; Vesque in DC. Monog. Phan. 8 (1893) 541, 598; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 420.

Calophyllum wallichianum Vidal Rev. Pl. Vasc. Filip. (1886) 54; Planch. in DC. Monog. Phan. 8 (1893) 599; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 40, Philip. Journ. Sci. 1 (1906) Suppl. 97, non Pl. & Tr.

Luzon (Cagayan to Sorsogon), Ambil, Palawan, Masbate, Leyte, Panay, Mindanao (Surigao, Lanao, Zamboanga). In primary forests at low and medium altitudes, often abundant. Endemic.

Local names: Basañgal (Ilk.); bitáñgol (Tag., S. L. Bis., P. Bis., Bik.); bitaog (Tag., C. Bis., Mbo.); bitaog-bakil (Pang., Sbl.); bitaong (P. Bis.); bitaol (Ting.); botol (Ig.); palo maria del monte (Tag., Sp., Bik., P. Bis.); palumut (Tagb.); pameklaten (Ilk.); pamitlatin (Ilk.); pamitaogen (Ilk.); pamitaoyen (Pang.); pamitaúgen (Ilk.); tadak (Neg.).

CALOPHYLLUM BRACHYPHYLLUM Merr. in Philip. Journ. Sci. 17 (1920) 289.

Mindanao (Surigao), *B. S. 34482 Ramos & Pascasio*. In forests along streams, altitude about 350 m. Endemic.

CALOPHYLLUM BUXIFOLIUM Vesque in DC. Monog. Phan. 8 (1853) 538, 567.

Luzon (Ilocos Norte, Ilocos Sur), *B. S. 26728 Fénix, 27148, 27419 Ramos, F. B. 25093, 13010 Paraiso*. In dry thickets and secondary forests at low altitudes. Endemic.

Local names: Basañgul-durisdís (Ilk.); kudem (Ilk.); sarumayen (Ilk.).

CALOPHYLLUM CUCULLATUM Merr. in Philip. Journ. Sci. 17 (1920) 288.

Mindanao (Surigao), *B. S. 34518 Ramos & Pascasio*. In thickets at low altitudes. Endemic.

CALOPHYLLUM CUMINGII Pl. & Tr. in Ann. Sci. Nat. Bot. IV 15 (1861) 259; Vidal Phan. Cuming. Philip. (1885) 96, Rev. Pl. Vasc. Filip. (1886) 54.

Calophyllum pseudotacamahaca Pl. & Tr. in Ann. Sci. Nat. Bot. IV 15 (1861) 270; Vesque in DC. Monog. Phan. 8 (1893) 538, 565; Vidal Phan. Cuming. Philip. (1885) 96, Rev. Pl. Vasc. Filip. (1886) 54.

Luzon (Cagayan, Pangasinan, Zambales, Tayabas, Camarines), Mindoro, Culion, Ticao, Panay, Negros, Mindanao (Zamboanga). In thickets and dry secondary forests at low altitudes. Endemic.

Local names: Bantaogan (Mang.); bintaṅgan (Tagb.); bitanhól (P. Bis., C. Bis.); bitanhól-sa-dàgat (P. Bis.); bitaog (Pang.); bitaog-bakil (Sbl.); bitok-gúbat (Tag.); kúla-kúla (Tag.); marabitaog (Ilk.); palo maria del monte (Bik.); pamitogan (Ibn.); pamitalin (Ilk.); pamitaogin (Ilk.).

CALOPHYLLUM FERRUGINEUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 324.

Luzon (Pangasinan, Zambales, Laguna, Tayabas), *B. S.* 20545 Ramos, *F. B.* 25321 Manuel, 25653 Cailipan, 27834 Elincolin. In primary forests at low altitudes. Endemic.

Local names: Bitanhól (Tag.); palo maria (Tag.).

CALOPHYLLUM GLABRUM Merr. in Philip. Journ. Sci. 7 (1912) Bot. 92.

Batan Islands, Luzon (Bontoc, Benguet, Tayabas, Sorsogon), *Vanoverbergh* 1251, *B. S.* 3218 Mearns, *Elmer* 8852, 16380, 15621, *Merrill Phil. Pl.* 1745, 1274, *F. B.* 21841, 21839 Leño. In thickets and forests, altitude up to 1,650 m. Endemic.

Local name: Bitaug (Ig., Ilk.).

CALOPHYLLUM GRACILIPES Merr. in Philip. Journ. Sci. 5 (1910) Bot. 197.

Mindanao (Zamboanga, Davao), *F. B.* 9405 Whitford & Hutchinson, 22750 Nave, 21998 Villamil, *Williams* 2193.

Local names: Bitanhól (Bag.); bitaug (Mand.).

CALOPHYLLUM INOPHYLLUM Linn. Sp. Pl. (1753) 513; DC. Prodr. 1 (1824) 563; Blanco Fl. Filip. (1837) 612, ed. 2 (1845) 428, ed. 3, 2 (1879) 415, *t.* 256; Miq. Fl. Ind. Bat. 1^a (1858-59) 510; Wight in Hook. Bot. Miscel. 2 (1831) 355, *t.* 17; T. Anders. in Hook. f. Fl. Brit. Ind. 1 (1874) 273; F.-Vill. Novis. App. (1880) 17; Vidal Sinopsis Atlas (1883) 14, *t.* 12, *f. D*, Phan. Cuming. Philip. (1885) 96, Rev. Pl. Vasc. Filip. (1886) 54; Vesque in DC. Monog. Phan. 8 (1893) 544; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 96, 3 (1908) Bot. 78, 420, Fl. Manila (1912) 332, Sp. Blancoanae (1918) 266.

Throughout the Philippines along the seashore; a characteristic strand tree. India to tropical East Africa through Malaya to Polynesia.

Local names: Bangkalan (Tag.); batarau (Neg.); bitaog (Ilk., Sbl., Pamp., Tag.); bitok (Tag.); butalau (Tag., S. L. Bis., C. Bis., Mbo.); bitaoi (Pang.); bitong (Tag.); dagkalan (Tag.); dangkaan (Bag.); dangkalan (Tag., Bik., P. Bis., Mag.); dingkalan (Bik., Tag.); langkagan (Mag.); palo maria (Neg., Tag., C. Bis., Sul.); palo maria de playa (Tag., Sp., Sul.); pamitaogen (Ilk.); tambotambok (Sul.); vutalau (Iv.).

CALOPHYLLUM KUNSTLERI King in Journ. As. Soc. Beng. 59² (1890) 174; Vesque in DC. Monog. Phan. 8 (1893) 607; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 307, Sp. Blancoanae (1918) 267.

Calophyllum apetalum Blanco Fl. Filip. ed. 2 (1845) 429, ed. 3, 2 (1879) 415 (excl. descr. fruit), non Willd.

Calophyllum pulcherrimum F.-Vill. Novis. App. (1880) 17, non Wall.

Luzon (Ilocos Norte, Pangasinan, Nueva Ecija, Bulacan, Laguna, Camarines), Palawan, Samar, Mindanao (Surigao), *F. B.* 22182 Alvarez, 13197 Curran, 24736 Leuterio, *Merrill Sp. Blancoanae* 336, *Phil. Pl.* 1387. In forests at low and medium altitudes. Malay Peninsula, Borneo.

Local names: Ambalog (Ilk.); bitanhól (Tag.); bitaog (Bik.); bitog (Lan.); karumayan (Ilk.); palo maria (Tag.).

CALOPHYLLUM LANCIFOLIUM Elm. Leaf. Philip. Bot. 7 (1915) 2683.

Catanduanes, Mindanao (Agusan), *Elmer 13266, 13989, B. S. 30293 Ramos*. On forested ridges, altitude about 300 m. Endemic.

Local names: Bitaog (Mbo.); bitaogan (Mbo.).

CALOPHYLLUM MINDANAENSE Elm. Leaf. Philip. Bot. 7 (1915) 2684.

Samar, Leyte, Mindanao (Agusan, Davao), *Elmer 11749, 11597a, 13268, Sablaya 19, Wenzel 827, 1704, 1648, F. B. 13898 Ponce, 7263 Everett*. In primary forests at low and medium altitudes, ascending to 1,100 m. Endemic.

Local names: Bitanhól (C. Bis.); bitanóg (Bag.); bitaog (Bag.).

CALOPHYLLUM OBLIQUINERVIUM Merr. in Philip. Journ. Sci. 20 (1922) 409.

Luzon (Camarines, Albay), Panay, Samar, Palawan. On forested slopes at low and medium altitudes, sometimes along the seashore. Endemic.

Local names: Bangkalan (Tag.); bitañghól (Tag.); kumukubol (Tag.).

CALOPHYLLUM OLIGANTHUM Merr. in Philip. Journ. Sci. 17 (1920) 289.

Mindanao (Surigao), Bucas Grande, *B. S. 34520, 35110 Ramos & Pascasio*. In forests at low altitudes. Endemic.

CALOPHYLLUM PENTAPETALUM (Blanco) Merr. Sp. Blancoanae (1918) 266.

Tovomita pentapetala Blanco Fl. Filip. (1837) 432, ed. 2 (1845) 301, ed. 3, 2 (1878) 194.

Ochrocarpus pentapetalus F.-Vill. Novis. App. (1880) 17.

Calophyllum amplexicaule Choisy ex Pl. & Tr. in Ann. Sci. Nat. Bot.

IV 15 (1861) 281; Vesque in DC. Monog. Phan. 8 (1893) 537, 564;

Vidal Phan. Cuming. Philip. (1885) 96, Rev. Pl. Vasc. Filip. (1886)

54; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 199.

Luzon (Lepanto, Union, Pangasinan, Zambales), *Merrill Sp. Blancoanae 969, 184, B. S. 30047 Fénix, 5100, 4755 Ramos, F. B. 13497 Medina, 9625 Zschokke, 8226, 8236, 8229 Curran & Merritt*. In dry thickets and secondary forests at low altitudes. Endemic.

Local names: Bitaog (Tag.); marabitaog (Ilk.); pamitaogen (Ilk.); pamitaoyon (Pang.); pamitgayan (Ilk.); pamitlain (Ilk.); pamitlayan (Ilk.); pamitlatin (Ilk.); pamitoyen (Pang.).

CALOPHYLLUM PULGARENSE Elm. Leaf. Philip. Bot. 5 (1913) 1786.

Palawan (Mt. Pulgar), *Elmer 13217, F. B. 3873 Curran, 567 Foxworthy*. In the mossy scrub on exposed ridges, altitude 1,100 to 1,300 m. Endemic.

Local name: Bintaogan (Tagb.).

CALOPHYLLUM RACEMOSUM Merr. in Philip. Journ. Sci. 5 (1910) Bot. 198.

Calophyllum flavo-corticum Elm. Leaf. Philip. Bot. 7 (1915) 2682.

Luzon (Sorsogon), Panay, Leyte, Mindanao (Surigao, Lanao, Zamboanga, Davao), *Elmer 14311, 15586, 15909, Clemens 1009, Williams 2346,*

F. B. 12620 Rosenbluth, 23877 Cruz, B. S. 30757 Ramos & Edaño. In primary forests at low and medium altitudes, ascending to 1,000 m. Endemic.

Local names: Bitanhól (Bag., Lan.); bitaog (Mbo.); gitaki (Bik.); pamitaugun (C. Bis.).

CALOPHYLLUM SOULATTRI Burm. f. Fl. Ind. (1768) 121; Merr. Interpret. Herb. Amb. (1917) 371.

Calophyllum spectabile Willd. in Ges. Naturf. Fr. Berl. Mag. 5 (1811) 80; F.-Vill. Novis. App. (1880) 17; Vidal Rev. Pl. Vasc. Filip. (1886) 54; Vesque in DC. Monog. Phan. 8 (1893) 583; ? Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 421; Koord. & Val. Bijdr. Boom. Java 9 (1903) 386.

Calophyllum hibbardii Elm. Leaf. Philip. Bot. 2 (1908) 503.

Luzon (Camarines), Palawan, Samar, Leyte, Negros, Mindanao (Lanao, Cotabato, Bukidnon, Zamboanga), *Elmer 9837, Wenzel 1613, 1763, Clemens 953, F. B. 25184, 21257 Alvarez, B. S. 17493 Ramos.* In primary forests at low and medium altitudes, ascending to 1,200 m. Indo-China to the Mascarene Islands and Malaya.

Local names: Bitanhól (Tag., Mag.); bitog (Lan.); pamintaogon (S. L. Bis.).

CALOPHYLLUM VANOVERBERGHII Merr. in Philip. Journ. Sci. 9 (1914) Bot. 454.

Luzon (Bontoc), *Vanoverbergh 1466.* In forests, altitude 1,700 m. Endemic.

CALOPHYLLUM WHITFORDII Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 96.

Luzon (Pangasinan, Zambales, Nueva Ecija, Bulacan, Bataan, Laguna, Tayabas), Mindoro, Leyte, Camiguin de Misamis, *Whitford 336, 257, Williams 424, 639, F. B. 2613 Meyer, 22396 Alvarez, 785 Borden, 6227 Curran, B. S. 20556 Ramos.* In primary forests at low and medium altitudes. Endemic.

Local names: Bitamok (Mang.); bitanhól (Tag.); bitaog (Mbo., Sbl.); dataog (Tag.); palo maria del monte (Sp., Tag.).

CALOPHYLLUM ZSCHOKKEI Elm. Leaf. Philip. Bot. 7 (1915) 2686.

Luzon (Tayabas, Camarines, Sorsogon), Sibuyan, *Elmer 12293, 17385* as *C. sorsogonense* Elm., *B. S. 28632 Ramos & Edaño.* In forests, altitude 300 to 700 m; apparently allied to *C. soulattri* Burm. f. Endemic.

Local name: Gigabi (P. Bis.).

5. KAYEA Wallich

KAYEA BREVIPES Merr. in Philip. Journ. Sci. 5 (1910) Bot. 200.

Luzon (Isabela, Apayao, Nueva Vizcaya), Samar, *F. B. 14846 Darling, 28117 Velasco, B. S. 28129 Fénix, 24534 Ramos.* In primary forests at low and medium altitudes. Endemic.

Local names: Añgingital (Ap.); babak (Gad.).

KAYEA GARCIAE (F.-Vill.) Vesque in DC. Monog. Phan. 8 (1893) 629.
Vidalia garciae F.-Vill. Novis App. (1880) 18; Vidal Sinopsis Atlas (1883) 14, t. 12, f. A.

Luzon (Zambales, Rizal, Tayabas), Polillo, Vidal 2123, F. B. 915 Maule, B. S. 9186 Robinson, Merrill 1013. In primary forests, ascending to 330 m. Endemic.

Local name: Malaságing-laláki (Tag.).

KAYEA LANCEOLATA Merr. in Philip. Journ. Sci. 17 (1920) 290.

Luzon (Camarines), B. S. 33591 Ramos & Edaño. In primary forests at low altitudes. Endemic.

KAYEA MEGALOCARPA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 285.

Luzon (Nueva Ecija), B. S. 26360 Ramos & Edaño. In primary forests at low altitudes. Endemic.

Local name: Dila-díla (Neg.).

KAYEA NAVESII (F.-Vill.) Vesque in DC. Monog. Phan. 8 (1893) 628; Merr. Sp. Blancoanae (1918) 19.

Vidalia navesii F.-Vill. Novis. App. (1880) 18; Vidal Sinopsis Atlas (1883) 14, t. 12, f. B, Rev. Pl. Vasc. Filip. (1886) 55.

Luzon (Pangasinan, Rizal, Tayabas), Vidal 975, Loher 107, F. B. 8286 Curran & Merritt. In forests at low or medium altitudes. Endemic.

Local names: Magaaan (Tag.); malamángga (Tag.).

KAYEA PANICULATA (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 29, 27 (1905) 20, Philip. Journ. Sci. 1 (1906) Suppl. 97, Sp. Blancoanae (1918) 267.

Plinia paniculata Blanco Fl. Filip. (1837) 423, ed. 2 (1845) 296, ed. 3, 2 (1878) 184.

Vidalia lepidota F.-Vill. Novis. App. (1880) 18; Vidal Sinopsis Atlas (1883) 14, t. 12, f. C, Rev. Pl. Vasc. Filip. (1886) 55, non *Mesua lepidota* T. And.

Kayea lepidota Pierre; Vesque in DC. Monog. Phan. 8 (1893) 626, quoad Philip.

Kayea racemosa F.-Vill. Novis. App. (1880) 17, non Planch.

Luzon (Cagayan, Isabela, Bataan, Laguna, Tayabas, Camarines), Mindoro, Palawan, Balabac, Mindanao (Butuan, Lanao), Basilan. Common in primary forests at low and medium altitudes along streams. Endemic.

Local names: Bagatal (Bik.); gitaki (Bik.); gisán (Tag.); kadañgísol (Bik.); kaliuas (Tag., Neg.); kariuas (Tag.); katong-bakuláu (Tag.); kitingkítang (Tag.); malimbato (Lan.); mamhai (Bik.); palo-mariang-babáe (Tag.); taboli (Bik.); tabon-tábon (Tag.).

KAYEA PHILIPPINENSIS Planch. in Ann. Sci. Nat. Bot. IV 15 (1861) 298, *nomen nudum*; Vidal Phan. Cuming. Philip. (1885) 96; Vesque in DC. Monog. Phan. 8 (1893) 616.

Luzon (Sorsogon, Albay), Cebu, Panay, Sibuyan, Negros, Mindanao (Zamboanga), Cuming 1758, B. S. 30990 Ramos & Edaño, F. B. 21967 Hinolan, 19989 Tamesis, 7297 Everett, 22780 Miranda, Elmer 12182. In forests along streams at low and medium altitudes. Endemic.

Local names: Bitanhól (P. Bis.); bitanghól (P. Bis.); yañgo (P. Bis.).

6. GARCINIA Linnaeus

GARCINIA BENTHAMII Pierre Fl. Forest. Cochinch. 1 (1889) t. 55, 56; Vesque in DC. Monog. Phan. 8 (1893) 392; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 364.

Palawan, Balabac, *F. B.* 3787 *Curran*, 22513 *Pray*, 19896 *Danao*, *Elmer* 12617. In primary forests at low altitudes. Cochinchina.

Local names: Banug (Tagb.); bonog (Tagb.); bunog (Kuy.).

GARCINIA BICOLORATA Elm. Leaf. Philip. Bot. 5 (1913) 1790.

Palawan, *Elmer* 12950. In forests along streams, altitude about 600 m. Endemic.

GARCINIA BINUCAO (Blanco) Choisy in Mém. Soc. Phys. Hist. Nat. Genève 12 (1850) 414; Pl. & Tr. in Ann. Sci. Nat. Bot. IV 15 (1861) 205; Vesque in DC. Monog. Phan. 8 (1893) 454; Pierre Fl. Forest. Cochinch. 1 (1889) XXVIII; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 75, Philip. Journ. Sci. 1 (1906) Suppl. 97, 2 (1907) Bot. 285, 3 (1908) Bot. 366, Sp. Blancoanae (1918) 267. *Cambogia binucao* Blanco Fl. Filip. (1837) 434, ed. 2 (1845) 302, ed. 3, 2 (1878) 196.

Garcinia cambogia F.-Vill. Novis. App. (1880) 16, non Desr.

Garcinia duodecandra Pierre Fl. Forest. Cochinch. 1 (1880) XXVIII, t. 84, E; Vesque in DC. Monog. Phan. 8 (1893) 443.

Stalagmites dulcis Vidal Cat. Pl. Prov. Manila (1880) 18, non Roxb.

Luzon (Cagayan to Sorsogon), Mindoro, Burias, Panay, Guimaras, Negros. In primary forests at low altitudes; often common. Endemic.

Local names: Ballok (Ig.); balakog (Ig.); balukok (Ig.); balukut (Ilk.); bangkók (Sbl.); batúan (P. Bis.); bilúkau (Tag.); binúkau (Tag.); buragris (Bik.); haras (P. Bis.); kabala (Bag.); kadís (Bag.); kandís (Kuy.); kulilem (Ilk.); maninilá (Bik.); tila (Bik.).

GARCINIA BREVIROSTRIS Scheff. in Tijdschr. Nederl. Ind. 31 (1870) 353, Flora 53 (1870) 241; Vesque in DC. Monog. Phan. 8 (1893) 362; Pierre Fl. Forest. Cochinch. 1 (1885) t. 91c, Enum. V.

Garcinia eugeniaefolia Wall. Cat. (1830) No. 4873, *nomen nudum*; Hook. f. Fl. Brit. Ind. 1 (1874) 268; King in Journ. As. Soc. Beng. 59² (1890) 150; Vesque in DC. Monog. Phan. 8 (1893) 343; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 363.

Garcinia gitingensis Elm. Leaf. Philip. Bot. 3 (1911) 1053.

Luzon (Tayabas), Mindoro, Palawan, Sibuyan, Leyte, Panay, Cebu, Basilan. In primary forests at low and medium altitudes. Andaman Islands, Penang, the Malay Peninsula, Sumatra, Banca.

Local names: Ayusayan (Neg); basal (Tag.); basan (Tag.); batuhan (C. Bis.); suasua (C. Bis.).

GARCINIA CORDATA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 199.

Luzon (Cagayan), *F. B.* 17236 *Curran*. In forests along streams at low altitudes. Endemic.

Local name: Ges-ges (Ibn.).

GARCINIA CUMINGIANA Pierre Fl. Forest. Cochinch. 1 (1889) XI, t. 78, f. *F*, *E*; Vesque in DC. Monog. Phan. 8 (1893) 434; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 384.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Bontoc), *F. B.* 5664 Klemme, 17009, 17011, 17135, 17827 Curran, 18476, 18513 Alvarez, *B. S.* 33088 Ramos. In primary forests at low and medium altitudes. Endemic.

Local names: Buneg (Ibn.); gatásan (Ilk.); katulit (Ilk.); katuri (Ibn.); malabunok (Ibn.); malabunog (Ibn.).

GARCINIA DIVES Pierre Fl. Forest. Cochinch. 1 (1889) XXXV, t. 90, f. *B*; Vesque in DC. Monog. Phan. 8 (1893) 360; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 363; Elm. Leaf. Philip. Bot. 3 (1911) 1054. *Garcinia maingayi* Vidal Sinopsis Atlas (1883) 14, t. 11, f. *C*, non Hook. f.

Garcinia bosobosoensis Pierre ex Vesque in DC. Monog. Phan. 8 (1893) 484.

Garcinia cowa Vidal Sinopsis Atlas (1883) 14, t. 11, f. *D*, Rev. Pl. Vasc. Filip. (1886) 53; F.-Vill. Novis. App. (1880) 16, non Roxb.

Garcinia venulosa Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 97, non Choisy.

Garcinia palawanensis Elm. Leaf. Philip. Bot. 5 (1913) 1791.

Luzon (Ilocos Norte, Ilocos Sur, Zambales, Pampanga, Bataan, Rizal, Laguna, Batangas, Camarines), Palawan, Leyte, Sibuyan, Panay, Mindanao (Lanao). In primary forests at low and medium altitudes. Endemic.

Local names: Bilúkau (Tag.); kuling-manók (Tag.); malabilukáu (Tag.); malatumbága (Tag.); paniginen (Sbl.); pildis (Pamp.).

GARCINIA DULCIS (Roxb.) Kurz. For. Fl. Brit. Burma 1 (1877) 92; Pierre Fl. Forest. Cochinch. 1 (1889) IV; Vesque in DC. Monog. Phan. 8 (1893) 312; King in Journ. As. Soc. Beng. 59² (1890) 169; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 362 Sp. Blancoanae (1918) 268; Elm. Leaf. Philip. Bot. 3 (1911) 1052.

Xanthochymus dulcis Roxb. Pl. Coromandel 3 (1919) 66, t. 270.

Stalagmites cambogioides Blanco Fl. Filip. ed. 2 (1845) 301, ed. 3, 2 (1878) 195, non Murr.

Luzon (Cagayan to Sorsogon) to Palawan, Balabac, and Mindanao. In primary forests at low and medium altitudes. Malay Peninsula and Archipelago to the Moluccas.

Local names: Aloko (Ibn.); baniti (Tag.); banog (Ibn.); bogalot (P. Bis.); buneg (Ilk.); gatásan (Kuy., Tagb., P. Bis.); pagatásan (P. Bis.); reneg (Pang.); takláng-anák (Pamp., Tag., Bik., Sbl.).

GARCINIA GARCIAE Elm. Leaf. Philip. Bot. 3 (1911) 1048.

Sibuyan, *Elmer* 12429. On forested ridges, altitude about 750 m; *Garcia* 14 from Baler, Tayabas Province, Luzon, referred here by Mr. Elmer certainly does not represent the species. Endemic.

GARCINIA HETEROPHYLLA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 285.

Luzon (Nueva Ecija), *B. S.* 26457 Ramos & Edaña. In primary forests at medium altitudes. Endemic.

GARCINIA LATERIFLORA Blume Bijdr. (1825) 214; Walp. Repert. 1 (1842) 394; Pierre Fl. Forest. Cochinch. 1 (1889) XXXII, t. 85, f. C¹, C²; Vesque in DC. Monog. Phan. 8 (1893) 474; Koord. & Val. Bijdr. Boom. Java 9 (1903) 372; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 367, 421.

Babuyan Islands, Luzon (Cagayan, Abra, Isabela, Tayabas, Bataan, Laguna, Camarines, Sorsogon), Mindanao, Basilan. In primary forests at low altitudes incl. *Elmer* 16001, 16962 as *G. bulusanensis* Elm. Java.

Local names: Bunag (Ibn.); kandis (Mbo.); kariis (Buk.); katolit (Ilk.); maladambo (Tag.); takláng-anák (Tag., Pamp.); tatlóng-anák (Tag.); turobeto (Neg.); ugau (Bik.).

GARCINIA LINEARIFOLIA Elm. Leaf. Philip. Bot. 3 (1911) 1051.

Sibuyan, *Elmer* 12196. In forests along streams, altitude about 225 m. Endemic.

Local name: Tagbag (P. Bis.).

GARCINIA LUZONIENSIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 362; Elm. Leaf. Philip. Bot. 3 (1911) 1047.

Luzon (Tayabas), Sibuyan, *Whitford* 678, 739, *Elmer* 12297. In primary forests at low altitudes. Endemic.

GARCINIA MACGREGORII Merr. in Philip. Journ. Sci. 11 (1916) Bot. 198.

Luzon (Isabela, Laguna, Tayabas), Samar, Biliran, Panay, Leyte, Palawan, *B. S.* 20402, 13331, 24272 *Ramos*, 18551 *McGregor*, *F. B.* 17842 *Cortes*, *Merrill* 9594, *Elmer* 15604 as *G. gynotrochoides* Elm., *Wenzel* 1773, 1785. In primary forests at low altitudes. Endemic.

Local names: Batúan (P. Bis.); kadiliag (Kal.); malalubás (S. L. Bis.); tagkon (S. L. Bis.).

GARCINIA MANGOSTANA Linn. Sp. Pl. (1753) 635; Miq. Fl. Ind. Bat. 1² (1858-59) 506; F.-Vill. Novis. App. (1880) 16; Pierre Fl. Forest. Cochinch. 1 (1889) t. 54; Vidal Sinopsis Atlas (1883) t. 11, f. F; Vesque in DC. Monog. Phan. 8 (1893) 386; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 78, 364.

Planted in parts of Mindanao and in the Sulu Archipelago, and occasionally in other parts of the Archipelago at least as far north as Sorsogon (Magallanes). Purposely introduced from Malaya. The mangosteen.

Local name: Manggis (Sul.).

GARCINIA MICROPHYLLA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 20.

Luzon (Camarines, Sorsogon), *B. S.* 23633, 23479, 33836 *Ramos & Edaño*. In forests, altitude about 1,000 m; very similar to and perhaps but a form of *G. brevirostris* Scheff. Endemic.

GARCINIA MINDANAENSIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 367.

Mindanao (Butuan, Bukidnon, Davao, Zamboanga, Lanao), *Clemens* 467, *Weber* 1108, *Elmer* 11073, *B. S.* 36606 *Ramos & Edaño*. In forests at medium altitudes. Endemic.

Local names: Kabala (Bag.); kabangla (Buk.); kari-is (Buk.).

GARCINIA MOSELEYANA Pierre Fl. Forest. Cochin. 1 (1889) Enum. X; Vesque in DC. Monog. Phan. 8 (1893) 326 (*moselleyana*); Merr. in Philip. Journ. Sci. 3 (1908) Bot. 362.

Garcinia sorsogonensis Elm. Leaf. Philip. Bot. 4 (1912) 1487.

Luzon (Sorsogon, fide Elmer), Leyte, Mindanao (Surigao), Malamaui, Basilan, *Moseley*, *Piper* 206, *De Vore & Hoover* 84, *Elmer* 7187. In primary forests at low altitudes. Endemic.

GARCINIA MULTIBRACTEOLATA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 284.

Mindanao (Surigao), *Wenzel* 1806. In primary forests, altitude about 150 m. Endemic.

GARCINIA NERVOSA Miq. Ann. Mus. Bot. Lugd.-Bat. 1 (1863-64) 208; King in Journ. As. Soc. Beng. 59² (1890) 169; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 325.

Luzon (Tayabas, Camarines), Samar, Palawan, *Merrill* 9387, *B. S.* 24167 *Ramos*, *F. B.* 21750 *Fischer*. In primary forests at low altitudes. Malay Peninsula, Singapore, Sumatra.

Local names: Buradgis (Bik.); kabal (Tag.); gatatan (Tagb.).

GARCINIA OLIGOPHLEBIA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 378.

Luzon (Tayabas, Sorsogon), Catanduanes, Samar, Leyte, *Wenzel* 632, 1736, *Elmer* 15918, 16141, 15180, 15373, 16082, *B. S.* 26553 *Ramos & Edaño*, 30299 *Ramos*, 24905 *Edaño*. In primary forests at low altitudes. Endemic.

Local name: Diis (S. L. Bis.).

GARCINIA RAMOSII Merr. in Philip. Journ. Sci. 7 (1912) Bot. 307.

Luzon (Cagayan), *B. S.* 13919 *Ramos*. In forests at low altitudes. Endemic.

GARCINIA RHIZOPHOROIDES Elm. Leaf. Philip. Bot. 3 (1911) 1049.

Luzon (Camarines), Sibuyan, Leyte, *Elmer* 12528, 12538, *B. S.* 33698 *Ramos & Edaño*. In primary forests, altitude 150 to 500 m. Endemic.

Local names: Barbatuan (P. Bis.); bogayat (P. Bis.).

GARCINIA RUBRA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 366.

Luzon (Apayao, Rizal, Laguna, Camarines, Sorsogon), Mindoro, Camiguin de Misamis, Mindanao, Basilan. In primary forests at low altitudes. Endemic.

Local names: Kamandiis (Tag., P. Bis.); kamanitiis (Bik.); kandiis (Sul.); pagit (Mbo.).

GARCINIA SAMARENSIS Merr. in Philip. Journ. Sci. 11 (1916) Bot. 197.

Samar, *B. S.* 24452 *Ramos*. In damp primary forests at low altitudes. Endemic.

GARCINIA SUBELLIPTICA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 361; C. B. Rob. op. cit. 6 (1911) Bot. 211.

Luzon (Cagayan, Tayabas and Camarines, east coast), Polillo, *F. B.* 10184, 11597, 17305, 17111, 10731 *Curran*, *B. S.* 19492 *Ramos*, 10321 *McGregor*. In forests immediately back of sandy beaches. Endemic.

Local names: Buneg (Ibn.); bunog (Ibn.); gatasan-sa-playa (Tag.).

GARCINIA SULPHUREA Elm. Leaf. Philip. Bot. 5 (1913) 1789.

Busuanga, Palawan, *Elmer 12907, Merrill 9371, B. S. 41260 Ramos*. In forests at low altitudes. Endemic.

GARCINIA TETRANDRA Pierre Fl. Forest. Cochinch. 1 (1889) XX, t. 94, f. D; Vesque in DC. Monog. Phan. 8 (1893) 419; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 365.

Garcinia pinnatinervia Elm. Leaf. Philip. Bot. 2 (1908) 502.

Luzon (Camarines, Sorsogon), Samar, Leyte, Mindanao (Agusan, Bukidnon, Lanao, Misamis, Zamboanga), Basilan, *Cuming 1611, Elmer 7190, 11078, 15320, F. B. 21101 Hsia, 27794 Franco, 6114 Hutchinson, B. S. 22091, 24160 Ramos, 24743 Edaño, 37391, 36723 Ramos & Edaño, 21435 Escritor*. In primary forests at low altitudes. Endemic.

Local names: Bañgalo (Lan.); batuan (C. Bis.); bluas (Sub.); buragris (Bik.); butúan (C. Bis.); hagumunan (Bik.); kabangla (Buk.); kadis (Bag.); kindis (Sub.); kandiis (Sul.) mamla (C. Bis.).

GARCINIA VENULOSA (Blanco) Choisy in Mém. Soc. Phys. Hist. Nat. Genève 12 (1850) 414; Pl. & Tr. in Ann. Sci. Nat. Bot. IV 14 (1860) 327; Vidal Phan. Cuming. Philip. (1885) 96, Rev. Pl. Vasc. Filip. (1886) 53; Pierre Fl. Forest. Cochinch. 1 (1889) XV; Vesque in DC. Monog. Phan. 8 (1893) 408; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 365, Sp. Blancoanae (1918) 267.

Cambogia venulosa Blanco Fl. Filip. (1837) 435, ed. 2 (1845) 303, ed. 3, 2 (1878) 197.

Garcinia cornea F.-Vill. Novis. App. (1880) 16; Vidal Rev. Pl. Vasc. Filip. (1886) 53, non Linn.

Garcinia blancoi Pierre Fl. Forest. Cochinch. 1 (1889) XV, t. 79, f. C; Vesque in DC. Monog. Phan. 8 (1893) 405.

Garcinia calleryi Pierre Fl. Forest. Cochinch. 1 (1889) XV, t. 79, f. B; Vesque in DC. Monog. Phan. 8 (1893) 406; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 364.

Luzon (Cagayan to Sorsogon in most or all provinces), Mindoro, Palawan, Mindanao. In primary forests at low altitudes, often abundant. Endemic.

Local names: Bago-bago (C. Bis.); bilabil (Ilk.); bilúkau (Tag.); birúkau (Tag.); bonog (Tag.); bunag (Ibn.); buneg (Ilk.); bunog (If.); gatásan (Tag.); kalogkog (Tag.); katuri (Ibn.); mangala (Sul.); malakod (Ig.); pedis (Pamp.); peris (Tag.); takláng-anák (Pamp., Tag.).

GARCINIA VIDALII Merr. in Philip. Journ. Sci. 3 (1908) Bot. 360; Elm. Leaf. Philip. Bot. 3 (1911) 1051.

Garcinia ovalifolia Vidal Sinopsis Atlas (1883) 14, t. 11, f. A, non Hook. f.

Luzon (Benguet, Pangasinan, Rizal, Laguna, Sorsogon), Samar, Leyte, Sibuyan, Panay, Mindanao (incl. *Elmer 17030, 15635* as *Garcinia fragrans* Elm.). In primary forests at low and medium altitudes. Endemic.

Local names: Bagalat (P. Bis.); bilis (Ig.); bunug (Pang.); bugalot (P. Bis.); kanubi (Mand.); katapang (Mbo.); piris (Tag.); polañgi (S. L. Bis.); pulañgi (S. L. Bis.); puyañgi (C. Bis.).

DOUBTFUL AND EXCLUDED SPECIES

GARCINIA ANDERSONII Hook. f.; F.-Vill. Novis. App. (1880) 17; Vidal Sinopsis Atlas (1883) 14, *t. 11, f. B*, Rev. Pl. Vasc. Filip. (1886) 52; Vesque in DC. Monog. Phan. 8 (1893) 318.

The specimens cited by Vidal do not appear to me to be referable to this species.

CAMBOGIA CRASSIFOLIA Blanco Fl. Filip. ed. 2 (1845) 304, ed. 3, 2 (1878) 198; Merr. Sp. Blancoanae (1918) 268.

Blanco's species is unrecognizable from his description; it may not be a *Garcinia*.

GARCINIA LANCEAEFOLIA Roxb.; F.-Vill. Novis. App. (1880) 16.

GARCINIA MALACCENSIS Hook. f.; F.-Vill. l. c.

GARCINIA MORELLA Desr.; Rolfe in Journ. Bot. 23 (1885) 210; Vidal Rev. Pl. Vasc. Filip. (1886) 53; Vesque in DC. Monog. Phan. 8 (1893) 472.

The Philippine record is based on Vidal's specimens from Rizal and Albay Provinces, Luzon.

GARCINIA OVALIFOLIA Hook. f.; F.-Vill. Novis. App. (1880) 17.

GARCINIA SPICATA Hook. f. var. *GLOMERATA* Vesque in DC. Monog. Phan. 8 (1893) 311.

The Philippine record is doubtful, based only on Vidal's identification of a Philippine specimen as *Garcinia ovalifolia* Hook. f.

GARCINIA PEDUNCULATA Roxb.; F.-Vill. op. cit. 16.

GARCINIA XANTHOCHYMUS Hook. f.; F.-Vill. op. cit. 17; Vidal Sinopsis Atlas (1883) 14, *t. 11, f. E*.

EXCLUDED GENUS

MESUA FERREA Linn.; F.-Vill. Novis. App. (1880) 17.

DIPTEROCARPACEAE

1. DIPTEROCARPUS Gaertner

DIPTEROCARPUS AFFINIS Brandis in Journ. Linn. Soc. Bot. 31 (1895) 31; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 246, *t. 35, 13* (1918) Bot. 176.

Luzon (Cagayan, Tayabas, Camarines), Mindanao (Agusan, Surigao, Zamboanga), *Merrill Phil. Pl. 1870, 1843, F. B. 27377 Ablaza, 18501 Alvarez, 17233 Curran, 24366 Cortez & Fernandez*. In primary forests at low altitudes. Endemic.

Local names: Anahaúon (Bik.); balau (C. Bis., Mbo.); bayu (Mbo.); binagúan (Bis.); hagakhák (Tag., Bag.); kamuya (Ibn.); kamuyau (Ibn.); liput (Mbo.); lipus (Mbo.); lipuut (Mbo.); magulaípa (Sul.).

DIPTEROCARPUS BASILANICUS Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 179.

Basilan, *B. S. 16128 Reillo, F. B. 18895, 18896 Miranda*. In primary forests at low altitudes. Endemic.

DIPTEROCARPUS CAUDATUS Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 177.

Luzon (Camarines, Albay), *F. B. 21193 Alvarez, 10607, 10610 Curran*. In primary forests at low altitudes. Endemic.

Local name: Apítong (Bik.).

DIPTEROCARPUS CUNEATUS Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 178.

Luzon (Tayabas, Camarines), *F. B. 21469 Alvarez, 28361 Mabesa*. In primary forests at low altitudes. Endemic.

Local name: Panalsalan (Bik.).

DIPTEROCARPUS GRACILIS Blume Bijdr. (1825) 224, Fl. Jav. (1828-29) 20, t. 5, Miq. Fl. Ind. Bat. 1² (1858-59) 479; A. DC. Prodr. 16² (1868) 609; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 30; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 248, 13 (1918) Bot. 177.

Luzon (Camarines), Mindoro, *F. B. 4101, 4106 Merritt, 10740 Curran, B. S. 40873 Ramos*. In primary forests at low altitudes. Java.

Local names: Anaháun (Bik.); apítong (P. Bis.).

DIPTEROCARPUS GRANDIFLORUS Blanco Fl. Filip. ed. 2 (1845) 314, ed. 3, 2 (1878) 218, t. 263; A. DC. Prodr. 16² (1868) 612; Dyer in Journ. Bot. 12 (1874) 106; Vidal Sinopsis Atlas (1883) 15, t. 14, f. A, Phan. Cuming. Philip. (1885) 96, Rev. Pl. Vasc. Filip. (1886) 59; Burck in Ann. Jard. Bot. Buitenz. 6 (1887) 201; King in Journ. As. Soc. Beng. 62² (1893) 95; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 37; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 97, Sp. Blancoanae (1918) 268; Whitford in Philip. Bureau Forestry Bull. 10² (1911) 69, t. 68, 69; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 251, t. 36, 13 (1918) Bot. 179.

Mocanera grandiflora Blanco Fl. Filip. (1837) 451.

Dipterocarpus blancoi Blume Mus. Bot. Lugd.-Bat. 2 (1852) 35; Dyer in Journ. Bot. 12 (1874) 106.

Dipterocarpus motleyanus Hook. f. in Trans. Linn. Soc. 23 (1860) 159; F.-Vill. Novis. App. (1880) 20.

Dipterocarpus griffithii F.-Vill. Novis. App. (1880) 20, non Miq.

Dipterocarpus pterygocalyx Scheff. in Nat. Tijdschr. Nederl. Ind. 31 (1870) 347.

Luzon (Cagayan to Sorsogon, in all provinces), Mindoro, Palawan, Sibuyan, Biliran, Samar, Panay, Negros, Mindanao (Misamis, Agusan). Dominant in primary forests at low and medium altitudes. Malay Peninsula, Banca, Borneo.

Local names: Agagkág (P. Bis.); alakák (Tagb.); anaháun (Bik.); apítong (Tag., Sbl., Bik., S. L. Bis., P. Bis.); balau (P. Bis., Mbo., Sub.); damalalian (Ibn.); danlóg (P. Bis.); dauen (Ibn.); duen (Ibn.); duko (Neg.); duku (Klg.); hapítong (Tag., Bis.); himpagkagtan (S. L. Bis.); kamuyau (Ibn.); lítis (P. Bis.); pamalalian (Ibn.); pamalatien (Ibn.); pamantulen (Ilk.); pamarnisen (Ilk.); panalsalan (Tag.).

DIPTEROCARPUS HASSELTII Blume Fl. Jav. (1828-29) 22, t. 6; Dyer in Journ. Bot. 12 (1874) 102; A. DC. Prodr. 16² (1868) 609; Miq. Fl. Ind. Bat. 1² (1858-59) 497; Vidal Phan. Cuming. Philip. (1885) 97; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 30; Koord.

& Val. Bijdr. Boom. Java 5 (1900) 109; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 248, 13 (1918) Bot. 177.

Dipterocarpus subalpinus Foxw. in Leaf. Philip. Bot. 6 (1913) 1950, Philip. Journ. Sci. 13 (1918) Bot. 177.

Luzon (Nueva Ecija, Laguna), Negros, Biliran, Leyte, Mindanao (Zamboanga), Basilan, *F. B.* 13589 Meyer & Foxworthy, 22007, 23837 Villamil, 12739 Rosenbluth, 10105 Curran, 22145 Alvarez, 22761 Nave, Elmer 13531. In primary forests at low and medium altitudes, ascending to 900 m. Malay Peninsula, Sumatra, Java.

Local names: Balau (Mbo., Sul., C. Bis.); panau (Tag.).

DIPTEROCARPUS LASIOPODUS Perk. Frag. Fl. Philip. (1904) 22; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 30.

Dipterocarpus affinis Whitford in Philip. Bureau Forestry Bull. 10² (1911) 70, t. 72, 73, non Brandis.

Dipterocarpus pilosus F.-Vill. Novis. App. (1880) 20; Vidal Sinopsis Atlas (1883) 15, t. 14, f. D; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 244, t. 34, 13 (1918) Bot. 176, non Roxb.

Luzon (Cagayan, Nueva Ecija, Tayabas, Camarines), Mindoro, Cebu, Samar, Leyte, Mindanao (Davao, Butuan, Zamboanga), Merrill 2031, 2004, *F. B.* 14995, 18686 Darling, 10783, 10675, 10492, 10298 Curran, 22146 Alvarez, B. S. 13123 Foxworthy & Ramos. In primary forests at low altitudes. Endemic.

Local names: Anaháun (Bik.); apítong (Tag., S. L. Bis.); balau (Mbo.); hagakhák (Tag., Bik., S. L. Bis. P. Bis.); kamuyau (Ibn.); pamalalian (Ibn.).

DIPTEROCARPUS OBCONICUS Foxw. in Leaf. Philip. Bot. 6 (1913) 1951, Philip. Journ. Sci. 13 (1918) Bot. 178.

Dipterocarpus perturbinatus Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 177.

Luzon (Laguna, Tayabas, Albay, Sorsogon), Mindanao (Agusan), Elmer 13498, cited as 13496, *F. B.* 23841 Manuel. In primary forests, at low altitudes. Endemic.

Local names: Balau (Mbo.); polípos (Mbo.).

DIPTEROCARPUS ORBICULARIS Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 180.

Luzon (Camarines), *F. B.* 21719 Peñas, Soriano, & Abellanosa, 10711 Curran, 22464 Alvarez. In primary forests at low altitudes. Borneo.

Local name: Anaháun (Bik.).

DIPTEROCARPUS PHILIPPINENSIS Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 179.

Luzon (Abra, Nueva Vizcaya, Bataan), *F. B.* 12395 Merritt & Curran, 27444 Gonzalez, 28800 Pascual. In primary forests. Endemic.

Local names: Apinau (Tag.); ayamban (Ilk.).

DIPTEROCARPUS SPECIOSUS Brandis in Journ. Linn. Soc. Bot. 31 (1895) 38; Perk. Frag. Fl. Philip. (1904) 22; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 250, 13 (1918) Bot. 178.

Luzon (Cagayan, Isabela, Tayabas, Camarines, Albay), Negros, Basilan, Merrill 1149 p. p. (fruct.), *F. B.* 10741, 10765, 10616, 17351 Cur-

ran, 27245 *Mendoza*, 18932 *Miranda*. In primary forests at low altitudes. Endemic.

Local names: Anaháon (Bik.); apítong (Bik., P. Bis., Sul.); balau (Ilk.); hagakhák (Ibn., Tag.); panalsalan (Bik.).

DIPTEROCARPUS TRINERVIS Blume Cat. Gew. Buitenz. (1823) 78, Bijdr. (1825) 223, Fl. Jav. (1828-29) 11, t. 1; A. DC. Prodr. 16² (1868) 608; Dyer in Journ. Bot. 12 (1874) 102; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 30; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 247, 13 (1918) Bot. 176.

Palawan, *Elmer* 13172, *F. B.* 27863 *Cenabre*, *Gellidon*, & *Paras*. In primary forests at low altitudes. Java.

Local name: Alakák (Tagb.).

DIPTEROCARPUS VERNICIFLUUS Blanco Fl. Filip. ed. 2 (1845) 314, ed. 3, 2 (1878) 217, t. 183; Blume Mus. Bot. Lugd.-Bat. 2 (1852) 35; Miq. Fl. Ind. Bat. 1² (1858-59) 499; Dyer in Journ. Bot. 12 (1874) 104; A. DC. Prodr. 16² (1868) 610; Vidal Sinopsis Atlas (1883) 15, t. 14, f. B, Rev. Pl. Vasc. Filip. (1886) 59; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 31; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 97, 3 (1908) Bot. 114, Sp. Blancoanae (1918) 268; Whitford in Philip. Bureau Forestry Bull. 10² (1911) 70, t. 70, 71; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 248, 13 (1918) Bot. 177.

Mocanera verniciflua Blanco Fl. Filip. (1837) 540.

Dipterocarpus fulvus Blume Mus. Bot. Lugd.-Bat. 2 (1852) 37; Miq. Fl. Ind. Bat. 1² (1858-59) 499; A. DC. Prodr. 16² (1868) 613; F.-Vill. Novis. App. (1880) 20; Dyer in Journ. Bot. 12 (1874) 108.

Dipterocarpus hispidus F.-Vill. Novis. App. (1880) 20, non Thw.

Dipterocarpus turbinatus F.-Vill. l. c., non Gaertn.

Dipterocarpus velutinus Vidal Rev. Pl. Vasc. Filip. (1886) 59; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 31; Perk. Frag. Fl. Philip. (1904) 22.

Luzon (Cagayan to Sorsogon, most or all provinces), Mindoro, Palawan, Polillo, Negros, Mindanao (Zamboanga, Davao, Cotabato). Dominant in primary forests at low and medium altitudes. Endemic, unless referable to *D. gracilis* Blume.

Local names: Balau (Tag., Sul., Chab.); bulai (Tag.); duku (Klg.); duha (Ibn.); ganán (Bik.); kalusuban (Ilk.); kamuyau (Ibn.); kurimau (Ibn.); lalian (Tag.); lamilan (Neg.); lípus (C. Bis., Mbo.); lipot (Mbo.); mantatalína (Sul.); palohápi (Sbl.); pamalalien (Ibn.); pamantulen (Pang.); pamarnisen (Ibn.); panau (Pang., Tag., Sbl., Ilk., Pamp.); panantolen (Ilk.); sitan (Ibn.).

DIPTEROCARPUS WARBURGII Brandis in Journ. Linn. Soc. Bot. 31 (1895) 32; Foxw. in Leaflet. Philip. Bot. 6 (1913) 1952, Philip. Journ. Sci. 13 (1918) Bot. 178.

Luzon (Cagayan), Mindanao (Agusan, Davao), *F. B.* 12994 *Bernardo*, *Elmer* 13373, *F. B.* 11559 *Whitford*. In primary forests at low altitudes. Endemic.

Local names: Balau (Mbo.); kamuyau (Ibn.).

2. ANISOPTERA Korthals

ANISOPTERA BRUNNEA Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 254, t. 40, 13 (1918) Bot. 181.

Babuyan Islands (Calayan), Luzon (Cagayan, Ilocos Norte), *F. B. 20460 Barros, 23194 Alejandro, 4292, 11292 Klemme, 12995, 13128 Bernardo*. In primary forests at low altitudes. Endemic.

Local name: Afú (Ibn., Ilk.).

ANISOPTERA CURTISII Dyer ex King in Journ. As. Soc. Beng. 62² (1893) 100; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 42; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 255. t. 41, 13 (1918) Bot. 181.

Luzon (Pangasinan, Nueva Ecija, Zambales, Laguna, Tayabas, Camarines), Polillo, Samar, Negros, *B. S. 8985 Foxworthy, B. S. 21816 Maneja, 25654 Cailipan, 25941 Cortes, 13358 Aguilar, 10700 Curran, 3218 Hagger, 22883 Tamesis*. In primary forests at low altitudes. Penang, Malay Peninsula, Borneo.

Local names: Balau (P. Bis.); dagang (Tag., Bik.); dagum (Bik.); domagat (Tag.); malagañgau (Tag.); manapo (Tag.); mayápis (Tag.); payhápi (Tag.); palosápis (Tag., Pang.); siyau (S. L. Bis.).

ANISOPTERA MINDANENSIS Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 181.

Mindanao (Zamboanga), *F. B. 21899, 23833 Villamil*. In primary forests at low altitudes. Endemic.

Local name: Baligan (Sul.).

ANISOPTERA THURIFERA (Blanco) Blume Mus. Bot. Lugd.-Bat. 2 (1852) 42; F.-Vill. Novis. App. (1880) 20; A. DC. Prodr. 16² (1868) 615; Vidal Sinopsis Atlas (1883) 15, t. 14, f. E, Rev. Pl. Vasc. Filip. (1886) 60; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 44; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 22, Philip. Journ. Sci. 3 (1908) Bot. 115, Sp. Blancoanae (1918) 269; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 256, 13 (1918) Bot. 181; Whitford in Philip. Bureau Forestry Bull. 10² (1911) 78, t. 82, 83.

Mocanera thurifera Blanco. Fl. Filip. (1837) 446.

Mocanera mayapis Blanco op. cit. 449.

Dipterocarpus thurifer Blanco op. cit. ed. 2 (1845) 310, ed. 3, 2 (1878) 212, t. 264.

Dipterocarpus mayapis Blanco op. cit. 310, 212; DC. Prodr. 16² (1868) 610; Dyer in Journ. Bot. 12 (1874) 108; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 40.

Shorea mayapis Blume Mus. Bot. Lugd.-Bat. 2 (1852) 33.

Antherotriche lanceolata Turcz. in Bull. Soc. Nat. Mosc. 19² (1846) 505; Walp. Ann. 1 (1848) 113.

Anisoptera lanceolata Walp. ex DC. Prodr. 16² (1868) 616; Vidal Phæn. Cuming. Philip. (1885) 97; F.-Vill. Novis. App. (1880) 20.

Anisoptera oblonga F.-Vill. Novis. App. (1880) 20; Vidal Rev. Pl. Vasc. Filip. (1886) 60, non Dyer.

Anisoptera vidaliana Brandis in Journ. Linn. Soc. Bot. 31 (1895) 44; Perk. Frag. Fl. Philip. (1904) 23; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 97.

Anisoptera tomentosa Brandis in Journ. Linn. Soc. Bot. 31 (1895) 45.

Anisoptera calophylla Perk. Frag. Fl. Philip. (1904) 22.

Luzon (Cagayan to Sorsogon in all provinces), Mindoro, Ticao, Masbate, Sibuyan, Panay, Negros. Dominant in primary forests at low altitudes and occurring in some types of secondary forests. Endemic.

Local names: Apnit (Ilk.); bagobalong (S. L. Bis.); baliuasuas (Ilk.); bariuisuis (Pang.); dagang (Tag., Bik., P. Bis.); dagang-na-putí (Tag.); dágum (Tag.); dáyang (Tag.); dóyong (Ilk.); dúung (Ting.); dúyong (Ilk.); gúyong (Ilk.); lauan-putí (Tag.); létis (Tag., Bis., Ilk.); mala-páho' (Bik.); mayápis (Sbl., Tag.); nininu (Ibn.); palosápis (Ilk., Pang., Sbl., Tag.); palosanís (Ilk.); payhapi (Sbl.); sandana (Tag., Bis.); sinalagan (Ilk.); tabilá (Bik.).

3. HOPEA Roxburgh

HOPEA ACUMINATA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 30, Philip. Journ. Sci. 1 (1906) Bot. 98; Foxw. op. cit. 6 (1911) Bot. 264, 13 (1918) Bot. 183.

Hopea maquilingsensis Foxw. in Philip. Journ. Sci. 13 (1908) Bot. 184.

Babuyan Islands (Calayan), Luzon (Cagayan to Sorsogon, most provinces), Mindoro, Samar, Leyte, Mindanao (Davao, Cotabato, Misamis, Zamboanga). In primary forests at low and medium altitudes, ascending to 800 m. Endemic.

The type of *H. maquilingsensis* Foxw. is a specimen with mature fruits, beautifully matched by a topotype of *H. acuminata* Merr., *F. B. 22044 Medina*.

Local names: Baniakáu (Ibn.); barosingsing (Ilk.); dalingdín (Tag.); dalingdíñgan (Tag., S. L. Bis.); kalot (Ilk.); mangachapúi (Tag., Bik., Bis., Sul. Sml.); manggachinóro (Tag.); manggasinóro (Tag.); siyau (S. L. Bis.); yakál (Tag.).

HOPEA BASILANICA Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 260, t. 42, 13 (1918) Bot. 183.

Basilan, Sibutu, *F. B. 15220 Klemme, 27284 Mendoza, 22936 Belin & Oliveros*. In primary forests at low altitudes. Endemic.

Local names: Dalingdíñgan (Sul.); yakál (Sul., Yak.).

HOPEA MALIBATO Foxw. in Leaflet Philip. Bot. 6 (1913) 1953, Philip. Journ. Sci. 13 (1918) Bot. 184.

Luzon (Tayabas), Negros, Mindanao (Agusan), *B. S. 28486 Ramos & Edaño, Elmer 13526*. In primary forests up to an altitude of 600 m. Endemic.

Local names: Dañgingínan (Mbo.); malibato (Mbo.).

HOPEA MINDANENSIS Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 261, t. 43, 13 (1918) Bot. 183.

Mindanao (Zamboanga), *F. B. 9029, 9376, 9436 Whitford & Hutchinson, 27402 Babaran, 13782 Foxworthy, De Mesa, & Villamil, B. S. 36634, 36652, 37057, 37069 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

Local names: Magasusu (Sul.); ganon (Sub.).

HOPEA PHILIPPINENSIS Dyer in Journ. Bot. 16 (1878) 100; Vidal Rev. Pl. Vasc. Filip. (1886) 62, Phan. Cuming. Philip. (1885) 97; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 64; Whitford in Philip. Bureau Forestry Bull. 10² (1911) 75, t. 79; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 261, 13 (1918) Bot. 183.

Luzon (Laguna, Tayabas, Camarines, Albay), Samar, Biliran, Leyte, Negros, Panay, Mindanao (Agusan, Lanao, Zamboanga). In primary forests at low altitudes; often common. Endemic.

Local names: Bagitarim (Tag.); baguatsan (Bik.); bagupsan (Bik.); bantaya (S. L. Bis.); gisok (P. Bis., Mbo., Lan., C. Bis.); gisok-gisok (P. Bis., Sul., S. L. Bis.); gisok ñga-salñgan (S. L. Bis.); kulilisiau (Tag.); makatayring (Tag.); makitarem (Tag.); makitarin (Tag.); malatamban (Bik.); malibato (Mbo.); mangalaun (Tag.); malalamba (Bik.); malatágum (Bik.); pagakson (Bik.); paina (Tag.); poñgo (S. L. Bis.); subiang (S. L. Bis.).

HOPEA PIERREI Hance in Journ. Bot. 15 (1877) 329; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 67, t. 2, f. 10; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 265, 13 (1918) Bot. 184.

Hopea micrantha Hance in Journ. Bot. 14 (1876) 242, non Hook. f.

Hancea pierreii Pierre Fl. Forest. Cochinch. 3 (1892) t. 248.

Hopea foxworthyi Elm. Leaf. Philip. Bot. 4 (1912) 1469; Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 184.

Hopea glutinosa Elm. op. cit.; Foxw. l. c.

Luzon (Cagayan, Pangasinan, Nueva Ecija, Laguna, Tayabas, Camarines, Albay, Sorsogon), Polillo, Catanduanes, Mindoro, Sibuyan, Panay, Negros, Samar, Mindanao (Agusan, Zamboanga). In primary forests at low altitudes; often common. Indo-China, Singapore, Borneo.

I fail to distinguish *Hopea foxworthyi* Elm. and *H. glutinosa* Elm. from each other or from *H. pierreii* Hance. The fruit differences indicated in the original description are apparently differences of development.

Local names: Barakbákan (Mbo.); dagingdínğan (Tag., Bik.); dala (Neg.); dalingdínğan (Bik., Tag., Dum.); dalingdínğan-ísak (Tag., Bik.); ísak (Tag.); kaliot (Pang.); lito (Ibn.); malatágum (Bik.); manggachapói (Bik., Tag., Mbo.); manggachapúi (Pang.); manggatsapói (P. Bis.); mululagun (Bik.); pilak (Bik.); pisak (Ibn.); sarabsaban (Mang.); siyau (S. L. Bis.); sugkad (S. L. Bis.).

HOPEA PLAGATA (Blanco) Vidal Rev. Pl. Vasc. Filip. (1886) 62; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 64; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 22, Sp. Blancoanae (1918) 269; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 262, 13 (1918) Bot. 183; Whitford in Philip. Bureau Forestry Bull. 10² (1911) 73, t. 76, 77. *Mocanera plagata* Blanco Fl. Filip. (1837) 447.

Dipterocarpus plagatus Blanco op. cit. ed. 2 (1845) 311, ed. 3, 2 (1878) 212.

Anisoptera plagata Blume Mus. Bot. Lugd.-Bat. 2 (1852) 42; A. DC. Prodr. 16² (1868) 616.

Shorea reticulata F.-Vill. Novis. App. (1880) 21, non Dyer.

Hopea odorata Vidal Sinopsis Atlas (1883) 15, t. 15, f. A, excl. fruit, non Roxb.

Hopea odorata Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 183, non Roxb.

Luzon (Cagayan, Nueva Vizcaya, Nueva Ecija, Pangasinan, Bulacan, Bataan, Rizal, Laguna, Tayabas, Camarines, Sorsogon), Mindoro, Tablas, Bohol, Mindanao. In primary forests at low and medium altitudes, often dominant. Endemic.

This valuable timber tree is represented by more than 50 individual collections made over a period of eighteen years. All are sterile except *F. B.* 25889 *Alambra* & *Borromeo* (fruits), 22645 *Alvarez* (fruits), and 22783 *Miranda* (buds). Kobbe's specimen, *F. B.* 4531, presents the fruits of *Hopea glutinosa* Elm. = *Hopea pierrei* Hance, and *Alvarez* 22644 presents the fruits of *Shorea guiso* Blume.

Local names: Banutan (Gad.); batik (Ilk.); gisok-gisok (Bik.); haras (P. Bis.); kaliot (Ilk.); malium (Mang.); maluto (C. Bis.); nutik (Buk.); paina (Tag.); panggaian (Ilk.); saklúnṅan (Tag.); sallapugud (Ilk.); sarabsaban (Mang.); saplúnṅan (Tag.); saplúnṅan (Tag.); siakal (Tag.); siggái (Ilk.); siggai-a-nalabaga (Ilk.); siggai-muláto (Ilk.); siggái-a-purau (Ilk.); taggai (Ilk., Neg.); yakál (Ilk., Pang., Sbl., Tag., Sul.).

4. PENTACME A. de Candolle

PENTACME CONTORTA (Vidal) Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 115; Whitford in Philip. Bureau Forestry Bull. 10² (1911) 62, t. 56, 57; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 266, 13 (1918) Bot. 186.

Shorea contorta Vidal Sinopsis Atlas (1883) 15, t. 15, f. E, Rev. Pl. Vasc. Filip. (1886) 88; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 88; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 98.

Pentacme paucinervis Brandis in Journ. Linn. Soc. Bot. 31 (1895) 73.

Babuyan Islands (Calayan), Luzon (Cagayan to Sorsogon, all provinces), Mindoro, Polillo, Samar, Sibuyan, Leyte, Masbate, Samar, Negros, Mindanao. Common in primary forests at low altitudes. Endemic.

Local names: Anas (Ilk.); apnít (Ibn., Ilk., Bik.); balak (Ibn., Neg.); balakbak (Neg.); balagbag (Ibn.); buayahon (S. L. Bis.); bugis (Bag.); daṅgig (Mbo.); danglog (Bik.); danglok (Bik.); danlig (Tag.); danlig-lauán (P. Bis.); danlog (Bik., S. L. Bis., P. Bis.); danlug (Mbo.); duáan (Ig.); gisian (Bik.); hagnít (Bik.); hapník (Bik.); hapnít (Bik.); lauáan (Pang., Tag., Bik.); lauán (Gad., Sbl., Tag., Bik., P. Bis., S. L. Bis.); lauán-ṅga-danlog (S. L. Bis.); lauán-pulá (Tag.); malaanónang (Bik., Tag.); malakáyan (Sul.); malasinóro (Bik.); malatiáong (Tag.); takulau (Ilk.); tiáong (Tag.); tuga (Sbl.).

PENTACME MINDANENSIS Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 185.

Mindanao (Agusan, Lanao, Zamboanga), Basilan, *F. B.* 21893, 23831 *Villamil*, 27054 *Jimenez*, 23385 *Acuña*, 27400 *Babaran*, 4813 *Hutchinson*, 22757 *Nave*, 22939 *Miranda* & *Naves*. In primary forests at low altitudes. Endemic.

Local names: Bagtikan-lauáan (Lan.); danlíg (Lan.); dangalóg (Mbo.); danlúg (Sul.); lauán bláncó (Chab.); malakáyan-bláncó (Chab.); malakáyan-colorádo (Chab.).

5. *SHOREA* Roxburgh

SHOREA ASTYLOSA Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 188.

Shorea ciliata Foxw. l. c., non King.

Shorea plagata Foxw. op. cit. 192.

Luzon (Tayabas, Camarines), Biliran, Mindanao (Agusan, Davao, Zamboanga), *F. B.* 13271, 13287, 13758 *Foxworthy*, *De Mesa*, & *Villamil*, 21460 *Alvarez*, 21992, 23835, 21999 *Villamil*, 22788 *Tabat*, 22786 *Miranda*, *B. S.* 18575 *McGregor*. In primary forests at low altitudes. Endemic.

SHOREA BALANGERAN (Korth.) Dyer ex Vidal Phan. Cuming. Philip. (1885) 97, Rev. Pl. Vasc. Filip. (1886) 61; Burck. in Ann. Jard. Bot. Buitenz. 6 (1887) 214; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 86; Whitford in Philip. Bureau Forestry Bull. 10² (1911) 73, t. 78; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 269.

Hopea balangeran Korth. Verh. Nat. Gesch. Bot. (1839-42) 74, t. 7;

Miq. Fl. Ind. Bat. 1² (1858-59) 503; A. DC. Prodr. 16² (1868) 634.

Parahopea balangeran Heim Recherch. Dipt. (1892) 66.

Luzon (Pangasinan, Zambales, Tayabas, Camarines, Albay), Samar, Cebu, Sibuyan, Leyte, Mindanao (Agusan, Zamboanga), Basilan. In primary forests at low altitudes. Although this is represented by more than 60 individual collections, all are sterile except the following: *F. B.* 7096 *Kobbe*, 21640 *Manuel*, 27381 *Fajatin*, 27237 *Palma*, 27099 *Alambra*, 25657 *Cailipan*, 25664 *Mayor*, 27170 *Maneja & Bawan*. Borneo, Bangka, Billiton.

Local names: Bunno (Mbo.); dalindíngan (Tag.); gisek (Tag.); gisok-amarillo (Bik.); gisok-bayauáson (Bik.); gisok-darabdab (Bik.); gisok-duñgónon (S. L. Bis.); gisok-kalabánġan (Bik.); gisok-kambayádo (P. Bis.); gisok-ñga-bayabáson (S. L. Bis.); gisok-madláu (S. L. Bis.); kaignān (S. L. Bis.); kaliot (Ilk.); malapánau (Bik.); malibato (Mbo.); pamayabasen (Ilk., Pang.); pamayauasen (Pang.); tumutugau (Tag.); yakál (Ilk., Sul., Tag., Bik., C. Bis., Sml.); yakál-blanco (Chab.); yamban-a-nalabaga (Ilk.); yamban-a-purau (Ilk.); yamban-matibia (Sbl.); yamban-muláto (Sbl.); yamban-putí (Sbl.).

SHOREA EXIMIA (Miq.) Scheff. in Nat. Tijdschr. Nederl. Ind. 31 (1870) 349; Burck in Ann. Jard. Bot. Buitenz. 6 (1887) 218; King in Journ. As. Soc. Beng. 62² (1893) 121; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 276, 13 (1908) Bot. 191.

Vatica ? eximia Miq. Fl. Ind. Bat. Suppl. (1861-62) 486; A. DC. Prodr. 16² (1868) 623.

Shorea furfuracea Miq. l. c. 488; Rolfe in Journ. Bot. 23 (1885) 210; Vidal Rev. Pl. Vasc. Filip. (1886) 62; Phan. Cuming. Philip. (1885) 97; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 98; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 98; Whitford in Philip. Bureau Forestry Bull. 10² (1911) 63, t. 58, 59.

Luzon (Bataan, Tayabas, Camarines, Albay, Sorsogon), Samar, Negros, Mindanao (Surigao, Agusan, Misamis, Lanao, Zamboanga), Basilan. In primary forests at low altitudes, in some regions dominant. Malay Peninsula, Sumatra, Bangka, Borneo.

This form apparently needs a new name; see Ridley, Fl. Malay Peninsula 1 (1922) 233.

Local names: Almón (P. Bis.); almón-lauán (Sul.); bula (Tag., Bik.); dakulau (Bik.); danlíġ-mayápis (Tag.); danlóg (Sul.); giuan (Mbo.);

lauán-itim (Bik.); magasinóyo (Mbo.); magsinólo (C. Bis.); malakáyan (Sul.); malasinóro (Bik., S. L. Bis.); maṇakaúyan (Sul.); manggasinóro (Bik.); manlokolóko (Bik., Tag.); takuban (Bik.); tamparasa (Lan.); ugahayan (S. L. Bis.).

SHOREA GUISO (Blanco) Blume Mus. Bot. Lugd.-Bat. 2 (1852) 34; Vidal Sinopsis Atlas (1883) 15, *t. 15, f. C*; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 89; Perk. Frag. Fl. Philip. (1904) 23; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 98, Sp. Blancoanae (1918) 270; Whitford in Philip. Bureau Forestry Bull. 10² (1911) 71, *t. 74, 75*; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 272, 13 (1918) Bot. 191. *Mocanera guiso* Blanco Fl. Filip. (1837) 449.

Euphoria malaanonan Blanco op. cit. 286 (galls), non *Shorea malaanonan* Blume.

Dipterocarpus guiso Blanco op. cit. ed. 2 (1845) 313, ed. 3, 2 (1878) 215.

Euphoria ? *nephelium* ? Blanco op. cit. ed. 2 (1845) 200, ed. 3, 2 (1878) 9.

Anisoptera guiso A. DC. Prodr. 16² (1868) 616.

Shorea robusta F.-Vill. Novis. App. (1880) 21, non Gaertn.

Shorea vidaliana Brandis in Journ. Linn. Soc. Bot. 31 (1895) 83.

Shorea warburgii Perk. Frag. Fl. Philip. (1894) 23, non Gilg.

Shorea scrobiculata Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 192, non Burek.

Luzon (Cagayan to Sorsogon, in all provinces), Mindoro, Panay, Negros, Masbate, Samar, Leyte, Mindanao, Basilan. Dominant in primary forests at low altitudes. Endemic.

Local names: Antam (Neg.); aromoi (Ilk.); balakbákan (Mbo.); bárusingsing (Ibn.); bitik (Tag.); bolin̄gogta (Ig.); daniri (Tag.); giho (Tag., Sbl., P. Bis., Chab., Sul., Mag., Bag.); giho-bitik (Tag.); gisek (Sul.); gisik (Tag.); giso (Ibn., Sbl., Tag., Pamp.); gisok (Bik., P. Bis., Mbo., Lan.); gisok-madag (S. L. Bis.); gisok-ñga-bayabáson (S. L. Bis.); gisokpulá (S. L. Bis.); kariuat (Ilk.); kuribu (Klg.); kurikat (Gad.); kuriau (Gad.); kuriat (Gad.); pamayauasen (Pang.); pisák (Ilk.); pisék (Ilk.); sarrai (Ibn.); siggai (Ilk.); taggai (Ibn.); yamban (Ilk., Pang., Sbl.).

SHOREA MALIBATO Foxw. in Leaf. Philip. Bot. 6 (1913) 1955, Philip. Journ. Sci. 13 (1918) 189.

Mindanao (Agusan), *Elmer 13525*. In primary forests, altitude about 450 m. Endemic.

Local name: Malibato (Mbo.).

SHOREA MINDANENSIS Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 192.

Mindoro, Mindanao (Zamboanga, Davao), Basilan, *F. B. 13769, 13768 Foxworthy, De Mesa, & Villamil, 27729 Angeles, B. S. 39661 Ramos*. In primary forests at low altitudes. Endemic.

Local names: Kalúnti (Sul., Bag.); mabagang (Sul.).

SHOREA NEGROSENSIS Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 274, *t. 44, 13* (1918) Bot. 192.

Luzon (Cagayan, Isabela, Tayabas, east coast, Camarines, Albay, Sorsogon), Biliran, Leyte, Cebu, Negros, Mindanao (Surigao, Agusan). In

primary forests at low altitudes, in some regions dominant. Represented by about 40 individual collections, but all sterile except the following: *F. B.* 7253, 7281 *Everett*, *B. S.* 18488 *McGregor*. The fruits are unknown. Endemic.

Local names: Aruás (Ibn.); babañganon (Mbo.); bañgóbang (C. Bis.); balakbákan (P. Bis.); buñga (Ibn.); chapúi (P. Bis.); damilang (Ibn.); hinlagási' (P. Bis.); illagási' (P. Bis.); kaliáan (Mbo.); kila (C. Bis.); kuliaan (Bik.); lauán-kolorádo (P. Bis.); magaboung (Mbo.); malaga-ñgau (Mbo.); malasinóro (Bik.); malatbang (Tag.); manggachapúi (P. Bis.); manggasinóro (Mbo.); saplig (Mbo.); ubanan (Mbo.).

SHOREA PALOSAPIS (Blanco) Merr. Sp. Blancoanae (1918) 271.

Dipterocarpus palosapis Blanco Fl. Filip. ed. 2 (1845) 312, ed. 3, 2 (1878) 214; A. DC. Prodr. 16² (1868) 614; Dyer in Journ. Bot. 12 (1874) 108.

Hopea squamata Dyer in Bull. Soc. Nat. Mosc. 31¹ (1858) 239; A. DC. Prodr. 16² (1868) 635; F.-Vill. Novis. App. (1880) 21.

Shorea squamata Dyer ex Vidal Phan. Cuming. Philip. (1885) 97, Rev. Pl. Vasc. Filip. (1886) 62; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 92; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 285, Sp. Blancoanae (1918) 271; Foxw. in Leaf. Philip. Bot. 6 (1913) 1957, Philip. Journ. Sci. 6 (1911) Bot. 275, 13 (1918) Bot. 191.

Shorea floribunda F.-Vill. Novis. App. (1880) 21, non Kurz.

Shorea rugosa Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 191, non Heim.

Luzon (Cagayan, Ilocos Norte, Isabela, Nueva Ecija, Bulacan, Laguna, Tayabas, Camarines, Albay, Sorsogon), Mindoro, Samar, Leyte, Mindanao. In primary forests at low altitudes, in Mindanao ascending to 1,000 m; in some regions dominant. Borneo.

Local names: Alam (Tag., Mang.); alintobo (Tag.); apnit (Tag.); balakbákan (Lan.); balábak (Ibn.); baiúkan (Tag.); bayúkan (Tag.); boñga (Ibn.); daa (C. Bis.); damilang (Klg.); danlig-tabak (Tag.); galúnti (Sul.); gugumkún (Ibn.); kalauáan (C. Bis.); kalayáan (Lan.); kaliáan (Mbo.); kalián (Lan.); láuan-kolorádo (Chab.); lauán-magsino (S. L. Bis.); lauáng-pulá (Tag.); lobok (Bik.); magsinóyo (Mbo.); malabalabang (Ibn.); malakáyan (Sul.); malasinóro (S. L. Bis.); mandaraua (Ibn.); mayápis (Tag.); oghayan (S. L. Bis.); purá (Bik.); tabak (Tag.); tabakor (Tag.); teñgag (Mbo.); ubanan (Mbo.); ugayauan (S. L. Bis.).

SHOREA PHILIPPINENSIS Brandis in Journ. Linn. Soc. Bot. 31 (1895) 88;

Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 272, 13 (1918) Bot. 190.

Shorea pallida Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 190.

Luzon (Cagayan, Bulacan, Tayabas), Leyte, Ticao, Basilan, *Vidal* 983, *F. B.* 12996 *Bernardo*, 26978 *Velasco*, 17158 *Curran*, 23471 *Villamil*, 25021 *Cruz*, 18887 *Miranda*, *B. S.* 15418 *Reillo*. In primary forests at low altitudes. Endemic.

Local names: Boñga (Ilk.); danlig (Tag.); gagil-bató (Lan.); kanakan (Neg.); sarrai (Ibn.); siyáu (P. Bis.).

SHOREA POLITA Vidal Sinopsis Atlas (1883) 15, t. 15, f. D, Rev. Pl.

Vasc. Filip. (1886) 61; Brandis in Journ. Linn. Soc. Bot. 31 (1895)

88; Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 190.

Shorea malaanonan Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 115; Foxw. op. cit. 6 (1911) Bot. 270, 13 (1918) Bot. 189, non Blume.

Luzon (Cagayan, Ilocos Sur, Pangasinan, Zambales, Rizal, Nueva Ecija, Tayabas), Merrill 2589, 2851, *F. B.* 436, 1168, 2685, 2990 *Ahern's collector*, 4279, 11306 Klemme, 12980, 12979 *Alvarez*, 3233 *Hagger*, *B. S.* 26207 *Ramos*, *Loher* 5599. In forests at low altitudes. Endemic.

Local names: Damlig (Tag.); lauán-anite (Sbl.); litok (Ibn.); mala-anónang (Tag.); manggasinóro (Tag.).

SHOREA POLYSPERMA (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 22, 29 (1905) 29, Philip. Journ. Sci. 1 (1906) Suppl. 98, *Sp. Blancoanae* (1918) 269; Whitford in Philip. Bureau Forestry Bull. 10² (1911) 68, *t.* 66, 67; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 277, 13 (1918) Bot. 191.

Mocanera polysperma Blanco Fl. Filip. (1837) 448.

Dipterocarpus polyspermus Blanco op. cit. ed. 2 (1845) 312, ed. 3, 2 (1878) 213, *A. DC. Prodr.* 16² (1868) 614; Dyer in Journ. Bot. 12 (1874) 108.

Hopea tangili Blume Mus. Bot. Lugd.-Bat. 2 (1852) 35.

Shorea talura F.-Vill. Novis. App. (1880) 21, non Roxb.

Shorea warburgii Gilg in Engl. Bot. Jahrb. 18 (1894) Beibl. 45: 38; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 98; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 278, 13 (1918) Bot. 191.

Babuyan Islands (Calayan), Luzon (Cagayan, Ilocos Norte, Pangasinan, Nueva Ecija, Bulacan, Bataan, Zambales, Laguna, Tayabas, Camarines, Albay, Sorsogon), Mindoro, Panay, Negros, Cebu, Leyte, Mindanao, Basilan. Common in primary forests at low and medium altitudes, ascending to 1,000 m. Endemic. Represented by over 100 individual collections, mostly sterile except the following: *F. B.* 26721, 26696 *Penas*, 27166, 27164 *Maneja & Bawan*, 24306 *Manuel*, 25656 *Cailipan*, 27137 *Udasco*, 7221, 7377 *Curran*, 21824 *Medina*, 734, 784, 819, 1410 *Borden*, 21418, 21458 *Alvarez*, 24809, 24798 *Lomuntad*, *B. S.* 18560 *McGregor*, Whitford 132, Merrill *Sp. Blancoanae* 85, *Warburg* 12170, 12399.

Local names: Abuhun̄gon (Bik.); adamoi (Bik.); adumoi (Bik.); aruas (Ibn.); baknítan (Tag.); balagáyan (Mang.); balakbákan (P. Bis.); balsian (Klg.); bun̄ga (Ilk.); chapói (P. Bis.); gisok-purá' (Bik.); hinlagási (P. Bis.); illagási (P. Bis.); magoórang (Bik.); malagañgau (Bik.); malagmat (Tag., Dum.); malagíso (Tag.); malang (Ibn.); malaya (Tag.); malignmal (Tag.); manaog (C. Bis.); manang (P. Bis.); manapayog (P. Bis.); manggachápuí (P. Bis.); manili (Bik.); matañgan (Ibn.); matañgid (Ibn.); panungsuñgan (Bik.); pata (Pang.); tagai (Ibn.); takoban-ñga-gañgaun (S. L. Bis.); takóban-tabigíon (S. L. Bis.); tañgíli (Ibn., Pang., Tag., Sbl., Pamp., Bik., P. Bis., Bag., Sul.); tamok (Ibn.); tumutugáui (Bik.).

SHOREA TEYSMANNIANA Dyer ex Brandis in Journ. Linn. Soc. Bot. 31 (1895) 100; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 279, 13 (1908) Bot. 192.

Gordonia acuminata Vidal Rev. Pl. Vasc. Filip. (1886) 58, non *Shorea acuminata* Dyer.

Gordonia vidalii Szysz. in Engl. & Prantl Nat. Pflanzenfam. 3^e (1893) 185; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 114.
Nabiasodendron acuminatum Pitard in Act. Soc. Linn. Bordeaux 57 (1902) 54.

Luzon (Cagayan, Ilocos Norte), Nueva Ecija, Tayabas, Laguna, Camarines, Sorsogon), Polillo, Leyte, Cebu, Mindanao (Agusan, Davao). In primary forests at low altitudes. The numerous specimens referred here by Foxworthy are all sterile, and thus the identification cannot be considered as certain; the type of Dyer's species was a sterile specimen from Bangka. The Philippine form referred here is very close to *Shorea polysperma* (Blanco) Merr. The type of *Gordonia acuminata* Vidal = *G. vidalii* Szysz., in herb. Kew., is this form with large terminal foliaceous galls matched by *B. S.* 10022 Ramos and 22772 McGregor from Laguna Province, Luzon. Bangka.

Local names: Bakbákan (Mbo.); betik (Tag.); budgo (Bik.); buñga (Ilk.); buyos (C. Bis.); hapnít (Bik.); hinlagási (P. Bis.); malagmat (Tag.); malagíso (Tag.); malatiaong (Tag., Dum.); manggasinóro (Bik.); mayápis (Tag.); pamansagan (Bik.); saplid (Mbo.); tamok (Ibn.); tiaong (Tag.).

EXCLUDED SPECIES

SHOREA PARVIFOLIA Dyer; F.-Vill. Novis. App. (1880) 21.

SHOREA RETICULATA Dyer; F.-Vill. l. c.

6. PARASHOREA Kurz

PARASHOREA MALAANONAN (Blanco) Merr. Sp. Blancoanae (1918) 271.

Mocanera malaanonan Blanco Fl. Filip. (1837) 358.

Dipterocarpus malaanonan Blanco op. cit. ed. 2 (1845) 312, ed. 3, 2 (1878) 214.

Shorea malaanonan Blume Mus. Bot. Lugd.-Bat. 2 (1852) 34; A. DC. Prodr. 16² (1868) 631; F.-Vill. Novis. App. (1880) 21; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 103.

Parashorea plicata Brandis in Journ. Linn. Soc. Bot. 31 (1895) 104; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 114; Foxw. op. cit. 6 (1911) Bot. 280, 13 (1918) Bot. 194; Whitford in Philip. Bureau Forestry Bull. 10² (1911) 64, t. 60, 61.

Luzon (Nueva Ecija, Bulacan, Rizal, Laguna, Tayabas, Camarines, Albay, Sorsogon), Polillo, Catanduanes, Masbate, Samar, Leyte, Cebu, Negros, Panay, Mindanao. Common in primary forests at low altitudes. Endemic.

Local names: Apnit (Tag., Bik., Ilk.); bagtíkan (P. Bis.); baliuisuis (Pang.); bayúkan (Tag.); bayúkan-pulá (Tag.); bayúkan-putî (Tag.); binaliuán (Tag.); danlig (Tag.); danlig-putî (Tag.); danlóg (Bik.); hapnit (Bik.); lauaan (Tag., Bik., P. Bis., C. Bis.); lauán (Sbl., Tag., Bik., S. L. Bis., C. Bis., P. Bis., Mbo.); lauán-barik (S. L. Bis.); lauán-dunlog (P. Bis.); lauán-pulá (Tag., S. L. Bis.); lauán-putî (Tag.); malaanónang (Tag.); manggasinóro (Bik.); mayápis (Tag.); takuban (Bik.); yauáan (Mbo.).

PARASHOREA WARBURGII Brandis in Journ. Linn. Soc. Bot. 31 (1895) 105; Foxw. in Leaf. Philip. Bot. 6 (1911) 1954, Philip. Journ. Sci. 13 (1918) Bot. 194.

Mindanao (Agusan, Davao), *Elmer 14066, F. B. 27471 De Mesa*. In primary forests at low altitudes; doubtfully distinct from *P. malaanonan* (Blanco) Merr. Endemic.

Local names: Bagtíkan (Bag.); lauáan (Bag.).

7. ISOPTERA Scheffer

ISOPTERA BORNEENSIS Scheff. ex Burck in Ann. Jard. Bot. Buitenz.

6 (1887) 222; *t. 8*; King in Journ. As. Soc. Beng. 52² (1893) 129; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 106; Foxw. in Philip. Journ. Sci. 13 (1908) Bot. 194, *t. 1*.

Hopea ovalifolia Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 263, 13 (1918) Bot. 183, non Boerl.

Mindanao (Zamboanga), *F. B. 23829, 23839 Oliveros, 22683 Belin & Acuña, 9374, 9133 Whitford*. In primary forests at low altitudes. A monotypic genus. Malay Peninsula, Bangka, Borneo.

Local names: Gisok-takpang (Sul.); yakál (Chab.).

8. BALANOCARPUS Beddome

BALANOCARPUS BRACHYPTERUS Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 195.

Mindanao (Zamboanga), *F. B. 21895, 23832 Villamil*. In primary forests at low altitudes. Endemic.

BALANOCARPUS CAGAYANENSIS Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 194, *t. 2*.

Luzon (Cagayan, Apayao), *F. B. 19987, 20453, 20454 Bernardo, 27372 Alejandro*. In primary forests at low altitudes. Endemic.

Local names: Nárek (Ibn.); naríg (Neg., Ibn.); narík (Ibn., Ilk.).

9. VATICA Linnaeus

VATICA BLANCOANA Elm. Leaf. Philip. Bot. 4 (1912) 1473; Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 196.

Palawan, Mindanao (Zamboanga), Basilan, *Elmer 13123, 12754, F. B. 18916, 18247, 18963 Miranda, 14240 Tarrosa, 13779, 13285, 13283 Foxworthy, De Mesa, & Villamil, F. B. 16106 Reillo*. In primary forests at low or medium altitudes. Endemic.

Local names: Lutab (Sul.); naríg (Sul.); tampussuk (Sul.).

VATICA MANGACHAPOI Blanco Fl. Filip. (1837) 401; A. DC. Prodr. 16² (1868) 623; Vidal Sinopsis Atlas (1883) 15, *t. 15, f. B*, Rev. Pl. Vasc. Filip. (1886) 61; Brandis in Journ. Linn. Soc. Bot. 31 (1895) 134; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 22, Philip. Journ. Sci. 1 (1906) Suppl. 98, Sp. Blancoanae (1918) 272; Whitford in Philip. Bureau Forestry Bull. 10² (1911) 76, *t. 81*; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 282, 13 (1918) Bot. 196.

? *Mocanera mangachapoi* Blanco Fl. Filip. (1837) 450.

Vatica apteranthra Blanco op. cit. ed. 2 (1845) 281; ed. 3, 2 (1878) 156.

? *Dipterocarpus mangachapoi* Blanco op. cit. ed. 2 (1845) 313, ed 3, 2 (1878) 216.

Shorea mangachapoi Blume Mus. Bot. Lugd.-Bat. 2 (1852) 34; F.-Vill. Novis. App. (1880) 21.

? *Vatica sinensis* Blanco Fl. Filip. (1837) 401, ed. 2 (1845) 280, ed. 3, 2 (1878) 156 (*chinensis*); A. DC. Prodr. 16² (1866) 623, non Gmel.

? *Anisoptera mangachapoi* A. DC. Prodr. 16² (1868) 616.

Cotylelobium philippinense Heim ex Brandis in Journ. Linn. Soc. Bot. 31 (1895) 134, in syn.

Pteranthera mangachapoi Blume Mus. Bot. Lugd.-Bat. 2 (1852) 30.

? *Pteranthera sinensis* Blume l. c.

Babuyan Islands (Camiguin), Luzon (Cagayan to Sorsogon, most or all provinces), Leyte, Samar, Mindanao (Davao, Lanao). In primary forests at low and medium altitudes, ascending to 800 m. Endemic.

Local names: Aniga (Ig.); aniñgat (Pang.); asasin (Ilk.); asepi (Ilk.); atpai (Tag.); bagasusu (Lan.); balimbokbok (Sbl.); banik (Ibn.); bibit (Tag.); boñgoran (S. L. Bis.); dagam (Bik.); dalingdñnganisak (Tag.); danggi (Tag.); duyonk (Tag.); duro (S. L. Bis.); durog (S. L. Bis.); kalauigin (Ilk.); kareg (Tag.); labang (Ilk.); lisikan (Tag.); lutub (Sul.); manggachapói (Tag.); mayápis (Tag.); naríg (Mag.); narík (Mag.); palosápis (Tag.); paniggayen (Ilk.); payina (Tag.); putian (Pang.); saggai (Ilk.); salñgen (Ilk.); salong-salong (Bik.); salong-salong (Mbo.); saung-saunñgan (S. L. Bis.); tapúran (Bis.); tiranglai (Ilk., Pang.); utilan (Tag.).

VATICA MINDANENSIS Foxw. in Leaf. Philip. Bot. 6 (1913) 1957, Philip. Journ. Sci. 13 (1918) Bot. 196.

Vatica sorsogonensis Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 196.

Luzon (Sorsogon), Leyte, Mindanao (Agusan, Zamboanga), *Elmer* 16840, 16600, 13680, 13359, 13398, *Wenzel* 937, 994, 952, 1080, 1099, *F. B.* 27265 *Franco*. In primary forests at low and medium altitudes, ascending to 1,100 m. Endemic.

Local names: Binuñgo (Mbo.); liloan (Mbo.); malobagobo (Mbo.); matulug (P. Bis.); naríg (Sul.); salañganan (Mbo.).

VATICA OBTUSIFOLIA Elm. Leaf. Philip. Bot. 4 (1912) 1471; Foxw. in Philip. Journ. Sci. 13 (1918) Bot. 196.

Palawan, *Elmer* 12963. In forests at low altitudes. Endemic.

VATICA PACHYPHYLLA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 311.

Luzon (Camarines), *F. B.* 27102, 27825, 28090 *Alambra*. In primary forests at low altitudes. Endemic.

Local names: Dadiañgau (Bik.); hagakhák-na-itim (Tag.).

EXCLUDED SPECIES

VATICA AFFINIS Thw.; F.-Vill. Novis. App. (1880) 21.

VATICA GRANDIFLORA Dyer; F.-Vill. op. cit. 20.

VATICA SCAPHULA Dyer; F.-Vill. op. cit. 21.

ELATINACEAE

1. **BERGIA** Linnaeus

BERGIA AMMANNIODES Roxb. Hort. Beng. (1814) 34, *nomen nudum*; Roth Nov. Pl. Sp. (1821) 219; Hook. f. Fl. Brit. Ind. 1 (1874) 251; F.-Vill. Novis. App. (1880) 15; Ceron Cat. Pl. Herb. Manila (1892)

19; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 19, Sp. Blancoanae (1918) 273.

Tillaea rubella Blanco Fl. Filip. (1837) 75, ed. 2 (1845) 56, ed. 3, 1 (1877) 106.

Luzon (Cagayan, Ilocos Norte, Abra, Pangasinan, Rizal, Laguna), *B. S.* 7940 Ramos, 2304 Mearns, 18290 Otañes, Merrill Sp. Blancoanae 886, 979. In fallow rice paddies, etc., at low and medium altitudes. India to southern China and tropical Australia.

BERGIA SERRATA Blanco Fl. Filip. (1837) 387; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 431, Fl. Manila (1912) 333, Sp. Blancoanae (1918) 273.

Spergula serrata Blanco op. cit. ed. 2 (1845) 271, ed. 3, 2 (1878) 140.

Bergia glandulosa Turcz. in Bull. Soc. Nat. Mosc. 27² (1854) 371; Rolfe in Journ. Bot. 23 (1885) 210; Vidal Phan. Cuming. Philip. (1885) 95, Rev. Pl. Vasc. Filip. (1886) 51.

Bergia verticillata F.-Vill. Novis. App. (1880) 15, non Willd.

Luzon (Ilocos Norte, Zambales, Bataan, Rizal), Merrill Sp. Blancoanae 723, Phil. Pl. 992, *B. S.* 2696, 2058 Ramos, Warburg 13688. In fallow rice fields at low and medium altitudes. Formosa.

BIXACEAE

1. BIXA Linnaeus

BIXA ORELLANA Linn. Sp. Pl. (1753) 512; DC. Prodr. 1 (1824) 259; Blanco Fl. Filip. (1837) 456, ed. 2 (1845) 317, ed. 3, 2 (1878) 221, t. 231; Walp. Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 299; Miq. Fl. Ind. Bat. 1² (1858-59) 108; F.-Vill. Novis. App. (1880) 12; Vidal Sinopsis Atlas (1883) 13, t. 7, f. A, Rev. Pl. Vasc. Filip. (1886) 49; Merr. Fl. Manila (1912) 333, Sp. Blancoanae (1918) 274.

In and about towns throughout the Philippines, usually planted, but at least persisting after cultivation is abandoned. A native of tropical America, now pantropic.

Local names: Achíti (Ilk.); achóte (Tag.); achoéte (Tagb.); achuéte (Tag., Sbl., Bik., P. Bis., Ilk.); asóti (Ibn.); atsiute (Sbl.); apatut (Gad.); asuíte (Ilk.); asúti (Tag.); atseuéte (Tag.); atsuíte (Ilk.); chanang (Sul.); chótes (S. L. Bis.); janang (Sul.); sótis (C. Bis.).

VIOLACEAE

1. RINOREA Aublet

RINOREA ACUMINATA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 201. Catanduanes, Cebu, *F. B.* 6682 Pray, 6455 Everett. On forested slopes at low altitudes. Endemic.

Local names: Maupau (C. Bis.); sarak (Bik.).

RINOREA COPELANDII Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 45.

Mindanao (Davao), *Copeland* 945. In forests at low or medium altitudes. Endemic.

RINOREA FASCICULATA (Turcz.) Merr. in Philip. Journ. Sci. 12 (1917) Bot. 286.

Pentaloba fasciculata Turcz. in Bull. Soc. Nat. Mosc. 27² (1854) 341.

Alsodeia fasciculata F.-Vill. Novis. App. (1880) 12; Vidal Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 48.

Gelonium trifidum Elm. Leaf. Philip. Bot. 3 (1910) 918; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 414.

Luzon (Zambales, Laguna, Tayabas, Camarines), Sibuyan, Samar, Cebu, Palawan, Mindanao (Zamboanga), Jolo. In primary forests at low altitudes. Endemic.

Local names: Pugáhan (C. Bis.); putian (Sbl.).

RINOREA FORMICARIA (Elm.) Merr. in Philip. Journ. Sci. 12 (1917) Bot. 286.

Alsodeia formicaria Elm. Leaf. Philip. Bot. 5 (1913) 1850.

Palawan, *Elmer* 12886. In primary forests, altitude about 225 m; perhaps but a form of *R. palawanensis* Merr. with abnormal fruits due to the presence of ants. Endemic.

RINOREA GLANDULOSA (Elm.) Merr. in Philip. Journ. Sci. 12 (1917) Bot. 286.

Gelonium glandulosum Elm. Leaf. Philip. Bot. 3 (1910) 917; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 414, in nota.

Rinorea fasciculata var. *minor* Elm. Leaf. Philip. Bot. 8 (1915) 2877.

Luzon (Ilocos Norte), Mindoro, Palawan, Sibuyan, Panay, *Elmer* 12315, 12798, 12724, *B. S.* 27320, 39703 *Ramos*, *F. B.* 24769 *Vergara*, 24941 *Sandique*. In primary forests at low altitudes; perhaps but a variety of *R. fasciculata* Merr. Endemic.

Local names: Kalumpiñgan (P. Bis.); liokum (P. Bis.).

RINOREA PALAWANENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 210.

Mindoro, Palawan, Jolo, *B. S.* 252 *Bermejós*, 6687 *Robinson*, *F. B.* 3529 *Curran*, *Merrill* 9461, *Phil. Pl.* 2043, *Elmer* 12583, 12654. In forests at low altitudes; to be compared with the Malayan *R. horsfieldii* O. Kuntze.

Var. **MOLLIS** var. nov.

A typo differt subtus foliis molliter pubescentibus.

Culion, Guimaras, Cebu, *Merrill* 621, 6712, *B. S.* 11081 *Ramos*. In thickets and forests at low altitudes. Endemic.

Local names: Iposona (Tagb.); sin (Tagb.); tuak-mariis (Sul.).

2. VIOLA Tournefort

VIOLA ARCUATA Blume Bijdr. (1825) 58; W. Becker in Beihefte Bot. Centralbl. 34² (1916) 226, Philip. Journ. Sci. 19 (1921) 710.

Viola toppingii Elm. Leaf. Philip. Bot. 2 (1908) 504; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 364.

Viola distans Wall. in Trans. Med. Soc. Calc. 7 (1835) 227.

Luzon (Benguet, Lepanto), *Elmer* 6042, 8649, *Topping* 119. In open wet places, altitude about 1,500 m. India to southern China southward to Java, Sumatra, and Borneo.

VIOLA BETONICIFOLIA Sm. in Rees Cycl. 37 (1919) No. 7, subsp. **NEPALENSIS** (Ging.) W. Becker in Engl. Bot. Jahrb. 54 (1917) Beibl. 120: 166, Philip. Journ. Sci. 19 (1921) 716.

Viola patrinii var. *napaulensis* Ging. in DC. Prodr. 1 (1824) 293.

Luzon (Cagayan, Lepanto, Bontoc, Benguet), Mindoro, Mindanao (Bukidnon). Rather characteristic of open grassy slopes and above an altitude of 1,000 m, in Cagayan occurring at lower altitudes. India to Japan southward to Java, Timor, and Celebes, the species India to China.

VIOLA DIFFUSA Ging. in DC. Prodr. 1 (1824) 293; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 201; W. Becker in Philip. Journ. Sci. 19 (1921) 713.

Luzon (Benguet, Bontoc), Merrill 4612, B. S. 37796 Ramos & Edaño. In crevices of rocks and on banks, altitude 1,700 to 2,000 m. India to China, Japan, and Formosa.

Subsp. **TENUIS** (Benth.) W. Becker in Philip. Journ. Sci. 19 (1921) 714.

Viola tenuis Benth. in Hook. Lond. Journ. Bot. 1 (1842) 482.

Viola apoensis Elm. Leaf. Philip. Bot. 8 (1915) 2878.

Luzon (Lepanto), Mindanao (Davao), Merrill 4562, Elmer 11544, altitude about 2,300 m. Southern China and Formosa.

VIOLA EDAÑOII W. Becker in Philip. Journ. Sci. 19 (1921) 722.

Mindanao (Bukidnon), B. S. 29082 Ramos & Edaño. On bowlders along streams, altitude about 1,200 m. Endemic.

VIOLA INCONSPICUA Blume Cat. Gew. Buitenz. (1823) 57, Bijdr. (1825) 58; W. Becker in Engl. Bot. Jahrb. 54 (1917) Beibl. 120: 173, Philip. Journ. Sci. 19 (1921) 718.

Luzon (Cagayan, Benguet), Mindanao (Lanao), B. S. 5899 Ramos, F. B. 19622 Curran, Merrill Phil. Pl. 1097, Clemens 21. In open grasslands, altitude 700 to 1,600 m. India to central China, Burma, Java, and Sumatra.

VIOLA MEARNsii Merr. in Philip. Journ. Sci. 5 (1910) Bot. 201; Becker in Beihefte Bot. Centralbl. 34² (1917) 411, Philip. Journ. Sci. 19 (1921) 715.

Luzon (Benguet, Laguna), Negros, Mindanao (Misamis, Davao), B. S. 4310 Mearns, 9781, 9851 Robinson, F. B. 4625 Mearns & Hutchinson, 8430 McGregor, Merrill 4790, 6625, 8430, 9851, Elmer 11543. On bowlders, margins of streams, etc., altitude 1,400 to 2,500 m. Endemic.

Local name: Boganban (Bag.).

VIOLA MERRILLIANA W. Becker in Beihefte Bot. Centralbl. 34² (1916) 234, Philip. Journ. Sci. 19 (1912) 712.

Luzon (Lepanto, Benguet), Merrill 4509, 4565, 6503, 6493, F. B. 16219, 16063 Curran, Merritt, & Zschokke, B. S. 40450 Ramos & Edaño. In open swampy places, altitude 2,000 to 3,000 m. Endemic.

VIOLA PHILIPPICA Cav. Ic. 6 (1801) 19, t. 529, f. 2; Poir. in Lam. Encycl. 8 (1808) 629; Ging. in DC. Prodr. 1 (1824) 294; Miq. Fl. Ind. Bat. 1² (1858-59) 113; F.-Vill. Novis. App. (1880) 11; W. Becker in Engl. Bot. Jahrb. 54 (1917) Beibl. 120: 174 (subsp. *malesica* W. Becker op. cit. 178), Philip. Journ. Sci. 19 (1921) 719.

Luzon (Lepanto, Bontoc, Benguet), Mindanao, *Merrill 4687, 4645, F. B. 10990, 14448, B. S. 5909*. In open grasslands, altitude 1,000 to 2,000 m. Indo-China, central and southern China, Japan, Formosa, Java.

See W. Becker l. c. for a critical consideration of this species. I previously thought [Philip. Journ. Sci. 10 (1915) Bot. 191] that Cavanilles's type might have been from America rather than from the Philippines. At any rate the exact locality cited "in Insula Luzon tertio a Manila lapide" is certainly wrong. The material possibly came from Ilocos Norte Province, a region botanically explored by members of the Malaspina Expedition. The Philippine material so far collected is all referable to the subsp. *malesica* W. Becker; the subsp. *munda* W. Becker, conforming to the typical form extends from India to Mongolia, Manchuria, Korea, central and western China, Burma, and Japan. Most of the Philippine material was originally identified as *V. patrinii* Ging., a species that does not occur in the Archipelago.

VIOLA RAMOSIANA W. Becker in Philip. Journ. Sci. 19 (1921) 716.

Luzon (Kalinga), *B. S. 37548 Ramos & Edaña*, altitude about 1,360 m. Endemic.

VIOLA RUPICOLA Elm. Leaf. Philip. Bot. 1 (1908) 324; Becker in Beihefte Bot. Centralbl. 34² (1917) 415, Philip. Journ. Sci. 19 (1921) 712.

Viola adenothrix Hayata Ic. Pl. Formos. 3 (1913) 23, f. g.

Viola effusa W. Becker in Beihefte Bot. Centralbl. 34² (1917) 424.

Luzon (Benguet, Tayabas), *Elmer 8574, Quisumbing 1313, 1141, Merrill 7765*. On mossy boulders, altitude 1,400 to 2,000 m. Formosa.

VIOLA SEMILUNARIS (Maxim.) W. Becker var. **PHILIPPINARUM** W. Becker in Beihefte Bot. Centralbl. 34² (1916) 231, Philip. Journ. Sci. 19 (1921) 711.

Luzon (Benguet), *Merrill 4368, 4769, 4363, Loher 1646*. Altitude up to 1,800 m. The variety endemic, the species, based on *Viola verecunda* A. Gray var. *semilunaris* Maxim. Mel. Biol. 9 (1876) 750, in Japan.

EXCLUDED SPECIES

VIOLA ODORATA Linn.; F.-Vill. Novis. App. (1880) 11; Merr. Fl. Manila (1912) 334.

This European violet is cultivated in the Philippines for its fragrant flowers; it thrives well in Baguio, but is not well adapted to the Philippine climate at low altitudes, although it is occasionally found in Manila gardens.

VIOLA TRICOLOR Linn.; F.-Vill. Novis. App. (1880) 12.

The pansy thrives in the Philippines only at higher altitudes, where it is cultivated only.

3. **IONIDIUM** Ventenat

IONIDIUM ENNEASPERMUM (Linn.) Vent. Jard. Malm. (1803-04) sub t. 27; Ging. in DC. Prodr. 1 (1824) 308.

Viola enneasperma Linn. Sp. Pl. (1753) 937.

Ionidium suffruticosum Ging. in DC. Prodr. 1 (1824) 311; Hook. f. & Th. in Hook. f. Fl. Brit. Ind. 1 (1872) 185.

Ionidium thymifolium Presl Rel. Haenk. 2 (1830) 97 [non Bot. Bermerk. (1844) 11]; F.-Vill. Novis. App. (1880) 12.

Luzon (Ilocos Norte), Golo, *B. S.* 32919, 32745, 32832, 37307, 27259, 27528, 27682, 27174 *Ramos, Merrill 11549*. In dry open places at low altitudes. India and Ceylon to tropical Africa, Indo-China, southeastern China, Borneo, and tropical Australia.

FLACOURTIACEAE

1. AHERNIA Merrill

AHERNIA GLANDULOSA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 295.

Luzon (Benguet, Laguna, Nueva Ecija, Bataan, Rizal), *Baker 4101, Williams 531, Loher 5568, Merrill Phil. Pl. 425, Elmer 18158, B. S. 12733 Fénix, 12494, 12371 McGregor, F. B. 22368 Alvarez, 2005 Ahern's collector, 11727 Whitford, 23118 Villamil*. In primary forests at low and medium altitudes. A monotypic endemic genus.

Local names: Butun (Tag.); sanglai (Tag.).

2. HYDNOCARPUS Gaertner

HYDNOCARPUS ALCALAE C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 37.

Luzon (Albay), *B. S. 22478 Alcala, F. B. 18719 Darling*. In forests at low altitudes. Endemic.

Local names: Dudóa (Bik.); dudu-dúdu (Bik.).

HYDNOCARPUS CAULIFLORA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 323.

Mindanao (Cotabato), *F. B. 11799 Whitford, Harpst*. In primary (dipterocarp) forests at low altitudes. Endemic.

HYDNOCARPUS HUTCHINSONII Merr. in Philip. Journ. Sci. 17 (1920) 291.

Mindanao (Zamboanga, Lanao), Basilan, *F. B. 4822, 3916, 6116, 3435 Hutchinson, 9429, 9303, 9158, 9138 Whitford & Hutchinson, 23178, 23162 Agama, B. S. 15436 Reillo, 36577, 36938, 36934 Ramos & Edaño*. In primary forests at low altitudes. Borneo.

Local names: Bagarbas (Lan.); kamupang (Sul.); mansaloka (Yak.); mangasaluká (Yak.); mangasalokág (Yak.); tioto (Sub.); sugalingayau (Sub).

HYDNOCARPUS QUADRASII Elm. Leaf. Philip. Bot. 4 (1912) 1515.

Sibuyan, *Elmer 12085, F. B. 18826 Franco*. In forests and thickets at low altitudes. Endemic.

Very close to *H. subfalcata* Merr., differing chiefly if not only in its 6- or 7- nerved rather than 4- or 5-nerved leaves. The Quadras specimen from Mindanao, *Ahern 508*, I refer to *H. subfalcata* Merr.

HYDNOCARPUS SUBFALCATA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 297.

Hydnocarpus ovoidea Elm. Leaf. Philip. Bot. 4 (1912) 1514.

Luzon (Cagayan, Pangasinan, Zambales, Tayabas), Sibuyan, Samar, Mindanao (Surigao). In thickets and forests at low altitudes. Endemic.

Local names: Amitan (Ibn.); apanang (C. Bis.); dalinias (Sbl.); damol (S. L. Bis.); lagtang (P. Bis.); ñgeret (Tag.); pai (Pang.); putian (Sbl.).

HYDNOCARPUS UNONIFOLIA Elm. Leaf. Philip. Bot. 5 (1913) 1779.

Palawan, *Elmer 12936*, *Merrill 9366?* In primary forests at low and medium altitudes. Endemic.

EXCLUDED SPECIES

HYDNOCARPUS CASTANEA Hook. f.; F.-Vill. Novis App. (1883) 348.

HYDNOCARPUS VENENATA Gaertn.; F.-Vill. l. c.

HYDNOCARPUS WIGHTIANA Blume; F.-Vill. l. c.

3. TARAKTOGENOS Hasskarl

TARAKTOGENOS HETEROPHYLLA (Blume) Van Slooten in Bull. Jard. Bot. Buitenz. III 4 (1922) 280.

Hydnocarpus heterophylla Blume Rumphia 4 (1848) 22, t. 178 B, f. 1; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 40; Koord. Atlas Baumart. Java 2 (1914) f. 349.

Taraktogenos blumei Hassk. in Nat. Tijdschr. Nederl. Ind. 10 (1856) 127 (Retzia 1 (1857) 127); Koord. & Val. Bijdr. Boom. Java 5 (1900) 4.

Cyclostemon iwahigensis Elm. Leaf. Philip. Bot. 4 (1911) 1278, p. p., quoad fl.

Luzon (Camarines, Sorsogon), Busuanga, Palawan, Ticao, Masbate, Tablas, Negros, Panay, Leyte, *Merrill 3029*, *3062*, *Phil Pl. 1385*, *Ahern 111*, *287*, *Elmer 13175*, *15136*, *17347* (as *Cyclostemon*), *F. B. 27361* *Tupas*, *22514* *Pray*, *1076* *Clark*, *15117*, *15123*, *15129* *Cenabre*, *20700* *Tamesis*, *17853* *Cortes & Rendal*, *B. S. 41600* *Ramos*. In forests at low altitudes. Sumatra, Java.

Local names: Balik (P. Bis.); bato-bato (Tagb., P. Bis.); busilayan (P. Bis.); butong-manók (Bik.); haguphup (Bik.); magluni (Tagb.); matobato (P. Bis., S. L. Bis.); ouaslum (P. Bis.); putian (P. Bis.).

4. PANGIUM Reinwardt

PANGIUM EDULE Reinw. ex Blume Cat. Gew. Buitenz. (1823) 112, Syll. Ratisb. 2 (1828) 12; Benn. Pl. Jav. Rar. (1852) 265, t. 42; Blume Rumphia 4 (1848) 20, t. 178; Miq. Fl. Ind. Bat. 1² (1858-59) 109; F.-Vill. Novis. App. (1880) 13; Vidal Sinopsis Atlas (1883) 13, t. 7, f. D; Merr. Sp. Blancoanae (1918) 274.

Hydnocarpus polyandra Blanco Fl. Filip. ed. 2 (1845) 445 ed. 3, 3 (1879) 200, t. 391.

Luzon (Camarines, Sorsogon), Palawan, Samar, Leyte, Panay, Negros, Mindanao. In primary forests at low and medium altitudes. Malay Peninsula and Archipelago.

Local names: Pañgi (S., L. Bis., P. Bis., Bik.); salingkumut (Mand.).

5. TRICHADENIA Thwaites

TRICHADENIA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 298.

Vitex curtifrutescens Elm. Leaf. Philip. Bot. 8 (1915) 2873.

Luzon (Pangasinan, Nueva Ecija, Rizal, Laguna, Tayabas, Camarines), Sibuyan, Panay, Negros, Mindanao (Lanao, Davao). In primary forests at low altitudes, ascending to 500 m; very closely allied to the one other known representative of the genus, *T. zeylanica* Thw. Endemic.

Local names: Bagolipag (Bik.); banaog (P. Bis.); banau (Bik.); ibal (Pang.); linab (P. Bis.); magalinabut (Bag.); magamabut (Bag.); malapáñgi (P. Bis.); malapínggan (Tag., Bik.); tadong (Tag.); tandong (Tag.).

6. RYPAROSA Blume

RYPAROSA CAULIFLORA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 325.

Tinago, *Ahern* 416. In forests at low altitudes. Endemic.

Local name: Buñganon (P. Bis.).

7. SCOLOPIA Schreber

SCOLOPIA LUZONENSIS (Presl) Warb. in Engl. & Prantl. Nat. Pflanzenfam. 6^{6a} (1893) 30, f. 11; Briq. in Ann. Conserv. Jard. Bot. Genève 2 (1908) 45; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 98, 10 (1915) 327, Sp. Blancoanae (1918) 274.

Dasianthera luzonensis Presl Rel. Haenk. 2 (1835) 90, t. 66.

Banara racemosa Blanco Fl. Filip. (1837) 425.

Banara brevifolia Blanco op. cit. 426.

Phoberos dasyanthera Benn. Pl. Jav. Rar. (1840) 192.

Flacourtia corollata Blanco Fl. Filip. ed. 2 (1845) 559, ed. 3, 3 (1879) 220, t. 367.

Flacourtia parvifolia Blanco op. cit. 560, 220.

Scolopia crenata F.-Vill. Novis. App. (1880) 12; Vidal Sinopsis Atlas (1883) 13, t. 7, f. B, Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 48; Miq. Fl. Ind. Bat. 1² (1858-59) 107, quoad Philip., non Clos.

Scolopia rhinanthera F.-Vill. Novis. App. (1880) 12.

Scolopia dasyanthera F.-Vill. l. c.

Luzon (Ilocos Norte, Union, Pangasinan, Zambales, Pampanga, Bataan, Rizal, Cavite, Batangas, Tayabas, Camarines, Sorsogon), Mindoro, Masbate, Panay, Mindanao (Davao). In dry thickets and secondary forests at low altitudes; often common. Endemic.

Local names: Aniñguai (Sbl.); anonot (Pang.); babaliuain (Tag.); bagnayau (C. Bis.); balingsuá' (Bik.); bitoñgól (Tag.); dóging-hálas (Bik.); malakaráyom (Tag.); palutan (Ilk.); pilapil (Tag.); suliak-dagá (Tag.).

SCOLOPIA OLDHAMI Hance in Ann. Sci. Nat. Bot. V 5 (1866) 206.

Luzon (Ilocos Norte, Ilocos Sur), *B. S.* 27292, 27354, 32917 *Ramos*, 2336 *Mearns*. In dry thickets at low altitudes. Formosa.

SCOLOPIA SAEVA (Hance) Hance in Ann. Sci. Nat. Bot. IV 18 (1862) 217; Briq. in Ann. Conserv. Jard. Bot. Genève 2 (1898) 46; Merr. in Philip. Journ. Sci. 10 (1915) 328.

Phoberos saevus Hance in Walp. Ann. 3 (1853) 825.

Scolopia lanceolata Clos. in Ann. Sci. Nat. Bot. IV 8 (1857) 252, p. p., quoad Philip.; Miq. Fl. Ind. Bat. 1² (1858-59) 107, quoad Philip.; Vidal Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 49.

Flacourtia lanceolata Vidal Rev. Pl. Vasc. Filip. (1886) 49 sphalm., *nomen* (*Scolopia lanceolata* Clos. intended).

Luzon (Ilocos Sur, Benguet, Pangasinan, Zambales, Rizal), *Merrill 2949, 1653, F. B. 10921 Curran, 9632 Zschokke, 908 Maule, 2680 Ahern's collector, 25490 Paraiso*. In thickets at low altitudes, ascending to 600 m, rare or local. Southeastern China.

Local names: Anonot (Pang.); bitoñgol (Tag.); kandong (Sbl.).

SCOLOPIA SPINOSA (Roxb.) Warb. in Engl. & Prantl Nat. Pflanzenfam. 3^{ea} (1893) 29.

Ludia spinosa Roxb. Fl. Ind. ed. 2, 2 (1832) 507.

Scolopia roxburghii Clos. in Ann. Sci. Nat. Bot. IV 8 (1857) 252;

Hook. f. & Th. in Hook. f. Fl. Brit. Ind. 1 (1872) 190.

Scolopia fragrans Elm. Leaf. Philip. Bot. 5 (1913) 1780.

Palawan, *Elmer 12802*. In primary forests at low altitudes. Burma, Indo-China, Malay Peninsula, Sumatra, and Java.

8. HOMALIUM Jacquin

HOMALIUM BARANDAE Vidal ex F.-Vill. Novis. App. (1880) 94; Cat. Pl. Prov. Manila (1880) 32, Sinopsis Atlas (1883) 27, *t. 35, f. A*, Rev. Pl. Vasc. Filip. (1886) 141; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 245, Sp. Blancoanae (1918) 20.

Luzon (Benguet, Rizal, Batangas), *F. B. 14104 Merritt & Darling, 2959, 3377 Ahern's collector, Loher 6222, 6224*. In forests at low and medium altitudes. Endemic.

Local name: Laing (Tag.).

HOMALIUM BRACTEATUM Benth. in Journ. Linn. Soc. Bot. 4 (1860) 37; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 115, Rev. Pl. Vasc. Filip. (1886) 142; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 246.

Luzon (Ilocos Norte, Ilocos Sur, Abra, Pangasinan, Bulacan, Pampanga, Zambales, Bataan, Laguna, Camarines), Samar. In primary forests at low altitudes. Endemic.

Local names: Araña (Tag., Bik.); arañgan (Tag., Bik.); arañgan-babai (Bik.); boñguas (S. L. Bis.); matambokal (Ilk.); pañginahauan (S. L. Bis.); malakamánga (Tag.); ubiön (Ilk.).

HOMALIUM CURRANII Merr. in Philip. Journ. Sci. 4 (1909) Bot. 297.

Luzon (Benguet), *F. B. 10811 Curran*. In forests along streams, altitude about 500 m. Endemic.

HOMALIUM GITINGENSE Elm. Leaf. Philip. Bot. 4 (1912) 1513.

Sibuyan, *Elmer 12463a*. In forests along streams at low altitudes. Endemic.

HOMALIUM LOHERI Merr. in Philip. Journ. Sci. 3 (1908) Bot. 245.

Luzon (Rizal), *Loher 2210, B. S. 1003 Ramos, Merrill Phil. Pl. 1026, F. B. 1975 Ahern's collector, 25042 Maneja*. In forests at medium altitudes. Endemic.

Local names: Laing (Tag.); parañgyat (Tag.).

HOMALIUM LUZONIENSE F.-Vill. Novis. App. (1880) 94; Vidal Sinopsis Atlas (1883) 27, *t.* 53, *f.* B, Rey. Pl. Vasc. Filip. (1886) 141; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 247, Sp. Blancoanae (1918) 20.

Homalium aranga Vidal ex F.-Vill. l. c. in syn.

Luzon (Tayabas, Camarines), Mindanao (Surigao, Cotabato), *F. B.* 19, 24 *Ware*, 26980 *Ponce*, 28137 *Borja*. In primary forests at low altitudes. Endemic.

Local names: Aráñgan (Tag.); kamagáhai (Bik.); kamagáhi' (Bik.); yagau (C. Bis.).

HOMALIUM MULTIFLORUM Merr. in Philip. Journ. Sci. 13 (1918) Bot. 35.

Luzon (Ilocos Norte, Bontoc, Benguet), *F. B.* 25155 *Garcia*, 15933 *Bacani*, *B. S.* 32990 *Ramos*. In forests up to 1,500 m altitude. Endemic.

Local name: Tamúyan (Ibn.).

HOMALIUM OBLONGIFOLIUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 326.

Mindanao (Zamboanga), *F. B.* 22779 *Miranda*, 13781 *Foxworthy*, *De Mesa*, & *Villamil*. In primary forests at low altitudes. Endemic.

HOMALIUM PANAYANUM F.-Vill. Novis. App. (1880) 94; Vidal Rev. Pl. Vasc. Filip. (1886) 141; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 246, Sp. Blancoanae (1918) 20.

Homalium grandiflorum Naves in Blanco Fl. Filip. ed. 3 (1877-83) *t.* 443, non Benth.

Homalium subscandens Elm. Leaf. Philip. Bot. 4 (1912) 1518.

Luzon (Ilocos Norte, Batangas, Zambales), Palawan, Sibuyan, Guimaras, *B. S.* 18002 *Robinson*, 32817, 33339, 5051 *Ramos*, *F. B.* 8111 *Curran & Merritt*, 262 *Gammill*, 4539 *Del Villar*, 28267 *Sulit*, *Elmer* 12442, 13223. On ridges in forests at low and medium altitudes, ascending to 1,400 m. Endemic.

Local names: Ampupuyót (Bis.); kandong (Ilk.); puyót (P. Bis.).

HOMALIUM PLATYPHYLLUM Merr. in Philip. Journ. Sci. 13 (1918) Bot. 36.

Leyte, *Wenzel* 1525. In forests. Endemic.

HOMALIUM RAMOSII Merr. in Philip. Journ. Sci. 14 (1919) 423.

Luzon (Ilocos Norte), *B. S.* 32985 *Ramos*. On forested slopes, altitude about 450 m. Endemic.

HOMALIUM SAMARENSE Merr. in Philip. Journ. Sci. 11 (1916) Bot. 199.

Samar, *B. S.* 24188 *Ramos*. In primary forests at low altitudes. Endemic.

HOMALIUM VILLARIANUM Vidal Rev. Pl. Vasc. Filip. (1886) 142; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 41, Philip. Journ. Sci. 3 (1908) Bot. 247.

Homalium sorsogonense Elm. Leaf. Philip. Bot. 1 (1908) 325.

Luzon (Tayabas, Camarines, Sorsogon), Samar, Leyte, Panay, Mindanao (Misamis), *Elmer 7311, F. B. 25417 Duldulao, 22870 Oro, Weber 1526*. In forests at low altitudes. Endemic.

Local names: Adáñga (Bik.); aráñgan (Tag.); kamagahai (Tag.); matobato (S. L. Bis.).

HOMALIUM VILLOSUM Merr. in Philip. Journ. Sci. 13 (1918) Bot. 37.

Samar, *F. B. 22748 Lasquety*. On forested ridges, altitude 200 m. Endemic.

Local name: Bato-bato (S. L. Bis.).

EXCLUDED SPECIES

HOMALIUM FOETIDUM Benth.; F.-Vill. Novis. App. (1880) 94; Ceron Cat. Pl. Herb. Manila (1892) 87.

F.-Villar's record was based on an erroneous reduction of *Gordonia polysperma* Blanco; Ceron's record was based on *Vidal 2904* from Cebu, which I have not seen.

9. XYLOSMA Forster f.

XYLOSMA LUZONENSIS (Presl) Merr. in Philip. Journ. Sci. 9 (1914) 323.

Prockia luzonensis Presl Rel. Haenk. 2 (1835) 94.

Xylosma cumingii Clos. in Ann. Sci. Nat. Bot. IV 8 (1857) 252; Miq. Fl. Ind. Bat. 1² (1858-59) 106; F.-Vill. Novis. App. (1880) 13; Vidal Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 49.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Union, Nueva Vizcaya, Pangasinan, Zambales, Tayabas, Rizal, Batangas, Cavite, Laguna). In thickets and secondary forests at low altitudes. Endemic.

Local names: Amaet (Bis.); babaliuayin (Sbl.); digek (Ilk.); kuliága (Tag.); mambuk (Sbl.); mangkíl (Tag.); mamangkíl (Tag.); palútan (Ilk.); suliak-dagá (Tag.).

XYLOSMA SULUENSIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 324.

Sulu Archipelago (Ubian, Bongao), *Merrill 5398, B. S. 36309 Yates*. In thickets back of the beach. Endemic.

10. FLACOURTIA L'Héritier

FLACOURTIA EUPHLEBIA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 324.

Flacourtia sulcata Elm. Leaf. Philip. Bot. 7 (1915) 2653.

Mindanao (Agusan, Zamboanga, Bukidnon, Davao), *Williams 2572, Elmer 14044, B. S. 36782, 37092 Ramos & Edaña*. In forests up to an altitude of about 900 m. Endemic.

Local names: Balalauan (Bag.); banauo (C. Bis.) lanagon (Buk.); nagan (Sub.); nuginagin (Bag.); oropag (Mbo.).

FLACOURTIA INDICA (Burm. f.) Merr. Interpret. Herb. Amb. (1917) 377, Sp. Blancoanae (1918) 274.

Gmelina indica Burm. f. Fl. Ind. (1768) 132, t. 39, f. 5.

Mespilus sylvestris Burm. Index Univ. Herb. Amb. (1855) 18, non Burm. l. c. 14.

Flacourtia sepiaria Roxb. Pl. Coromandel 1 (1795) 48, t. 68; DC. Prodr. 1 (1824) 256; Miq. Fl. Ind. Bat. 1² (1858-59) 104; F.-Vill. Novis. App. (1880) 12; Vidal Sinopsis Atlas (1883) 13, t. 7, f. C, Rev. Pl. Vasc. Filip. (1886) 49; Merr. Fl. Manila (1912) 334.

Flacourtia ramontchi L'Hérit. Stirp. Nov. (1784-85) 59, t. 30, 31; F.-Vill. Novis. App. (1880) 12; Koord. & Val. Bijdr. Boom. Java 5 (1900) 19.

Myroxylon decline Blanco Fl. Filip. (1837) 813.

Stigmarota edulis Blanco op. cit. ed. 2 (1845) 560 ed. 3, 3 (1879) 221.

Flacourtia cataphracta Rolfe in Journ. Bot. 23 (1885) 210; Vidal Rev. Pl. Vasc. Filip. (1886) 49, non (?) Roxb.

Luzon (Cagayan, Isabela, Zambales, Tarlac, Bataan, Rizal, Batangas), Mindoro. In dry thickets at low altitudes. India to tropical Africa and Malaya.

Local names: Bitáñgol (Sbl.); bitún̄gol (Tag.); bolong (Mang.); sauasáua (Bis.); palutan (Ibn.).

FLACOURTIA LANCEOLATA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 455.

Luzon (Bontoc), *Vanoverbergh* 1344. In forests, altitude about 1,700 m. Endemic.

FLACOURTIA RUKAM Zoll. & Morr. Syst. Verz. (1854) 33; King in Journ. As. Soc. Beng. 59² (1890) 117; F.-Vill. Novis. App. (1880) 112; Vidal Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 49; Koord. & Val. Bijdr. Boom. Java 5 (1900) 22; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 329.

Hisingera grandiflora Turcz. in Bull. Soc. Nat. Mosc. 27² (1854) 332.

Flacourtia inermis Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 99, non Roxb.

Luzon (Benguet, Pangasinan, Zambales, Laguna, Tayabas, Bataan, Rizal, Sorsogon), Mindoro, Polillo, Negros, Cebu, Dinagat, Mindanao, Basilan. In forests at low and medium altitudes, including *Elmer* 17392 as *F. peninsularis* Elm. Malay Peninsula and Archipelago.

Local names: Agasas (C. Bis.); amaiit (Tag.); bitón̄gol (Tag.); kalamasáti (Sbl.); kalomiñga (Ig.); kaluñga (Ig.); lalamasali (Sbl.); obieng (Ilk.); salabagin (C. Bis.).

11. OSMELIA Thwaites

OSMELIA CELEBICA Koord. in Meded. Lands Plant. 19 (1899) 624; Hallier f. in Meded. Rijks Herb. 1 (1910) 3.

Osmelia euspicata Elm. Leaf. Philip. Bot. 7 (1915) 2653.

Luzon (Sorsogon), Mindanao (Davao), *F. B.* 28208 *Elumir*, *Elmer* 10839, 11088, 15800, 15649, 15201, 16259, 15285 as *O. brevilocularis* Elm. In forests at medium altitudes, ascending to 500 m. Celebes.

Local name: Bariñgorus (Bag.).

OSMELIA CONFERTA Benth. in Journ. Linn. Soc. Bot. 5 (1861) Suppl. 2: 89; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 115, Rev. Pl. Vasc. Filip. (1886) 141.

Dichapetalum spicatum Elm. Leaf. Philip. Bot. 1 (1908) 299.

Luzon (Tayabas, Nueva Ecija, Camarines, Sorsogon), Catanduanes, Samar, Leyte, Mindanao (Davao), *Cuming* 1741 (from Leyte!), *Wenzel* 1069, 902, 1745, 185, *Elmer* 7497, 9108, 15330, 15331, 10820, *B. S.* 23345, 22137 *Ramos*, *F. B.* 25624 *Fajatin*. In forests at low and medium altitudes; very close to the next species. Endemic.

Local names: Lubí-lubí (C. Bis.); maguntápi (Bag.).

OSMELIA PHILIPPINA (Turcz.) F.-Vill. Novis. App. (1880) 93.

Stachycrater philippinus Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 465.

Osmelia philippinensis Benth. in Journ. Linn. Soc. Bot. 5 (1861)

Suppl. 2: 89; Vidal Phan. Cuming. Philip. (1885) 115, Rev. Pl.

Vasc. Filip. (1886) 141; Pulle in Nova Guinea 8 (1911) 672.

Luzon (Rizal, Laguna, Tayabas, Camarines), Tablas, Panay, Samar, Leyte, Dinagat, Mindanao (Surigao, Agusan, Lanao, Zamboanga). In forests at low and medium altitudes, the type from Samar (*Cuming* 1685). Reported from New Guinea.

Local names: Bantulinai (Sul.); gauai-gauai (Mbo.); maguntápai (Bag.); malakamánga (Tag.); malatayótes (S. L. Bis.); oonog (Tag.); sumate (P. Bis.).

OSMELIA SUBROTUNDIFOLIA Elm. Leaf. Philip. Bot. 7 (1915) 2655.

Samar, Mindanao (Agusan), *F. B.* 25763 *Acuña & Madrid*, *Elmer* 13543.

In primary forests up to 500 m altitude. Endemic.

Local names: Apadgag (Mbo.); tagupala (C. Bis.).

12. CASEARIA Jacquin

CASEARIA AGUSANENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2652.

Mindanao (Agusan), *Elmer* 13650. In forests, altitude about 150 m; apparently closely allied to *C. polyantha* Merr. Endemic.

CASEARIA BREVIPES Merr. in Philip. Journ. Sci. 9 (1914) Bot. 326.

Luzon (Camarines), Basilan, *B. S.* 16113 *Reillo*, 33592 *Ramos & Edaño*. In forests at low altitudes. Endemic.

CASEARIA CINEREA Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 462;

Vidal Phan. Cuming. Philip. (1885) 115, Rev. Pl. Vasc. Filip.

(1886) 140; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 99, Sp.

Blancoanae (1918) 275.

Samyda serrulata Blanco Fl. Filip. (1837) 374, non Linn.

Samyda pubescens Blanco op. cit. ed. 2 (1845) 263, ed. 3, 2 (1878) 124, non Linn.

Casearia tomentosa F.-Vill. Novis. App. (1880) 93, non Roxb.

Casearia grewiaefolia F.-Vill. l. c., non Vent.

Luzon (Abra, Isabela, Nueva Vizcaya, Union, Pangasinan, Pampanga, Bataan, Rizal, Laguna, Batangas, Camarines). In secondary and primary forests, up to an altitude of 600 m; allied to the Indo-Malayan *C. grewiaefolia* Vent. Endemic.

Local names: Butong-manók (Bik.); kaluag (Tag.); karimbubua (Ilk.); maraligau (Bis.); tulibas (Tag.).

CASEARIA CONFERTIFLORA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 34.

Luzon (Ilocos Norte), *B. S.* 27442 *Ramos*. In dry thickets at low altitudes. Endemic.

Local name: Boyboyok (Ilk.).

CASEARIA CRENATA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 99, Sp. Blancoanae (1918) 276.

Laurus serrata Blanco Fl. Filip. (1837) 319, ed. 2 (1845) 224, ed. 3, 2 (1878) 55, non *Casearia serrata* Macf.

Casearia glomerata F.-Vill. Novis. App. (1880) 93, non Roxb.

Luzon (Cagayan, Benguet, Nueva Ecija, Bataan, Rizal, Cavite, Laguna, Tayabas, Camarines), Mindoro, Negros, Mindanao (Cotabato). In thickets and secondary and primary forests at low altitudes. Endemic.

Local names: Ahtig (Bag.); inignin (Tag.); kaluag (Tag.); kaluag-babáe (Tag.); kamunai-nga-laláki (P. Bis.); magaspang (Tag.); mala-ponti (Ilk.); malatamoyan (Tag.).

CASEARIA EUPHLEBIA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 34.

Leyte, Samar, *Wenzel* 1305, 1795, *F. B.* 26579 *Lasquety*. In forests at low altitudes. Endemic.

CASEARIA FULIGINOSA Blanco Fl. Filip. ed. 2 (1845) 262, ed. 3, 2 (1878) 123, *t.* 90; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 99, Sp. Blancoanae (1918) 275.

Anavinga fuliginosa Blanco Fl. Filip. (1837) 372.

Casearia elliptica Naves in Blanco Fl. Filip. ed. 3 (1877-83) *t.* 90; Vidal Cat. Pl. Prov. Manila (1880) 31, non Willd.

Casearia moluccana Merr. in Philip. Bureau Forestry Bull. 1 (1903) 41, non Roxb.

Casearia densifolia Elm. Leaf. Philip. Bot. 4 (1912) 1516.

Luzon (Cagayan to Albay, in most or all provinces), Mindoro, Ticao, Sibuyan, Masbate, Dinagat, Mindanao (Surigao). Common in thickets and secondary forests at low and medium altitudes; closely allied to the Moluccan *C. glabra* Roxb.

Local names: Bagna (Tag.); baling-káhoi (C. Bis.); baltik (Ig.); bina-kag (Neg.); butong-manók (Tag.); kaluag (Tag.); luyong-lúyong (S. L. Bis.); malaserésa (Pamp.); mukok (Bon.); paríngorauan (Neg.); sangkí (Ig.); sigai-sigai (Sbl.); talitan (Sbl.); tapat-tápat (Tag.).

CASEARIA GLAUCIRAMEA Elm. Leaf. Philip. Bot. 4 (1912) 1517.

Sibuyan, *Elmer* 12216. In forests at low altitudes; scarcely distinguishable from *C. fuliginosa* Blanco. Endemic.

CASEARIA LOHERI Merr. in Philip. Journ. Sci. 9 (1914) Bot. 327.

Luzon (Cagayan, Ilocos Norte, Rizal, Tayabas, Laguna, Camarines, Sorogon), Mindanao (Surigao), *B. S.* 13525, 33217, 19455, 22476, 1851, 13525, 23431 *Ramos*, 29358 *Loher*, 6215, *Merrill Phil. Pl.* 1578, *Elmer* 14686 as *C. elliptifolia* Elm. In primary forests at low and medium altitudes. Endemic.

CASEARIA MINDANAENSIS Merr. in Philip. Journ. Sci. 20 (1922) 410.

Mindanao (Zamboanga), *B. S. 36567 Ramos & Edaño*. In forests along streams at low altitudes. Endemic.

Local name: Dalipa (Sub.).

CASEARIA PHANEROPHLEBIA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 277.

Leyte, *Wenzel 979*. In primary forests, altitude about 500 m. Endemic.

CASEARIA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 329.

Luzon (Cagayan, Tayabas, east coast), Samar, *B. S. 7364 Ramos, F. B. 27311 Bawan, Merrill Phil. Pl. 1644*, distributed as *Rinorea*. In forests along streams at low altitudes. Endemic.

CASEARIA POLYANTHA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 99.

Luzon (Cagayan, Bataan, Rizal, Laguna, Camarines), Palawan, Leyte, Mindanao, Basilan, Sulu, *F. B. 3143 Ahern's collector, 26106 Bernardo, 3039 Borden, 20355 Tamesis, 28083 Alambra, B. S. 1047 Ramos, Merrill 2562, Phil. Pl. 1063, Elmer 18276, 18240*. In forests at low altitudes. Endemic.

Local names: Bitang (Sul.); kaluag (Tag.); malatabiang (Neg.); mata-lung (Sul.); pañgonalaman (Ibn.).

CASEARIA SUBCORDATA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 328.

Mindanao (Bukidnon), *B. S. 15698 Fénix*. In thickets or forests along streams; very close to *C. polyantha* Merr. Endemic.

CASEARIA TRIVALVIS (Blanco) Merr. Sp. Blancoanae (1918) 275.

Samyda trivalvis Blanco Fl. Filip. (1837) 374, ed. 2 (1845) 263, ed. 3, 2 (1878) 124.

Casearia fragilis F.-Vill. Novis. App. (1880) 93, non Vent.

Casearia solida Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 46, Philip. Journ. Sci. 1 (1906) Suppl. 99.

Casearia zschokkei Elm. Leaf. Philip. Bot. 8 (1919) 3083.

Luzon (Benguet, Pangasinan, Nueva Ecija, Bataan, Rizal, Laguna, Batangas, Tayabas, Camarines), Mindoro. In primary forests up to an altitude of 800 m. Endemic.

Local names: Boog-boog (Tag.); kapikapíhan (Tag.); malagañgyat (Tag.); malatagyan (Tag.); marakiusas (Neg.).

DOUBTFUL AND EXCLUDED SPECIES

CASEARIA ESCULENTA Roxb.; F.-Vill. Novis. App. (1880) 93.

CASEARIA MACROCARPA Clarke; F.-Vill. l. c.

CASEARIA OVATA Willd.; F.-Vill. l. c.

CASEARIA RUBESCENS Dalz.; F.-Vill. l. c.

CASEARIA TRUNCATA Miq.; F.-Vill. l. c.

CASEARIA LEUCOLEPIS Turcz. in Bull. Soc. Nat. Mosc. 31¹ (1858) 463; F.-Vill. Novis. App. (1880) 115; Vidal Rev. Pl. Vasc. Filip. (1886) 141, Phan. Cuming. Philip. (1885) 115; Stapf in Trans. Linn. Soc. Bot. 4 (1894) 164.

The type of the species is *Lobb 468*, labeled Singapore, which in all probability came from Borneo. King does not record the species from the

Malay Peninsula, nor does Koorders from Java, although Stapf gives its range as Java, Borneo, and the Philippines; Lobb collected in the Malay Peninsula, Singapore, Borneo, Java, and Luzon and his specimens are notorious for their erroneous localizations. I have not seen *Cuming* 466, referred here by Vidal, this number coming from Laguna Province, Luzon; the figure given by Vidal, Sinopsis Atlas (1883) 27, t. 53, f. C, a single flower, is unrecognizable.

CASEARIA LUZONENSIS Warb. in Engl. & Prantl Nat. Pflanzenfam. 3^{6a} (1893) 51, f. 19, D-F.

Unrecognizable; no description has been published.

PASSIFLORACEAE

1. ADENIA Forskål

ADENIA CRASSA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 331.

Basilan, Mindanao (Zamboanga) *B. S. 15419 Reillo, 37053 Ramos & Edaña*. In thickets or forests at low altitudes. Endemic.

Local name: Sabúgok (Sub.).

ADENIA LONGIFOLIA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 330.

Basilan, *B. S. 15495 Merrill*. In thickets or forests at low altitudes. Endemic.

ADENIA PALMATIFOLIA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 330.

Luzon (Benguet), *Elmer 6262, B. S. 12577 Fénix*. In thickets and forests, altitude about 350 m. Endemic.

ADENIA QUADRIFIDA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 94; Journ. Straits Branch Roy. As. Soc. Special No. (1921) 413.

Mindanao (Zamboanga) *Jolo, Merrill 11645, Link*. Along the borders of forests at low altitudes. Borneo.

ADENIA ZUCCA (Blanco) Merr. Sp. Blancoanae (1918) 276.

Passiflora zucca Blanco Fl. Filip. (1837) 648.

Passiflora parviflora Blanco op. cit. 647, non Sw.

Passiflora coccinea Blanco op. cit. 650, non Aubl.

Modecca trilobata Blanco op. cit. ed. 2 (1845) 452, ed. 3, 3 (1879) 52; F.-Vill. Novis. App. (1880) 95, non Roxb.

Modecca parviflora Blanco op. cit. 453, 52.

Modecca coccinea Blanco op. cit. 453, 52; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 100, Fl. Manila (1912) 337.

Modecca cardiophylla F.-Vill. Novis. App. (1880) 95, non Mast.

Modecca palmata F.-Vill. l. c., non Lam.

Modecca heterophylla F.-Vill. l. c.; Usteri Beitr. Ken. Philip. Veg. (1905) 118, non Blume.

Adenia coccinea Merr. in Philip. Journ. Sci. 3 (1908) Bot. 421.

Babuyan Islands, Luzon (Cagayan, Ilocos Norte, Union, Benguet, Nueva Vizcaya, Pangasinan, Nueva Ecija, Zambales, Bataan, Laguna), Mindoro, Palawan, Polillo, Panay, Cebu, Mindanao. In thickets and secondary forests at low and medium altitudes. Endemic.

Local names: Binoyok-bóyok (Tag.); melóng-uák (Tag.); saka-sáka (Ilk.); sakasáka-ti-uák (Ilk.); salapong (Tag.); tibabayung-uak (Sul.).

2. PASSIFLORA Linnaeus

PASSIFLORA EDULIS Sims in Curtis's Bot. Mag. t. 1989; Merr. Fl. Manila (1912) 336, Sp. Blancoanae (1918) 276.

Passiflora minima Blanco Fl. Filip. (1837) 647, non Jacq.

Passiflora serrulata Blanco op. cit. ed. 2 (1845) 452, ed. 3, 3 (1879) 50, t. 414, non Jacq.

Passiflora laurifolia F.-Vill. Novis. App. (1880) 95, non Linn.

Batan Islands to Mindanao, occasionally planted in gardens, in hedges, etc., near houses for ornamental purposes. Introduced from tropical America.

Local names: Flor de pasión (Sp.); marañón (Ilk.); pasión (Sp.); pasionaria (Tag.).

PASSIFLORA FOETIDA Linn. Sp. Pl. (1753) 959; Merr. Fl. Manila (1912) 336.

Luzon (Rizal) Biliran, Leyte, Bantayan, Cebu, Mindanao. Occasional in waste places at low altitudes, introduced from tropical America. Pantropic.

Local names: Kurunggút (Bik.); masafloa (Ilk.); tauñgon (C. Bis.).

PASSIFLORA PHILIPPINENSIS Elm. Leaf. Philip. Bot. 1 (1908) 326.

Luzon (Lepanto, Benguet), *Elmer* 8985, *B. S.* 38098 *Ramos & Edaño*. In ravines, altitude about 900 m. Endemic.

Local name: Guachal (Ig.).

PASSIFLORA QUADRANGULARIS Linn. Syst. ed. 10 (1759) 1248; Merr. Fl. Manila (1912) 336.

Occasionally planted, but nowhere spontaneous. Introduced from tropical America, now pantropic. Granadilla.

Local names: Kasafloa (Ilk.); parola (Ilk.).

EXCLUDED SPECIES

PASSIFLORA ALBIDA Ker.; F.-Vill. Novis. App. (1880) 95.

PASSIFLORA SERRULATA Jacq.; F.-Vill. l. c.

PASSIFLORA VESPERTILIO Linn.; F.-Vill. l. c.

EXCLUDED GENUS

MALESHERBIA GLOBOSA Blanco Fl. Filip. ed. 2 (1845) 454, ed. 3, 3 (1879) 54; Merr. Sp. Blancoanae (1918) 383.

This was erroneously reduced by F.-Villar to *Hydrangea oblongifolia* Blume. The species is unrecognizable from Blanco's description which was apparently based on material originating from two unrelated plants.

CARICACEAE

1. CARICA Linnaeus

CARICA PAPAYA Linn. Sp. Pl. (1753) 1036; Blanco Fl. Filip. (1837) 803, ed. 2 (1845) 553, 3, 3 (1879) 212; Miq. Fl. Ind. Bat. 1^a (1857) 697; F.-Vill. Novis. App. (1880) 95; Merr. Fl. Manila (1912) 337, Sp. Blancoanae (1918) 277.

Carica vulgaris Lam. Encycl. 5 (1804) 2; A. DC. Prodr. 15¹ (1864) 414.

Carica hermaphrodita Blanco Fl. Filip. (1837) 805, ed. 2 (1845) 554, ed. 3, 3 (1879) 212.

Throughout the Philippines in cultivation and semicultivation, in many regions thoroughly naturalized at low and medium altitudes. Introduced from tropical America, now pantropic.

Local names: Kapáya (S. L. Bis., Sul.); lapáya (Bon.); papáya (Sp.); papáye (Sul.); papyás (Sub.); tapáyas (Bik.).

DATISCACEAE

1. OCTOMELES Miquel

OCTOMELES SUMATRANA Miq. Fl. Ind. Bat. Suppl. (1861-62) 336; A. DC. Prodr. 15¹ (1864) 412; F.-Vill. Novis. App. (1883) 352; Vidal Sinopsis Atlas (1883) 28, t. 54, f. A, Rev. Pl. Vasc. Filip. (1886) 144; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 41, Philip. Journ. Sci. 1 (1906) Suppl. 100, Interpret. Herb. Amb. (1917) 378.

Octomeles moluccana Teysm. & Binn. ex Hassk. in Abh. Naturf. Gesellsch. Halle 9 (1866) 208; Warb. in Engl. Bot. Jahrb. 13 (1891) 386.

Luzon (Cagayan, Apayao, Zambales, Bataan, Laguna, Tayabas, Camarines, Sorsogon), Mindoro, Palawan, Mindanao. In primary forests at low altitudes. Sumatra, Borneo, Celebes, Timor, Aru, and the Moluccas.

Local names: Banúang (Sul.); baróng (Ibn.); baróusan (Tag.); bilua (Tag.); bilúang (Bik., Tag.); binonang (Tag.); binúang (Tag., Tagb., Mbo., Bag.); barauísan (Tag.); kabal (Tag.); libas (Tag.); sarrái (Ibn.).

BEGONIACEAE

1. BEGONIA Tournefort

BEGONIA ACUMINATISSIMA Merr. in Philip. Journ. Sci. 6 (1911) Bot. 395.

Begonia camiguinensis Elm. Leaf. Philip. Bot. 7 (1915) 2553.

Mindanao (Agusan), Camiguin de Misamis, Balut, *Merrill 5419, 7306, Elmer 14222*. On slopes and on banks of streams in primary forests up to 400 m altitude. Endemic.

BEGONIA AEQUATA A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 658; A. DC. Prodr. 15¹ (1864) 321; F.-Vill. Novis. App. (1880) 99; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 84, t. 4, 6 (1911) Bot. 406.

Luzon (Laguna). Abundant on Mt. Maquiling, altitude 400 to 1,000 m, climbing on tree trunks in the primary forest. Endemic.

BEGONIA AFFINIS Merr. in Philip. Journ. Sci. 7 (1912) Bot. 308.

Mindanao (Zamboanga), *Merrill 8248, 8251, B. S. 36900 Ramos & Edaño*. In damp forests, altitude about 900 m. Endemic.

BEGONIA AGUSANENSIS Merr. in Philip. Journ. Sci. 6 (1911) Bot. 377.

Mindanao (Agusan, Bukidnon), *Merrill 7312, Weber 1209*. Along small streams in primary forests at low altitudes. Endemic.

BEGONIA ALBA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 45.

Luzon (Ifugao), *B. S.* 19963 *McGregor*. Probably in forests above an altitude of 1,000 m. Endemic.

BEGONIA ALVAREZII Merr. in Philip. Journ. Sci. 6 (1911) Bot. 405.

Luzon (Apayao, Nueva Ecija, Bulacan, Tayabas), *F. B.* 22446 *Alvarez*, *B. S.* 21756, 19452 *Ramos*, 28158 *Fénix*. On banks of streams in forests at low and medium altitudes. Endemic.

BEGONIA ANISOPTERA Merr. in Philip. Journ. Sci. 6 (1911) Bot. 398.

Mindanao (Zamboanga), *Merrill* 5482, 8304, *F. B.* 12342 *Hutchinson*. On semishaded cliffs and about boulders on forested slopes at low altitudes. Endemic.

BEGONIA APAYAOENSIS Merr. in Philip. Journ. Sci. 13 (1918) Bot. 39.

Luzon (Apayao), *B. S.* 28403 *Fénix*. On rocky shaded slopes, altitude about 1,000 m. Endemic.

BEGONIA BILIRANENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 46.

Biliran, Samar, *B. S.* 18822, 18544, 18760 *McGregor*, 24478 *Ramos*. On rocky banks in forests at low and medium altitudes. Endemic.

Local name: Tungtung-batú (*S. L. Bis.*).

BEGONIA BINUANGENSIS Merr. in Philip. Journ. Sci. 13 (1918) Bot. 40.

Luzon (Tayabas, Sorsogon), Panay, *B. S.* 28813, 30723, 30742 *Ramos* & *Edaño*, *Elmer* 15262, 16083, 14366 as *B. bulusanensis* *Elm.* and as *B. hemicardia* *Elm.* Climbing on tree trunks in primary forests at medium altitudes. Endemic.

BEGONIA BOLSTERI Merr. in Philip. Journ. Sci. 6 (1911) Bot. 387.

Luzon (Laguna, Sorsogon), Leyte, Biliran, Mindanao (Surigao), *Bolster* 310, *B. S.* 18796 *McGregor*, 40807 *Lopez*, *Elmer* 15886. Along streams in primary forests at low altitudes. Endemic.

BEGONIA BREVIPES Merr. in Philip. Journ. Sci. 6 (1911) Bot. 378.

Luzon (Cagayan), Mindanao (Lanao), *B. S.* 7431 *Ramos*, *F. B.* 25268 *Alvarez*. In forests at low altitudes. Endemic.

BEGONIA CALCICOLA Merr. in Philip. Journ. Sci. 6 (1911) Bot. 400.

Luzon (Rizal, Laguna, Batangas), *Merrill* 7062, *B. S.* 16855 *Serviñas*, 13675 *Ramos*, 23082 *McGregor*, 17330 *Robinson* & *Brown*. On cliffs at low altitudes. Endemic.

Local names: Alimáumau (*Tag.*); liñgát (*Tag.*).

BEGONIA CASTILLOI Merr. in Philip. Journ. Sci. 13 (1918) Bot. 38.

Luzon (Cagayan), *B. S.* 22723 *Castillo*. On cliffs along streams, altitude about 100 m. Endemic.

BEGONIA CAUDATA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 41.

Luzon (Apayao), *B. S.* 28414 *Fénix*. On rocky forested slopes, climbing on trees. Endemic.

BEGONIA CILIIFERA Merr. in Philip. Journ. Sci. 6 (1911) Bot. 376.

Mindanao (Zamboanga), *Merrill 8176; F. B. 9318 Whitford & Hutchinson, B. S. 36594, 36991, 37296, 37300, 37369, 37373 Ramos & Edaño*. In damp shaded ravines up to 400 m altitude. Endemic.

BEGONIA COLLISIAE Merr. in Philip. Journ. Sci. 14 (1919) 424.

Panay, *B. S. 31469 Ramos & Edaño*. On banks of streams in forests, altitude about 100 m. Endemic.

BEGONIA COLORATA Warb. in Perk. Frag. Fl. Philip. (1904) 51; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 396.

Mindanao (Davao), *Warburg 14633, Copeland 803*. On rocky bluffs and banks at medium altitudes; apparently close to *B. nigritarum* Steud. Endemic.

BEGONIA CONTRACTA Warb. in Perk. Frag. Fl. Philip. (1904) 54; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 386.

Luzon (Cagayan, Isabel, Ilocos Norte, Bulacan, Bataan, Rizal, Tayabas, Sorsogon), Mindoro, Samar, Leyte, Panay, Negros, Mindanao (Zamboanga), incl. *Elmer 14515* as *B. sorsogonensis* Elm. In primary forests at low and medium altitudes. Endemic.

Local names: Atai-manók (Tag.); hasang-hásang (P. Bis.).

BEGONIA COPELANDII Merr. in Philip. Journ. Sci. 6 (1911) Bot. 401.

Luzon (Cagayan), Panay, Mindanao (Davao), *Copeland 1255, Adduru 259, B. S. 32466 McGregor*. On boulders along shaded streams up to 850 m altitude. Endemic.

Local names: Mamangpang (Bag.); yahon (P. Bis.).

BEGONIA CRISPIPIILA Elm. Leaf. Philip. Bot. 2 (1910) 737; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 384.

Luzon (Apayao, Benguet), *Elmer 6149, 8687, Merrill Phil. Pl. 827, B. S. 28373, 12602 Fénix*. In damp shaded ravines up to 1,500 m altitude. Endemic.

Local name: Kaguan (Ig.).

BEGONIA CUMINGIANA (Klotz.) A. DC. Prodr. 15¹ (1864) 320; F.-Vill. Novis. App. (1880) 98; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 143; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 388.

Petermannia cumingiana Klotz. in Monatsb. Berl. Akad. (1854) 124, Abh. Akad. Berl. (1855) 75, t. 6, f. C; Walp. Ann. 4 (1857) 906. *Diploclinium cumingianum* Miq. Fl. Ind. Bat. 1¹ (1857) 691.

Luzon (Albay, Sorsogon), Catanduanes, *Cuming 856, F. B. 12260 Curran, B. S. 23483, 30525, 30544 Ramos* (as *B. sorsogonensis* Elm.). In primary forests, usually along streams. Endemic.

BEGONIA CUMINGII A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 658; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 84, t. 3, 6 (1911) Bot. 384.

Begonia philippinensis A. DC. Prodr. 15¹ (1864) 320; F.-Vill. Novis. App. (1880) 98; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 143.

Luzon (Laguna, Tayabas), common on Mt. Banahao, less common on Mt. Maquiling. In primary forests, altitude 700 to 1,400 m. Endemic.

Local name: Taiṅgang-babui (Tag.).

BEGONIA DOLICHOTRICHIA Merr. in Philip. Journ. Sci. 17 (1920) 292.

Luzon (Camarines), *B. S.* 33926, 33855 *Ramos & Edaño*. On forested slopes, altitude about 650 m. Endemic.

BEGONIA EDANOII Merr. in Philip. Journ. Sci. 13 (1918) Bot. 314.

Luzon (Rizal), *B. S.* 29374 *Ramos & Edaño*. Climbing on trees in primary forests at medium altitudes. Endemic.

BEGONIA ELATOSTEMATOIDES Merr. in Philip. Journ. Sci. 7 (1912) Bot. 309.

Mindanao (Zamboanga), *Merrill* 8232. In damp shaded ravines and on forested slopes, altitude 800 to 1,000 m. Endemic.

BEGONIA ELEGANS Elm. Leaf. Philip. Bot. 7 (1915) 2554.

Mindanao (Agusan), *Elmer* 13672. In forested ravines, altitude about 1,250 m; very close to *B. aequata* A. Gray. Endemic.

Local name: Bonog-bonog (Mbo.).

BEGONIA ELMERI Merr. in Philip. Journ. Sci. 13 (1918) Bot. 39.

Begonia peltata Elm. Leaf. Philip. Bot. 7 (1915) 2556, non A. DC.

Mindanao (Agusan), *Elmer* 14183. On cliffs in shaded ravines, altitude about 1,050 m. Endemic.

Local name: Sapat (Mbo.).

BEGONIA ESCULENTA Merr. in Philip. Journ. Sci. 6 (1911) Bot. 389.

Luzon (Tayabas, east coast), *B. S.* 9449 *Robinson*. In the mossy forest, altitude about 800 m. Endemic.

BEGONIA EVERETTII Merr. in Philip. Journ. Sci. 6 (1911) Bot. 390.

Luzon (Tayabas), Negros, Samar, Panay, *F. B.* 5587 *Everett*, *B. S.* 32270, 32501 *McGregor*. In primary forests at low altitudes. Endemic.

Local name: Aslom (P. Bis.).

BEGONIA FASCICULIFLORA Merr. in Philip. Journ. Sci. 6 (1911) Bot. 376.

Mindanao (Zamboanga), *F. B.* 9316, 9248 *Whitford & Hutchinson*, *B. S.* 36792, 37228 *Ramos & Edaño*. In forested ravines at low altitudes. Endemic.

Local name: Mampang (Sub.).

BEGONIA FENICIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 421, 6 (1911) Bot. 401.

Batan and Babuyan Islands, *B. S.* 3619, 3893 *Fénix*, 3207 *Mearns*. Perhaps also *Merrill* 5375 from Balabac and 5237bis from Samar represent the same species. On cliffs and boulders at low altitudes. Endemic.

Local name: Tapait (Iv.).

BEGONIA GITINGENSIS Elm. Leaf. Philip. Bot. 2 (1910) 738; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 396.

Sibuyan, *Elmer* 12368. In shaded ravines along small streams, altitude about 525 m. Endemic.

BEGONIA GRACILIPES Merr. in Philip. Journ. Sci. 6 (1911) Bot. 405.

Luzon (Cagayan), Catanduanes, *B. S.* 7395, 30561 *Ramos*. Climbing on trees in damp primary forests at low altitudes. Endemic.

BEGONIA HALCONENSIS Merr. in Philip. Journ. Sci. 6 (1911) Bot. 385.

Mindoro, *Merrill* 5607, 5515. In primary forests, altitude about 1,800 m. Endemic.

BEGONIA HERNANDIOIDES Merr. in Philip. Journ. Sci. 6 (1911) Bot. 392.

Luzon (Cagayan, Tayabas), *B. S.* 7393, 7387, 19449 *Ramos*. On cliffs and boulders in shaded ravines at low or medium altitudes. Endemic.

BEGONIA INCISA A. DC. in Ann. Sci. Nat. Bot. IV 11 (1859) 129, Prodr. 15¹ (1864) 321; F.-Vill. Novis. App. (1880) 99; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 382.

Luzon (Zambales, Tayabas, Camarines, Sorsogon), Panay, Negros, *Merrill* 3994, *Phil. Pl.* 1579, *B. S.* 26961 *Edaño*, 30879, 31352, 31353 *Ramos & Edaño*. On banks and cliffs in primary forests at low and medium altitudes. Endemic.

Local name: Bituka (P. Bis.).

BEGONIA JAGORI Warb. in Perk. Frag. Fl. Philip. (1904) 54, Philip. Journ. Sci. 6 (1911) Bot. 382.

Luzon (prob. Tayabas), Mindoro, *Jagor*, *Merrill* 1787, 5685, *F. B.* 8712, 6746 *Merritt*. In primary forests at low altitudes. Endemic.

BEGONIA KLEMMEI Merr. in Philip. Journ. Sci. 6 (1911) Bot. 402.

Luzon (Bontoc, Benguet), *F. B.* 5677 *Klemme*, 26405 *Oteyza & Garcia*, *Williams* 1318, *Merrill* 4816. On cliffs and boulders, altitude 1,400 to 2,000 m. Endemic.

BEGONIA LACERA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 49.

Basilan, *B. S.* 16111 *Reillo*. In primary forests at low altitudes.

BEGONIA LAGUNENSIS Elm. Leaf. Philip. Bot. 2 (1910) 735; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 406.

Luzon (Rizal, Laguna, Tayabas, Camarines), Mindoro, Samar, Negros, *Merrill* 6981, 6302, 7136, *Elmer* 9327, 18429, 18017, *Loher* 6093, *B. S.* 16893 *Serviñas*, 22110, 17561 *Ramos*. Climbing on trees in primary forests at medium altitudes. Endemic.

BEGONIA LANCIFOLIA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 48.

Basilan, *B. S.* 16162 *Reillo*. In primary forests at low altitudes. Endemic.

BEGONIA LANCILIMBA Merr. in Philip. Journ. Sci. 14 (1919) 424.

Panay, *B. S.* 32232, 32570, 32286 *McGregor*. In the mossy forest, altitude 900 to 1,000 m. Endemic.

BEGONIA LATISTIPULA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 51.

Leyte, Samar, Biliran, *B. S.* 15367, 24484, 17516 *Ramos*, 18736, 18734 *McGregor*, *Wenzel* 624. In primary forests at medium altitudes. Endemic.

Local name: Tungtung-batú (S. L. Bis.).

BEGONIA LEPTANTHA C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 211; Merr. op. cit. 281.

Luzon (Tayabas, east coast), Polillo, *B. S.* 9474, 6944, 6857 Robinson, 10322 McGregor, 28729, 29151, 28770 Ramos & Edaño. Along streams in damp primary forests at low altitudes. Endemic.

BEGONIA LEUCOSTICTA Warb. in Perk. Frag. Fl. Philip. (1904) 55; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 385.

Luzon (Isabela, Benguet), Balut, Merrill 5274, Topping 92. In thickets on cliffs from near sea level to 1,400 m altitude. Endemic.

BEGONIA LITTLERI Merr. in Philip. Journ. Sci. 6 (1911) Bot. 379.

Basilan, Mindanao (Zamboanga), *De Vore & Hoover* 94, *B. S.* 16161, 15483 Reillo, 11512 Robinson, 36648 Ramos & Edaño. On stream banks in forests at low altitudes. Endemic.

BEGONIA LOHERI Merr. in Philip. Journ. Sci. 6 (1911) Bot. 382.

Luzon (Rizal, Tayabas), *Loher* 6090, 6098, *B. S.* 28822 Ramos & Edaño. Along streams in primary forests at low altitudes. Endemic.

BEGONIA LONGIBRACTEATA Merr. in Philip. Journ. Sci. 17 (1920) 293.

Siargao, *B. S.* 34870 Ramos & Pascasio. On forested slopes at low altitudes. Endemic.

BEGONIA LONGINODA Merr. in Philip. Journ. Sci. 6 (1911) Bot. 397.

Luzon (Tayabas), *B. S.* 13372 Ramos. In primary forests, altitude about 200 m. Endemic.

BEGONIA LONGISCAPA Warb. in Perk. Frag. Fl. Philip. (1904) 52; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 393.

Leyte, Samar, Mindanao (Surigao), *B. S.* 24184, 17502 Ramos, *B. S.* 34414 Ramos & Pascasio, *Wenzel* 94, 452, 496, 820. On boulders in primary forests at low altitudes. Endemic.

Local name: Tasik-pangpang (Bag.).

BEGONIA LONGISTIPULA Merr. in Philip. Journ. Sci. 6 (1911) Bot. 379.

Samar, Mindanao (Surigao), *Bolster* 248, *B. S.* 24183 Ramos, 34783 Ramos & Pascasio. In primary forests at low altitudes. Endemic.

BEGONIA LONGOVILLOSA A. DC. in Ann. Sci. Nat. Bot. IV 11 (1859) 130, Prodr. 15¹ (1864) 324; F. Vill. Novis. App. (1880) 98; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 393.

Luzon, *Hügel* 4170, fide de Candolle. Not seen.

BEGONIA LUZONENSIS Warb. in Perk. Frag. Fl. Philip. (1904) 52; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 403.

Luzon (Cagayan, Tarlac, Bataan, Laguna, Tayabas), *B. S.* 13871 Ramos, 6045 Robinson, *F. B.* 25387 Mabesa, *Weber* 1531, *Elmer* 6849, 17847, *Merrill* 2187, *Warburg* 13087bis. On cliffs along streams at low altitudes. Endemic.

BEGONIA MACGREGORII Merr. in Philip. Journ. Sci. 7 (1912) Bot. 310.

Luzon (Nueva Vizcaya), *B. S.* 11334, 20111, 20124 McGregor. Along small streams in primary forests at medium altitudes. Endemic.

BEGONIA MALINDANGENSIS Merr. in Philip. Journ. Sci. 6 (1911) Bot. 391.

Mindanao (Misamis, Bukidnon, Davao), *F. B. 4563 Mearns & Hutchinson, Copeland 1284, B. S. 38492, 38594 Ramos & Edaño*. In forests, altitude about 1,800 m. Endemic.

Local name: Abauyai (Buk.).

BEGONIA MANILLENSIS A. DC. in Ann. Sci. Nat. Bot. IV 11 (1859) 129, Prodr. 15¹ (1864) 323; F.-Vill. Novis. App. (1880) 98; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 365, 6 (1911) Bot. 404.

Luzon (Benguet, Rizal, Bulacan), *F. B. 2699 Ahern's collector, B. S. 73 Foxworthy*. Along streams in forests at low or medium altitudes. Endemic.

Local name: Liñgát (Tag.).

BEGONIA MEARNsii Merr. in Philip. Journ. Sci. 6 (1911) Bot. 383.

Mindanao (Lanao, Zamboanga, Misamis), *F. B. 4749 Mearns & Hutchinson, 25257 Alvarez, Merrill 8196*. In primary forests, altitude 900 to 1,200 m. Endemic.

BEGONIA MEGACARPA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 378.

Luzon (Nueva Ecija, Camarines), Leyte, Mindanao (Agusan), *Wenzel 457, 864, 599, 584, B. S. 26653 Ramos & Edaño, 40805 Lopez*. Climbing on trees in primary forests at low and medium altitudes. Endemic.

BEGONIA MEGALANTHA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 47.

Luzon (Kalinga, Bontoc, Ifugao), *B. S. 19860, 19857, 19858, 19859 McGregor, 37502, 37547, 37553, 37662 Ramos & Edaño*. In the mossy forest, altitude at and above 1,800 m. Endemic.

BEGONIA MERRITTII Merr. in Philip. Journ. Sci. 5 (1910) Bot. 365, 6 (1911) Bot. 386.

Luzon (Ifugao, Bontoc, Benguet). Common in the mossy forest on all or most of the higher mountains, altitude 1,500 to 2,400 m. Endemic.

Local names: Aloí (Ig.); gitgitlang (Ig.); nuaglai (Ig.); sapsaubuang (Ig.).

BEGONIA MINDANAENSIS Warb. in Perk. Frag. Fl. Philip. (1904) 55; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 376.

Leyte, Siargao, Mindanao (Surigao, Agusan, Bukidnon, Lanao, Zamboanga, Davao). In primary forests at low and medium altitudes, apparently common. Endemic.

Local names: Gauganom (Mbo.); mamangpang (Bag.); mampang (Sub.).

BEGONIA MINDORENSIS Merr. in Philip. Journ. Sci. 6 (1911) Bot. 396. *Begonia sordidissima* Elm. Leaf. Philip. Bot. 7 (1915) 2557.

Luzon (Ilocos Norte, Tayabas, Sorsogon), Mindoro, Palawan, Sibuyan, Alabat, Catanduanes, Panay, Mindanao (Surigao, Agusan, Bukidnon). Along streams in forests at low altitudes. Endemic.

Local names: Kalohog-lóhog (Mbo.); liñgát (Tag.); magpang (Buk.).

BEGONIA NEGROSENSIS Elm. Leaf. Philip. Bot. 2 (1910) 736; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 385.

Negros, Panay, *Elmer* 9903, *Merrill* 7024, *F. B.* 13666 *Curran*, *B. S.* 35422, 35418, 35302, 35291 *Martelino & Edaño*. In primary forests up to 1,200 m altitude. Endemic.

BEGONIA NIGRITARUM Steud. Nomencl. (1821) 104, ed. 2, 1 (1840) 194; A. DC. Prodr. 15¹ (1864) 401; F.-Vill. Novis. App. (1880) 99; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 393, Fl. Manila (1912) 338, Sp. Blancoanae (1918) 277.

Acetosa nigritarum Kamel in Ray Hist. Pl. 3 (1704) App. 14.

Begonia capensis Blanco Fl. Filip. (1837) 724, ed. 2 (1845) 501, ed. 3, 3 (1879) 127, t. 413; A. DC. Prodr. 15¹ (1864) 397, non Linn. f.

Begonia rhombicarpa A. DC. in Ann. Sci. Nat. Bot. IV 11 (1859) 129, Prodr. 15¹ (1864) 323 (incl. var. *lobbii* A. DC.); F.-Vill. Novis. App. (1880) 98; Vidal Phan. Cuming. Philip. (1886) 116, Rev. Pl. Vasc. Filip. (1886) 143; Warb. in Perk. Frag. Fl. Philip. (1904) 53; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 100.

Begonia merrillii Warb. in Perk. Frag. Fl. Philip. (1904) 53.

Northern Luzon to Palawan and Mindanao. Often common on banks, along small streams, etc., in primary forests at low and medium altitudes, ascending to 1,200 m. Endemic.

Local names: Láñgil (Tag.); liñgát (Tag.); líyat (Tag.); píñgol-bató (Tag.).

BEGONIA OBLONGATA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 310.

Mindanao (Zamboanga), *Merrill* 8175, 8166, *B. S.* 36755, 36797, 37080, 37420, 37424 *Ramos & Edaño*. In damp shaded ravines, altitude about 100 m. Endemic.

Local name: Mangpang (Sub.).

BEGONIA OBTUSIFOLIA Merr. in Philip. Journ. Sci. 14 (1919) 425.

Panay, *B. S.* 30803 *Ramos & Edaño*. On boulders in damp forests, altitude about 150 m. Endemic.

BEGONIA OLIGANTHA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 50.

Mindanao (Bukidnon), *B. S.* 15733 *Fénix*, 38808 *Ramos & Edaño*. On damp rocky slopes at medium altitudes. Endemic.

Local name: Tabaring (Buk.).

BEGONIA OXYSPERMA A. DC. in Ann. Sci. Nat. Bot. IV 11 (1859) 122, Prodr. 15¹ (1864) 287; F.-Vill. Novis. App. (1880) 98; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 399.

Luzon (Benguet, Bontoc, Ifugao, Rizal, Tayabas, Laguna), *B. S.* 19622 *McGregor*, 27953 *Ocampo*, 40749 *Ramos*, *F. B.* 886 *Klemme*, *Merrill* 5132, *Elmer* 17760, *Baker* 2467, 3506. On trees, in primary forests and in some regions on cliffs, altitude 400 to 1,500 m. Endemic.

Lobb's specimen in some herbaria is labelled "Java;" it came from Laguna Province, Luzon.

BEGONIA PALAWANENSIS Merr. in Philip. Journ. Sci. 6 (1911) Bot. 380.

Palawan, *Merrill* 7332. Along small streams in primary forests at low altitudes. Endemic.

BEGONIA PANAYENSIS Merr. in Philip. Journ. Sci. 14 (1919) 428.

Panay, *B. S. 32309 McGregor*. Along shaded streams, altitude about 250 m. Endemic.

BEGONIA PARVA Merr. in Philip. Journ. Sci. 6 (1911) Bot. 402.

Luzon (Benguet), *B. S. 5551 Ramos*. On boulders along streams, altitude about 1,400 m. Endemic.

BEGONIA PLATYPHYLLA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 46.

Luzon (Nueva Vizcaya), *B. S. 20074 McGregor*. In primary forests at medium altitudes. Endemic.

BEGONIA PSEUDO-LATERALIS Warb. in Perk. Frag. Fl. Philip. 6 (1911) Bot. 374; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 285, 6 (1911) Bot. 374.

Begonia salaziensis Gaudich. var. *calleryana* A. DC. Prodr. 15¹ (1864) 408.

Begonia aptera Roxb. var. *calleryana* F.-Vill. Novis. App. (1880) 99.

Luzon (Cagayan to Sorsogon), Mindoro, Polillo, Leyte, Panay, Camiguin de Misamis, Mindanao, Basilan, Jolo, incl. *Elmer 16661* as *B. lateralis* Elm. In primary forests at low and medium altitudes, ascending to 1,200 m. Celebes.

Local names: Dukalang (Bik.); kalohatlobo (Mbo.); mapang (Buk.); mapang-usá (Sub.).

BEGONIA QUERCIFOLIA A. DC. in Ann. Sci. Nat. Bot. IV 11 (1859) 129, Prodr. 15¹ (1864) 321; F.-Vill. Novis. App. (1880) 99; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 143; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 311.

Begonia leytenensis Elm. Leaf. Philip. Bot. 2 (1910) 739; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 384.

Samar, Leyte, *Cuming 1698*, *Elmer 7255*, *B. S. 24250*, *24282 Ramos*. Along small streams in primary forests at low altitudes. Endemic.

BEGONIA RAMOSII Merr. in Philip. Journ. Sci. 6 (1911) Bot. 388.

Luzon (Laguna), *B. S. 10942*, *10941*, *12049 Ramos*, *22890*, *22866*, *27869*, *27868 McGregor*, *Merrill Phil. Pl. 1485*. In damp primary forests at low altitudes. Endemic.

Local name: Líñgat-gúbat (Tag.).

BEGONIA RIZALENSIS Merr. in Philip. Journ. Sci. 6 (1911) Bot. 388.

Luzon (Rizal), *B. S. 12109 Ramos*, *Loher 6083*. In primary forests, probably at medium altitudes. Endemic.

Local name: Líñgat (Tag.).

BEGONIA ROBINSONII Merr. in Philip. Journ. Sci. 6 (1911) Bot. 375.

Luzon (Camarines), *B. S. 6340 Robinson*. In forests at low altitudes. Endemic.

BEGONIA RUBRIFOLIA Merr. in Philip. Journ. Sci. 14 (1919) 426.

Panay, *B. S. 32430 Ramos*. In forests, altitude about 1,000 m. Endemic.

BEGONIA RUFIPILA Merr. in Philip. Journ. Sci. 6 (1911) Bot. 393.

Luzon (Ilocos Sur), *F. B. 5665 Klemme*. On damp limestone boulders in shaded places, altitude about 200 m. Endemic.

BEGONIA SERPENS Merr. in Philip. Journ. Sci. 14 (1919) 427.

Panay, *B. S.* 32588, 32541 *McGregor*. In damp forests, altitude 500 to 900 m. Endemic.

BEGONIA SUBORBICULATA Merr. in Philip. Journ. Sci. 6 (1911) Bot. 398.

Palawan, *Merrill* 7229, 9187, 9502, 9488. On ledges and boulders in primary forests, sea level to 850 m altitude. Endemic.

BEGONIA SUBTRUNCATA Merr. in Philip. Journ. Sci. 6 (1911) Bot. 390.

Luzon (Union), *Loher* 6076. In forests. Endemic.

BEGONIA TAYABENSIS Merr. in Philip. Journ. Sci. 13 (1918) Bot. 38.

Luzon (Tayabas, east coast), *B. S.* 29054 *Ramos & Edaña*. On ledges and steep forested slopes along streams at low or medium altitudes. Endemic.

BEGONIA TRICHOCEILA Warb. in Perk. Frag. Fl. Philip. (1904) 53; Merr. in Philip. Journ. Sci. 6 (1911) Bot. 404.

Luzon (Rizal, Union), *Merrill* 7063, *Loher*, *B. S.* 12958 *Fénix*. On limestone cliffs along streams at low or medium altitudes. Endemic.

BEGONIA URDANETENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2559.

Mindanao (Agusan), *Elmer* 13819. In primary forests, altitude about 1,500 m. Endemic.

Local name: Madamo (Mbo.).

BEGONIA VANOVERBERGHII Merr. in Philip. Journ. Sci. 6 (1911) Bot. 403.

Luzon (Bontoc, Benguet), *Vanoverbergh* 831, *B. S.* 12931 *Fénix*. Along streams in ravines, altitude 1,200 to 1,500 m. Endemic.

Local name: Ganabeng (Bon.).

BEGONIA WEBERI Merr. in Philip. Journ. Sci. 6 (1911) Bot. 381.

Mindanao (Agusan), *Weber* 1210. On rocky slopes in forested ravines, altitude about 450 m. Endemic.

BEGONIA WENZELII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 277.

Begonia leyteensis Merr. op. cit. 9 (1914) Bot. 379, non Elm.

Leyte, Biliran, *Wenzel* 580, 1219, 1664, 1695, *B. S.* 18754 *McGregor*. Climbing on trees in primary forests, altitude 500 to 900 m. Endemic.

DOUBTFUL AND EXCLUDED SPECIES

BEGONIA BORNEENSIS A. DC.; F.-Vill. Novis. App. (1880) 98.

BEGONIA ISOPTERA Dry.; F.-Vill. l. c.

BEGONIA CRASSICAULIS A. DC.; Usteri Beitr. Ken. Philip. Veg. (1905) 118.

If the specimen be correctly identified then it must have been from an introduced and cultivated plant.

BEGONIA REPENS Blume; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 658; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 84, 6 (1911) Bot. 406.

The specimen on which the record was based was probably wrongly identified. Blume's species is a synonym of *Begonia mollis* A. DC. of Java and Borneo.

CACTACEAE

1. ACANTHOCEREUS (Berger) Britton and Rose

ACANTHOCEREUS PENTAGONUS (Linn.) Britton & Rose Contr. U. S. Nat. Herb. 12 (1909) 432, Cact. 2 (1920) 123, *f.* 182-184, *t.* 14, *f.* 1.

Cactus pentagonus Linn. Sp. Pl. (1753) 467.

Cereus pentagonus Haw. Syn. Pl. Succ. (1812) 180.

Luzon (Laguna). Occasional in hedges where planted. Introduced from tropical America.

2. HYLOCEREUS (Berger) Britton and Rose

HYLOCEREUS UNDATUS (Haw.) Britton & Rose in Britton Fl. Bermuda (1918) 256, Cact. 2 (1920) 187, *f.* 163, 164.

Cereus undatus Haw. in Phil. Mag. 7 (1830) 110.

Cactus pitajaya Blanco Fl. Filip. ed. 2 (1845) 289, ed. 3, 2 (1878) 172, *t.* 324, non Jacq.

Cereus triangularis F.-Vill. Novis. App. (1880) 99; Merr. Fl. Manila (1912) 339, Sp. Blancoanae (1918) 228, non Mill.

Occasionally planted for ornamental purposes, *Merrill 7084*, *Sp. Blancoanae 1011*, but not spontaneous. Introduced from tropical America.

3. CEREUS Miller

CEREUS HEXAGONUS (Linn.) Mill. Gard. Dict. ed. 8 (1768) No. 1; Britton & Rose Cact. 2 (1920) 4, *f.* 1, 2.

Cactus hexagonus Linn. Sp. Pl. (1753) 466.

Cereus lepidotus Salm-Dyck Cact. Hort. Dyck. ed. 2 (1850) 207; Merr. Fl. Manila (1912) 339.

Luzon (Rizal). Occasionally planted for ornamental purposes, and in a few localities in regions subject to a long dry season, persistent in thickets, etc. Introduced from tropical America.

EXCLUDED SPECIES

CEREUS FLAGELLIFORMIS Mill.; F.-Vill. Novis. App. (1880) 99.

CEREUS TETRAGONUS Mill.; F.-Vill. l. c.

CEREUS SPECIOSISSIMUS Desf.; F.-Vill. l. c.

4. NOPALEA Salm-Dyck

NOPALEA COCHINELLIFERA (Linn.) Salm-Dyck Cact. Hort. Dyck. ed. 2 (1850) 64; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 24, Fl. Manila (1912) 340, Sp. Blancoanae (1918) 278; Britton & Rose Cact. 1 (1919) 34, *t.* 4.

Cactus cochinellifera Linn. Sp. Pl. (1753) 468.

Opuntia cochinellifera Mill. Gard. Dict. ed. 8 (1768); F.-Vill. Novis. App. (1880) 99.

Cactus opuntia Blanco Fl. Filip. (1837) 414, ed. 2 (1845) 288, ed. 3, 2 (1878) 171, non Linn.

? *Opuntia ficus-indica* Usteri Beitr. Ken. Philip. Veg. (1905) 118, non Mill.

Planted here and there for ornamental purposes, in some regions subject to a long dry season (Rizal Province, Luzon), naturalized. Introduced from tropical America.

Local names: Akakud (Bon.); dapal (Bis.); dila-díla (Ilk.); dílang-báka (Tag.); nopál (Bik.); palad (Bik.).

5. *OPUNTIA* Tournefort

OPUNTIA MONACANTHA Haw. Suppl. Pl. Succ. (1819) 81; Burkill in Records Bot. Surv. India 4 (1911) 312.

Sulu Archipelago (Sibutu), *Merrill 11567*. In sandy soil near the beach. Introduced. A native of tropical America, now more or less distributed in the Old World Tropics.

EXCLUDED SPECIES

OPUNTIA DILLENII F.-Vill. Novis. App. (1880) 99.

EXCLUDED GENUS

MELOCACTUS COMMUNIS Link; F.-Vill. Novis. App. (1880) 99.

THYMELAEACEAE

1. *AQUILARIA* Lamarek

AQUILARIA MALACCENSIS Lam. Encycl. 1 (1783) 49; Gamble in Journ. As. Soc. Beng. 75² (1912) 264; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 44.

Luzon (Camarines), *F. B. 21452 Alvarez*. On forested slopes at low altitudes, apparently very rare or local. Malay Peninsula, Sumatra, Bangka.

AQUILARIA APICULATA Merr. in Philip. Journ. Sci. 20 (1922) 411.

Mindanao (Bukidnon), *B. S. 38601 Ramos & Edaño*. In dry forests, altitude 1,100 m. Endemic.

2. *GYRINOPSIS* Decaisne

GYRINOPSIS ACUMINATA Merr. in Philip. Journ. Sci. 17 (1920) 294.

Bucas Grande, Dinagat, *B. S. 35158, 35055 Ramos & Pascasio*. In dry forests at low altitudes. Endemic.

GYRINOPSIS BRACHYANTHA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 313, Interpret. Herb. Amb. (1917) 380; Elm. Leaf. Philip. Bot. 5 (1913) 1629.

Luzon (Cagayan) *B. S. 7489, 13862 Ramos, 19562, 17220 Curran*. In primary forests at low altitudes. Moluccas.

GYRINOPSIS CITRINAE CARPA Elm. Leaf. Philip. Bot. 5 (1913) 1631.

Mindanao (Agusan), *Elmer 13566*. On forested ridges, altitude about 1,200 m. Endemic.

Local name: Agododan (Mbo.).

GYRINOPSIS CUMINGIANA Decne. in Ann. Sci. Nat. II 19 (1843) 41, t. 1, f. B, Bot. Zeit. 2 (1844) 599; Walp. Repert. 5 (1845) 410; Miq. Fl. Ind. Bat. 1¹ (1857) 883; Meisn. in DC. Prodr. 14 (1857) 603; F.-Vill. Novis. App. (1880) 183; Vidal Phan. Cuming. Philip. (1885) 140, Rev. Pl. Vasc. Filip. (1886) 230; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 41; Elm. Leaf. Philip. Bot. 5 (1913) 1629.

Gyrinopsis cumingiana Decne. var. *pubescens* Elm. Leaf. Philip. Bot. 5 (1913) 1629.

Luzon (Nueva Ecija, Bulacan, Tayabas, Laguna, Camarines, Albay), Catanduanes, Samar, Sibuyan, Leyte, Panay, Mindanao, Jolo. In primary forests at low and medium altitudes. Celebes.

Local names: Alahan (Tag.); bago (Mbo.); binukat (Ak. Bis.); butlo (Neg.); dalakit (S. L. Bis.); maga-an (Tag.); palisan (Tag.); pamaluian (Bag.).

GYRINOPSIS URDANETENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1630.

Mindanao (Agusan), *Elmer* 14195, 13742. In the mossy forest on exposed ridges, altitude about 1,700 m. Endemic.

Local names: Makolan (Mbo.); mañgod (Mbo.).

3. PHALERIA Jack

PHALERIA CUMINGII (Meisn.) F.-Vill. Novis. App. (1880) 183; Vidal Phan. Cuming. Philip. (1885) 140, Rev. Pl. Vasc. Filip. (1886) 230; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 41.

Drimyspermum cumingii Meisn. in DC. Prodr. 14 (1857) 605; Miq. Fl. Ind. Bat. 1¹ (1857) 886.

Luzon (Cagayan, Ilocos Norte, Nueva Vizcaya, Nueva Ecija, Tayabas, Bataan, Rizal, Laguna, Camarines), Mindoro, Masbate, Negros. In primary forests at low altitudes, often cauliflorous. Endemic.

Local names: Bari (Tag.); butigan (S. L. Bis.); koguko (S. L. Bis.); salagó (Bik.); salagóng-babáe (Tag.); salagóng-gúbat (Tag.); tuka (Ibn.).

PHALERIA PERROTTETIANA (Decne.) F.-Vill. Novis. App. (1880) 183; Merr. Sp. Blancoanae (1918) 378.

Drimyspermum perrottetianum Decne. in Ann. Sci. Nat. II 19 (1843) 38, Bot. Zeit. 2 (1844) 598; Walp. Repert. 5 (1845) 409; Meisn. in DC. Prodr. 14 (1857) 605; Miq. Fl. Ind. Bat. 1¹ (1857) 886.

Dais laurifolia Blanco Fl. Filip. (1837) 375, ed. 2 (1845) 263, ed. 3, 2 (1878) 125, non Jacq.

Luzon (Cagayan, Ilocos Norte, Bataan, Batangas, Laguna, Tayabas, Camarines, Sorsogon), Polillo, Leyte, Negros, Palawan, Bancalan, Mindanao. In primary forests at low altitudes. Endemic.

Local names: Aligpagi (Sul.); bágo (Tag.); salagó (Bis.); tuka (Ibn.).

PHALERIA PLATYPHYLLA Merr. in Philip. Journ. Sci. 14 (1919) 429.

Panay, *B. S. 30759 Ramos & Edaña*. In primary forests at medium altitudes. Endemic.

EXCLUDED SPECIES

PHALERIA LAURIFOLIA Hook. f.; F.-Vill. Novis. App. (1880) 183.

4. *DAPHNE* Tournefort

DAPHNE LUZONICA C. B. Rob. in Bull. Torr. Bot. Club 35 (1908) 72, 75; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 366.

Luzon (Benguet); *Williams 1535, Loher 4483, Merrill 6487, B. S. 5385, 5783 Ramos, 40335 Ramos & Edaño, F. B. 18072 Curran, Zschokke, & Merritt.* In the mossy forest on the higher mountains, altitude 2,000 to 2,500 m. Endemic.

5. *MACGREGORIANTHUS* Merrill

MACGREGORIANTHUS PANICULATUS Merr. in Philip. Journ. Sci. 7 (1912) Bot. 312.

Luzon (Laguna), *B. S. 12360 McGregor.* On forested slopes at low or medium altitudes. Endemic.

A monotypic endemic genus.

6. *WIKSTROEMIA* Endlicher

WIKSTROEMIA ANGUSTISSIMA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 92.

Luzon (Bontoc, Benguet, Nueva Ecija), *Vanoverbergh 430, B. S. 5831 Ramos, 26337 Ramos & Edaño.* On slopes up to an altitude of 1,300 m. Endemic.

Local names: Karanpinig (Neg.); suka (Ilk.).

WIKSTROEMIA BRACHYANTHA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 313.

Luzon (Tayabas, east coast), Catanduanes, *B. S. 19438, 30392 Ramos.* In primary forests at low or medium altitudes. Endemic.

WIKSTROEMIA FENICIS Merr. in Philip. Journ. Sci. 13 (1918) Bot. 312.

Luzon (Pangasinan), *B. S. 29843 Fénix.* In primary forests, altitude about 400 m. Endemic.

WIKSTROEMIA INDICA (Linn.) C. A. Mey. in Bull. Acad. St. Petersb. 1 (1843) 357; Ann. Sci. Nat. Bot. II. 20 (1843) 50; Meisn. in DC. Prodr. 14 (1857) 543; Miq. Fl. Ind. Bat. 1¹ (1857) 880; F.-Vill. Novis. App. (1880) 182; Vidal Rev. Pl. Vasc. Filip. (1886) 229; Merr. Sp. Blancoanae (1918) 279.

Daphne indica Linn. Sp. Pl. (1753) 375.

Wikstroemia viridiflora Meisn. in Denkschr. Bot. Ges. Regensb. 3 (1841) 286, DC. Prodr. 14 (1857) 546; Miq. Fl. Ind. Bat. 1¹ (1857) 879; Vidal Rev. Pl. Vasc. Filip. (1886) 229; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 422.

Daphne cannabina Lour. Fl. Cochinch. (1790) 236.

Daphne aquilaria Blanco Fl. Filip. (1837) 310, ed. 2 (1845) 216, ed. 3, 2 (1878) 39.

Batan Islands, Luzon (Ilocos Norte, Ilocos Sur, Zambales, Tayabas, Albay), Mindoro, Negros, Mindanao (Bukidnon). In thickets, second-growth forests, etc. India to southern China, Formosa, and Malaya.

Local names: Arandón (Ilk.); baleo (Ilk.); palupó (Iv.); salagó (Tag., Bis., Bik.); talo (Bik.); titpuho (Iv.).

WIKSTROEMIA LANCEOLATA Merr. in Govt. Lab. Publ. 29 (1905) 31, Philip. Journ. Sci. 1 (1906) Suppl. 101, 5 (1910) Bot. 366.

Luzon (Ilocos Norte, Ilocos Sur, Abra, Lepanto, Benguet, Nueva Ecija, Pampanga, Tayabas, Bulacan, Bataan). In forests at low and medium altitudes. Endemic.

Local names: Salagó (Tag.); salágip (Tag.); tuka (Ilk.).

WIKSTROEMIA LINEARIFOLIA Elm. Leaf. Philip. Bot. 2 (1910) 680.

Sibuyan, *Elmer 12218*. In forests along streams, altitude about 225 m; allied to *W. indica* Mey. Endemic.

Local name: Inyam (P. Bis.).

WIKSTROEMIA MEYENIANA Warb. in Perk. Frag. Fl. Philip. (1905) 171; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 101.

Wikstroemia cannabina Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 411, non Lour.

Luzon (Cagayan, Benguet, Bataan, Laguna, Tayabas, Camarines, Albay, Sorsogon), *F. B. 1849 Ahern's collector, B. S. 25485 Yates, 1890, 1891 Foxworthy, Williams 264*. In primary forests at low and medium altitudes. Endemic.

Local names: Sagú (Tag.); salagó (Bik., Tag.).

WIKSTROEMIA OVATA C. A. Mey. in Bull. Acad. St. Petersb. 1 (1843) 357, Ann. Sci. Nat. II Bot. 20 (1843) 50; Meisn. in DC. Prodr. 14 (1857) 544; Miq. Fl. Ind. Bat. 1¹ (1857) 880; F.-Vill. Novis. App. (1880) 182; Vidal Phan. Cuming. Philip. (1885) 140, Sinopsis Atlas (1883) 37, t. 80, f. A, Rev. Pl. Vasc. Filip. (1886) 220; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 101, Sp. Blancoanae (1918) 279.

Daphne indica Blanco Fl. Filip. (1837) 309, ed. 2 (1845) 215, ed. 3, 2 (1878) 38, non Linn.

Daphne foetida Blanco op. cit. 308 (*phaetida*) 217, 37, non Linn.

Luzon (Bontoc, Benguet, Bulacan, Bataan, Rizal, Laguna, Batangas, Sorsogon), Negros, Mindanao, *Merrill 3860, Sp. Blancoanae 801, Elmer 17349, F. B. 1588 Borden, Williams 954, 1313, Whitford 1340*. In thickets and primary or secondary forests at low and medium altitudes. Endemic.

Local names: Arandón (Ilk.); dapnit (Bon.); salagó (Tag.); suka (Bon.).

WIKSTROEMIA PACHYPHYLLA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 297.

Luzon (Tayabas, east coast), *B. S. 25559 Yates*. In primary forests, altitude about 400 m. Endemic.

WIKSTROEMIA POLYANTHA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 332.

Luzon (Rizal), *B. S. 19243 Reillo*. In forests, altitude about 1,000 m. Endemic.

WIKSTROEMIA PULGARENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1844.

Palawan, *Elmer 13203*. In the summit thickets on Mt. Pulgar, altitude about 1,300 m; the flowers and fruits unknown. Endemic.

EXCLUDED SPECIES

WIKSTROEMIA CANDOLLEANA Meisn.; F.-Vill. Novis. App. (1880) 182.

7. PIMELEA Banks and Solander

PIMELEA PHILIPPINENSIS C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 345.

Luzon (Cagayan), *B. S. 7410 Ramos*. In open places at low altitudes. Endemic.

This large genus, with the exception of this species and *P. brevituba* Fawc. of Timor, is confined to Australia and New Zealand.

ELAEAGNACEAE

1. ELAEAGNUS Tournefort

ELAEAGNUS PHILIPPENSIS Perr. in Mém. Soc. Linn. Paris 3 (1824) 114; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 346; Merr. op. cit. 5 (1910) 366, *Sp. Blancoanae* (1918) 279.

Elaeagnus angustifolia Blanco Fl. Filip. (1837) 74, ed. 2 (1845) 53, ed. 3, 1 (1877) 100, non Linn.

Elaeagnus perrottetii Schlecht. in DC. Prodr. 14 (1857) 613; Miq. Fl. Ind. Bat. 1¹ (1858) 981; F.-Vill. Novis. App. (1880) 183.

Elaeagnus cumingii Schlecht. op. cit. 613; Miq. op. cit. 981; F.-Vill. op. cit. 183; Serv. in Beihefte Bot. Centralbl. 25 (1909) 99 (incl. subsp. *eucumingii* Serv., *perrottetii* Serv., and *philippinensis* Serv.).

Elaeagnus alingaro Schlecht. op. cit. 615.

Elaeagnus latifolia Miq. Fl. Ind. Bat. 1¹ (1858) 980, quoad Philip.; F.-Vill. Novis. App. (1880) 183; Vidal Sinopsis Atlas (1883) 37, t. 80, f. B, Phan. Cuming. Philip. (1885) 140, Rev. Pl. Vasc. Filip. (1886) 230; Usteri Beitr. Ken. Philip. Veg. (1905) 125; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 101, non Linn.

Batan Islands, Luzon (Cagayan, Ilocos Norte, Bontoc, Nueva Vizcaya, Union, Bataan, Rizal, Laguna, Tayabas, Sorsogon), Polillo, Palawan, Negros, Cebu, Panay, Mindanao, Jolo, incl. *Elmer 16478* as *E. cuprea* Elm. In thickets and forests at low and medium altitudes, ascending to 1,500 m. Endemic.

Local names: Alingaro (Tag.); alunut (Iv.); bantáp (Sul.); banaken (Bon.); kopapei (Ig.); lagot (Buk.); lingaro (Tag.); malaímus (P. Bis.); padias (Ig.).

LYTHRACEAE

1. ROTALA Linnaeus

ROOTALA INDICA (Willd.) Koehne in Engl. Bot. Jahrb. 1 (1880) 172, Engl. Pflanzenreich 17 (1903) 40; Merr. Fl. Manila (1912) 342.

Peplis indica Willd. Sp. Pl. 2 (1799) 244.

Ammannia peploides Spreng. Syst. 1 (1825) 444; F.-Vill. Novis. App. (1880) 90; Vidal Phan. Cuming. Philip. (1885) 115, Rev. Pl. Vasc. Filip. (1886) 138.

Tropical and subtropical Asia to Japan southward to Java. In most parts of the Philippines, a rice-paddy weed and in open damp waste places at low and medium altitudes.

ROOTAL LEPTOPETALA (Blume) Koehne in Engl. Bot. Jahrb. 1 (1880) 162, p. p., 4 (1883) 388, Engl. Pflanzenreich 17 (1903) 34.

Ammannia leptopetala Blume Mus. Bot. Lugd.-Bat. 2 (1852) 134.

Ammannia pentandra F.-Vill. Novis. App. (1880) 90; Vidal Rev. Pl. Vasc. Filip. (1886) 138, Phan. Cuming. Philip. (1885) 115; Usteri Beitr. Ken. Philip. Veg. (1905) 118, non ? Roxb.

Northern Luzon to Mindanao, *Cuming* 735, *Merrill* 9782, *B. S.* 27628 *Ramos*, *Clemens* 918. Widely scattered in open damp places, rice paddies, etc., usually not common. Tropical Asia to Japan southward to Java.

ROOTAL MEXICANA Cham. & Schlecht. in Linnaea 5 (1830) 567; Walp. Repert. 2 (1843) 101; Koehne in Engl. Pflanzenreich 17 (1903) 29 (incl. var. *spruceana* Koehne); Merr. Fl. Manila (1912) 342 (var. *pusilla* Koehne).

Luzon (Rizal), Mindanao (Davao), *Merrill* 3659, 9783, *Copeland* 430. Rare in old rice paddies, damp ditches, etc. Pantropic.

ROOTAL RAMOSIOR (Linn.) Koehne in Mart. Fl. Bras. 13² (1877) 194, t. 39, f. 1, Engl. Bot. Jahrb. 1 (1880) 157, Pflanzenreich 17 (1903) 32; Merr. Fl. Manila (1912) 342, Sp. Blancoanae (1918) 280.

Ammannia ramosior Linn. Sp. Pl. (1753) 120; Blanco Fl. Filip. ed. 2 (1845) 46, ed. 3, 1 (1877) 86.

Ammannia catholica Cham. & Schlecht. in Linnaea 2 (1827) 378 (incl. var. *philippensis* Cham. & Schlecht.).

Ammannia monoflora Blanco Fl. Filip. (1837) 64.

Ammannia pentandra Llanos Frag. Pl. Filip. (1851) 49; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 36, non Roxb.

Northern Luzon to Mindanao. A rather common rice-paddy weed. Northern United States to Brazil, introduced in the Philippines during the early Spanish colonial period.

2. AMMANNIA Linnaeus

AMMANNIA AURICULATA Willd. Hort. Berol. 1 (1806) t. 7, var. **ARENARIA** (HBK.) Koehne in Engl. Bot. Jahrb. 1 (1880) 245, Pflanzenreich 17 (1903) 46, forma **HYRCANICA** Koehne l. cc.

Luzon (Union), *Lete* 497.

Warmer parts of the world, the forma *hyrcanica* from western Asia to southern China and also in northern Australia.

AMMANNIA BACCIFERA Linn. Sp. Pl. ed. 2 (1762) 175; Koehne in Engl. Pflanzenreich 17 (1903) 55; F.-Vill. Novis. App. (1880) 91; Merr. Fl. Manila (1912) 343, Sp. Blancoanae (1918) 280.

Celosia nana Blanco Fl. Filip. (1837) 192.

Ammannia debilis Blanco. op. cit. 2 (1845) 46, ed. 3, 1 (1877) 86, non Ait.

Ammannia aegyptiaca Llanos Frag. Pl. Filip. (1851) 51; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 37, non Willd.

? *Ammannia octandra* Llanos l. c. 50; F.-Vill. & Naves l. c. 37; F.-Vill. Novis. App. (1880) 91, non Linn.

In open damp waste places throughout the Philippines at low and medium altitudes, often abundant. Tropical Asia and Africa through Malaya to tropical Australia.

Local names: Apoy-apóyan (Pang., Tag.); bias-pógo (Tag.); para-pit-añgit (Pamp.).

Var. **VIRIDIS** (Hornem.) Koehne in Engl. Bot. Jahrb. 1 (1880) 260, Pflanzenreich 17 (1903) 55.

Ammannia viridis Hornem. Hort. Hafn. 1 (1813) 146.

Habitat of the species, its range in the Philippines uncertain. India to China.

AMMANNIA MULTIFLORA Roxb. Fl. Ind. 1 (1820) 447; DC. Prodr. 3 (1828) 79; C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1879) 571; Koehne in Engl. Pflanzenreich 17 (1903) 48.

Luzon (Abra, Pampanga), *Merrill 4246*, *B. S. 7299 Ramos*. A weed in rice paddies, but apparently not common. Tropical Asia and Africa, Japan, Australia.

EXCLUDED SPECIES

AMMANNIA COCCINEA Rottb.; Koehne in Engl. Pflanzenreich 17 (1903) 49, f. 1, *B*, subsp. *longifolia* Koehne in Engl. Bot. Jahrb. 1 (1880) 250, Pflanzenreich l. c.

Credited to the Philippines by Koehne, but I do not know on what authority; I have seen no Philippine specimens. It is common in the Marianne Islands; native of tropical and temperate America.

3. PEMPHIS Forster

PEMPHIS ACIDULA Forst. Char. Gen. (1776) 68, t. 34; Miq. Fl. Ind. Bat. 1¹ (1857) 619; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 605; F.-Vill. Novis. App. (1880) 91; Vidal Sinopsis Atlas (1883) 27, t. 52, f. D, Rev. Pl. Vasc. Filip. (1886) 138; Koord. & Val. Bijdr. Boom. Java 1 (1894) 188; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 42, Philip. Journ. Sci. 3 (1908) Bot. 83, 422, Sp. Blancoanae (1918) 280; Koehne in Engl. Bot. Jahrb. 17 (1903) 185, f. 30, *B*.

Pemphis setosa Blanco Fl. Filip. (1837) 410, ed. 2 (1845) 285, ed. 3, 2 (1878) 164.

Along the seashore throughout the Philippines. Tropical East Africa and tropical Asia to tropical Australia and Polynesia.

Local names: Bantigí (Bik., Tag., S. L. Bis., C. Bis.); kabantigí (Tag.); ligad (Sul., Tagb.); ligat (Sul.); palupú (Iv.); pantigí (Bis.); pilit (Tag.); uaduat (Tag.).

4. LAGERSTROEMIA Linnaeus

LAGERSTROEMIA INDICA Linn. Syst. ed. 10 (1759) 1076, Sp. Pl. ed. 2 (1763) 734; Blanco Fl. Filip. (1837) 454, ed. 2 (1845) 316, ed. 3, 2 (1878) 219, t. 207; Miq. Fl. Ind. Bat. 1¹ (1857) 622; F.-Vill. Novis. App. (1880) 91; Merr. Fl. Manila (1912) 341, Sp. Blancoanae (1918) 281; Koehne in Engl. Pflanzenreich 17 (1903) 259, f. 55.

Lagerstroemia chinensis Linn. Amoen. Acad. 4 (1759) 137.

Occasionally cultivated in Manila and in other towns for ornamental purposes, but nowhere spontaneous. A native of China, now planted in most warm and tropical regions. Crepe myrtle.

Local names: Melíndres (Sp.); peléndres (Tag.); poua (Buk.); ta-baṅgau (Ibn.).

LAGERSTROEMIA PANICULATA (Turcz.) Vidal Phan. Cuming. Philip. (1885) 115, Rev. Pl. Vasc. Filip. (1886) 140; Koehne in Engl. Pflanzenreich 17 (1903) 268, f. 55, w. x.

Pterocalymna paniculata Turcz. in Bull. Soc. Nat. Mosc. 19² (1846) 508; Walp. Ann. 1 (1848) 295.

Pterocalymna calycina Koehne in Engl. Bot. Jahrb. 4 (1883) 25, sphalm.

Lagerstroemia calycina Koehne l. c.

Luzon (Cagayan, Ilocos Norte, Abra), Catanduanes, Samar, Cuming 1188, F. B. 11281 Klemme, 24862 Velasco, B. S. 30182 Ramos, Sablaya 37. In forests at low and medium altitudes. Endemic.

Local names: Bangles (Ilk.); talúlong (Neg.).

LAGERSTROEMIA PIRIFORMIS Koehne in Engl. Bot. Jahrb. 4 (1883) 23, Pflanzenreich 17 (1903) 267; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 116.

Lagerstroemia batitinan Vidal Rev. Pl. Vasc. Filip. (1886) 139; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 42; Koehne in Engl. Pflanzenreich 17 (1903) 267.

Lagerstroemia hexaptera F.-Vill. Novis. App. (1880) 91; Vidal Synopsis Atlas (1883) 27, t. 50, f. A, non Miq.

Luzon (Cagayan, Pampanga, Rizal, Laguna, Batangas, Tayabas, Camarines, Albay, Sorsogon), Samar, Leyte, Negros, Mindanao (Surigao, Agusan, Butuan, Misamis, Lanao, Davao, Zamboanga, Cotabato), Basilan. In primary forests at low and medium altitudes, often common; a valuable timber tree. Endemic.

Local names: Añgus (Mand.); bagunarem (Bag.); bagunaum (Sul.); baluknit (Ilk.); banabáng-bogtong (Tag.); banabáng-dínglas (Tag.); banabáng-tináan (Tag.); basit (Sul.); batínan (Bik.); batitínan (Tag., Bik.); batikalag (Pang.); bugason (S. L. Bis.); bugaom (S. L. Bis.); bugarom (S. L. Bis.); dínglas (Tag.); lasila (Ilk.); linau (Bik.); lumati (Ilk.); lasilak (Neg.); lumpian (S. L. Bis.); magaklud (Mag.); magatalúlong (Ilk.); magugáhum (Mbo.); manglati (Bis.); naghubo (Tag.); pamalauagon (S. L. Bis.); patitínan (Bik.); saluling (Ibn.); sibayan (Sub.); talúlung (Ibn.); tináan (Tag., Bik.).

LAGERSTROEMIA SPECIOSA (Linn.) Pers. Syn. 2 (1807) 72; DC. Prodr. 3 (1828) 93; Koord. & Val. Bijdr. Boom. Java 1 (1894) 190; Koehne in Engl. Bot. Jahrb. 4 (1883) 28, Pflanzenreich 17 (1903) 261; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 101, 3 (1908) Bot. 422, Fl. Manila (1912) 341, Sp. Blancoanae (1918) 281.

Munchausia speciosa Linn. in Munchh. Hausv. 1 (1770) 357, t. 2; Blanco Fl. Filip. (1837) 611, ed. 2 (1845) 427, ed. 3, 2 (1879) 413, t. 314.

Lagerstroemia reginae Roxb. Pl. Coromandel 1 (1795) 46, t. 65; Miq. Fl. Ind. Bat. 1¹ (1857) 623; Usteri Beitr. Ken. Philip. Veg. (1905) 118.

Lagerstroemia flos-reginae Retz. Obs. 5 (1789) 25; C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1879) 577; F.-Vill. Novis. App. (1880) 91; Vidal Sinopsis Atlas (1883) 27, t. 52, f. B, Rev. Pl. Vasc. Filip. (1886) 139.

Batan Islands and northern Luzon to Palawan, Mindanao, and the Sulu Archipelago, in most or all islands and provinces. Conspicuous on account of its showy flowers; chiefly in secondary forests at low and medium altitudes. India to southern China southward through Malaya to tropical Australia.

Local names: Agaro (Sbl.); bugárom (S. L. Bis.); banabá (Tag., and many other dialects); duguam (S. L. Bis.); kauilan (P. Bis.); makablos (Pang.); mitla (Pamp.); nabulong (Neg.); pamalauagon (S. L. Bis.); pamarauagon (S. L. Bis.); parasabukung (Sub.); tabaṅgau (Ibn., Neg.); tauagnau (Ibn.).

5. LAWSONIA Linnaeus

LAWSONIA INERMIS Linn. Sp. Pl. (1753) 349; Blanco Fl. Filip. (1837) 294, ed. 2 (1845) 206, ed. 3, 2 (1878) 21, t. 108; Koehne in Engl. Pflanzenreich 17 (1903) 270, f. 59; Merr. Fl. Manila (1912) 340, Sp. Blancoanae (1918) 281.

Lawsonia alba Lam. Encycl. 3 (1789) 106; Miq. Fl. Ind. Bat. 1¹ (1857) 620; F.-Vill. Novis. App. (1880) 91; Vidal Sinopsis Atlas (1883) 27, t. 52, f. C, Rev. Pl. Vasc. Filip. (1886) 138.

Cultivated for ornamental purposes in most towns in the Philippines, but scarcely naturalized. Native of East Africa or India, now introduced in most tropical countries. Henna.

Local name: Cinamómo (Sp.).

SONNERATIACEAE

1. SONNERATIA Linnaeus f.

SONNERATIA ACIDA Linn. f. Suppl. (1781) 252; F.-Vill. Novis. App. (1880) 92; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 550; Vidal Sinopsis Atlas (1883) 27, t. 52, f. G; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 83.

Sonneratia caseolaris Merr. Fl. Manila (1912) 344, non Engl.

Sonneratia alba F.-Vill. Novis. App. (1880) 92; Ceron Cat. Pl. Herb. Manila (1892) 86, non Sm.

Luzon (Cagayan, Pangasinan, Bataan, Rizal), Palawan, *F. B.* 12950, 18474 *Alvarez*, 4142, 5296, 5466, 6302, 17054 *Curran*, 24250 *Sulit*, 27321 *Reyes*, *B. S.* 911 *Foxworthy*, 30090 *Fénix*, 12181 *Ramos*. Along small tidal streams near the limits of salt or brackish water, rarely on the open beach. India through Malaya to the Moluccas.

Most of the specimens cited above were originally identified as *S. caseolaris* Engl. They represent the typical form of *S. acida* Linn. f. as illustrated by *Pagapates* Sonn. Voy. Nouv. Guinee (1776) 16, t. 10, 11 (erroneously cited by Linnaeus f. as t. 15, 16). *Mangium caseolare rubrum* Rumph. Herb. Amb. 3: 112, t. 74 is apparently the same.

Local names: Hikau-hikáuan (Tag.); ilukabbán (Ibn.); lukabbán (Ibn.); pagatpat (Tag.); palatpát (Tag.); payar (Pang.).

SONNERATIA CASEOLARIS (Linn.) Engl. in Engl. & Prantl Nat. Pflanzenfam. Nachtr. 1 (1897) 261; Merr. Interpret. Herb. Amb. (1917) 383, Sp. Blancoanae (1918) 281.

Rhizophora caseolaris Linn. in Stickm. Herb. Amb. (1754) 13, Amoen. Acad. 4 (1759) 123, Syst. ed. 10 (1759) 1043, Sp. Pl. ed. 2 (1762) 635.

Sonneratia pagatpat Blanco Fl. Filip. (1837) 424, ed. 2 (1845) 296, ed. 3, 2 (1878) 186, *t. 175bis*; Miq. Fl. Ind. Bat. 1¹ (1855) 496; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 42, Philip. Journ. Sci. 1 (1906) Suppl. 101, Fl. Manila (1912) 344.

Sonneratia obovata Blume Mus. Bot. Lugd.-Bat. 2 (1856) 337; Miq. Fl. Ind. Bat. 1¹ (1855) 497.

Along the seashore throughout the Philippines, a common and characteristic tree of muddy shores. East Africa and tropical Asia through Malaya to tropical Australia. *Sonneratia alba* Smith in Rees Cycl. 33 (1916) No. 2 is probably not distinct.

Local names: Bunáyon (C. Bis.); buñgálun (P. Bis.); dalúru-laláki (Tag.); ilukabbán (Ibn.); lukabbán (Ibn.); pagatpát (Tag., Sbl., Bik., P. Bis., Tagb., S. L. Bis., C. Bis., Mbo., Sub., Lan. Sul.); palálan (Mag.); palapát (Tag.); palaspát (Tag.); palatá (Tag.); palapát (Tag.); patpát (Mbo.); pirara (Mag.); pedáda (Mag.).

2. DUABANGA Hamilton

DUABANGA MOLUCCANA Blume Mus. Bot. Lugd.-Bat. 2 (1856) 109; Miq. Fl. Ind. Bat. 1¹ (1857) 625; F.-Vill. Novis. App. (1880) 92; Vidal Sinopsis Atlas (1883) 27, *t. 52, f. F*, Phan. Cuming. Philip. (1885) 115, Rev. Pl. Vasc. Filip. (1886) 140; Koord. & Val. Bijdr. Boom. Java 1 (1894) 195; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 195.

Luzon (Cagayan, Isabela, Ilocos Norte, Abra, Bontoc, Benguet, Ilocos Sur, Nueva Vizcaya, Nueva Ecija, Bulacan, Rizal, Bataan, Laguna, Tayabas, Cavite, Batangas, Camarines, Albay, Sorsogon), Mindoro, Palawan, Leyte, Panay, Negros, Mindanao. In forests along streams at low and medium altitudes, ascending to 1,200 m. Java and Borneo to Celebes and the Moluccas.

Local names: Adha (Bik.); adka (Bik.); agas (Tagb.); arik (Ibn.); banabáng-bugtong (Tag.); binuáng (Tag.); bukag (Ilk.); buluáng (Tag.); buyúkan (Gad.); dahá (Mbo., P. Bis.); dapul (Ting.); hoi (Bon.); iloílo (P. Bis.); kadíg (Ibn.); kadél (Neg.); kadíl (Ilk.); kadír (Ilk.); karauan (Bik.); karíg (Neg.); lamod (Mag., Bag.); loktob (Tag., S. L. Bis.); loktok (Tag.); lokton (Tag.); lubtub (Bik.); luktúb (Tag., Bik.); lutub (Sul.); malapalikpík (Tag.).

CRYPTERONIACEAE

1. CRYPTERONIA Blume

CRYPTERONIA CUMINGII (Planch.) Endl. Gen. Suppl. 4 (1847) 478; Blume Mus. Bot. Lugd.-Bat. 2 (1856) 123; Nieden zu in Engl. Bot. Jahrb. 15 (1892) 179; A. DC. Prodr. 16² (1868) 678; F.-Vill.

Novis. App. (1880) 91; Vidal Phan. Cuming. Philip. (1885) 115, Rev. Pl. Vasc. Filip. (1886) 138; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 102.

Henslowia cumingii Planch. in Hook. Lond. Journ. Bot. 4 (1845) 478, t. 16c, f. 1-4; Miq. Fl. Ind. Bat. 1¹ (1857) 717.

Luzon (Cagayan, Tayabas, Rizal, Laguna, Camarines, Albay, Sorsogon), Samar, Leyte, Camiguin de Misamis, incl. *Elmer 15324* as *C. laxa* Elm. In forests at low and medium altitudes. Borneo.

Local names: Andalai (Tag.); tigáuon (Bik.); ugáu (Bik.).

CRYPTERONIA PANICULATA Blume Bijdr. (1826) 1151, Mus. Bot. Lugd.-Bat. 2 (1856) 123, t. 42; Niedenzu in Engl. Bot. Jahrb. 15 (1892) 177; Koord. & Val. Bijdr. Boom. Java 1 (1894) 203; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 102, Sp. Blancoanae (1918) 282. *Henslowia glabra* Wall. Cat. (1832) No. 4903, *nomen nudum*, Pl. As. Rar. 3 (1832) 14; Planch. in Hook. Lond. Journ. Bot. 4 (1845) 478; Miq. Fl. Ind. Bat. 1¹ (1857) 716.

Crypteronia glabra Endl. Gen. Suppl. 4 (1847) 39; Blume Mus. Bot. Lugd.-Bat. 2 (1856) 123; A. DC. Prodr. 16² (1868) 678; F.-Vill. Novis. App. (1880) 91; Vidal Sinopsis Atlas (1883) 27, t. 52, f. E, Phan. Cuming. Philip. (1885) 115, Rev. Pl. Vasc. Filip. (1886) 138.

Quilamum luteum Blanco Fl. Filip. (1837) 851, ed. 2 (1845) 136, ed. 3, 1 (1877) 245.

Crypteronia lutea Blume Mus. Bot. Lugd.-Bat. 2 (1856) 123; A. DC. Prodr. 16² (1868) 679.

Crypteronia pubescens F.-Vill. Novis. App. (1880) 91, non Blume.

Henslowia leptostachya Planch. in Hook. Lond. Journ. Bot. 4 (1845) 478; Miq. Fl. Ind. Bat. 1¹ (1857) 716.

Crypteronia leptostachya Endl. Gen. Suppl. 4 (1847) 39; Blume Mus. Bot. Lugd.-Bat. 2 (1856) 123; Rolfe in Journ. Bot. 23 (1885) 213; A. DC. Prodr. 16² (1868) 679; Niedenzu in Engl. Bot. Jahrb. 15 (1892) 175; Vidal Phan. Cuming. Philip. (1885) 115, Rev. Pl. Vasc. Filip. (1886) 139.

Crypteronia paniculata Blume var. *leptostachya* Koord. & Val. Bijdr. Boom. Java 1 (1894) 204.

Luzon (Cagayan, Abra, Lepanto, Bontoc, Benguet, Union, Pangasinan, Zambales, Bulacan, Camarines, Sorsogon), Negros. In primary forests at low and medium altitudes; common. India to Sumatra, and Java.

I can see no reason for distinguishing *C. leptostachya* Planch. Its type, *Cuming 1464!*, from Camarines Province, Luzon, is an immature specimen with buds only.

Local names: Agudai (Ilk.); balinog (Tag.); banuyo (P. Bis.); barakbak (Ilk.); baroga (Ig.); bitok (Tag.); boñgaui (Tag.); buñgaing (Ilk.); kamanok (Bis.); kilamo (Tag.); kodai (Ig.); ladao (Ig.); malabayabas (Tag.); malabiong (Sbl.); salasan (Tag.); tiaui (Tag.); tolan-manók (P. Bis.); tua (Tag.).

EXCLUDED SPECIES

CRYPTERONIA GRIFFITHII C. B. Clarke; F.-Vill. Novis. App. (1880) 91.

PUNICACEAE

PUNICA Tournēfort

PUNICA GRANATUM Linn. Sp. Pl. (1753) 472; DC. Prodr. 3 (1828) 3; Miq. Fl. Ind. Bat. 1¹ (1855) 495; Blanco Fl. Filip. (1837) 422, ed. 2 (1845) 295, ed. 3, 2 (1878) 184, *t.* 211; Merr. Fl. Manila (1912) 344, Sp. Blancoanae (1918) 282.

Planted here and there in gardens throughout the Philippines but nowhere spontaneous. A native of southwestern Asia, now introduced in all tropical countries. Pomegranate.

Local names: Dalima (Sul.); granáda (Sp.).

LECYTHIDACEAE

1. PETERSIANTHUS Merrill

(*Petersia* Welw., non Klotz.)

PETERSIANTHUS QUADRIALATA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 200.

Terminalia quadrialata Merr. in Philip. Journ. Sci. 4 (1909) Bot. 301, 647.

Luzon (Sorsogon), Samar, Masbate, Cebu, Mindanao (Surigao), *F. B.* 12558 *Rosenbluth*, 4526 *Zschokke*, 24746 *Phasis*, *B. S.* 24146 *Ramos*. In primary forests at low altitudes. Endemic.

The two other known species of this genus are confined to tropical Africa.

Local names: Bagulañgog (S. L. Bis.); gúog (Bis.); kapulau (C. Bis.); lumañgog (S. L. Bis.); magtalísai (S. L. Bis.); tóog (Bik., S. L. Bis., P. Bis., C. Bis.); túug (C. Bis.); tóhog (Mbo.).

2. BARRINGTONIA Forster

BARRINGTONIA ACUTANGULA (Linn.) Gaertn. Fruct. 2 (1791) 97, *t.* 101; C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1879) 508; Schauer in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 335; F.-Vill. Novis. App. (1880) 86.

Eugenia acutangula Linn. Sp. Pl. (1753) 471.

Botryoropsis luzonensis Presl Epim. (1851) 220; Miq. Fl. Ind. Bat. 1¹ (1855) 492.

Stravadium luzonense Miers in Trans. Linn. Soc. Bot. 1 (1875) 84.

Barringtonia luzonensis Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 113, Rev. Pl. Vasc. Filip. (1886) 133; Merr. Fl. Manila (1912) 346.

Barringtonia reticulata Miq. Fl. Ind. Bat. 1¹ (1855) 490; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 113, Rev. Pl. Vasc. Filip. (1886) 133; Merr. in Philip. Journ. Sci. 1 (1906) 102.

Northern Luzon to Mindanao and Palawan, in most islands and provinces. In thickets and forests at low and medium altitudes, often common. India through Malaya to tropical Australia.

Local names: Apaling (Ig.); himbabalód (P. Bis.); kalambuáya (Ilk.); latuba (Ibn.); pútad (Tag.); pútat (Tag., Pamp., Bik.); sakó (Mbo.); sakú (Mbo.); topuk (Mag.); túba (Tag., Ibn.).

BARRINGTONIA ASIATICA (Linn.) Kurz in Journ. As. Soc. Beng. 45² (1876) 131, 46² (1877) 70; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 422, Fl. Manila (1912) 345, Interpret. Herb. Amb. (1917) 384, Sp. Blancoanae (1918) 282.

Mammea asiatica Linn. Sp. Pl. (1753) 512.

Barringtonia speciosa Forst. Char. Gen. (1776) 76, t. 38, f. A-C; Linn. f. Suppl. (1781) 312; DC. Prodr. 3 (1828) 288; Blanco Fl. Filip. (1837) 533, ed. 2 (1845) 373, ed. 3, 2 (1879) 325, t. 305; Miq. Fl. Ind. Bat. 1¹ (1855) 485; F.-Vill. Novis. App. (1880) 86; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 83.

Agasta asiatica Miers in Trans. Linn. Soc. Bot. 1 (1875) 61, t. 12.

Butonica rumphiana Miers op. cit. 63.

Along the seashore throughout the Philippines, a characteristic strand plant. Tropical Asia to Polynesia.

The type of the Linnean species is a specimen collected in Java by Osbeck.

Local names: Balubitóon (P. Bis.); bitón (Bik.); bitóon (C. Bis.); bitúng (Bis.); botón (Tag.); botóng (Tag., Bik.); botong-bótong (Bik.); butón (Bik., Chab.); lugo (Ibn.); motong-bótong (Bik.); vutón (Iv.).

BARRINGTONIA BALABACENSIS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 299.

Palawan, Balabac, *B. S.* 422 *Mangubat*, *Merrill Phil. Pl.* 1314. In forests at low altitudes. Endemic.

Local name: Ulam (Sul.).

BARRINGTONIA CURRANII Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 211.

Palawan, *F. B.* 3596 *Curran*, 19904 *Danao*, *B. S.* 225 *Bermejos*, 604 *Foxworthy*, *Elmer* 13033. In forests at low altitudes. Borneo.

Local names: Pulautut (Tagb.); ulam (Tagb.).

BARRINGTONIA GITINGENSIS Elm. Leaf. Philip. Bot. 8 (1915) 2730.

Luzon (Cagayan, Tayabas), Sibuyan, Mindanao (Zamboanga), *Elmer* 12238, *B. S.* 20850 *Escritor*, 13182 *Foxworthy & Ramos*, *F. B.* 7076 *Klemme*, 9144, 9055 *Whitford & Hutchinson*, 29317 *Salazar*. In primary forests at low altitudes; to be compared with *B. sumatrana* Miq. Endemic.

Local names: Latuba (Ibn.); lolo (Neg.).

BARRINGTONIA PTERITA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 322.

Luzon (Cagayan, Isabela, Nueva Ecija, Tayabas), Leyte, Mindanao (Surigao), *B. S.* 15121, 15189 *Ramos*, 26426 *Ramos & Edaño*, 34810 *Ramos & Pascasio*, *F. B.* 26068 *Barros*. In primary forests at low altitudes. Endemic.

Local names: Hagpuhan (Klg.); karakauat (Neg.).

BARRINGTONIA RACEMOSA (Linn.) Blume ex DC. Prodr. 3 (1828) 288; Roxb. Fl. Ind. ed. 2, 2 (1832) 634; Miq. Fl. Ind. Bat. 1¹ (1855) 486; Blanco Fl. Filip. ed. 2 (1845) 373, ed. 3, 2 (1879) 326,

t. 240; F.-Vill. Novis. App. (1880) 86; Miers in Trans. Linn. Soc. Bot. 1 (1875) 66; Vidal Sinopsis Atlas (1883) 26, *t.* 50, *f.* A, Rev. Pl. Vasc. Filip. (1886) 133; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 42, Philip. Journ. Sci. 3 (1908) Bot. 422, Fl. Manila (1912) 346, Interpret. Herb. Amb. (1917) 385, Sp. Blancoanae (1918) 282.

Eugenia racemosa Linn. Sp. Pl. (1753) 471.

Menichea rosata Sonn. Voy. Nouv. Guin. (1776) 133, *t.* 92, 93.

Barringtonia stravadium Blanco Fl. Filip. (1837) 533.

Butonica rosata Miers in Trans. Linn. Soc. Bot. 1 (1875) 72, *t.* 14, *f.* 1.

Throughout the Philippines in most or all islands and provinces, occurring in thickets in damp places along the seashore, streams, etc., at low altitudes; common. India to Malaya and Polynesia.

Local names: Kasouai (Mbo.); kutkut-timbalon (Sul.); nuling (C. Bis.); paling (Ibn.); pótat (Tag.); pútađ (Tag.); pútat (Tag., Bik., S. L. Bis., P. Bis., Sul., Mag.); tuba-túba (C. Bis.).

BARRINGTONIA REVOLUTA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 211.

Palawan, F. B. 3507 Curran, Elmer 12899. On rocky stream banks at low altitudes. Endemic.

EXCLUDED SPECIES

BARRINGTONIA ANGUSTATA Kurz; F.-Vill. Novis. App. (1880) 87.

BARRINGTONIA MACROSTACHYA Kurz; F.-Vill. op. cit. 86.

3. PLANCHONIA Blume

PLANCHONIA SPECTABILIS Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 30, Philip. Journ. Sci. 1 (1906) Suppl. 102.

Planchonia littoralis F.-Vill. Novis. App. (1880) 87, Vidal Rev. Pl. Vasc. Filip. (1886) 133, non Blume.

Planchonia valida Vidal Sinopsis Atlas (1883) 26, *t.* 50, *f.* D, non Blume.

Luzon (Cagayan, Ilocos Norte, Bataan, Rizal, Laguna, Batangas, Tayabas, Camarines, Albay), Masbate, Panay, Negros, Bohol, Mindanao (Danao). Rather common in primary forests at low and medium altitudes. Endemic.

Local names: Abobo (Bik.); alitaptap (Bik.); apalang (Tag.); bala-tuson (Bik.); bansalágun (P. Bis.); bayók (Tag.); bilitoson (Bik.); bu-húkan (P. Bis.); lamóg (Tag., Pamp.); lamúg (Tag.); malapútat (Tag.); malaúban (Tag.); maúban (Tag.); malatágum (Bik.); motonbóton (Bik.); oban-óban (Bag.); poronot (Ilk.); tauí (C. Bis.); úban (Tag.).

WHOLLY DOUBTFUL GENUS

BARANDA ANGATENSIS Llanos in Mem. Acad. Cienc. Madr. III 2 (1857) 502; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 102; Merr. Sp. Blancoanae (1918) 382.

This was reduced to *Barringtonia macrostachya* Kurz by F.-Villar, but there is little evidence that a lecythidaceous plant was intended. Llanos's description of the genus and species is wholly inadequate.

RHIZOPHORACEAE

1. GYNOTROCHES Blume

GYNOTROCHES AXILLARIS Blume Mus. Bot. Lugd.-Bat. 1 (1849) 127, t. 31; Miq. Fl. Ind. Bat. 1¹ (1856) 592; Koord. & Val. Bijdr. Boom. Java 4 (1896) 308; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 43, Philip. Journ. Sci. 2 (1907) Bot. 283.

Luzon (Laguna, Tayabas, Camarines, Sorsogon), Mindoro, Polillo, Cautanduanes, Samar, Leyte, Dinagat, Bucas Grande, Mindanao. In primary forests at low and medium altitudes, locally common. Malay Peninsula, Sumatra, Java, and Borneo.

Local names: Auai (Mbo.); bayasbas (C. Bis.); doyok-dóyok (C. Bis.); kibal (Tag.); malakulambisan (Tag.); taliñgan (C. Bis.).

GYNOTROCHES LANCEOLATA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 21.

Luzon (Tayabas, east coast, Sorsogon), Leyte, Mindanao (Surigao), *B. S.* 23407 Ramos, 34690, 26637 Ramos & Edaño, Wenzel 664, 758. In primary forests at low and medium altitudes; very close to *G. axillaris* Blume. Endemic.

GYNOTROCHES PARVIFOLIA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 46, Philip. Journ. Sci. 1 (1906) Suppl. 102.

Luzon (Bataan), Panay, Whitford 1173, *B. S.* 30631 Ramos & Edaño. In the mossy forest on exposed ridges, altitude about 1,000 m. Endemic.

GYNOTROCHES PUBERULA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 333.

Samar, Bucas Grande, Merrill *Phil. Pl.* 1632, *B. S.* 17396 Ramos, 35130 Ramos & Pascasio. In primary forests at low altitudes. Endemic.

2. CERIOPS Arnott

CERIOPS ROXBURGHIANA Arn. in Ann. Nat. Hist. 1 (1838) 363; Miq. Fl. Ind. Bat. 1¹ (1856) 591; Hook. f. Fl. Brit. Ind. 2 (1878) 436; Koord. & Val. Bijdr. Boom. Java 4 (1906) 287; Vidal Rev. Pl. Vasc. Filip. (1886) 126; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 102.

Rhizophora decandra Roxb. Hort. Beng. (1814) 36, *nomen nudum*.

In mangrove swamps, Luzon to Mindanao, much less common than *C. tagal* C. B. Rob. India to Malaya.

Local names: Bulabadiang (P. Bis.); matañgál (Tag.); tagasa (Tag.); tañgál (Tag., Bik.); tañgal-tañgál (Tag.); tuñgúg (P. Bis.); tuñgúng (C. Bis.).

CERIOPS TAGAL (Perr.) C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 306; Merr. Interpret. Herb. Amb. (1917) 386, Sp. Blancoanae (1918) 283.

Rhizophora tagal Perr. in Mém. Soc. Linn. Paris 3 (1824) 138.

Rhizophora timoriensis DC. Prodr. 3 (1828) 32.

Ceriops candolleana Arn. in Ann. Nat. Hist. 1 (1838) 363; Miq. Fl. Ind. Bat. 1¹ (1856) 590; Hook. f. Fl. Brit. Ind. 2 (1878) 438; F.-Vill. Novis. App. (1880) 79; Vidal Sinopsis Atlas (1883) 25,

t. 47, f. C; Koord. & Val. Bijdr. Boom. Java 4 (1896) 284; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 43.

Rhizophora candel Blanco Fl. Filip. (1837) 396, ed. 2 (1845) 277, ed. 3, 2 (1878) 150, *t. 415*, non Linn.

In mangrove swamps throughout the Philippines; abundant. India to Malaya.

The type of *Rhizophora tagal* Perr. was from the vicinity of Zamboanga. The species currently known as *Ceriops candolleana* Arn. = *C. tagal* (Perr.) C. B. Rob. is abundant there, but I have seen no specimens of *C. roxburghiana* Arn. from that region.

Local names: Ligasen (Tag.); magtoñgod (P. Bis.); pakat (Tagb.); roñgon (Sbl.); ruñgon (Sbl.); tagasa (Tag.); tañgág (S. L. Bis.); tañgál (Tag., Tagb., Bag., Bis., Pang., Sul.); tañgál-laláki (Tag.); tanghál (Tag., P. Bis.); tigasán (Tag.); tonggi (Kuy.); toñgóg (Bag., S. L. Bis.); toñgóng (Sub.); tuñgód (P. Bis., C. Bis.); tuñgóg (P. Bis.); tuñgúd (Sul.).

3. RHIZOPHORA Linnaeus

RHIZOPHORA CANDELARIA DC. Prodr. 3 (1828) 32; Merr. in Philip. Journ. Sci. 9 (1914) Bot. 118; Interpret. Herb. Amb. (1917) 387, Sp. Blancoanae (1918) 283.

Rhizophora conjugata DC. Prodr. 3 (1828) 33; Miq. Fl. Ind. Bat. 1¹ (1856) 585; Hook. f. Fl. Brit. Ind. 2 (1878) 436; F.-Vill. Novis. App. (1880) 79; Vidal Sinopsis Atlas (1883) 25, *t. 47, f. B*, Rev. Pl. Vasc. Filip. (1886) 126; Koord. & Val. Bijdr. Boom. Java 4 (1896) 282; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 102, Fl. Manila (1912) 347, non Linn.

Rhizophora apiculata Blume Enum. Pl. Jav. 1 (1828) 91.

Rhizophora mangle Blanco Fl. Filip. (1837) 397, ed. 2 (1845) 278, ed. 3, 2 (1878) 151, *t. 135*, non Linn.

In mangrove swamps throughout the Philippines. Tropical shores of the Old World.

Local names: Bakád (Sbl.); bakáu (S. L. Bis., P. Bis., C. Bis.); bakáuan (Ibn., Tag., Bik., P. Bis., Sul., Mag.); bakáuan-babáe (Tag.); bakáuan-laláki (Tag., Sul.); bakháu (S. L. Bis., P. Bis.); bakkauan (Bik.); balbaro (Pamp., Tag.); bangkáu (Sul.); kalamagus (Bag.); uakatan (Tag.).

RHIZOPHORA MUCRONATA Lam. Encycl. 6 (1804) 189; DC. Prodr. 3 (1828) 32; Miq. Fl. Ind. Bat. 1¹ (1856) 583; Hook. f. Fl. Brit. Ind. 2 (1878) 435; F.-Vill. Novis. App. (1880) 79; Koord. & Val. Bijdr. Boom. Java 4 (1896) 278; Merr. Fl. Manila (1912) 347, Sp. Blancoanae (1918) 283.

Rhizophora longissima Blanco Fl. Filip. (1837) 398, ed. 2 (1845) 278, ed. 3, 2 (1878) 151.

In mangrove swamps throughout the Philippines. Range of the preceding species.

Local names: Bakáu (Tagb., P. Bis., Sub., Sul., Mbo.); bakaúan (Tag., Bik., P. Bis., C. Bis., Sul., Mag.); bakháu (C. Bis.); bangkáu (Tag.); toñgóg (Bis.).

4. CARALLIA Roxburgh

CARALLIA BRACHIATA (Lour.) Merr. in Philip. Journ. Sci. 15 (1919) 249.

Diatoma brachiata Lour. Fl. Cochinch. (1790) 296, ed. Willd. (1793) 362.

Petalotoma brachiata DC. Prodr. 3 (1828) 295.

Carallia integerrima DC. Prodr. 3 (1828) 33; Miq. Fl. Ind. Bat. 1¹ (1856) 594; Hook. f. Fl. Brit. Ind. 2 (1878) 439; F.-Vill. Novis. App. (1880) 80; Vidal Sinopsis Atlas (1833) 25, t. 47, f. E, (1886) 126; Koord. & Val. Bijdr. Boom. Java 4 (1906) 301; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 102, Sp. Blancoanae (1918) 284.

Carallia lucida Roxb. Hort. Beng. (1814) 92, *nomen*, Pl. Coromandel 3 (1819) 8, t. 211.

Bruguiera nemorosa Blanco Fl. Filip. ed. 2 (1845) 275, ed. 3, 2 (1878) 147.

Northern Luzon to Palawan and Mindanao. Chiefly in secondary forests at low and medium altitudes, often common. India to southern China southward through Malaya to tropical Australia.

Local names: Anosep (Tag.); bakáuan-gúbat (Mang.); kamaúan (Tag.); karaékan (Tag.); katolit (Ilk.); kuling-manók (Tag.); magua (Mang.); magtuñgod (Mbo.); malibasag (Mbo.); tandul (Sul.).

CARALLIA MINDANAENSIS (Merr.) comb. nov.

Sagittipetalum mindanaense Merr. in Philip. Journ. Sci. 3 (1908) Bot. 247.

Sagittipetalum palawanense Elm. Leaflet. Philip. Bot. 5 (1913) 1830.

Mindanao (Zamboanga), Palawan, *F. B. 9171 Whitford & Hutchinson, Elmer 12828*. In primary forests at low altitudes. British North Borneo.

The genus *Sagittipetalum* is certainly identical with *Carallia*.

5. BRUGUIERA Lamarck

BRUGUIERA CONJUGATA (Linn.) Merr. in Philip. Journ. Sci. 9 (1914) Bot. 118, Interpret. Herb. Amb. (1917) 388, Sp. Blancoanae (1918) 284.

Rhizophora conjugata Linn. Sp. Pl. (1753) 443, non aliorum.

Rhizophora gymnorhiza Linn. l. c.; Blanco Fl. Filip. ed. 2 (1845) 276, ed. 3, 2 (1878) 149.

Bruguiera gymnorhiza Lam. Ill. 2 (1797) t. 397, Encycl. 4 (1798) 696; Miq. Fl. Ind. Bat. 1¹ (1856) 586; F.-Vill. Novis. App. (1880) 79; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 43, Philip. Journ. Sci. 1 (1906) Suppl. 102.

Rhizophora tinctoria Blanco Fl. Filip. (1837) 394.

In mangrove swamps throughout the Philippines; abundant. Tropical Asia and Africa through Malaya to tropical Australia and Polynesia.

Local names: Bakáu (Bis.); bakáuan (Tag.); busáin (Bik., Tag.); busíing (Tag.); patótan (Ibn.); petútan (Tag.); potótan (Sbl., Tag., P. Bis., S. L. Bis., Mbo., C. Bis., Yak.); potútan (Tag., S. L. Bis.); putútan (Ibn.); putútan (Ibn., Tag., C. Bis.); siap (Ilk.); uñgon (Ilk.).

BRUGUIERA CYLINDRICA (Linn.) Blume Enum. Pl. Jav. 1 (1828) 93; Miq. Fl. Ind. Bat. 1¹ (1856) 586; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 136; Merr. Fl. Manila (1912) 348, Interpret. Herb. Amb. (1917) 388.

Rhizophora cylindrica Linn. Sp. Pl. (1753) 443.

Rhizophora caryophylloides Burm. f. Fl. Ind. (1768) 109.

Bruguiera caryophylloides Blume Enum. Pl. Jav. 1 (1828) 93; Miq. Fl. Ind. Bat. 1¹ (1856) 589; Hook. f. Fl. Brit. Ind. 2 (1878) 438; F.-Vill. Novis. App. (1880) 79; Vidal Sinopsis Atlas (1883) 25, t. 47, f. A, Rev. Pl. Vasc. Filip. (1886) 126; Koord. & Val. Bijdr. Boom. Java 4 (1896) 298.

In all or most mangrove swamps in the Philippines. India to Malaya.

Local names: Bakáuan (Tag.); biuas (Tag.); biuis (Pang.); bius (Mag., Sul.); busáin (Tag.); kalapínai (Ilk.); laṅgarai (Mag.); mag-tonṅog (S. L. Bis.); magtuṅgud (S. L. Bis.); putútan (Tag.); taṅgál-babáe (Tag.); taṅgálan (Tag.).

BRUGUIERA PARVIFLORA (Roxb.) W. & A. Prodr. (1834) 311; Miq. Fl. Ind. Bat. 1¹ (1856) 588; Hook. f. Fl. Brit. Ind. 2 (1878) 438; F.-Vill. Novis. App. (1880) 79; Vidal Rev. Pl. Vasc. Filip. (1886) 126; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 43; Koord. & Val. Bijdr. Boom. Java 4 (1896) 297.

Rhizophora parviflora Roxb. Fl. Ind. ed. 2, 2 (1832) 641.

Bruguiera ritchiei Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 11.

In mangrove swamps throughout the Philippines. India to Malaya.

Local names: Arum (Bag.); bakáuan-laláki (Tag.); biosan (S. L. Bis.); bubutigan (S. L. Bis.); hanagaiai (C. Bis.); haṅgai (C. Bis.); haṅgalai (Tag., Mbo.); haṅgarai (P. Bis., Tag., S. L. Bis.); hiṅgalai (Tag., P. Bis.); hiṅgarai (P. Bis.); laṅgarai (S. L. Bis., P. Bis., Sub., Sul., Tag.); laṅgari (Sbl., Tag.); maṅgalai (Tag.); potótan (Tag.).

BRUGUIERA SEXANGULA (Lour.) Poir. in Lam. Encycl. Suppl. 4 (1816) 262; Merr. Interpret. Herb. Amb. (1917) 389, Sp. Blancoanae (1918) 284.

Rhizophora sexangula Lour. Fl. Cochinch. (1790) 297.

Bruguiera eriopetala W. & A. in Ann. Nat. Hist. 1 (1838) 368; F.-Vill. Novis. App. (1880) 79; Vidal Rev. Pl. Vasc. Filip. (1886) 126; Koord. & Val. Bijdr. Boom. Java 4 (1896) 295; Merr. Fl. Manila (1912) 347.

Rhizophora polyandra Blanco Fl. Filip. (1837) 396, ed. 2 (1845) 271, ed. 3, 2 (1878) 150, t. 415bis.

Rhizophora plicata Blanco op. cit. 398, 279, 152.

Bruguiera malabarica F.-Vill. Novis. App. (1880) 79, non Arn.

In all or most mangrove swamps in the Philippines, but not always clearly distinguishable from *B. conjugata* (Linn.) Merr. India to southern China and Malaya.

Local names: Alai (Tagb.); bakáuan-babáe (Tag.); bakáuan-laláki (Tag.); balinsasayau (Tag.); balinsarayan (Tag.); busáin (Tag.); busáing (Sul.); gutulan (Ibn.); kalabayuan (Tag.); lagasak (Ibn.); lagasa (Ibn.); potótan-babáe (Tag.); potótan (Tag., S. L. Bis., P. Bis., Lan., Sul., Mag., C. Bis.); potútan (Tag.); putútan (Neg., Tag.); sagasa (Ibn.); sagasak (Ibn.); tagasa (Tag.).

6. PELLACALYX Korthals

PELLACALYX AXILLARIS Korth. in Tijdschr. Nat. Gesch. 3 (1836) 20, t. 2; Miq. Fl. Ind. Bat. 1¹ (1858) 1088; King in Journ. As. Soc. Bengal 66² (1897) 320.

Mindanao (Zamboanga), *B. S. 36783, 36948 Ramos & Edaño*. In forests at low altitudes. Malay Peninsula, Sumatra.

PELLACALYX PUSTULATA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 47, Philip. Journ. Sci. 1 (1906) Suppl. 103.

Luzon (Nueva Vizcaya, Bataan, Rizal, Laguna, Sorsogon), Samar, Leyte, Mindanao (Lanao, Davao). In primary forests at low and medium altitudes, ascending to 900 m. Endemic.

Local names: Mamatog (Tag.); pamaluian (Bag.).

EXCLUDED GENERA

ANISOPHYLLEA DISTICHA (Jack) Hook.; Rolfe in Journ. Bot. 23 1885) 212.

The record was based on Lobb's specimen labeled "Luzon;" this certainly was collected in the Malay Peninsula or Singapore, not in the Philippines.

KANDELIA CANDEL (Linn.) Druce Bot. Exch. Club (1914) 420.

Kandelia rheedii W. & A.; F.-Vill. Novis. App. (1880) 79; Vidal Sinopsis Atlas (1883) 25, t. 47, f. D.

Vidal's figure, according to him, was based on material from Bulacan Province, Luzon, but the species is not known from any extant Philippine material.

COMBRETACEAE

1. COMBRETUM Linnaeus

COMBRETUM ACUMINATUM Roxb. Hort. Beng. (1814) 28, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 228; C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1878) 455; F.-Vill. Novis. App. (1880) 81; Vidal Phan. Cuming. Philip. (1885) 112, Rev. Pl. Vasc. Filip. (1886) 128; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 648.

Combretum neurophyllum Miq. Fl. Ind. Bat. 1¹ (1857-58) 608.

Samar, Leyte, Siargao, *Cuming 1681, Wenzel 1641, B. S. 34993 Ramos & Pascasio*. In secondary forests at low altitudes. India to Java and Borneo.

COMBRETUM EXTENSUM Roxb. Hort. Beng. (1814) 28, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 229; F.-Vill. Novis. App. (1880) 81; C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1878) 458; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 300, 649.

Mindoro, Palawan, Mindanao (Misamis), *F. B. 4074 Merritt, 17982 Miranda, B. S. 547 Foxworthy, Merrill 9470*. In thickets and forests at low altitudes. India to the Malay Peninsula and the Andaman Islands.

Local name: Suksukung (Tagb.).

COMBRETUM SQUAMOSUM Roxb. Hort. Beng. (1814) 28, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 231; Walp. Ann. 3 (1853) 860 (var. *luzonicum* Presl); Miq. Fl. Ind. Bat. 1¹ (1857) 607; C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1878) 456; F.-Vill. Novis. App. (1880)

81; Vidal Phan. Cuming. Philip. (1885) 112, Rev. Pl. Vasc. Filip. (1886) 128; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 103, 4 (1909) Bot. 469, Fl. Manila (1912) 350, Sp. Blancoanae (1918) 286. *Combretum distillatorium* Blanco Fl. Filip. (1837) 295.

Combretum laxum Blanco op. cit. ed. 2 (1845) 206, ed. 3, 2 (1878) 22, non Aubl.

Luzon (Ilocos Norte, Ilocos Sur, Pangasinan, Zambales, Nueva Ecija, Pampanga, Bulacan, Bataan, Rizal, Cavite, Laguna), Culion, Palawan, Busuanga, Sibuyan, Panay, Mindanao, Basilan. In thickets and secondary forests at low altitudes. India to Malaya.

Local names: Libang-libang (Mbo.); malakadog (Ilk.); muli (Sub.); pamulaklakín (Ilk.); malatumbága (Tag.); tagarau (Tag.).

COMBRETUM SUNDAICUM Miq. Fl. Ind. Bat. Suppl. (1861-62) 327.

Combretum sexalatum Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 212, p. p., quoad fl.

Combretum confusum Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 116; Merr. op. cit. 4 (1909) Bot. 649.

Luzon (Rizal, Batangas), *F. B. 3130 Ahern's collector, B. S. 4607 Ramos, Merrill Phil. Pl. 1829*. On forested slopes at low and medium altitudes. Malay Peninsula, Sumatra.

The fruiting specimen described in the original description of *C. sexalatum* Merr. is *Aspidopteris elliptica* Juss.

EXCLUDED SPECIES

COMBRETUM MICROPETALUM DC.; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 102.

COMBRETUM OVALIFOLIUM Roxb.; F.-Vill. Novis. App. (1880) 81.

COMBRETUM ROTUNDIFOLIUM DC.; Llanos l. c.

COMBRETUM WALLICHII DC.; F.-Vill. l. c.

2. **TERMINALIA** Linnaeus

TERMINALIA BLANCOI Merr. in Philip. Journ. Sci. 4 (1909) Bot. 645.

Luzon (Benguet, Nueva Ecija, Rizal), *Merrill 2835, Dec. Phil. Forest Fl. 2, 207, Phil. Pl. 485, Loher 6112, Elmer 6395, F. B. 22107 Alvarez, B. S. 1069 Ramos*. In forests at low or medium altitudes. Endemic.

Local name: Kalamansákat (Tag.).

TERMINALIA CALAMANSANAI (Blanco) Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 310 (*calamansanay*); Vidal Rev. Pl. Vasc. Filip. (1886) 127; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 44, Govt. Lab. Publ. (Philip.) 17 (1904) 35, 27 (1905) 44; Philip. Journ. Sci. 4 (1909) Bot. 646, Sp. Blancoanae (1918) 285.

Gimbernatia calamansanai Blanco Fl. Filip. ed. 2 (1845) 266, ed. 3, 2 (1878) 129.

Terminalia bialata F.-Vill. Novis. App. (1880) 80; Vidal Sinopsis Atlas (1883) -25, t. 48; f. A, non Kurz.

Babuyan Islands and northern Luzon to Palawan and Mindanao, in most or all islands and provinces, often abundant. Endemic.

Local names: Anarep (Ilk.); bagabo (Ilk.); bangkalauan (Tag.); bangkalauag (Bis.); bisal (Pang.); bunlos (Tag.); burauis (Kuy.); busili

(Pang.); dikang (Pamp.); kabaṅgasbaṅgas (Bag.); kalamansáli (Sbl.); kalamansanai (Sbl., Tag.); langkóg (Mbo.); langkúg (C. Bis.); lumanog (C. Bis.); magtalísai (P. Bis.); malakalúmpit (Tag.); pangalusiten (Ilk.); ságet (Ig.); sákat (Tag.); sáket (Ilk.); salisai (Lan.); saplid (C. Bis.); subo-subo (Tag.); yankug (Mbo.).

Var. **ACUMINATA** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 646.

Luzon (Tayabas, east coast), *Merrill 1067*. In primary forests at low altitudes. Endemic.

Var. **PLATYPTERIS** Merr. l. c.

Luzon (Zambales, Cavite), *F. B. 371 Maule, B. S. 22587 Ramos & Deroy*. In forests at low altitudes. Endemic.

TERMINALIA CATAPPA Linn. Mant. 1 (1767) 128, 2 (1771) 519; DC. Prodr. 3 (1828) 11; Miq. Fl. Ind. Bat. 1¹ (1857) 599; F.-Vill. Novis. App. (1880) 80; Vidal Rev. Pl. Vasc. Filip. (1886) 127, Phan. Cuming. Philip. (1885) 112; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 103, 3 (1908) Bot. 422, 4 (1909) Bot. 642; Fl. Manila (1912) 349, Interpret. Herb. Amb. (1917) 390, Sp. Blancoanae (1918) 285.

Terminalia moluccana Lam. Encycl. 1 (1783) 349.

Juglans catappa Lour. Fl. Cochinch. (1790) 573.

Terminalia latifolia Blanco Fl. Filip. (1837) 376, non Sw.

Terminalia mauritiana Blanco op. cit. ed. 2 (1845) 264, ed. 3, 2 (1878) 126, t. 144, non Lam.

Throughout the Philippines along the seashore, often planted inland. Old World Tropics generally, introduced in the New World.

Local names: Almendras (Sp.); almendro (Sp.); banilak (Pamp.); dalasa (Pamp.); dalinsi (Bik.); dalísai (Ibn.); kalísai (Pamp.); hitam (Pamp.); logo (Ilk.); lugo (Ilk.); sauidug (Iv.); salaísai (Ig.); salísai (Sbl.); taísai (Sul.); talísai (Tag., Bag., Sbl., Bik., Bis., Pamp.); talísi (Yak.); yalísai (Tag.).

TERMINALIA COMINTANA (Blanco) Merr. in Philip. Journ. Sci. 4 (1909) Bot. 300, 644, Sp. Blancoanae (1918) 286.

Bucida comintana Blanco Fl. Filip. (1837) 856, ed. 2 (1845) 265, ed. 3, 2 (1878) 128.

Terminalia chebula F.-Vill. Novis. App. (1880) 80, non Retz.

Terminalia multiflora Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 34, Philip. Journ. Sci. 1 (1906) Suppl. 103.

Luzon (Cagayan to Camarines, in most or all provinces), Mindoro, Bancalan, Ticao, Leyte, Masbate, Negros, Mindanao. In forests at low and medium altitudes. British North Borneo, Celebes.

Local names: Agarú (Pang.); apunga (Tag.); baṅgiás (Tag.); bangles (Ilk.); biṅgas (Sbl., Tag.); boṅgas (S. L. Bis.); buṅgas (S. L. Bis.); buṅglas (P. Bis.); bungras (Bik.); hinabuad (Tag.); hinabuan (Tag.); hinabusi (Tag.); laknab (Tag.); lasila (Ibn.); lasilak (Ibn., Ilk.); lasilasan (Ibn.); lasilat (Ibn.); luno-lúno (Bag.); lununu (C. Bis.); magtalópoi (Pang.); malatágum (Sul.); maghubo (Tag.); nanghubo (Tag.); maupat (Tagb.); paghubo (Tag.); palauag (Tag.); rubian (Tag.); saplúngan (Tag.); taṅgisan (Pamp.); yunu-yúnu (Mbo.).

TERMINALIA COPELANDI Elm. Leaf. Philip. Bot. 5 (1913) 1795.

Palawan, *Elmer 12594*. In forests at low altitudes; apparently allied to *T. crassiramea* Merr. Endemic.

Local name: Talísai (Tagb.).

TERMINALIA CRASSIRAMEA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 287.

Leyte, Mindanao (Surigao, Agusan, Davao), *F. B. 12764 Rosenbluth, 27479 De Mesa*. In primary forests at low altitudes. Endemic.

Local names: Lanipáu (S. L. Bis., C. Bis., Mbo.); nipon (Bag.); yanipó (Mbo.).

TERMINALIA DARLINGII Merr. in Philip. Journ. Sci. 5 (1910) Bot. 202.

Luzon (Isabela, Tayabas, Camarines), Samar, *F. B. 18735 Darling, 27058 Magistrado, 23589 Lasquety, B. S. 21145, 20840 Escritor, 25520 Yates*. In primary forests at low altitudes. Endemic.

Local name: Pagat-págat (Neg.).

TERMINALIA EDULIS Blanco Fl. Filip. ed. 2 (1845) 265, ed. 3, 2 (1878) 127; Vidal Rev. Pl. Vasc. Filip. (1886) 127; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 44, Govt. Lab. Publ. (Philip.) 17 (1904) 33, Philip. Journ. Sci. 1 (1906) Suppl. 103, 4 (1909) Bot. 643, Sp. Blancoanae (1918) 285.

Terminalia angustifolia Blanco Fl. Filip. (1837) 377, non Jacq.

Pentaptera mollis Presl'Epim. (1851) 214; Walp. Ann. 3 (1853) 859.

Terminalia mollis Rolfe in Journ. Bot. 23 (1885) 312; Vidal Phan. Cuming. Philip. (1885) 112, Rev. Pl. Vasc. Filip. (1886) 127.

Terminalia belerica F.-Vill. Novis. App. (1880) 80; Vidal Sinopsis Atlas (1883) 25, t. 28, f. A, non Roxb.

Terminalia javanica Miq. Fl. Ind. Bat. 1¹ (1856) 602; Koord. & Val. Atlas Baumart. Java 1 (1913) f. 74.

Luzon (Cagayan to Sorsogon) to Palawan and Mindanao in all or most islands and provinces. Common in primary forests at low altitudes. Java.

Local names: Alupi (Ibn.); anagep (Ilk.); baho (Tagb.); balisáyin (Tag.); bañgo (Mbo.); baraus (Tagb.); basal (Tag.); basi (Itn.); bisi (Gad.); buluang (Bis.); dalinson (Tag.); disí (Gad.); gayumayen (Sbl.); gisit (Itn.); kalamai (Tag.); kalautit (Ilk.); kalaotit (Gad.); kalomagon (Bik.); kalomaog (P. Bis.); kalumagon (Bik.); kalumañgog (Bik.); kalamanog (P. Bis.); kalúmpit (Tag., Sbl.); kalupí (Neg., Ibn.); kalupít (Ilk., Neg.); kalaútit (Ilk.); kalúrig (Ibn.); kalúsit (Ibn.); kamaris (Tagb.); kotmok (Bik.); lumángog (S. L. Bis.); magtalísai (P. Bis.); taya-táya (P. Bis.).

TERMINALIA MAGARAPALI Vidal Sinopsis Atlas (1883) 26, t. 48, f. C; Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 35, Philip. Journ. Sci. 4 (1909) Bot. 643.

Alabat (*Vidal*). I have seen nothing answering to the brief description of this species, and the type is not extant. Endemic.

Local names: Magarapali or margapali (Tag.).

It is possibly referable to *Elaeocarpus monocera* Cav.

TERMINALIA NITENS Presl Epim. (1851) 214; Walp. Ann. 3 (1853) 859; Vidal Phan. Cuming. Philip. (1885) 112, Rev. Pl. Vasc. Filip. (1886) 77; Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 33, Philip. Journ. Sci. 1 (1906) Suppl. 103, 4 (1909) Bot. 645.

Terminalia merrillii Elm. Leaf. Philip. Bot. 7 (1915) 2581.

Luzon (Cagayan to Sorsogon) to Palawan and Mindanao. In primary forests at low and medium altitudes in most or all islands and provinces. Endemic.

Local names: Anagep (Ilk.); arinbukal (Ilk.); bisal (Pang.); dalinsi (Tag.); daminsil (Tag.); kalaotit (Ig.); kalaupi (Ibn.); kalautit (Ilk.); kananaupong (Mbo.); magatalishai (Bis.); magtalísai (Bik.); malagábi (Tag.); mangatalísai (Mag.); mantalísi (Sul.); pansaket (Tag.); pongud (Ilk.); sakat (Pamp., Tag.); samondo (Tagb.); samuloko (Bag.); tújang-manúk (P. Bis.); tagit (Tagb.).

TERMINALIA OOCARPA Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 32 (*ovocarpa*), Philip. Journ. Sci. 1 (1906) Suppl. 103, 4 (1909) Bot. 644.

Terminalia ellipsoidea Merr. op. cit. 33.

Luzon (Cagayan, Isabela, Bataan, Tayabas, Laguna, Camarines, Sorsogon), Mindoro, Panay, Mindanao (Surigao, Zamboanga). In primary forests at low altitudes. Endemic.

Local names: Alilem (Ibn.); balinsil (Tag.); bangkaláuag (P. Bis.); dalinsi (Tag., Bik.); dalinsoi (Tag., Bik.); hakit (Sbl.); kalusit (Ibn.); kalutit (Ilk.); magtalísai (Bis., Mbo.); malagábi (P. Bis.); paang-balíuis (Tag.); purukan (Ilk.); talísai del monte (Tag.); talísai-gúbat (Tag.);

TERMINALIA PELLUCIDA Presl Epim. (1851) 214; Walp. Ann. 3 (1853) 859; Vidal Phan. Cuming. Philip. (1885) 112, Rev. Pl. Vasc. Filip. (1886) 127; Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 35, Philip. Journ. Sci. 4 (1909) Bot. 644.

Terminalia sumatrana Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 200, non Miq.

Terminalia iwahigensis Elm. Leaf. Philip. Bot. 5 (1913) 1760.

Luzon (Pangasinan, Zambales, Tarlac, Pampanga, Tayabas), Palawan, Sulu Archipelago, Cuming 1039, Merrill 11537, Elmer 12998, 13241, F. B. 19450 Agama, 21679 Domingo, 8268 Curran & Merritt, 5923 Curran. In forests at low altitudes. Endemic.

Local names: Aritongtong (Ilk.); dalinsi (Tag.); dulaoen (Ilk.); hakit (Sbl.); manaong (Pang.); saket (Pang., Sbl.); sakut (Sbl.); sobo-sobo (Tag.); solo-solo (Pamp.); talísai-tandok (Sul.); upung-upung (S. L. Bis.).

TERMINALIA POLYANTHA Presl Epim. (1851) 214; Walp. Ann. 3 (1853) 858; Vidal Phan. Cuming. Philip. (1885) 112, Rev. Pl. Vasc. Filip. (1886) 128; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 646, Sp. Blancoanae (1918) 285.

Gnidia oppositifolia Blanco Fl. Filip. (1837) 299, ed. 2 (1845) 208, ed. 3, 2 (1878) 25, non Linn.

Terminalia parviflora Presl Epim. (1851) 214; Walp. Ann. 3 (1853) 858; Vidal Phan. Cuming. Philip. (1885) 112, Rev. Pl. Vasc. Filip. (1886) 128; Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 36.
Gnidia ? philippinensis Meisn. in DC. Prodr. 14 (1857) 592.

Luzon (Pangasinan, Zambales, Nueva Ecija, Bulacan, Rizal, Batangas), Mindoro, *Cuming* 1439, 1516, *Elmer* 17420 as *T. montalbanica* Elm., *Merrill Sp. Blancoanae* 1010, *Phil. Pl.* 1499, 1881, *Loher* 6100, 6110, 6113, *Warburg* 13858, *B. S.* 22369 *Ramos*, 17703, 17738 *Otanes*, 6986, 6990, 6950 *Curran*, 25609 *Tungol*. In dry thickets and secondary forests at low and medium altitudes. Endemic.

Local names: Anagap (Tag., Sbl.); bangles (Ilk.).

TERMINALIA SURIGAENSIS Merr. in Philip. Journ. Sci. 17 (1920) 295.

Mindanao (Surigao), *B. S.* 34711, 34600 *Ramos & Pascasio*. Along streams at low altitudes. Endemic.

EXCLUDED SPECIES

TERMINALIA ARJUNA Bedd.; F.-Vill. Novis. App. (1880) 80.

TERMINALIA PROCERA Roxb.; F.-Vill l. c.

TERMINALIA GLABRATA Forst.; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 616.

A specimen from a small island in the Sulu Sea was referred here by Gray with doubt; I suspect that the specimen was *Terminalia catappa* Linn.

3. LUMNITZERA Willdenow

LUMNITZERA LITTOREA (Jack) Voigt Hort. Suburb. Calcut. (1845) 39; Kurz Forest. Fl. Brit. Burma 1 (1877) 469; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 647, *Sp. Blancoanae* (1918) 287.

Pyrranthus littoreus Jack in Malay Miscel. 2¹ (1822) 57.

Laguncularia purpurea Gaudich. Bot. Freyc. Voy. (1826) 481, t. 104.

Lumnitzera purpurea Presl Repert. 1 (1834) 155; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 44.

Lumnitzera coccinea W. & A. Prodr. (1834) 316; Miq. Fl. Ind. Bat. 1¹ (1857) 606; C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1878) 452; F.-Vill. Novis. App. (1880) 80; Vidal Rev. Pl. Vasc. Filip. (1886) 128.

Petaloma coccinea Blanco Fl. Filip. (1837) 345, ed. 2 (1845) 240, ed. 3, 2 (1878) 83.

Throughout the Philippines along the seashore and tidal streams. Tropical Asia through Malaya to Australia and Polynesia.

Local names: Agnáa (Tag.); aguia (Sbl.); anilai (Tag.); bakting (Sul.); banting (Sul.); bating (Sul.); bulokbulok (P. Bis.); dalúru-babáe (Tag.); dulok-dúlok (Bis.); kalapíni (Sbl.); karifurog (Neg.); kulási (Tag.); libato (Tag.); libatu-pulá (Tag.); linas (Bag.); magalólo (Tagb.); maóro (C. Bis.); panting-pánting (Sul.); papasil (Tag.); sagasa (C. Bis.); salasa (P. Bis.); santing (Sul.); supsupun (Tagk.); tabau (S. L. Bis., P. Bis., Sul., C. Bis., Tag.); talau (Bik.).

LUMITZERA RACEMOSA Willd. in Ges. Naturf. Fr. Neue Schr. 4 (1803) 187; DC. Prodr. 3 (1828) 22; Miq. Fl. Ind. Bat. 1¹ (1857) 606; C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1878) 452; F.-Vill. Novis. App. (1880) 81; Vidal Sinopsis Atlas (1883) 26, *t. 48, f. G*, Rev. Pl. Vasc. Filip. (1886) 128; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 647, Fl. Manila (1912) 350, Sp. Blancoanae (1918) 287.

Petaloma alba Blanco Fl. Filip. (1837) 344, ed. 2 (1845) 240, ed. 3, 2 (1878) 82, *t. 126*.

Luzon (Rizal, Bataan, Tayabas), Mindoro, Panay, Negros, Cebu, Mindanao. In beach swamps and along tidal streams. India through Malaya to Australia and Polynesia.

Local names: Agnáya (Sbl.); kulási (Tag.); solási (Tag.); tabau (P. Bis., Tag.).

4. **QUISQUALIS** Linnaeus

QUISQUALIS INDICA Linn. Sp. Pl. ed. 2 (1762) 556; DC. Prodr. 3 (1828) 23; Presl Rel. Haenk. 2 (1830) 25; Blanco Fl. Filip. (1837) 361; Miq. Fl. Ind. Bat. 1¹ (1857) 610; F.-Vill. Novis. App. (1880) 81; Vidal Sinopsis Atlas (1883) 26, *t. 48, f. D*, Phan. Cuming. Philip. (1885) 112, Rev. Pl. Vasc. Filip. (1886) 128; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 103, 3 (1908) Bot. 422, 4 (1909) Bot. 649, Fl. Manila (1912) 349, Interpret. Herb. Amb. (1917) 390, Sp. Blancoanae (1918) 286.

Quisqualis pubescens Burm. f. Fl. Ind. (1768) 104.

Quisqualis spinosa Blanco Fl. Filip. ed. 2 (1845) 254, ed. 3, 2 (1878) 109, *t. 133*.

Quisqualis malabarica F.-Vill. Novis. App. (1880) 81, non Bedd.

Quisqualis densiflora F.-Vill. l. c., non Wall.

Throughout the Philippines in thickets and secondary forests; sometimes planted for its fragrant flowers. India to Malaya, introduced in most tropical countries.

Local names: Balitadham (Bis.); bonor (P. Bis.); kasunbal (Bik.); niog-niógan (Tag.); pinion (Bis.); piñónes (Bis.); tagarau (Tag.); tanglón (Bik.); tagúlo (Tag.); talólong (Tag., Ilk.); talúlong (Ibn.); talúlung (Ibn.); tañgóló (Tag.); tañgólón (Tag., Bik.); tañgúlo (Bik.); taúñgon (Mbo.); totoraok (Tag.); tartaraok (Ilk.); tartarau (Ilk.).

MYRTACEAE

1. **PSIDIUM** Linnaeus

PSIDIUM CUJAVILLUS Burm. f. Fl. Ind. (1768) 114; Merr. Interpret. Herb. Amb. (1917) 391.

Psidium pumilum Vahl Symb. 2 (1791) 56; F.-Vill. Novis. App. (1880) 83; Naves in Blanco Fl. Filip. ed. 3 (1877-83) *t. 172*; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 336.

Psidium angustifolium Lam. Encycl. 3 (1789) 17.

Luzon (Rizal), *B. S. 1034 Ramos*. In thickets at low and medium altitudes, apparently very rare or local in the Philippines. Introduced from tropical America.

PSIDIUM GUAJAVA Linn. Sp. Pl. (1753) 470; Miq. Fl. Ind. Bat. 1¹ (1855) 469 (*guayava*); F.-Vill. Novis. App. (1880) 83 (*guyava*); Vidal Sinopsis Atlas (1883) 26, *t. 50, f. B*; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 391, Sp. Blancoanae (1918) 287; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 336.

Psidium cujavus Linn. in Stickm. Herb. Amb. (1754) 7, Amoen. Acad. 4 (1759) 119.

Psidium pyriferum Linn. Sp. Pl. ed. 2 (1762) 672; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 332; Blanco Fl. Filip. ed. 2 (1845) 292, ed. 3, 2 (1878) 178, *t. 48*.

Psidium pomiferum Linn. l. c.

Psidium aromaticum Blanco Fl. Filip. (1837) 417, non Aubl.

Throughout the Philippines in all islands and provinces, usually very common in thickets and secondary forests at low altitudes, ascending to at least 1,500 m. Introduced from tropical America, thoroughly naturalized. Pantropic. Guava.

Local names: Bagábas (Ig.); bayábas (Ibn., Ilk., Tag., C. Bis.); bayáuas (Bik.); bayàbo (Ibn.); biabas (Sul.); gaiyábat (If.); gaiyábit (If.); geyábas (Bon.); guayábas (Tag.); guyábas (Ilk.); kalimbahin (Tag.); tayábas (Tag.).

2. DECASPERMUM Forster

DECASPERMUM BLANCOI Vidal Phan. Cuming. Philip. (1885) 112, 172, Rev. Pl. Vasc. Filip. (1886) 130; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 103, Sp. Blancoanae (1918) 288; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 336.

Myrtus communis Blanco Fl. Filip. (1837) 422, ed. 2 (1845) 295, ed. 3, 2 (1878) 182, non Linn.

Nelitris rubra Vidal Sinopsis Atlas (1883) 26, *t. 50, f. C*, non Blume.

Decaspermum rubrum F.-Vill. Novis. App. (1880) 84, non Baill.

Decaspermum grandiflorum Elm. Leaf. Philip. Bot. 4 (1912) 1481.

Luzon (Pangasinan, Zambales, Nueva Ecija, Bulacan, Bataan, Rizal, Laguna, Tayabas, Albay), Golo, Sibuyan, *Cuming 801, Warburg 13986, Merrill 2862, 2097, 1091, 3890, 11545, Phil. Pl. 1054, 1452, Sp. Blancoanae 568, Elmer 12057, B. S. 20914 Escritor, F. B. 24227 Villanueva*. In thickets at low and medium altitudes, ascending to 1,000 m and sometimes found on exposed forested ridges. Endemic.

Local names: Balantakyabii (Pang.); digotnalit (Ilk.); daniri (Tag.); kandong (Ilk.); manik-manik (Sbl.); pulang-balat (Tag.).

DECASPERMUM FRUTICOSUM Forst. Char. Gen. (1776) 74, *t. 37*; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 364; Merr. Interpret. Herb. Amb. (1917) 892, Sp. Blancoanae (1918) 287.

Psidium decaspermum Linn. f. Suppl. (1781) 252.

Nelitris paniculata Lindl. Coll. Bot. (1821) 16.

Decaspermum paniculatum Kurz in Journ. As. Soc. Beng. 46² (1877) 61; Duthie in Hook. f. Fl. Brit. Ind. 2 (1878) 470; F.-Vill. Novis. App. (1880) 84; Vidal Phan. Cuming. Philip. (1885) 112, Rev. Pl. Vasc. Filip. (1886) 130; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 103, 3 (1908) Bot. 423, 5 (1910) Bot. 366, Sp. Blancoanae (1918)

287; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 337; Elm. Leaf. Philip. Bot. 7 (1914) 2343.

Legnotis lanceolata Blanco Fl. Filip. (1837) 445.

Metrosideros pictipetala Blanco op. cit. ed. 2 (1845) 295, ed. 3, 2 (1878) 183.

Nelitris fruticosa A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 547, t. 60.

Throughout the Philippines, in all or most islands and provinces, in thickets and secondary forests from sea level to an altitude of 2,000 m; often common. India and China through Malaya to tropical Australia and Polynesia.

Local names: Agem (Ibn., Ilk.); alungkágai (Bis.); barit (Bis.); baringaras (Bag.); bultia (Ig.); chaching (Ig.); daniri (Tag.); dugayon (C. Bis.); gusokan (C. Bis.); halgus (Mbo.); kamigrin (Lan.); kansilai (Sul.); lardu (Ig.); malagíting-gíting (Tag.); patalsik (Tag.); pulupos (Sub.); salilihan (C. Bis.); salingsínġang (Ig.); sandal (Sub.); taronga-tínġan (S. L. Bis.); tuan (Ig.).

DECASPERMUM MICROPHYLLUM Merr. in Philip. Journ. Sci. 18 (1921) 289.

Mindanao (Surigao), *B. S. 34715 Ramos & Edaño*. In thickets along small streams at low altitudes. Endemic.

3. RHODOMYRTUS Reichenbach

RHODOMYRTUS SURIGAOENSIS Elm. Leaf. Philip. Bot. 7 (1914) 2344.

Bohol, Mindanao (Surigao), *Elmer 13709, B. S. 34579 Ramos & Pascasio, F. B. 25107 Catalan*. In forests at low altitudes, on Mt. Urdaneta ascending to 1,600 m. Endemic.

Local name: Dayopod (Mbo.).

RHODOMYRTUS TOMENTOSA (Ait.) Hassk. in Flora (1842) Beibl. 2: 35; Benth. in Hook. Lond. Journ. Bot. 2 (1843) 220; Duthie in Hook. f. Fl. Brit. Ind. 2 (1878) 469; Vidal Phan. Cuming. Philip. (1885) 112, Rev. Pl. Vasc. Filip. (1886) 129; Koord. & Val. Bijdr. Boom. Java 6 (1900) 41; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 423; C. B. Rob. op. cit. 4 (1909) Bot. 337.

Myrtus tomentosus Ait. Hort. Kew. 2 (1789) 159.

Babuyan Islands, Luzon (Ilocos Norte), *Cuming 1253, B. S. 4129 Fénix, 32969 Ramos*. In thickets at low altitudes. India to southern China, Formosa, and Malaya.

4. EUGENIA Micheli

EUGENIA ABBREVIATA Elm. Leaf. Philip. Bot. 8 (1915) 2776.

Luzon (Benguet), *Elmer 14263*. In the mossy forest, summit of Mt. Santo Tomas, altitude about 2,200 m; very closely allied to *E. paucipunctata* Merr. Endemic.

EUGENIA ACROPHILA C. B. Rob. in Philip. Journ. Sci. 4 (1910) Bot. 389; Merr. op. cit. 5 (1910) Bot. 366.

Luzon (Benguet, Zambales), *F. B.* 18068, 18036 *Curran, Zschokke, & Merritt*, 8066, 8088 *Curran & Merritt*. In the mossy forest on the higher mountains, altitude 2,000 to 2,700 m. Endemic.

Local name: Baltik (Ig.).

EUGENIA AHERNIANA C. B. Rob. in *Philip. Journ. Sci.* 4 (1909) Bot. 344; *Elm. Leaf. Philip. Bot.* 7 (1914) 2346.

Luzon (Cagayan, Rizal, Laguna, Tayabas, Sorsogon), Samar, Mindanao (Surigao, Agusan, Lanao, Davao, Zamboanga). In primary forests at low and medium altitudes. Endemic.

Local names: Hañgos (C. Bis.); kamanla (Tag.); lakañgan (Ibn., Ilk.); lusunan (Sul.); makaasim (Bag.); malabayabas (Tag.); rukrukso (Ibn.); sambonotán (S. L. Bis.); stangosan (Mbo.); tulanan (S. L. Bis.).

EUGENIA ALCINAE Merr. in *Philip. Journ. Sci.* 10 (1915) Bot. 216.

Luzon (Camarines); Culion, Palawan, Panay, *Merrill* 9316, 9224, *F. B.* 27874, 27882 *Cenabre, Baldemor, & Aduviso*, 28899 *Ponce*. In dry thickets and on forested slopes at low altitudes. British North Borneo.

Local names: Bintang (Kuy.); guromon (Bik.); magtungau (P. Bis.); lamuto (Tagb.).

EUGENIA ALVAREZII C. B. Rob. in *Philip. Journ. Sci.* 4 (1909) Bot. 390.

Eugenia maquilingsensis *Elm. Leaf. Philip. Bot.* 8 (1919) 3096.

Luzon (Bontoc, Benguet, Nueva Vizcaya, Laguna, Nueva Ecija), Mindoro, *F. B.* 18353, 22420, 22409 *Alvarez*, 25149 *Leaño*, 14884 *Darling*, *B. S.* 8345 *McGregor*, 37620, 37625 *Ramos & Edaño*, *Elmer* 17882, 17627. Chiefly in the mossy forests on ridges and peaks, altitude 1,000 to 2,400 m. Endemic.

Local names: Balteak (Ig.); lobloban (Bon.); pait (Ilk.); panglong-buyen (Ilk.).

EUGENIA ANGULARIS *Elm. Leaf. Philip. Bot.* 4 (1912) 1434.

Sibuyan, *Elmer* 12080. In primary forests, altitude about 450 m. Endemic.

EUGENIA ANGULATA C. B. Rob. in *Philip. Journ. Sci.* 4 (1909) Bot. 354.

Mindanao (Lanao, Zamboanga), *Williams* 2164, *Clemens*. In forests up to 750 m altitude. Endemic.

EUGENIA ANTONIANA *Elm. Leaf. Philip. Bot.* 4 (1912) 1425.

Mindanao (Davao), *Elmer* 11621. In primary forests, altitude about 1,100 m. Endemic.

Local name: Malagsam (Bag.).

EUGENIA APOENSIS *Elm. Leaf. Philip. Bot.* 4 (1912) 1401.

Mindanao (Davao), *Elmer* 11594. In primary forests, altitude about 1,800 m. Endemic.

Local name: Malagsam (Bag.).

EUGENIA AQUEA *Burm. f. Fl. Ind.* (1768) 114; *F.-Vill. Novis. App.* (1880)

84; *Koord. & Val. Bijdr. Boom. Java* 6 (1900) 80; *Merr. Interpret.*

Herb. Amb. (1917) 393.

Jambosa aquea *DC. Prodr.* 3 (1828) 288.

Eugenia mindanaensis C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 363, 6 (1911) Bot. 213; Elm. Leaf. Philip. Bot. 4 (1912) 1411.

Samar, Dinagat, Mindanao, Basilan, *Williams 2801, 2752, Elmer 11974, Merrill Phil. Pl. 1669, Clemens 477, Wester 137, Ahern 479, B. S. 11713 Robinson*. In thickets and forests at low and medium altitudes. Widely distributed in Malaya.

Local names: Amogog (Buk.); malatambís (C. Bis.); tabís (Bag.); tambís (S. L. Bis., C. Bis., Sul., Mag.).

EUGENIA ARCUATINERVIA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 104; C. B. Rob. op. cit. 4 (1909) Bot. 380; Elm. Leaf. Philip. Bot. 4 (1912) 1418.

Luzon (Cagayan, Union, Bataan, Tayabas, Laguna, Camarines), Mindoro, Samar, Leyte, Negros, Mindanao (Surigao, Lanao, Davao). In primary forests at low and medium altitudes. Endemic.

Local names: Birakbak (Neg.); karutad (Neg.); malabayábas (Tag.); malagsam-bakolod (Bag.); malarúhat (Tag.); maramatam (Ibn.); pañgo (Ibn.).

EUGENIA ASTRONIOIDES C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 393.

Eugenia bakeri Elm. Leaf. Philip. Bot. 7 (1914) 2355.

Luzon (Cagayan, Laguna, Tayabas, Camarines, Sorsogon), Leyte, Siargao, Mindanao (Bukidnon, Agusan), *Elmer 14031, 16212, 15375, Merrill Phil. Pl. 1122, F. B. 18467, 18457 Alvarez, 27076 Bernardo, 23492 Manuel, 25413 Labitag, B. S. 19451, 15013 Ramos, 38762 Ramos & Edaño, 29195, 33909 Ramos & Pascasio*. In primary forests at low and medium altitudes. Endemic.

Local names: Butong-manók (Tag.); lañgauisan (Mbo.); makaasim (Tag.); makaasim-balatuyo (Tag.); malapogau (Bik.); malarúhat (Tag.); pañgot (Ibn.); saugnanan (Mbo.); sudsod (Ibn.).

EUGENIA ATROPUNCTATA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 385; Elm. Leaf. Philip. Bot. 4 (1912) 1426.

Eugenia holmani Elm. Leaf. Philip. Bot. 7 (1914) 2354.

Luzon (Cagayan, Laguna, Tayabas), Palawan, Negros, Mindanao (Agusan, Lanao), *Cuming 1308, F. B. 21793 Barros, 26679 Peñas, 26634 Velasco, 24105 Bernardo, 25372 Mabesa, Elmer 12793, 12850, 13356*. In primary forests at low and medium altitudes. Endemic.

Local names: Pañgo (Neg., Ibn.); pañgugok (Ilk.); pañgugot (Neg.); sagimsim (S. L. Bis.).

EUGENIA ATTENUATIFOLIA Merr. in Philip. Journ. Sci. 18 (1921) 299.

Catanduanes, *B. S. 30314 Ramos*. On forested slopes at medium altitudes. Endemic.

EUGENIA AUREA Elm. Leaf. Philip. Bot. 4 (1912) 1400.

Negros, Mindanao (Davao, Bukidnon, Misamis), *Elmer 11253, Copeland 1186, B. S. 38557, 38744 Ramos & Edaño*. In the mossy forest, altitude 1,000 to 1,800 m. Endemic.

Local names: Pagapos (Buk.); tonau (Bag.).

EUGENIA BALERENSIS C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 346.

Eugenia brunnea C. B. Rob. op. cit. 4 (1909) 372, non Niedenzu.

Luzon (Tayabas, Camarines, east coast), *Merrill 1069bis, 1088, F. B. 10371 Curran, 28074 Alambra*. In primary forests at low altitudes. Endemic.

Local names: Karubek-na-balikan (Bik.); malabayábas (Tag.); malarúhat (Tag.).

EUGENIA BANABA Elm. Leaf. Philip. Bot. 4 (1912) 1443.

Sibuyan, *Elmer 12146*. In primary forests, altitude about 225 m. Endemic.

EUGENIA BARNESII Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 37, Philip. Journ. Sci. 1 (1906) Suppl. 104; C. B. Rob. op. cit. 4 (1909) Bot. 360.

Luzon (Bataan), *F. B. 140 Barnes, 733, 1198, 1236 Borden, 2774 Meyer, Whitford 251*. In primary forests, altitude 500 to 750 m. Endemic.

Local names: Malakulubkúb (Tag.); putian (Tag.).

EUGENIA BATAANENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 104; C. B. Rob. op. cit. 4 (1899) Bot. 348.

Jambosa bataanensis Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 36.

Luzon (Nueva Vizcaya, Nueva Ecija, Pangasinan, Pampanga, Bulacan, Rizal, Bataan, Laguna, Tayabas), Mindoro, Mindanao (Agusan). In primary forests, altitude 500 to 900 m. Endemic.

Local name: Malarúhat (Tag.).

EUGENIA BENGUETENSIS C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 374.

Luzon (Bontoc, Benguet), *Elmer 6265, Loher 2492, Vanoverbergh 1125, B. S. 38074 Ramos & Edaña*. In forests, altitude above 1,500 m. Endemic.

Local name: Sísik (Bon.).

EUGENIA BENTHAMII A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 520; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 83; C. B. Rob. op. cit. 4 (1909) Bot. 394.

Syzygium nitidum Benth. in Hook. Lond. Journ. Bot. 2 (1843) 221, non *Eugenia nitida* Vell.

Luzon (Union, Bulacan, Nueva Ecija, Rizal, Bataan, Batangas, Laguna, Tayabas, Camarines), Mindoro, Mangsi. In forests at low altitudes. Tobie Island.

Local names: Aráhan (Bik.); barabak (Ilk.); dulitan (Tag.); makaasim (Bik.); malakaasim (Bik.); malarúhat (Tag.); paitan (Ilk.); panglungbuyen (Ilk.); punti (P. Bis.).

EUGENIA BERNARDOI Merr. in Philip. Journ. Sci. 18 (1921) 304.

Luzon (Cagayan, Ilocos Norte), *F. B. 27074 Bernardo, B. S. 33036 Ramos*. In primary forests at low altitudes. Endemic.

Local name: Maramaatam (Ibn.).

EUGENIA BESUKIENSIS (Hass.) Merr. in Journ. Str. Branch Roy. As. Soc. 77 (1917) 226, Philip. Journ. Sci. 20 (1922) 414.

Microjambosa besukiensis Hassk. ex Miq. Fl. Ind. Bot. Suppl. (1861) 311, in syn.

Jambosa buxifolia Miq. Fl. Ind. Bot. 1¹ (1858) 1086, Suppl. (1861) 311, non *Eugenia buxifolia* Willd.

Mindoro, *B. S.* 39440 *Ramos*. On forested slopes, altitude 600 m. Bangka, Borneo.

EUGENIA BLANCOI Merr. in Philip. Journ. Sci. 10 (1915) Bot. 208.

Samar, *B. S.* 17623, 17492 *Ramos*. In primary forests at low altitudes. Endemic.

EUGENIA BORDENII Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 47, Philip. Journ. Sci. 1 (1906) Suppl. 104; C. B. Rob. op. cit. 4 (1909) Bot. 375.

Luzon (Cagayan, Pangasinan, Tarlac, Rizal, Bataan, Camarines, Albay), Mindoro, Negros, Mindanao, Basilan. In primary forests at low altitudes, often common. Endemic.

Local names: Amtuk (Ibn.); apalang (Tag.); bakilómboi (P. Bis.); bayakbak (Pang.); bilolo (Tag.); bislot-sapa (Tag.); kalokok (Bik.); makaasim (Tag.); malakalubkúb (Tag.); malarúhat (Tag.); malarúhat-putí (Tag.); malatambís (Chab.); maramatam (Neg.); odling (P. Bis.); panglomboyen (Pang.); panglumbuyan (Ilk.); talimomog (Tag.); tayong-táyong (Tag.).

EUGENIA BREVIPANICULATA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 23.

Luzon (Sorsogon), *B. S.* 23567 *Ramos*. In primary forests along streams at low or medium altitudes. Endemic.

EUGENIA BREVISTYLIS C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 347; Elm. Leaf. Philip. Bot. 4 (1912) 1422.

Luzon (Tayabas), Sibuyan, Leyte, Tinago, Dinagat, Mindanao, *B. S.* 20807 *Escritor*, *F. B.* 20554, 20624 *Miranda*, 23164 *Agama*, 22762 *Nave*, 15228 *Klemme*, 23032 *Ponce*, 14920 *Tarrosa*, *Ahern* 429, 443, 516. In forests at low altitudes. Endemic.

Local names: Balit (Mbo.); lagi-lagi (C. Bis.); magtuñgon (P. Bis.); malabuañgin (C. Bis.); malambís (S. L. Bis.); malarúhat (Sul.); malarúhat-bláncó (Sul.); putik-putik (Sul.); sagimsim (Mag.).

EUGENIA BRITTONIANA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 398.

Luzon (Benguet, Bontoc), *Williams* 1464, 1461, *Vanoverbergh* 1126, *B. S.* 40425 *Ramos & Edaño*. In forests, altitude about 1,500 m. Endemic.

EUGENIA CAGAYANENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 214.

Luzon (Cagayan), *F. B.* 21785 *Velasco*, 17212, 17153 *Curran*. In forests, altitude about 300 m. Endemic.

Local name: Panglumboyen (Ilk.).

EUGENIA CALCICOLA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 209.

Luzon (Cagayan, Benguet, Zambales, Rizal, Laguna, Tayabas, Camarines), *Merrill* 9746, *F. B.* 25530 *Cenabre*, 23202 *Alejandro*, 25987 *Maneja*, *B. S.* 14922, 23827 *Ramos*. In forests at low and medium altitudes, ascending to 1,300 m. Endemic.

Local names: Karogkog (Bik.); paitan-bakil (Sbl.); panglumboyen (Ilk.).

EUGENIA CALLERYANA C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 348.

Eugenia corymbifera C. B. Rob. op. cit. 349, non Koord. & Val.

Luzon (Benguet, Zambales, Bataan, Rizal), *Elmer* 6130, *Loher* 6040, *B. S.* 13544 *Fénix*, 22474 *Ramos*, *F. B.* 423 *Ahern's collector*. In forests at medium altitudes. Endemic.

EUGENIA CALUBCOB C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 364; Merr. Fl. Manila (1912) 353, *Sp. Blancoanae* (1918) 289.

Eugenia montana Blanco Fl. Filip. (1837) 416, ed. 2 (1845) 291, ed. 3, 2 (1878) 175, *t.* 145, non DC.

Eugenia macrocarpa F.-Vill. Novis. App. (1880) 84, non Roxb.

Batan Islands and northern Luzon to Palawan and Mindanao. Common and widely distributed in thickets and forests at low and medium altitudes. Endemic.

Local names: Adang (Ibn., Neg.); andang (Ibn.); balañga (P. Bis.); barakbak (Ilk.); kalogkog (Tag., S. L. Bis.); kalopkop (Tag.); kalubkob (Tag.); kalubkub (Tag.); kalugkog (Tag.); karobkob (Bik.); karugkog (Bik.); kayogkog (Tag.); kayugkug (Tag.); kupkup (Pamp.); lambug (Mbo.); malaigang (P. Bis.); malakaropkop (Tag.); malakúpa (P. Bis.); malarúhat (Tag.); panglongboyen (Ilk.); panglumbuyan (Ilk.); tampói (Tag.); tamputi (Tag.); tikoí (Mang.).

EUGENIA CALVINII Elm. Leaf. Philip. Bot. 4 (1912) 1419.

Palawan, *Elmer* 12869. In primary forests, altitude about 225 m. Endemic.

EUGENIA CAMIGUINENSIS Merr. in Philip. Journ. Sci. 7 (1912) Bot. 314.

Camiguin de Misamis, *Merrill Phil. Pl.* 1175. In forests at medium altitudes. Endemic.

EUGENIA CANDELABRIFORMIS C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 375.

Luzon (Cagayan, Abra, Ifugao, Laguna, Bontoc, Benguet, Rizal), *F. B.* 18355 *Alvarez*, 21960 *Adduru*, 23201 *Alejandro*, *B. S.* 23823, 22689 *Ramos*, 37648 *Ramos & Edaño*. In primary forests at medium altitudes, ascending to 1,800 m. Endemic.

Local names: Panglungboyen (Ilk.); silda (Ig.).

EUGENIA CAPIZENSIS Merr. in Philip. Journ. Sci. 18 (1921) 305.

Panay, *B. S.* 35584 *Martelino & Edaño*. On forested slopes, altitude about 450 m. Endemic.

- EUGENIA CAPOASENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 209.
Palawan, *Merrill 9493*. Exposed summit ridges in the mossy forest, altitude about 1,000 m. Endemic.
- EUGENIA CARDIOPHYLLA** Merr. in Philip. Journ. Sci. 18 (1921) 305.
Mindanao (Bukidnon), *F. B. 26534 Rola*. In forests, altitude about 600 m. Endemic.
- EUGENIA CAUDATIFOLIA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 211.
Leyte, Catanduanes, *Wenzel 1062*, *B. S. 15178, 30557 Ramos*. In primary forests, altitude about 500 m. Endemic.
- EUGENIA CILIATO-SETOSA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 315.
Luzon (Cagayan), *F. B. 23245 Barros, 11590, 17762 Curran, B. S. 13974 Ramos*. In primary forests at low altitudes. Endemic.
- EUGENIA CINNAMOMEA** Vidal Phan. Cuming. Philip. (1885) 172, Rev. Pl. Vasc. Filip. (1886) 131; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 104; C. B. Rob. op. cit. 4 (1909) Bot. 365.
Luzon (Cagayan, Ilocos Norte, Zambales, Rizal, Albay), Mindoro, *Merrill 1175, 1864, Cuming 846, F. B. 13910 Merritt & Darling, 6921 Curran, 11047 Zscholke, 25048 Maneja, 9847 Merritt, B. S. 39538, 39685 Ramos*. In primary forests at low altitudes. Endemic.
Local names: Dúhat-matsing (Tag.); guenayang (Ilk.); langlañgis (Ilk.); malarúhat (Tag.); sambuláuan (Bik.).
- EUGENIA CLAUSA** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 380; Merr. Sp. Blancoanae (1918) 288.
Calyptanthus makal Blanco Fl. Filip. (1837) 419, non Raeusch.
Calyptanthus zuzygium Blanco op. cit. ed. 2 (1845) 293, ed. 3, 2 (1878) 179, non Sw.
Eugenia operculata F.-Vill. Novis. App. (1880) non Roxb.
Luzon (Cagayan, Isabela, Ilocos Sur, Rizal), Mindoro, Palawan, Negros, *F. B. 21786 Velasco, Merrill 2806, Phil. Pl. 314, Sp. Blancoanae 978*. In primary forests at low altitudes. Endemic.
Local names: Daeng (Ilk.); lobagan (Klg.); malarúhat (Tag.); panglongbuyen (Ilk.); panglumboyen (Ilk.); taguhañgin (P. Bis.).
- EUGENIA CLAVELLATA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 104, C. B. Rob. op. cit. 4 (1909) Bot. 384.
Luzon (Bataan, Laguna, Tayabas, Camarines, Sorsogon), Samar, Mindanao, *Merrill Phil. Pl. 1415, 1676, F. B. 2747 Borden, B. S. 37345 Ramos & Edaño, 2821 Meyer, Elmer 15660*. In primary forests at medium altitudes. Endemic.
Local name: Kutañgol (Sub.).
- EUGENIA CLAVIFLORA** Roxb. Fl. Ind. ed. 2, 2 (1832) 488; F.-Vill. Novis. App. (1880) 85; Vidal Sinopsis Atlas (1883) 26, t. 49, f. H; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 383.
Eugenia leptanthā Wight Ic. (1842) t. 528; F.-Vill. Novis. App. (1880) 85; Vidal Rev. Pl. Vasc. Filip. (1886) 132; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 105, non Benth.
Eugenia viridiflora Elm. Leaf. Philip. Bot. 4 (1912) 1420.

Batan Islands, Luzon (Cagayan, Ilocos Sur, Zambales, Nueva Ecija, Bataan, Laguna, Camarines, Albay, Sorsogon), Palawan, Samar, Leyte, Panay. In primary forests. India to the Malay Peninsula.

Local names: Bulagsog (Bik.); bulagsong (S. L. Bis.); gamatulai (Neg.); kara (Tag.); kaytatanag (Tag.); kurasám (Ibn.); maramatám (Ibn.); panglomboyen (Ilk.); panglongbuyen-gaugoan (Ilk.); pañgo (Ibn.); patcharagon (S. L. Bis.); tinaan (Bik.).

EUGENIA CLEMENTIS C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 383, 6 (1911) Bot. 349.

Luzon (Sorsogon), Panay, Mindanao (Surigao, Lanao), *Clemens 1113, 1036, Elmer 15820, 16371, 16106, F. B. 25358 Achacoso, 15456 Pray, 21656 Sherfese, Cenabre, & Ponce*. In primary forests up to 800 m altitude. Endemic.

Local names: Baraugurus (Lan.); kaluntingon (P. Bis.).

EUGENIA CONGESTA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 49, Philip. Journ. Sci. 1 (1906) Bot. 105; C. B. Rob. op. cit. 4 (1909) Bot. 388.

Luzon (Benguet, Lepanto, Bataan, Albay, Sorsogon), *Elmer 6896, Whitford 150, 448, B. S. 23651 Ramos*. On exposed ridges in the mossy forest, altitude up to 2,000 m. Endemic.

Local names: Batmai (Ig.); burubayáuas (Blk.).

EUGENIA CONGLOBATA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 359.

Eugenia subsulcata Elm. Leaf. Philip. Bot. 8 (1919) 3095.

Luzon (Laguna, Camarines), Palawan, Samar, Leyte, Mindanao (Bukidnon, Zamboanga), *Williams 2359, F. B. 18069, 10677 Curran, 23795 Mabea, Merrill Phil. Pl. 1670, B. S. 15327 Ramos, 37019, 39142 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

EUGENIA CONSANGUINEA Merr. in Philip. Journ. Sci. 18 (1921) 300.

Luzon (Abra), *B. S. 26995, 26984 Ramos*. In forests at low altitudes. Endemic.

EUGENIA COPELANDII C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 352.

Leyte, Mindanao (Davao), *Copeland, Wenzel 1494, F. B. 12635 Rosenbluth*. In forests at low altitudes. Endemic.

Local name: Tambis-tambís (S. L. Bis.).

EUGENIA CORTICO-PAPYRACEA Elm. Leaf. Philip. Bot. 4 (1912) 1405.

Mindanao (Davao), *Elmer 11571*. In primary forests, altitude about 1,500 m. Endemic.

Local name: Labag (Bag.).

EUGENIA COSTULATA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 393.

Luzon (Pangasinan, Bataan, Rizal, Tayabas, Camarines), *F. B. 412, 2150 Ahern's collector, 814, 1188 Borden, 28094 Alambra, Whitford 344, 673, Loher 7243, 7251*. In primary forests at medium altitudes. Endemic.

Local names: Bayakbak (Pang.); malakna (Tag.); paitan (Pang.); tianug (Tag.).

EUGENIA CRASSIBRACTEATA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 210.

Leyte, B. S. 15358 Ramos. In forests, altitude probably about 1,000 m. Endemic.

EUGENIA CRASSIPES C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 361; Elm. Leaf. Philip. Bot. 4 (1912) 1411.

Luzon (Cagayan, Ilocos Norte, Nueva Ecija, Bataan, Rizal, Laguna, Tayabas, Batangas), F. B. 193 Barnes, 23303 Velasco, 24619 Labitag, 13175, 19260 Curran, 23791 Mabesa, B. S. 9909 Robinson, 22648 Ramos & Deroy, 27355 Ramos, Loher 7254, Elmer 18209. In primary forests at low altitudes. Endemic.

Local names: Barukbak (Ilk.); bogbog (Neg.); kalubkub (Tag.); makúpang-gúbat (Tag.).

EUGENIA CRASSISSIMA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 211.

Leyte, B. S. 15387 Ramos. In the mossy forest on ridges or peaks, probably above 1,000 m altitude. Endemic.

Local name: Magolomboi-sa-tayon (P. Bis.).

EUGENIA CUMINI (Linn.) Druce Bot. Exch. Club (1914) 418; Merr. Interpret. Herb. Amb. (1917) 394, Sp. Blancoanae (1918) 288.

Myrtus cumini Linn. Sp. Pl. (1753) 471.

Eugenia jambolana Lam. Encycl. 3 (1789) 198; F.-Vill. Novis. App. (1880) 86; Vidal Sinopsis Atlas (1883) 26, t. 49, f. F, Rev. Pl. Vasc. Filip. (1886) 131, Phan. Cuming. Philip. (1885) 112; Merr. Fl. Manila (1912) 352; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 386.

Syzygium jambolanum DC. Prodr. 3 (1828) 259; Blanco Fl. Filip. ed. 2 (1845) 293, ed. 3, 2 (1878) 180, t. 174; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 44.

Eugenia djouat Perr. in Mém. Soc. Linn. Paris 3 (1824) 116.

Calyptranthes jambolana Willd. in Usteri Ann. 17 (1796) 23; Blanco Fl. Filip. (1837) 418.

Syzygium cumini Skeels in U. S. Dept. Agr. Bull. 248 (1912) 25.

Throughout the Philippines, planted and in many regions spontaneous. In all probability of prehistoric introduction into the Philippines from Malaya. Indo-Malayan region generally, introduced in other tropical countries.

Local names: Dúat-nasi (Pamp.); dúhat (Tag., P. Bis.); dungboi (Ig.); lómboi (Ilk., Pamp., Tag., C. Bis.); lóngboi (Ilk.); lúmboi (Ibn., Ilk., P. Bis., Bik.); lúngboi (Ilk.).

EUGENIA CURRANII C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 351.

Luzon (Laguna, Camarines), Samar, F. B. 10453, 13240 Curran, 20965, 19792 Villamil, Elmer 17657, 17900. In primary forests at medium altitudes. Endemic.

Local names: Igot (S. L. Bis.); lipote (Tag.).

EUGENIA CURTIFLORA Elm. Leaf. Philip. Bot. 1 (1908) 328; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 401.

Luzon (Benguet, Laguna, Tayabas), *Elmer* 8768, *B. S.* 1655, 19552 *Ramos*. In primary forests, altitude 900 to 1,400 m. Endemic.

Local name: Lipote (Tag.).

EUGENIA DAVAOENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1439.

Mindanao (Davao), *Elmer* 11342. On forested ridges, altitude about 1,800 m. Endemic.

Local name: Magatuñgal (Bag.).

EUGENIA DECIPIENS Koord. & Val. in Bull. Inst. Bot. Buitenz. 2 (1899) 6, Bijdr. Boom. Java 6 (1900) 131; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 386.

Luzon (Bataan), *F. B.* 1184 *Borden*, 2781 *Meyer*. In primary forests, altitude about 600 m. Java.

Local names: Malarúhat (Tag.); malarúhat-na-pulá (Tag.).

EUGENIA DENSINERVIA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 105; C. B. Rob. op. cit. 4 (1909) Bot. 387.

Eugenia silvestrei Elm. Leaf. Philip. Bot. 8 (1919) 3095.

Luzon (Nueva Ecija, Bataan, Batangas, Laguna, Tayabas, Camarines, Sorsogon), Mindoro, Samar, Panay, *Merrill* 1052, *Elmer* 16771, 18011, *B. S.* 26436 *Ramos & Edaño*, *F. B.* 6232 *Curran*, 1815, 1178, 813, 719, 2921 *Borden*, 21503 *Tamesis*. In primary forests, altitude 100 to 600 m. Endemic.

Local names: Katong-matsing (Tag.); malarúhat (Tag.); malausá (Tag.); salakadan (Tag.).

EUGENIA DIFFUSA Merr. in Philip. Journ. Sci. 18 (1921) 301.

Luzon (Ilocos Norte), *B. S.* 27155 *Ramos*. In dry forests at low altitudes. Endemic.

EUGENIA DIPLYCOSIFOLIA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 347; Elm. Leaf. Philip. Bot. 4 (1912) 1339, 7 (1914) 2347.

Luzon (Bontoc), Mindanao (Agusan, Davao), *F. B.* 13403 *Klemme*, *Elmer* 11672, 11673, 11364. On forested ridges and peaks at and above 1,600 m altitude. Endemic.

Local names: Pagolasan (Mbo.); titimi (Bon.); tonau (Bag.).

EUGENIA DURA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 24.

Luzon (Camarines, Sorsogon), *B. S.* 23670 *Ramos*, 33455 *Ramos & Edaño*, *Elmer* 16007, 17320. In primary forests at low or medium altitudes. Endemic.

EUGENIA ECOSTULATA Elm. Leaf. Philip. Bot. 4 (1912) 1428.

Palawan, *Elmer* 13102. In primary forests at low altitudes. Endemic.

EUGENIA ELLIPTIFOLIA Merr. in Philip. Journ. Sci. 18 (1921) 291.

Catanduanes, Polillo, *B. S.* 30518 *Ramos*, *Warburg* 13941. In primary forests at medium altitudes. Endemic.

EUGENIA ELLIPTILIMBA Merr. in Journ. Str. Branch Roy. As. Soc. 77 (1917) 211.

Mindanao (Zamboanga), *B. S.* 36604, 36605, 36638 *Ramos & Edaño*. In primary forests at low and medium altitudes. Borneo.

The Philippine specimens are all in fruit; the Bornean material is in flower. In the former the leaves are somewhat larger, but there appear to be no essential differences.

EUGENIA EUPHLEBIA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 217.

Luzon (Tayabas), *B. S.* 20782 *Escritor*, 25472 *Yates*. In primary forests at low or medium altitudes. Endemic.

EUGENIA EVERETTII C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 371.

Eugenia pallidifolia Merr. in Philip. Journ. Sci. 10 (1915) Bot. 222.

Luzon (Laguna, Camarines, Sorsogon), Leyte, Negros, Mindanao (Zamboanga), *B. S.* 16588, 20489 *Ramos*, *F. B.* 10651 *Curran*, 18867 *Agnis*, *Williams* 2189, 2110, *Elmer* 15362, 17067, 15600, 16341, 15274 as *E. irosinensis* Elm. In primary forests at low altitudes. Endemic.

Local names: Malahagnit (Bik.); mapilíg (Bik.); tagalúñgoi (S. L. Bis.).

EUGENIA FENICIS C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 355.

Babuyan Islands, Luzon (Rizal), *B. S.* 4065 *Fénix*, 29680 *Ramos*. In forests at low and medium altitudes. Endemic.

EUGENIA FISCHERI Merr. in Philip. Journ. Sci. 10 (1915) Bot. 218.

Luzon (Camarines), *F. B.* 21755 *Fischer*, 21228 *Alvarez*, 21153 *Miranda*. Endemic.

Local name: Milibig (Bik.).

EUGENIA FOXWORTHYI Elm. Leaf. Philip. Bot. 4 (1912) 1414.

Mindanao (Davao), *Elmer* 11280. On forested ridges, altitude about 850 m. Endemic.

Local name: Kalignau (Bag.).

EUGENIA GARCIAE Merr. ex C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 399.

Jambosa garciae Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 36.

Luzon (Sorsogon), Mindoro, Mindanao (Lanao), *Merrill* 2367, *Elmer* 15145, *Clemens* 471, *Wester*. In forests at low and medium altitudes. Endemic.

Local names: Igang (Lan.); lipote (Tag.).

EUGENIA GIGANTIFOLIA Merr. ex C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 350.

Mindoro, Culion, Mindanao (Lanao), Basilan, *Merrill* 573, *F. B.* 4110, 5428, 4359 *Merritt*, *Clemens* 624. In open forests at low altitudes. Endemic.

Local names: Bagotalísi (P. Bis.); malatalísi (Tag.).

EUGENIA GITINGENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1409.

Luzon (Cagayan, Camarines), Sibuyan, *Elmer* 12078, *Ahern* 35, *F. B.* 18492 *Alvarez*. In primary forests up to an altitude of 450 m. Endemic.

EUGENIA GLAUCICALYX Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 50, C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 381.

Luzon (Bataan, Laguna), Culion, Palawan, *Merrill* 570, 626, 3949, *F. B.* 817, 826 *Borden*, 7359, 6241, 19282 *Curran*. In primary forests at low al-

titudes, ascending to 600 m; very close to *E. zeylanica* Wight. Endemic.

Local names: Kalaum (Kuy.); mariig (Tag.).

EUGENIA GLOBOSA Elm. Leaf. Philip. Bot. 4 (1912) 1404.

Mindanao (Davao), *Elmer 11702, 11327*. In primary forests, altitude about 1,200 m; closely allied to *E. balerensis* C. B. Rob. Endemic.

Local names: Kalugpo (Bag.); malatado (Bag.).

EUGENIA GRISEA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 395.

Luzon (Cagayan, Rizal, Laguna, Camarines), Guimaras, Leyte, *F. B. 2862, 3254 Ahern's collector, 24274 Bernardo, 4290 Klemme, 303 Gammil, Wenzel 1853, Merrill 1821, 4290, B. S. 23831 Ramos*. In primary forests at low altitudes. Endemic.

Local names: Butadtad (P. Bis.); hahanum (Neg.).

EUGENIA HALOPHILA nom nov.

Eugenia maritima Merr. in Philip. Journ. Sci. 10 (1915) Bot. 212, non DC.

Mindanao (Zamboanga), *F. B. 13760 Foxworthy, DeMesa, & Villamil*. In forests bordering the mangrove swamp. Sterile material from Luzon (Cagayan and Camarines) and Leyte probably represents the same species. Endemic.

EUGENIA HUTCHINSONII Merr. ex C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 376.

Basilan, *F. B. 4026 Hutchinson*. In forests at low altitudes. Endemic.

Local name: Malatambís (Sul.).

EUGENIA ILOCANA Merr. in Philip. Journ. Sci. 18 (1921) 291.

Luzon (Ilocos Norte), *B. S. 27420, 32821 Ramos*. In dry forests at low altitudes. Endemic.

• **EUGENIA INTUMESCENS** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 401.

Luzon (Isabela, Benguet, Zambales, Rizal), Masbate, Leyte, Camiguin de Misamis, *Merrill 2202, 1877, 2769, F. B. 26088 Barros, 480, 3087 Ahern's collector, 23969 Maneja, B. S. 3360, 15192 Ramos*. In primary forests at medium altitudes. Endemic.

Local names: Hagoho (P. Bis.); malarúhat (Tag.); tual (Ig.).

EUGENIA IWAHIGENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1417.

Palawan, *Elmer 12743* (err. cit. 12742). In secondary forests at low altitudes. Endemic.

EUGENIA IXOROIDES Elm. Leaf. Philip. Bot. 4 (1912) 1426.

Palawan, *Elmer 13165*. In primary forests, altitude about 225 m. Endemic.

EUGENIA INCARNATA Elm. Leaf. Philip. Bot. 4 (1912) 1416.

Palawan, *Elmer 13231*. In thin forests, altitude about 225 m. Endemic.

EUGENIA INCRASSATA Elm. Leaf. Philip. Bot. 2 (1909) 581; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 388.

Luzon (Tayabas), *Elmer 9187*. In open forests, altitude about 600 m. Endemic.

EUGENIA JAMBOS Linn. Sp. Pl. (1753) 470; F.-Vill. Novis. App. (1880) 84; Vidal Sinopsis Atlas (1883) 26, t. 49, f. E, Rev. Pl. Vasc. Filip. (1886) 131, Phan. Cuming. Philip. (1885) 112; Koord. & Val. Bijdr. Boom. Java 6 (1900) 53; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 369; Merr. Fl. Manila (1912) 352, Sp. Blancoanae (1918) 290.

Eugenia malaccensis Blanco Fl. Filip. (1837) 415, ed. 2 (1845) 290, ed. 3, 2 (1878) 173, t. 170, non Linn.

Jambosa vulgaris DC. Prodr. 3 (1828) 286.

In and about towns in cultivation throughout the Philippines, occasionally naturalized; of prehistoric introduction. Indo-Malaya generally, cultivated in other tropical countries.

Local names: Balobar (Pamp.); bunlauan (P. Bis.); tampoi (Tag., Bik.); tanpúl (Ibn.); yampói (Bis.).

EUGENIA JAVANICA Lam. Encycl. 3 (1789) 200; Duthie in Hook. f. Fl. Brit. Ind. 2 (1878) 474; F.-Vill. Novis. App. (1880) 84; Koord. & Val. Bijdr. Boom. Java 6 (1900) 63; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 363; Merr. Fl. Manila (1912) 352, Sp. Blancoanae (1918) 288.

Eugenia jambos Blanco Fl. Filip. (1837) 416, ed. 2 (1845) 290 (*yambos*), ed. 3, 2 (1878) 175, non Linn.

Jambosa alba G. Don Gen. Hist. Dichlam. Pl. 2 (1832) 868; Schauer in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 335.

Eugenia alba Roxb. Fl. Ind. ed. 2, 2 (1832) 493; Ceron Cat. Pl. Herb. Manila (1892) 79.

Widely scattered in cultivation, but scarcely naturalized; of prehistoric introduction from Malaya.

Local names: Makópa (Tag., Bik.); yambo (Tag.).

EUGENIA KAMELII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 219.

Samar, *B. S. 17539 Ramos*. In primary forests at low altitudes. Endemic.

Local name: Damol (S. L. Bis.).

EUGENIA LACUSTRIS C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 377, 6 (1911) Bot. 350.

Mindánao (Lanao), *Clemens 299, F. B. 23316 Agama*. In forests at low altitudes. Endemic.

Local name: Malaasom (Lan.).

EUGENIA LAMBII Elm. Leaf. Philip. Bot. 4 (1912) 1430.

Palawan, *Elmer 13047*. In primary forests at low altitudes. Endemic.

EUGENIA LANCILIMBA Merr. in Philip. Journ. Sci. 20 (1922) 413.

Mindanao (Zamboanga), *B. S. 36934, 36935 Ramos & Edaña*. On river banks at low altitudes. Endemic.

Local name: Salimbáñgon (Sub.).

EUGENIA LEPTOGYNA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 368; Elm. Leaf. Philip. Bot. 7 (1914) 2348.

Luzon (Laguna), Mindoro, Palawan, Panay, Negros, Mindanao (*Agusan*), *F. B. 6839 Merritt, 13191 Curran, 24131 Santos, B. S. 20511, 39818*

Ramos, 31468 *Ramos & Edaño*, *Elmer* 13723. In primary forests at low altitudes; ascending to 1,000 m. Endemic.

Local name: Balibadan (Mbo.).

EUGENIA LEYTENSIS Elm. Leaf. Philip. Bot. 1 (1908) Bot. 329; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 354.

Leyte, *Elmer* 7263, *Wenzel* 608, *F. B.* 25782 *Phasis*. In primary forests up to 500 m altitude. Endemic.

Local name: Bagotambís (S. L. Bis.).

EUGENIA LLANOSII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 220.

Luzon (Benguet), *Merrill* 9704. In dense thickets in limestone formation, altitude about 1,300 m. Endemic.

EUGENIA LOHERI C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 345.

Luzon (Nueva Ecija, Pampanga), *Cuming* 1388, *Loher* 2475. In thickets or forests at low or medium altitudes. Endemic.

EUGENIA LONGIFLORA (Presl) F.-Vill. Novis. App. (1880) 86; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 366; Elm. Leaf. Philip. Bot. 4 (1912) 1440, 7 (1914) 2346.

Syzygium longiflorum Presl Bot. Bemerk. (1844) 70; Walp. Ann. 1 (1848) 314.

Eugenia marivelesensis Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 106.

Eugenia lineata F.-Vill. Novis. App. (1880) 85; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 43 (*Jambosa*), non Duthie.

Eugenia miquelii Elm. Leaf. Philip. Bot. 4 (1912) 1441.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces. In primary forests at low and medium altitudes, often common. The Philippine representative of the Malayan *E. lineata* (Blume) Duthie, and scarcely distinguishable from it; *E. miquelii* Elm. is very close to the Malayan form. Endemic.

Local names: Bakanis (Sul.); balagsam (Bag.); gisihan (Tag.); lagi-lagi (Bis.); loilúmboi (P. Bis.); magontambís (Mbo.); makaasim (Tag.); makaasim-na-dinariin (Tag.); malarúhat (Tag.); malarúhat-pulá (Tag.); panglongboien (Ilk.).

EUGENIA LONGIPEDICELLATA (Merr.) C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 349.

Jambosa longipedicellata Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 37.

Luzon (Tayabas, east coast), *Merrill* 1046, 1047. In forests at low altitudes. Endemic.

EUGENIA LONGISSIMA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 50; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 349.

Luzon (Benguet, Zambales), *Elmer* 6218, *B. S.* 5124 *Ramos*. In forests along streams, altitude about 900 m. Endemic.

EUGENIA LONGISTYLA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 220.

Luzon (Cagayan), *F. B.* 17910 *Barros*, 24258 *Bernardo*. In primary forests at low altitudes. Endemic.

Local names: Lobagan (Ibn.); magatolai-bayábo (Ibn.).

EUGENIA LUTEA C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 350.

Luzon (Tayabas), *F. B. 18635 Darling, B. S. 13201 Foxworthy & Ramos*. On forested river banks at low altitudes. Endemic.

Local name: Makaasim-na-malayámbo (Tag.).

EUGENIA LUZONENSIS Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 37, Philip. Journ. Sci. 1 (1906) Suppl. 105; C. B. Rob. op. cit. 4 (1909) Bot. 356; Elm. Leaf. Philip. Bot. 4 (1912) 1405.

Luzon (Cagayan to Tayabas), Mindoro, Masbate, Negros, Mindanao (Lanao, Davao). Common in primary forests at low and medium altitudes. Endemic.

Local names: Bago-hañgin (P. Bis.); bagombis (S. L. Bis.); banug (C. Bis.); duktolan (Tag.); duktulan (Tag.); labog (Bag.); lumboi-búndok (Tag.); magatolai-bayábo (Ibn.); malarúhat (Tag.); malarúhat-na-pulá (Tag.); paglumboyan (Ilk.); raksik (Tag.).

EUGENIA MACGREGORII C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 367, 6 (1911) Bot. 213.

Syzygium caryophyllaceum Merr. in Philip. Bureau Forestry Bull. 1 (1903) 44, non Gaertn.

Luzon (Bulacan, Tayabas, Camarines), Polillo, Mindoro, Palawan, Masbate, Negros, Tinago, Bohol, Mindanao (Surigao, Davao, Lanao). In forests at low and medium altitudes. Endemic.

Local names: Bikuas (C. Bis.); makaasim (Tag.); maladúhat (Bik.); sagimsim (C. Bis.).

EUGENIA MAINITENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1415.

Eugenia leucocarpa Merr. in Philip. Journ. Sci. 11 (1916) Bot. 23.

Luzon (Sorsogon), Mindanao (Bukidnon, Surigao, Agusan), *Elmer 11821, B. S. 23672 Ramos, 38982, 39091 Ramos & Edaño, F. B. 28153 Tomeldan*. In primary forests up to 1,300 m altitude. Endemic.

Local names: Bikuas (C. Bis.); lañgin (Bik.); malagsam (Mbo.).

EUGENIA MALACCENSIS Linn. Sp. Pl. (1753) 470; F.-Vill. Novis. App. (1880) 84; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 170; Vidal Sinopsis Atlas (1883) 26, t. 49, f. G; Koord. & Val. Bijdr. Boom. Java 6 (1900) 55; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 354; Elm. Leaf. Philip. Bot. 4 (1912) 1410; Merr. Fl. Manila (1912) 352, Sp. Blancoanae (1918) 290.

Eugenia bauanguica Blanco Fl. Filip. (1837) 416, ed. 2 (1845) 292, ed. 3, 2 (1878) 174.

Jambosa malaccensis DC. Prodr. 3 (1828) 286.

Cultivated in most parts of the Philippines for its edible fruits, although nowhere naturalized. Indo-Malaya, now planted in most tropical countries.

Local names: Gubal (Buk.); makópang-kalabáu (Tag.); makópa (Tag.); mangkópa (P. Bis.); tamo (Tag.); tual (Bag., Lan.); yambu (Tag.).

EUGENIA MALAGSAM Elm. Leaf. Philip. Bot. 4 (1912) 1403.

Mindanao (Davao), *Elmer 11838*. In primary forests, altitude about 1,200 m. Endemic.

Local name: Malagsam (Bag.).

EUGENIA MANANQUIL Blanco Fl. Filip. ed. 2 (1845) 290, ed. 3, 2 (1878) 174; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 355; Merr. Sp. Blancoanae (1918) 290.

Myrtus mananquil Blanco Fl. Filip. (1837) 431.

? *Eugenia lobas* Blanco op. cit. 857; Merr. in Govt. Lab. Publ. Philip. 35 (1906) 48, Philip. Journ. Sci. 2 (1907) Bot. 433.

? *Eugenia cauliflora* Blanco op. cit. ed. 2 (1845) 291, ed. 3, 2 (1878) 177, non DC.

Eugenia livida Elm. Leaf. Philip. Bot. 7 (1914) 2349.

Luzon (Cagayan to Sorsogon), Mindoro, Leyte, Mindanao. Common in primary forests at low and medium altitudes. Endemic.

Local names: Ansa (Pang.); baba (Ig.); bagabag (Pamp.); bitbid (Bik.); bitbit (Tag.); buabua (Tag.); bungkulan (Tag.); dambuhala (Tag.); goronggóng (Ibn.); kagagko (Mbo.); kagoko (S. L. Bis., Lan.); kaguku (Mag.); kagukug (Mag.); laṅgauisai (Mbo.); laṅgisai (Mag.); lugis (Mag.); malahagis (Bik.); malaígang (C. Bis.); manangkil (Tag.); midbid (Tag.); midbit (Tag.); modbod (Bik.); muṅgilkil (Tag.); pang-longbuyen-kopakopa (Ilk.); pasoso (Tag.); taṅgus (C. Bis.).

EUGENIA MARTELINII Merr. in Philip. Journ. Sci. 18 (1921) 306.

Panay, B. S. 35630 *Martelino & Edaño*. In forests, altitude about 650 m. Endemic.

EUGENIA MEGALANTHA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 374; Elm. Leaf. Philip. Bot. 4 (1912) 1412.

Palawan, B. S. 784 *Foxworthy, Elmer 12916*. In forests along streams at low and medium altitudes. Endemic.

EUGENIA MELASTOMOIDES Elm. Leaf. Philip. Bot. 4 (1912) 1429.

Mindanao (Davao), *Elmer 10750, 11013*. In forests, altitude 750 to 1,050 m; very close to *E. aherniana* C. B. Rob. Endemic.

Local names: Baring-oras (Bag.); magdang (Bag.).

EUGENIA MELLIODORA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 401.

Luzon (Laguna, Tayabas), Mindoro, Leyte, *McGregor 224, B. S. 29004 Ramos & Edaño, 20483 Ramos*. In primary forests at low altitudes. Endemic.

EUGENIA MERRILLII C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 349; Elm. Leaf. Philip. Bot. 4 (1912) 1413.

Palawan, Sibuyan, *Merrill 760, Elmer 12571a, 12112*. In forests along streams at low and medium altitudes. Endemic.

EUGENIA MERRITTIANA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 369.

Eugenia lumboy Elm. Leaf. Philip. Bot. 4 (1912) 1431.

Luzon (Pangasinan, Bataan, Rizal, Camarines, Albay), Mindoro, Sibuyan, *F. B. 3177 Ahern's collector, 9920, 9751, 9941 Merritt, 22682 Hirro, 28762 Simeon, B. S. 5198, 39378, 39444, 39636 Ramos, Loher 6038, Elmer 12549*. On slopes and along streams at low and medium altitudes. Endemic.

Local names: Bago-tambís (P. Bis.); bangkalauan (Tag.); makaasim (Bik.); tumolad (Tag.).

EUGENIA MIMICA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 212; C. B. Rob. op. cit. 4 (1909) Bot. 396; Elm. Leaf. Philip. Bot. 4 (1912) 1437.

Eugenia submimica Elm. Leaf. Philip. Bot. 4 (1912) 1438.

Luzon (Ilocos Norte, Ilocos Sur, Pangasinan, Zambales, Pampanga, Bulacan, Rizal, Cavite, Laguna, Tayabas), Mindoro, Palawan, Sibuyan, Leyte, Mindanao (Zamboanga). On rocky river banks (typical narrow-leaved form), and on slopes at low and medium altitudes. Endemic.

Local names: Bauan (Tagb.); magolúmboi (P. Bis.); malalúmboi (Sbl.); malarúhat-sapa (Tag.); mimisan (Ilk.); panglongbuyen (Ilk.); panglumbuyen (Ilk.).

EUGENIA MINDORENSIS C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 399; Elm. Leaf. Philip. Bot. 4 (1912) 1427.

Luzon (Batangas), Mindoro, Palawan, *B. S. 22457 Ramos, F. B. 9820 Merritt, 21539 Tamesis, ? Elmer 13068, 12775*. On forested slopes at low altitudes. Endemic.

Local names: Butor (Mang.); makaasim (Tag.); malarúhat (Tag.).

EUGENIA MIRABILIS Merr. in Philip. Journ. Sci. 20 (1922) 412.

Mindanao (Zamboanga), *B. S. 36772, 37238, 37347 Ramos & Edaño*. In forests at low altitudes. Endemic.

Local names: Gulodláb, kulodláb (Sub.).

EUGENIA MIRANDAE Merr. in Philip. Journ. Sci. 10 (1915) Bot. 221.

Luzon (Camarines), *F. B. 21687 Miranda*. In the mossy forest, altitude about 700 m. Endemic.

EUGENIA MULTINERVIA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 352.

Luzon (Cagayan), *Cuming 1299*. Probably in forests at low altitudes. Endemic.

EUGENIA MYRTILLUS Stapf in Trans. Linn. Soc. Bot. 4 (1894) 153.

Eugenia ugoensis C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 389.

Eugenia subcaudata Merr. op. cit. 11 (1916) Bot. 21.

Luzon (Bontoc, Benguet, Tayabas, Sorsogon), *F. B. 10913 Curran, 18030 Merritt, B. S. 5707, 23324 Ramos, 28778 Ramos & Edaño, Vanoverbergh 561, Merrill Phil. Pl. 1796* as *E. acrophila* C. B. Rob. On exposed forested ridges and peaks, altitude 1,200 to 2,200 m. Borneo.

EUGENIA NEEI Merr. in Philip. Journ. Sci. 18 (1921) 301.

Luzon (Ilocos Norte), *B. S. 27156 Ramos*. In dry forests at low altitudes. Endemic.

EUGENIA NITIDISSIMA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 213.

Biliran, Leyte, Negros, Panay, Mindanao (Bukidnon, Surigao), *Wenzel 922, Hutchinson 7848, B. S. 18732 McGregor, 34495, 34709 Ramos & Pascasio, 35549 Martelino & Edaño, 38684 Ramos & Edaño*. On forested slopes and ridges, altitude 300 to 900 m. Endemic.

Local names: Manogobahi (P. Bis.); manogobinlod (P. Bis.).

EUGENIA OBLANCEOLATA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 400; Elm. Leaf. Philip. Bot. 4 (1912) 1419.

Luzon (Sorsogon), Biliran, Samar, Mindanao (Davao), *Cuming* 1676, *Williams* 2862, *Elmer* 11627, 16064, 16392, *B. S.* 18830 *McGregor*. In forests at low and medium altitudes, ascending to 1,200 m. Endemic.

Local name: Lauigan (Bag.).

EUGENIA PALAWANENSIS C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 377.

Palawan, *F. B.* 3503 *Curran*. In forests at low altitudes. Borneo.

EUGENIA PANAYENSIS Merr. in Philip. Journ. Sci. 18 (1921) 292.

Panay, *B. S.* 32470 *McGregor*. In the mossy forest, altitude about 1,000 m. Endemic.

EUGENIA PANDURIFORMIS Elm. Leaf. Philip. Bot. 4 (1912) 1412.

Mindanao (Bukidnon, Davao), *Elmer* 11246, *B. S.* 38613 *Ramos & Edaña*. On forested ridges, altitude about 1,000 m. Endemic.

Local names: Lauagan (Bag.); kulasing-babáe (Buk.).

EUGENIA PARVA (Merr.) C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 391.

Eugenia acuminatissima Kurz var. *parva* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 104.

Eugenia sinubanensis Elm. Leaf. Philip. Bot. 4 (1912) 1424.

Luzon (Ilocos Norte, Ilocos Sur, Pangasinan, Zambales, Pampanga, Bataan, Rizal, Tayabas, Camarines, Albay), Mindoro, Palawan, Sibuyan, Bohol, *Cuming* 861, 1825, *Whitford* 1218, *Loher* 6036, *Elmer* 12325, 12805, *F. B.* 27151 *Udasco*. On forested ridges up to an altitude of 900 m. Endemic.

Local names: Ambabasit (Ilk.); balat-uyo (Tag.); batungou (P. Bis.); panomauagan (Ilk.).

EUGENIA PASACAENSIS C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 346.

Luzon (Camarines), *F. B.* 10467 *Curran*. On limestone cliffs near the sea. Endemic.

EUGENIA PASCASIOII Merr. in Philip. Journ. Sci. 18 (1921) 307.

Bucas Grande, *B. S.* 35057 *Ramos & Pascasio*. In dry forests at low altitudes. Endemic.

EUGENIA PAUCIPUNCTATA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 215.

Luzon (Benguet), *Merrill Phil. Pl.* 1709 (as *E. calcicola*). In thickets, altitude about 1,500 m. Endemic.

EUGENIA PAUCIVENIA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 382.

Babuyan Islands (Camiguin), Luzon (Ilocos Norte), *B. S.* 4118 *Fénix*, *Cuming* 1186. On slopes at low or medium altitudes. Endemic.

EUGENIA PEÑASII Merr. in Philip. Journ. Sci. 18 (1921) 293.

Babuyan Islands (Calayan), *F. B.* 26703 *Peñas*. In forests, altitude about 300 m. Endemic.

EUGENIA PERPALLIDA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 106; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 391; Elm. Leaf. Philip. Bot. 4 (1912) 1423.

Syzygium pallidum Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 17, non *Eugenia pallida* Berg.

Luzon, (Abra, Ilocos Sur, Pangasinan, Zambales, Bataan, Cavite, Batangas, Laguna, Tayabas, Albay, Sorsogon), Lubang, Mindoro, Negros, Mindanao (Lanao), incl. *Elmer* 16265 as *E. pacifica* Elm. In forests, chiefly at medium altitudes, ascending to 1,000 m. Endemic.

Local names: Arináya (Sbl.); bagtuñgoi (P. Bis.); bulog (P. Bis.); kauag (Sbl.); malarúhat-na-pulá (Pang.); malarúhat-puti (Sbl.); manogobinlud (P. Bis.); paitan (Pang.); panglongbuyen-labang (Ilk.).

EUGENIA PHANEROPHLEBIA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 353.

Eugenia coarctata Ceron Cat. Pl. Herb. Manila (1892) 80, non *Jambosa coarctata* Blume.

Luzon (Cagayan, Tayabas, Nueva Ecija, Rizal, Laguna, Sorsogon), Mindoro, Mindanao, Samar, Biliran, Leyte. In forests at low and medium altitudes. Endemic.

Local names: Karogkog (Tag.); malayámbo (Tag.).

EUGENIA PHILIPPINENSIS C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 378.

Luzon (Isabela, Rizal, Tayabas, Albay, Sorsogon), Samar, Leyte, *Merrill* 2054, *F. B.* 23963 *Maneja*, 12761 *Rosenbluth*, 11644, 11576 *Whitford*. In forests at low and medium altitudes. Endemic.

Local names: Bagohian (Tag.); bagotambís (S. L. Bis.); bohokan (S. L. Bis.); malayámbo (Tag.); tambis-tambís (S. L. Bis.); tutambís (S. L. Bis.).

EUGENIA POLYCEPHALOIDES C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 399.

Luzon (Cagayan, Tayabas, Laguna, Camarines, Albay, Sorsogon), Mindoro, Samar, Leyte, *F. B.* 17174, 10163, 10521 *Curran*, 25036 *Bawan*, 23525 *Duldulao*, 25841 *Valderrama*, 21799 *Miras*, 28400 *Labitag*, *B. S.* 17578 *Ramos*, *Elmer* 9233, 8233, 15794, *Ahern* 203. In primary forests at low and medium altitudes. Endemic.

Local names: Balasugan (Ibn.); baligang (Bik.); igot (S. L. Bis.); lapóti (Tag.); lipóti (Tag.); magtalúlong (Ibn.); maígang (S. L. Bis.).

EUGENIA PROPINQUA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 315.

Luzon (Cagayan), *B. S.* 13911 *Ramos*. On forested ridges. Endemic.

EUGENIA PULGARENSIS C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 380.

Palawan, *F. B.* 3882 *Curran*. Apparently on exposed ridges at or above 1,000 m altitude. Endemic.

EUGENIA PURPURICARPA Elm. Leaf. Philip. Bot. 4 (1912) 1435.

Palawan, *Elmer* 12818. On forested ridges, altitude about 300 m. Endemic.

EUGENIA PURPURIFLORA Elm. Leaf. Philip. Bot. 4 (1912) 1432.

Palawan, *Elmer 13233, 13117, F. B. 21486 Fernandez*. In forests at low altitudes. Endemic.

EUGENIA RAMOSII C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 349.

Luzon (Isabela), *B. S. 8030 Ramos*. In forests near streams. Endemic.

EUGENIA RIZALENSIS Merr. in Philip. Journ. Sci. 18 (1921) 302.

Luzon (Rizal), *B. S. 29280 Ramos & Edaño*. In forests, altitude probably at or above 1,000 m. Endemic.

EUGENIA ROBERTII Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 106; C. B. Rob. op. cit. 4 (1909) Bot. 374; Elm. Leaf. Philip. Bot. 4 (1912) 1442.

Eugenia succulenta Elm. Leaf. Philip. Bot. 1 (1908) 327.

Luzon (Benguet, Zambales, Bataan, Rizal, Laguna, Tayabas), Lubang, Sibuyan, *Elmer 5988, 8621, 17486, Whitford 1182, 1211, 349, Loher 7258, F. B. 2636 Meyer, 12239 Rosenbluth*. In forests at medium altitudes, ascending to 1,500 m. Endemic.

Local names: Balakbak (Ig.); kiyugkug (Tag.); malakalobkob (Tag.); malarúhat (Tag.).

EUGENIA ROBINSONII Elm. Leaf. Philip. Bot. 2 (1909) 583; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 398.

Negros, *Elmer 10050*. In primary forests, altitude about 1,200 m. Endemic.

EUGENIA ROSENBLUTHII C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 384; Elm. Leaf. Philip. Bot. 7 (1914) 2347.

Eugenia burebidensis Elm. Leaf. Philip. Bot. 4 (1912) 1436.

Leyte, Mindanao (Agusan, Davao), *F. B. 16890 Rosenbluth, Elmer 12259, 13752*. On exposed ridges up to 1,200 m altitude. Endemic.

Local names: Magkaymag (Mbo.); malagsam (Bag.).

EUGENIA ROSEOMARGINATA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 390.

Luzon (Ilocos Norte, Ilocos Sur, Abra, Laguna), *F. B. 13975, 13990, 14054 Merritt & Darling, 25473, 25451, 25493 Paraíso, 25729 Mabesa*. In primary forests, altitude 300 to 700 m. Endemic.

Local names: Pamayaásen (Ilk.); panglongbuyen (Ilk.); panglongbuyen-daradisdisan (Ilk.).

EUGENIA RUBROPURPUREA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 358.

Mindanao (Zamboanga), Basilan, *F. B. 9280, 9386, 9465, 9398 Whitford & Hutchinson, 15231 Almagro, 18925 Miranda, B. S. 36766 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

Local name: Bubuyang (Sub.).

EUGENIA RUBROVENIA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 358.

Eugenia agusanensis Elm. Leaf. Philip. Bot. 7 (1914) 2357.

Mindanao (Agusan, Lanao), *Clemens* 973, 990, *Elmer* 14118. In forests, altitude 700 to 1,300 m. Endemic.

Local name: Pagbalayan (Mbo.).

EUGENIA SABLANSIS Elm. Leaf. Philip. Bot. 1 (1908) 328; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 388.

Luzon (Cagayan to Sorsogon), Mindoro, Leyte, Negros, Mindanao, Basilan. In primary forests at low and medium altitudes, ascending to 600 m. Endemic.

Var. **RAMULOSA** Elm. op. cit. 4 (1912) 1408.

Mindanao (Davao), *Elmer* 11633. In primary forests, altitude about 1,200 m; scarcely distinguishable from the species. Endemic.

Eugenia sablanensis Elm. is very similar to *E. densinervia* Merr. but has smaller flowers.

Local names: Belis (Ig.); dulatan (Tag.); ganteñgen (Ibn.); liuas (Tag.); makaasim (Tag.); malagsam (Bag.); malalúmboi (Ilk.); panglong-buyen (Ilk.).

EUGENIA SALIGNA (Miq.) C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 392.

Myrtus acuminatissima Blume Bijdr. (1826) 1088.

Jambosa saligna Miq. Fl. Ind. Bat. 1¹ (1855) 432.

Syzygium acuminatissimum DC. Prodr. 3 (1828) 261.

Eugenia acuminatissima Kurz in Journ. As. Soc. Beng. 46² (1877) 67; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 104; Elm. Leaf. Philip. Bot. 4 (1912) 1422, non Berg.

Eugenia cumingiana Vidal Phan. Cuming. Philip. (1885) 173, Rev. Pl. Vasc. Filip. (1886) 132; Elm. Leaf. Philip. Bot. 4 (1912) 1423, 7 (1914) 2348.

Luzon (Cagayan to Sorsogon, most or all provinces), Mindoro, Sibuyan, Leyte, Negros, Camiguin de Misamis, Mindanao, incl. *Elmer* 15433, 15233 as *E. eucaudata* Elm. Common in primary forests at low and medium altitudes. India to southern China through Malaya to tropical Australia.

Local names: Bagotambís-ñga-bugnóran (S. L. Bis.); binlóan (S. L. Bis.); binolóan (S. L. Bis.); bohókan (S. L. Bis., Bik.); husuhusú (Tag.); kahoybod (Tag.); lubeg (Ibn.); malabayaon (Ilk.); malarúhat (Tag.); malarúhat-párang (Tag.); malarúhat-sapa (Sbl.); ñgaret (Neg.); patulan (Klg.); salasak (Tag.); tagilúmboi (P. Bis.); talamitam (Tag.).

EUGENIA SAMARENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 223.

Samar, Leyte, *Merrill Phil. Pl.* 1671, *Wenzel* 1484, 1698. In primary forests at low altitudes. Endemic.

EUGENIA SANTOSII Merr. in Philip. Journ. Sci. 18 (1921) 294.

Luzon (Benguet), *B. S.* 31844 *Santos*. On forested slopes, altitude about 2,200 m. Endemic.

Local name: Bultik (Ig.).

EUGENIA SARCOCARPA Merr. in Philip. Journ. Sci. 18 (1921) 295.

Leyte, *Wenzel* 1484. In forests at low or medium altitudes. Endemic.

EUGENIA SARGENTII Merr. in Philip. Journ. Sci. 18 (1921) 290.

Luzon (Cagayan, Ilocos Norte, Zambales, Batangas, Pampanga, Rizal), Ticao, *Adduru* 170, 169, *F. B.* 5917, 17734 *Curran*, 1024 *Clark*, 28039 *Mabesa*, *B. S.* 29362 *Ramos & Edaña*. On forested slopes at low and medium altitudes. Endemic.

Local names: Pandaraha (S. L. Bis.); tulisáyan (Ibn.); tumaluhu (Ibn.).

EUGENIA SESSILILIMBA Merr. in Philip. Journ. Sci. 18 (1921) 296.

Luzon (Ilocos Norte), *B. S.* 33342 *Ramos*. On forested slopes, altitude about 1,000 m. Endemic.

EUGENIA SIDEROCOLA Merr. in Philip. Journ. Sci. 18 (1921) 303.

Mindanao (Surigáo), *B. S.* 34722, 34521 *Ramos & Pascasio*. Along streams at low altitudes. Endemic.

EUGENIA SIMILIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 106; C. B. Rob. op. cit. 4 (1909) Bot. 386; Merr. Sp. Blancoanae (1918) 289.

Calyptranthes ramiflora Blanco Fl. Filip. (1837) 420, non *Eugenia ramiflora* Miq.

Syzygium latifolium Blanco op. cit. ed. 2 (1845) 294, ed. 3, 2 (1878) 181, non DC.

Eugenia bracteata F.-Vill. Novis. App. (1880) 85, non Roxb.

Luzon (Ilocos Norte, Pangasinan, Zambales, Nueva Ecija, Pampanga, Bulacan, Bataan, Laguna, Tayabas), Mindoro, Masbate, Negros, Mindanao. In forests at low and medium altitudes. Endemic.

Local names: Arang (Mang.); magakombo (Bag.); makaasim Tag.); magakumbo (Bag.); malarúhat (Tag., Neg.); malarúhat-putí (Tag.); mayauban (C. Bis.); muning (P. Bis.); paitan (Sbl., Pamp.); panglong-buyen (Ilk.); sakut-putí (Sbl.).

EUGENIA SPECIOSISSIMA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 348.

Luzon (Benguet), *F. B.* 10865 *Curran*, 14193 *Merritt*. In the mossy forest, altitude about 2,000 m. Endemic.

EUGENIA SQUAMIFERA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 373.

Luzon (Zambales), *F. B.* 8243 *Curran & Merritt*. In forests, altitude about 300 m. Endemic.

EUGENIA STRIATULA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 397.

Luzon (Zambales, Rizal), *Loher* 7267, *Cuming* 1046, *Warburg* 13940, *F. B.* 6953, 6982 *Curran*, 8235 *Curran & Merritt*, *F. B.* 2143 *Ahern's collector*. On slopes along streams at low and medium altitudes. Endemic.

EUGENIA SUBFALCATA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 382.

Luzon (probably Zambales), *Cuming* 1049. Endemic.

EUGENIA SUBFOETIDA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 360.

Palawan, *B. S. 685 Foxworthy*. In primary forests, altitude about 1,000 m. Endemic.

EUGENIA SUBROTUNDIFOLIA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 362, 6 (1911) Bot. 213.

Batan Islands, Luzon (Cagayan, Isabela, Ilocos Norte, Tayabas, Albay, Sorsogon), Polillo. In thickets and secondary forests, especially along the seashore. Endemic.

Local names: Barakbak (Ibn.); baraṅgan (Bik.); bayakbak (Iv.); kalubkob (Tag.); kalugkog (Tag., Neg.); kayogkog (Ibn.); malayambu (Tag.); tampói (Ilk.).

EUGENIA SUBSESSILIFLORA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 216.

Samar, Leyte, Negros, *Merrill Phil. Pl. 1679, Wenzel 942, F. B. 23658 Roque*. In primary forests at low and medium altitudes. Endemic.

EUGENIA SUBSESSILIS C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 360.

Negros, Mindanao, Basilan, *Williams 2748, Piper 423, 493, F. B. 15151 Tarros, 18251 Miranda, B. S. 15872 Fénix*. In forests at low altitudes. Endemic.

Local names: Tambis-tambís (Tag.); tambis-tambís-gulagan (Sul.).

EUGENIA SULCISTYLA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 368.

Luzon (Abra, Benguet), *F. B. 15873 Bacani, 14551 Darling*. In forests, altitude about 1,000 m. Endemic.

Local names: Balakbat (Ting.); bislot (Ilk.); boortet (Ting.).

EUGENIA SURIGAENSIS Merr. in Philip. Journ. Sci. 18 (1921) 297.

Mindanao (Surigao), *B. S. 34686 Ramos & Pascasio*. In forests along streams at low altitudes. Endemic.

EUGENIA TAYTAYENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 223.

Palawan, *Merrill 9201*. In primary forests at low altitudes. Endemic.

EUGENIA TENUIPES Merr. in Philip. Journ. Sci. 7 (1912) Bot. 316.

Luzon (Cagayan), Mindoro, *F. B. 19608 Curran, B. S. 7367, 13963, 39433, 39447 Ramos*. In forests at low altitudes. Endemic.

EUGENIA TOPPINGII Elm. Leaf. Philip. Bot. 4 (1912) 1407.

Eugenia puncticulata Merr. in Philip. Journ. Sci. 9 (1914) Bot. 381.

Leyte, Mindanao (Davao), *Wenzel 384, 369, Elmer 11181*. In primary forests, up to 750 m altitude; closely allied to *E. balerensis* C. B. Rob. Endemic.

Local name: Lauisan (Bag.).

EUGENIA TRIANTHA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 224.

Mindanao (Butuan), Basilan, *F. B. 20558 Miranda, 26417 Tecson*. In forests at low altitudes. Endemic.

EUGENIA TRIPHYLLA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 371.

Mindanao (Zamboanga, Lanao), Basilan, *F. B. 3971 Hutchinson, 25909 Alviar, 18943 Miranda, B. S. 16139 Reillo, 36954 Ramos & Edaño*. Along streams in forests at low altitudes. Endemic.

Local names: Mañgampo (Sub.); tubal-tubal (Yak.).

EUGENIA TRIPINNATA (Blanco) C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 357; Merr. Sp. Blancoanae (1918) 291.

Myrtus tripinnata Blanco Fl. Filip. (1837) 421.

Myrtus subrubens Blanco op. cit. ed. 2 (1845) 294, ed. 3, 2 (1878) 182.

Eugenia cymosa F.-Vill. Novis. App. (1880) 85, non Lam.

Luzon (Cagayan to Sorsogon), Mindoro, Negros, Samar, Panay, Mindanao (Lanao). In primary forests at low and medium altitudes. Endemic.

Local names: Baugit (Neg.); bayekbek (Pang.); hakis (Bik.); kaman-dak (Tag.); labak (Ibn.); lubag (Ibn.); malabag (Ibn.); malabugue (S. L. Bis.); panglongboyen (Ilk.).

EUGENIA TULA Merr. in Philip. Journ. Sci. 18 (1921) 297.

Mindanao (Davao), *F. B. 27540 DeMesa*. In forests at low altitudes. Endemic.

Local name: Tula (Tagk.).

EUGENIA TULANAN Merr. in Philip. Journ. Sci. 11 (1916) Bot. 201.

Samar, *B. S. 24453, 24421 Ramos*. In primary forests at low altitudes. Endemic.

Local name: Tulanan (S. L. Bis.).

EUGENIA URDANETENSIS Elm. Leaf. Philip. Bot. 7 (1914) 2356.

Luzon (Tayabas, Camarines), Bucas Grande, Mindanao (Agusan), *Elmer 13784, B. S. 25412 Yates, 33702, 33715 Ramos & Edaño, 35125 Ramos & Pascasio*. In primary forests up to 900 m altitude. Endemic.

Local name: Lasgas (Bik.).

EUGENIA VACCINIOIDES Elm. Leaf. Philip. Bot. 7 (1914) 2350.

Luzon (Tayabas, east coast), Mindanao (Agusan), *Elmer 13760, B. S. 28556 Ramos & Edaño*. On exposed ridges in the mossy forest, altitude 1,000 to 1,700 m. Endemic.

Local name: Magpongpong (Mbo.).

EUGENIA VERNONIOIDES Elm. Leaf. Philip. Bot. 7 (1914) 2352.

Mindanao (Agusan), *Elmer 13826*. On forested ridges, altitude about 1,600 m. Endemic.

Local name: Taliñgahon (Mbo.).

EUGENIA VIDALIANA Elm. Leaf. Philip. Bot. 2 (1909) 584; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 372.

Eugenia sorsogonensis Merr. in Philip. Journ. Sci. 11 (1916) Bot. 22.

Eugenia williamsii C. B. Rob. op. cit. 4 (1909) Bot. 365.

Luzon (Tayabas, Sorsogon), Mindanao (Agusan, Zamboanga), Basilan, *Elmer 9161, 15387, 14826, 15313, 14490, F. B. 12806 Rosenbluth, 6119 Hutchinson, Williams 2128, B. S. 16140, 16290 Reillo, 23373 Ramos*. In primary forests at low and medium altitudes. Endemic.

Local names: Bagilumbói (P. Bis.); makaásim (Tag.); malatambis (Sul.); mañgausai (P. Bis.).

EUGENIA WENZELII Merr. in Philip. Journ. Sci. 9 (1914) 380.

Luzon (Tayabas), Leyte, *Wenzel 770, F. B. 22799 Tabat*. In primary forests, altitude about 500 m. Endemic.

EUGENIA WHITFORDII Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 49, Philip. Journ. Sci. 1 (1906) Suppl. 107; C. B. Rob. op. cit. 4 (1909) Bot. 355.

Luzon (Bataan, Laguna, Camarines), *Whitford 468, B. S. 1182 Borden, 26040 Mabesa, 22047 Villavicencio, B. S. 6169 Robinson, Merrill Phil. Pl. 1527*. In primary forests, altitude 150 to 600 m. Endemic.

EUGENIA XANTHOPHYLLA C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 370.

Luzon (Cagayan, Apayao, Ilocos Sur, Abra, Nueva Ecija, Zambales, Pangasinan, Bulacan, Rizal, Laguna, Tayabas, Camarines, Sorsogon), Mindoro, Negros, Dinagat. In forests at low altitudes. Endemic.

Local names: Apnig (Bik.); balabak (Sbl.); balokbok (Sbl.); barakbak (Ilk.); bislot (Tag.); bislot-sapa (Tag.); kapinig (Bik.); kayogkog (Tag.); kayokok (Tag.); kayugkuk (Tag.); kayugpug (Tag.); lapinig (Bik.); malayámbo (Tag.); malatampói (Bis., Tag.); panglongbuyendaradisdisan (Ilk.); panglumbuyen (Ilk.); tampói-gúbat (Tag.).

EUGENIA XIPHOPHYLLA Merr. in Philip. Journ. Sci. 18 (1921) 298.

Mindanao (Zamboanga, Lanao), *F. B. 24060 Acuña, 27046 Jimenez, B. S. 36812, 36979 Ramos & Edaño*. On forested slopes at low altitudes. Endemic.

Local name: Baya-baya (Sub.).

EUGENIA ZAMBOANGENSIS C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 379.

Mindanao (Surigao, Zamboanga), Basilan, *F. B. 9423, 9473 Whitford & Hutchinson, 22843 Ponce, Hallier*. In primary forests at low altitudes. Endemic.

Local name: Malasugi (Lan.).

DOUBTFUL AND EXCLUDED SPECIES

EUGENIA AMBIGUA Blume; Ceron Cat. Pl. Herb. Manila (1892) 80.

Ceron's record is based on *Vidal 2766* from Guimaras which I have not seen.

EUGENIA AMPLEXICAULIS Roxb.; F.-Vill. Novis. App. (1880) 84; Usteri Beitr. Ken. Philip. Veg. (1905) 117.

The Philippine specimen so named by Usteri is probably *Eugenia subrotundifolia* C. B. Rob.

EUGENIA BRACTEATA Roxb.; F.-Vill. op. cit. 86.

EUGENIA CARYOPHYLLAEA Wight; F.-Vill. op. cit. 85.

EUGENIA COLORATA Vidal Sinopsis Atlas (1883) 26, t. 49, f. D, non Duthie.
Vidal's figure is unrecognizable beyond the genus.

EUGENIA CONGLOMERATA Duthie; F.-Vill. op. cit. 85.

EUGENIA DENSIFLORA DC.; F.-Vill. op. cit. 84.

EUGENIA DIOSPYRIFOLIA Wall.; Ceron Cat. Pl. Herb. Manila (1892) 80.

Ceron's record is based on *Vidal* 2762, 2823, which I have not seen.

EUGENIA EXPANSA Wall.; F.-Vill. op. cit. 85.

EUGENIA FORMOSA Wall.; F.-Vill. op. cit. 84.

EUGENIA GARDNERI Thw.; F.-Vill. op. cit. 85.

EUGENIA GLANDULOSA Blanco Fl. Filip. (1837) 417, ed. 2 (1845) 291, ed. 3,
2 (1878) 176; Merr. Sp. Blancoanae (1918) 291.

Blanco's species is not recognizable with certainty; it is apparently no
Eugenia.

EUGENIA GRANDIS Wight; F.-Vill. op. cit. 85.

EUGENIA GRATA Wall.; F.-Vill. l. c.

EUGENIA GRIFFITHII Duthie; F.-Vill. l. c.

EUGENIA HEYNEANA Wall.; F.-Vill. l. c.

EUGENIA LAETA Ham.; F.-Vill. l. c.

EUGENIA LAEVICAULIS Duthie; F.-Vill. l. c.

JAMBOSA ? MACROPHYLLA ? Llanos in Mem. Acad. Cienc. Madr. III 2 (1857)
500; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 101,
nomen nudum.

EUGENIA MARAGDENSIS Decne.; Ceron Cat. Pl. Herb. Manila (1892) 80.

There is some error here as Decaisne described no such species.

EUGENIA MONTANA Wight; F.-Vill. l. c.

EUGENIA MUNRONII Wight; F.-Vill. op. cit. 84.

EUGENIA OBLATA Roxb.; F.-Vill. op. cit. 85.

EUGENIA OCCLUSA Miq.; F.-Vill. l. c.

EUGENIA PELLUCIDA Duthie; F.-Vill. l. c.

EUGENIA PYRIFOLIA Wall.; F.-Vill. l. c.

EUGENIA RUBENS Roxb.; F.-Vill. l. c.

EUGENIA RUBRICAULIS Miq.; F.-Vill. l. c.

EUGENIA TETRAGONA Wight; F.-Vill. l. c.

EUGENIA VENULOSA Vidal Sinopsis Atlas (1883) 26, t. 49, f. C. non Wall.

Vidal's figure is not recognizable with certainty beyond the genus.

JAMBOSA VRIESIANA Merr. in Philip. Bureau Forestry Bull. 1 (1903) 43,
non Miquel.

5. OSBORNIA F. Mueller

OSBORNIA OCTODONTA F. Muell. Fragm. 3 (1862) 31; Benth. Fl. Austral. 3 (1866) 371, Hook. Ic. III 1 (1867) 31, *t.* 1041; F.-Vill. Novis. App. (1880) 83; Vidal Sinopsis Atlas (1883) 26, *t.* 49, *f.* L, Rev. Pl. Vasc. Filip. (1886) 129; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 333, 6 (1911) Bot. 213.

Luzon (Tayabas, Camarines), Polillo, Palawan, Masbate, Leyte, Panay, Negros, Bohol, Zamboanga, Basilan. Along the inner borders of mangrove swamps and along tidal streams. A monotypic genus otherwise recorded only from tropical Australia and Borneo, but probably to be found in Celebes, the Moluccas, and New Guinea.

Local names: Dukduk (C. Bis.); dulok-dulok (P. Bis.); gulum (Sul.); gunhun (Sul.); gunlum (Sul.); maligang (Tag.); monot-bonot (S. L. Bis.); sagasa (Tag.); tabau (P. Bis.); tualis (Tag.); tiuayos (Bis., Tag.); toauis (Tagb.); tuauis (Tag.).

6. MEARNISIA Merrill

MEARNISIA HALCONENSIS Merr. in Philip. Journ. Sci. 2 (1907) Bot. 284; C. B. Rob. op. cit. 4 (1909) Bot. 334; Elm. Leaf. Philip. Bot. 7 (1914) 2344.

Mindoro, Mindanao (Agusan), *Merrill 5792, Elmer 13759*. In the mossy forest on exposed ridges, altitude 1,200 to 1,500 m. Endemic. A genus with one other species in New Guinea and one in New Caledonia.

Local name: Magadhaning (Mbo.).

7. MOORIA Montrouzier

MOORIA URDANETENSIS (Elm.) comb. nov.

Photinia urdanetensis Elm. Leaf. Philip. Bot. 8 (1915) 2802.

Cloëzia urdanetensis Merr. in Philip. Journ. Sci. 14 (1919) 429.

Mindanao (Agusan), *Elmer 13694*. On exposed ridges, in mossy forests, altitude about 1,600 m. Endemic.

The entire genus, about six known species, is otherwise confined to New Caledonia. Guillaumin* has definitely shown that *Cloëzia* Brongn. & Gris. (1863) is identical with *Mooria* Montr. (1860).

Local name: Sambolan (Mbo.).

8. XANTHOSTEMON F. Mueller

XANTHOSTEMON BRACTEATUS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 289.

Luzon (Camarines), Samar, *B. S. 33758 Ramos & Edaño, F. B. 26500 DeMesa & Magistrado*. In primary forests at low altitudes. Endemic.

Local names: Bagoadlau (S. L. Bis.); dirigkalin (Bik.); mapilig (Bik.); síga (P. Bis.).

XANTHOSTEMON PHILIPPINENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 289.

Luzon (Camarines), Samar, *F. B. 24812 DeMesa, 27931 Rojas*. In forests at low altitudes. Endemic.

Local names: Bagoadlau (S. L. Bis.); kanakanala (Tag.).

* Not. Syst. 1 (1909) 110.

XANTHOSTEMON VERDUGONIANUS Naves in Blanco Fl. Filip. ed. 3 (1877-80) *t.* 300; F.-Vill. Novis. App. (1880) 82; Vidal Sinopsis Atlas (1883) 26, *t.* 49, *f.* K, Rev. Pl. Vasc. Filip. (1886) 129; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 44, Govt. Lab. Publ. 6 (1904) 10, Sp. Blancoanae (1918) 20; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 334.

Xanthostemon speciosus Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 10.

Xanthostemon merrillii Pamp. in Nuov. Giorn. Bot. Ital. 12 (1905) 688.

Culion, Busuanga, Sibuyan, Leyte, Panay, Tinago, Dinagat, Mindanao (Surigao, Agusan). In forests, sometimes also scattered in open places, at low and medium altitudes. Endemic.

Local names: Buongau (Kuy.); magkonó (S. L. Bis.); magkunó (C. Bis.); malapíga (Kuy.); mangkonó (C. Bis., Mbo.); palo de hierro (Sp.); tamuláuan (S. L. Bis.); tíga (P. Bis.).

9. TRISTANIA H. Brown

TRISTANIA DECORTICATA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 51, Philip. Journ. Sci. 1 (1906) Suppl. 107; C. B. Rob. op. cit. 4 (1909) Bot. 334.

Luzon (Cagayan, Ilocos Norte, Bataan, Tayabas, Rizal, Camarines), Polillo, Mindanao (Davao). In primary forests, chiefly at low and medium altitudes. Endemic.

Local names: Adios (Ilk.); anigad (P. Bis.); bagitulai-bayábo (Ibn.); bungla (Ibn.); busag (S. L. Bis.); dinglas (Tag.); hublas (Bis.); hus-hus (C. Bis.); makatulai-bayábo (Tag.); malabayábas (Tag.); malapíga (Tag.); tíga (Tag., Bik.); tinadan (Ting.).

TRISTANIA LITTORALIS Merr. in Philip. Journ. Sci. 7 (1912) Bot. 317.

Samar, Mindanao (Zamboanga), Basilan, *F. B.* 13534 *Foxworthy, De Mesa, & Villamil, 18914 Miranda*. In forests back of the mangrove, but ascending to 500 m. Endemic.

Local names: Malambayábas (Sul.); taba (Sul.).

TRISTANIA MICRANTHA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 288.

Luzon (Camarines, Albay), Samar, *F. B.* 22877 *Oro*. On forested slopes, altitude 100 to 400 m. Endemic.

Local names: Tíga (Bik.); tíga-busag (S.L.Bis.).

TRISTANIA OBLONGIFOLIA Merr. in Philip. Journ. Sci. 14 (1919) 430.

Luzon (Tayabas, east coast), *B. S.* 28670 *Ramos & Edaño*. On forested slopes, altitude about 400 m. Endemic.

10. EUCALYPTUS L'Héritier

EUCALYPTUS DEGLUPTA Blume Mus. Bot. Lugd.-Bat. 1 (1849) 83; Merr. Interpret. Herb. Amb. (1917) 401.

Populus deglupta Reinw. ex Blume l. c. in syn.

Eucalyptus versicolor Blume op. cit. 84.

Eucalyptus multiflora Rich. ex A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 554; F.-Vill. Novis. App. (1880) 82; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 83, *t.* 2, non Poir.

Eucalyptus naudiniana F. Muell. in Austral. Journ. Pharm. 1 (1886) 239; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 335; Maiden in Proc. U. S. Nat. Mus. 26 (1903) 691, Crit. Rev. Eucalyptus 2 (1910) 79, t. 55, f. 3-4.

Eugenia binacag Elm. Leaf. Philip. Bot. 7 (1914) 2351.

Eucalyptus binacag Elm. op. cit. 8 (1915) 2776.

Mindanao (Agusan, Zamboanga, Cotabato), *F. B. 24486 Soriano, Ponce, & Ferraris, 21918 Stadtmiller, 20104 Stadtmiller, Ferraris, & Almagro, 11795 Whitford, 23040 Ferraris, Merrill 8063, Elmer 13865*. In primary forests in well-drained places along streams, from sea level to 600 m altitude; one of the largest trees in the Archipelago. Celebes, Moluccas, New Guinea, and the Bismarck Archipelago.

Local names: Amamanít (Chab.); banglas (Sub.); banikág (Mbo.); binakág (Mbo.); dinglas (Sul.); magoyañgit (Mbo.).

F.-Villar, Novis. App. (1880) 82, records *Eucalyptus globulus* Labill. as Philippine, but I have seen no Philippine material representing it. Mature trees of *E. robusta* Sm. and *E. tereticornis* Sm. occur in various parts of the Archipelago where planted. As a rule the Australian species of *Eucalyptus* do not thrive in the Philippines.

11. LEPTOSPERMUM Forster

LEPTOSPERMUM FLAVESCENS Sm. in Trans. Linn. Soc. 3 (1797) 262; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 335; Merr. op. cit. 5 (1910) Bot. 366, Interpret. Herb. Amb. (1917) 402.

Leptospermum porophyllum Cav. Ic. 4 (1797) 17, t. 330, f. 2.

? *Melaleuca thea* Wendl. Sert. Hannov. (1795-98) 24, t. 13.

Leptospermum amboinense Blume Bijdr. (1826) 1100; F.-Vill. Novis. App. (1880) 82; Vidal Sinopsis Atlas (1883) 26, t. 49, f. A; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 107, 2 (1907) Bot. 284.

Leptospermum annae Stein in Gartenfl. 34 (1885) 66, t. 1184.

Luzon (Isabela, Ilocos Norte, Benguet, Nueva Ecija, Bataan, Batangas, Tayabas), Mindoro, Negros, Mindanao (Surigao, Davao). Generally on exposed ridges in the mossy forest, altitude 1,000 to 2,700 m. In a few places (Burgos, Ilocos Norte, and Tugas Point, Surigao) occurring at sea level. The type of *L. annae* Stein was from Mt. Apo. Burma through Malaya to tropical Australia.

Local names: Daripiñgin (Neg.); malasulási (Tag.); tinikaran (Bag.).

EXCLUDED GENERA

BAECKEA FRUTESCENS Linn.; F.-Vill. Novis. App. (1880) 82.

Baeckea cumingiana Schauer in Walp. Repert. 2 (1843) 920.

The Philippine record was based on *Cuming 2269*, which was from Malacca, not from the Philippines.

MELALEUCA LEUCADENDRON Linn.; F.-Vill. Novis. App. (1880) 82; Vidal Sinopsis Atlas (1883) 26, t. 49, f. I.

The Philippine record was based on a tree cultivated in Manila; the species is no longer to be found except as very recently introduced and immature specimens.

METROSIDEROS VERA Roxb.; F.-Vill. Novis. App. (1880) 82.

RHODAMNIA TRINERVA Blume; F.-Vill. l. c.

MELASTOMATACEAE

1. OTANTHERA Blume

OTANTHERA CRINITA Naud. in Ann. Sci. Nat. Bot. III 13 (1849) 354; Miq. Fl. Ind. Bat. 1¹ (1855) 517; Triana in Trans. Linn. Soc. 28 (1871) 56; F.-Vill. Novis App. (1880) 87; Vidal Phan. Cuming. Philip. (1885) 114, Rev. Pl. Vasc. Filip. (1886) 133; Cogn. in DC. Monog. Phan. 7 (1891) 340.

Luzon (Camarines, Albay), Catanduanes, Mindanao (Surigao), *Cuming 928, B. S. 30427 Ramos, 34543 Ramos & Pascasio, Merrill Phil. Pl. 1588*. In primary forests at low and medium altitudes. The species endemic, with a variety (*major* Cogn.) in the Aru Islands.

OTANTHERA MACGREGORII Merr. in Philip. Journ. Sci. 12 (1917) Bot. 356.

Luzon (Nueva Vizcaya), *B. S. 14408 McGregor, 8264 Ramos*. On slopes, altitude about 700 m. Endemic.

OTANTHERA MANILLANA (DC.) Triana in Trans. Linn. Soc. 28 (1871) 56; Vidal Rev. Pl. Vasc. Filip. (1886) 134; Cogn. in DC. Monog. Phan. 7 (1891) 340.

Osbeckia manillana DC. Prodr. 3 (1828) 142; Miq. Fl. Ind. Bat. 1¹ (1855) 518; Naud. in Ann. Sci. Nat. Bot. III 14 (1850) 60; F.-Vill. Novis. App. (1880) 87.

Luzon (Bulacan, Rizal, Laguna), *Loher 3567, 3568, B. S. 14978, 13060, 26747 Ramos, 34121 Ramos & Edaño*. In thickets, usually along streams at low altitudes; closely allied to *O. crinita* Naud. Endemic.

Local name: Bukiñgan (Tag.).

OTANTHERA PARVIFLORA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 355.

Mindanao (Zamboanga), *Merrill 8082*. In damp shaded ravines and on ridges, altitude 800 to 1,100 m. Endemic.

OTANTHERA STRIGOSA Merr. in Philip. Journ. Sci. 14 (1919) 433.

Luzon (Ilocos Norte), *B. S. 33079 Ramos*. On forested slopes near small streams at low altitudes. Endemic.

EXCLUDED SPECIES

OTANTHERA MOLUCCANA Blume; F.-Vill. Novis. App. (1880) 87.

2. MELASTOMA Burman

MELASTOMA BENSONI Merr. in Philip. Journ. Sci. 5 (1910) Bot. 366.

Luzon (Lepanto, Bontoc, Benguet), *Elmer 6252, Merrill 7758, Williams 1210, B. S. 31868 Santos, 4428 Mearns, 37705, 37764, 40305 Ramos & Edaño, F. B. 25127 Leaño, 11456 Darling, 18103 Curran, Zschokke, & Merritt*. In the mossy forest on the higher mountains, altitude 2,000 to 2,400 m. Endemic.

Local names: Bassi (Ig.); botiki (Ig.); siañgang (Bon.).

MELASTOMA CANDIDUM D. Don in Mem. Wern. Soc. 4 (1823) 288; Cogn. in DC. Monog. Phan. 7 (1891) 347; Gagnep. in Not. Syst. 2 (1913) 313.

Melastoma warrineri C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 352.

Luzon (Benguet, Nueva Vizcaya, Pampanga, Tayabas), *B. S.* 9370 *Robinson*, typical 7-nerved leaves, *Merrill* 3930, *B. S.* 14385 *McGregor*, 2496 *Mearns*, *F. B.* 19303 *Curran*, these with 5-nerved leaves. In forests, altitude 600 to 1,200 m. Indo-China, central and southern China, Riu Kiu Islands, Formosa.

MELASTOMA CULIONENSE Merr. in Philip. Journ. Sci. 12 (1917) Bot. 353.

Culion, Bicawayan, *B. S.* 21647 *Escritor*, 41289 *Ramos*. In thickets at low altitudes. Endemic.

MELASTOMA HOLMANI Elm. Leaf. Philip. Bot. 8 (1919) 3089.

Luzon (Laguna), *Merrill* 5136, *Holman* 36, *B. S.* 9737, 6626, 17103 *Robinson*, 16904 *Serviñas*, *F. B.* 26382 *Catalan*, 24069 *Mabesa*, 15376 *Tamesis*. Common on ridges in the mossy forest on Mt. Maquiling, altitude 1,000 to 1,100 m. Endemic.

MELASTOMA HOMOSTEGIUM Naud. in Ann. Sci. Nat. Bot. III 13 (1849) 286; Walp. Ann. 2 (1851) 566; Miq. Fl. Ind. Bat. 1¹ (1855) 513; F.-Vill. Novis. App. (1880) 87; Merr. Sp. Blancoanae (1918) 292.

Melastoma tamonea Blanco Fl. Filip. (1837) 367, non Sm.

Melastoma dodecandrum Blanco op. cit. ed. 2 (1845) 258, ed. 3, 2 (1878) 116, non Roxb.

Melastoma obvolutum Triana in Trans. Linn. Soc. 28 (1871) 59; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 114, Rev. Pl. Vasc. Filip. (1886) 134; Cogn. in DC. Monog. Phan. 7 (1891) 348, quoad Philip., non Jack.

Luzon (Cagayan, Nueva Vizcaya, Apayao, Camarines, Sorsogon), Palawan, Balabac, Negros, Guimaras, Panay, *Cuming* 927, *Merrill* 800, 7214, *Adduru* 22, *Elmer* 13059, *F. B.* 4303, 6481 *Everett*, 10544, 17824 *Curran*, *B. S.* 511 *Mangubat*, 745 *Foxworthy*, 11183, 14165 *McGregor*, 28081 *Fénix*, 31405, 33639, 33549 *Ramos & Edaño*. In thickets and secondary forests at low and medium altitudes. Endemic.

Gagnepain, Not. Syst. 2 (1913) 314, reduces this to *M. malabathricum* Linn. from which it differs in its much larger calyces and usually 6- or 7-merous flowers.

Local names: Boada (Ig.); bota-bota (Ilk.); tunan-túnan (Bis.); tuñgau-túñgau (Bik.).

MELASTOMA LANAENSE Merr. in Philip. Journ. Sci. 3 (1908) Bot. 153.

Negros, Mindanao (Lanao, Zamboanga), *Clemens* 836, *Williams* 2313, *F. B.* 5575 *Everett*, 36983 *Ramos & Edaño*. In thickets up to 800 m altitude; *Elmer* 11434 and 14006 do not represent this species. Endemic.

Local names: Basug (Bag.); sapodohon (Mbo.); tuñgau-túñgau (P. Bis.).

MELASTOMA MALABATHRICUM Linn. Sp. Pl. (1753) 390; Cogn. in DC. Monog. Phan. 7 (1891) 349; F.-Vill. Novis. App. (1880) 87.

Melastoma heterostegium Naud. in Ann. Sci. Nat. Bot. III 13 (1849) 286; Walp. Ann. 2 (1851) 566; Miq. Fl. Ind. Bat. 1¹ (1855) 513; F.-Vill. Novis. App. (1880) 87.

Melastoma fuscum Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 39, Philip. Journ. Sci. 1 (1906) Suppl.-407.

Melastoma congestum Elm. Leaf. Philip. Bot. 4 (1911) 1194.

Luzon (Zambales, Nueva Vizcaya, Pangasinan, Pampanga, Bataan, Cavite), Mindoro, Sibuyan, Negros. In thickets and secondary forests at low and medium altitudes. Similar to *M. polyanthum* Blume but differing in its very much larger bracts which usually exceed and inclose the calyx. India to Indo-China through Malaya to New Guinea.

Local names: Bubtoi (Sbl.); malatúñgau (Ibn.); yagomyum (C. Bis.).

MELASTOMA MEMBRANACEUM Merr. in Philip. Journ. Sci. 3 (1908) Bot. 423.

Batan and Babuyan Islands (Batan, Camiguin), *B. S.* 3798, 4109 *Fénix*. On slopes and along streams at low or medium altitudes. Endemic.

MELASTOMA NORMALE D. Don Prodr. Fl. Nepal. (1825) 220; Cogn. in DC. Monog. Phan. 7 (1891) 352; Gagnep. in Not. Syst. 2 (1913) 319.

Luzon (Ilocos Norte), Busuanga, Panay, *B. S.* 30789, 31448, 31413, 31277, 31237 *Ramos & Edaño*, 32879 *Ramos*, 32487 *McGregor*. In thickets and forests at low or medium altitudes. India to southern China and Malaya.

MELASTOMA PARVIFOLIUM Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 32.

Luzon (Bontoc, Benguet), *Elmer* 5836, *Merrill* 9645, *Phil. Pl.* 890, *Loher* 3559, *B. S.* 2788 *Mearns*. In thickets, altitude 1,400 to 2,000 m; perhaps best considered as a form of *M. polyanthum* Blume. Endemic.

Local name: Takañgan (Ig.).

MELASTOMA PENICILLATUM Naud. in Ann. Sci. Nat. Bot. III 13 (1849) 280; Walp. Ann. 2 (1851) 565; Triana in Trans. Linn. Soc. 28 (1871) 60; F.-Vill. Novis. App. (1880) 88; Miq. Fl. Ind. Bat. 1¹ (1855) 509; Vidal Phan. Cuming. Philip. (1885) 114, Rev. Pl. Vasc. Filip. (1886) 134; Cogn. in DC. Monog. Phan. 7 (1891) 346.

Melastoma crinitum Naud. in Ann. Sci. Nat. Bot. III 13 (1849) 280; Walp. Ann. 2 (1851) 565; Miq. Fl. Ind. Bat. 1¹ (1855) 504.

Melastoma molle Vidal Phan. Cuming. Philip. (1885) 114; Cogn. in DC. Monog. Phan. 7 (1891) 346, quoad Philip. non ? Wall.

Melastoma sanguineum Sims var. *molle* Vidal Sinopsis Atlas (1883) 27, t. 51, f. D, Rev. Pl. Vasc. Filip. (1886) 134, non ? Clarke.

Melastoma setosum Elm. Leaf. Philip. Bot. 8 (1915) 2758.

Luzon (Cagayan, Isabela, Ifugao, Ilocos Norte, Rizal, Laguna, Tayabas, Albay, Sorsogon), Alabat, Leyte, Negros, Panay, Mindanao, *Cuming* 853, *Elmer* 7332, 14168, 16479, *Wenzel* 871, 554, *Merrill* 1649, 10511, *Phil. Pl.* 307, *F. B.* 3276 *Ahern's collector*, 20176 *Aguilar*, 6604 *Kobbe*, *B. S.* 1757, 13357, 20593, 23591 *Ramos*, 88 *Foxworthy*, 30671, 30729, 30769 *Ramos & Edaño*, 28374 *Fénix*. In primary forests at low and medium altitudes. Endemic.

Gagnepain, Not. Syst. 2 (1913) 315, 316, reduces *M. penicillatum* Naud. (as *M. pedicellatum*) to *M. decemfidum* Roxb., and *M. crinitum* Naud. to

M. decemfidum var. *molle* (Wall.) Clarke. I do not accept these reductions.

Local names: Bodung (Mbo.); buslog-amo (Tag.); karagan (Mbo.); liṅgai (Tag.); litik-litik (P. Bis.).

MELASTOMA POLYANTHUM Blume in Flora 14 (1831) 480, Mus. Bot. Lüg. Bat. 1 (1849) 55, t. 6; Miq. Fl. Ind. Bat. 1¹ (1855) 507; F.-Vill. Novis. App. (1880) 87; Vidal Rev. Pl. Vasc. Filip. (1886) 134; Cogn. in DC. Monog. Phan. 7 (1891) 354; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 107, 2 (1907) Bot. 285, 3 (1908) Bot. 423, Sp. Blancoanae (1918) 291.

Melastoma asperum Blanco Fl. Filip. (1837) 368, non Linn.

Melastoma malabathricum Blanco op. cit. 367, ed. 2 (1845) 258, ed. 3, 2 (1878) 115, t. 152, non Linn.

Melastoma obvolutum Blanco op. cit. ed. 2 (1845) 259, ed. 3, 2 (1878) 117, non Jack.

Melastoma imbricatum Triana in Trans. Linn. Soc. 28 (1871) 60, quoad Philip.; F.-Vill. Novis. App. (1880) 87.

Melastoma hombronianum Naud. in Ann. Sci. Nat. Bot. III 13 (1849) 278; Walp. Ann. 2 (1851) 565; F.-Vill. Novis. App. (1880) 88.

Melastoma fasciculare Naud. in Ann. Sci. Nat. III 13 (1849) 288; Walp. Ann. 2 (1851) 566; Miq. Fl. Ind. Bat. 1¹ (1855) 509; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 602; F.-Vill. Novis. App. (1880) 87, non Willd., nec Sw.

Melastoma baumianum Naud. in Ann. Sci. Nat. Bot. III 13 (1849) 289; Walp. Ann. 2 (1851) 567; Triana in Trans. Linn. Soc. 28 (1871) 60; Miq. Fl. Ind. Bat. 1¹ (1855) 509; F.-Vill. Novis. App. (1880) 87; Cogn. in DC. Monog. Phan. 7 (1891) 351.

Throughout the Philippines in most or all islands and provinces, often common in thickets at low and medium altitudes, in places ascending to 2,000 m. India to southern China through Malaya to New Guinea and tropical Australia.

Local names: Agusip (P. Bis.); bakbakag (Bon.); basing (Bag.); bugauṅga (Ig.); boslog (Tag.); bubilo (Sub.); bugus (Tag., P. Bis.); buslóg amó (Tag.); butgi (If.); dungayong (Tag.); hantotóṅgau (C. Bis.); kalim-pusag (Ibn.); kapignau (P. Bis.); kataṅgag (Bon.); letik-letik (P. Bis.); maratúṅgau (Ibn.); pungatubun (Sul.); sangung (Ig.); siaṅgang (Bon.); taramchuk (Mang.); toṅgau-tóṅgau (Tag.); túṅgau (P. Bis.); tuṅgau-túṅgau (P. Bis.); tuṅgau-tuṅgáuan (Tag.); tolai-papel (Sbl.).

MELASTOMA SUBALBIDUM Merr. in Philip. Journ. Sci. 12 (1917) Bot. 354.

Luzon (Ifugao), *B. S. 19835* McGregor, *Merrill Phil. Pl. 1349*. On Mt. Polis, probably at or above 1,500 m altitude. Endemic.

MELASTOMA TOPPINGII Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 38, Philip. Journ. Sci. 5 (1910) Bot. 366.

Luzon (Lepanto, Benguet), *Topping 17*, *Merrill 9655*, *Phil. Pl. 715*, *Williams 1041*, *F. B. 14482* Darling, 18167 Curran, Zschokke, & Merritt. In ravines and on slopes in the pine region, altitude 1,200 to 1,600 m. Endemic.

Local names: Bugogugua (Ig.); pagpaglat (Bon.); tagadai (Ig.).

EXCLUDED SPECIES

MELASTOMA PULCHERRIMUM Korth.; F.-Vill. Novis. App. (1880) 88.

MELASTOMA SANGUINEUM Sims; F.-Vill. Novis. App. (1880) 87; Vidal Rev. Pl. Vasc. Filip. (1886) 134.

Vidal's reference is based on his No. 340 from Rizal Province, Luzon, and is, I suppose, *Melastoma penicillatum* Naud.; not seen.

3. OSBECKIA Linnaeus

OSBECKIA CHINENSIS Linn. Sp. Pl. (1753) 490; Triana in Trans. Linn. Soc. 28 (1871) 53; F.-Vill. Novis. App. (1880) 87; Vidal Phan. Cuming. Philip. (1885) 113, Rev. Pl. Vasc. Filip. (1886) 133; Cogn. in DC. Monog. Phan. 7 (1891) 325; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 367, Sp. Blancoanae (1918) 292.

Osbeckia zeylanica DC. Prodr. 3 (1828) 141, quoad Philip.

Osbeckia perrottetii DC. ex Naud. in Ann. Sci. Nat. Bot. III 14 (1850) 71; Miq. Fl. Ind. Bat. 1¹ (1855) 520; Triana in Trans. Linn. Soc. 28 (1871) 53; F.-Vill. Novis. App. (1880) 87; Cogn. in DC. Monog. Phan. 7 (1891) 325.

Osbeckia multiflora Blanco Fl. Filip. (1837) 293, non Sm.

Osbeckia sinensis Blanco op. cit. ed. 2 (1845) 205, ed. 3, 2 (1878) 20, t. 421.

Osbeckia capitata Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 331, non Benth.

Osbeckia linearis Blume in Flora 14 (1831) 473, Mus. Bot. Lugd.-Bat. 1 (1849) 51, f. 19; Naud. in Ann. Sci. Nat. III 14 (1850) 70; Walp. Ann. 2 (1851) 580; Miq. Fl. Ind. Bat. 1¹ (1855) 519.

Luzon (Cagayan to Sorsogon), Culion, Busuanga, Panay, Guimaras, Mindanao. In open grasslands from sea level to an altitude of 1,900 m. India to Japan southward to New Guinea.

Local names: Buguaugna (Ig.); korontillo (P. Bis.); magubú (Buk.); payong-páyong (Tag.); parupasági (Bik.); saang-párang (Tag.); sid-sidiu (Bon.); sigsiged (Ig.); taktakan (Tag.).

4. OCHTHOCHARIS Blume

OCHTHOCHARIS JAVANICA Blume in Flora 14 (1831) 523, Mus. Bot. Lugd.-Bat. 1 (1849) 40; Cogn. in DC. Monog. Phan. 7 (1891) 480; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 424.

Mindoro, *F. B. 5518 Merritt*. In mangrove swamps.

Var. LONGIPETIOLATA Merr. op. cit. 425.

Mindoro, *Merrill 6226, F. B. 5488 Merritt*. In mangrove swamps. The variety endemic, the species in Tenasserim, Malay Peninsula, Sumatra, Java, Bangka, Billiton, Borneo.

5. SARCOPYRAMIS Wallich

SARCOPYRAMIS DELICATA C. B. Rob. in Bull. Torr. Bot. Club 35 (1908) 72, 75; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 368.

Luzon (Lepanto, Benguet), Mindoro, Mindanao (Bukidnon, Davao). In the mossy forest on the higher mountains, altitude 1,900 to 2,400 m; es-

pecially common on the Benguet peaks. Perhaps not sufficiently distinct from the Indian and Malayan *S. nepalensis* Wall. Formosa.

Local name: Papati (Ig.).

6. ANERINCLEISTUS Korthals

ANERINCLEISTUS PHILIPPINENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 337.

Palawan, Merrill 7241, 9412, 9552, *Phil. Pl.* 408. In primary forests, sea level to 800 m altitude. Endemic.

7. SONERILA Roxburgh

SONERILA TENERA Royle Illustr. Himal. Pl. (1839) 215, t. 45, f. 2; Cogn. in DC. Monog. Phan. 7 (1891) 493; Stapf in Ann. Bot. 6 (1892) 305.

Sonerila brachyandra Naud. in Ann. Sci. Nat. Bot. III 15 (1851) 320 f. 2; Walp. Ann. 3 (1853) 884; Miq. Fl. Ind Bat. 1¹ (1855) 561; Triana in Trans. Linn. Soc. 28 (1871) 75, t. 6, f. 72 f.; Cogn. in DC. Monog. Phan. 7 (1891) 491.

Cassebeeria brachyandra O. Kuntze Rev. Gen. Pl. (1891) 245.

Luzon (Ilocos Norte, Bontoc, Lepanto, Benguet, Nueva Vizcaya, Rizal), Merrill 4391, 4278, 4404, *Phil. Pl.* 2012, Williams 1033, F. B. 5702 Klemme, 12480 Merritt & Darling, B. S. 20140 McGregor. On damp mossy banks and cliffs, altitude 300 to 1,400 m. India to Indo-China and southern China.

SONERILA WOODII Merr. in Philip. Journ. Sci. 2 (1907) Bot. 286.

Sonerila lilacina Elm. Leaf. Philip. Bot. 8 (1915) 2765.

Mindoro, Catanduanes, Leyte, Mindanao (Agusan), Merrill 5794, Elmer 14135, Wenzel 557, F. B. 4352 Merritt, B. S. 30409 Ramos. In damp forests, usually in the mossy type, altitude 600 to 1,300 m; closely allied to the Bornean *S. kinabaluensis* Stapf. Endemic.

Local name: Tagkaro (Mbo.).

EXCLUDED SPECIES

SONERILA OBLIQUA Korth.; Triana in Trans. Linn. Soc. 28 (1871) 77.

Sonerila heterostemon Naud. in Ann. Sci. Nat. Bot. III 15 (1851) 326, t. 18, f. 4; Walp. Ann. 3 (1853) 885; Miq. Fl. Ind. Bat. 1¹ (1855) 565; F.-Vill. Novis. App. (1880) 88.

The Philippine reference is based on *Cuming* 2349, which was from Malacca, not from the Philippines.

8. CREOCHITON Blume

CREOCHITON DIPTERA Elm. Leaf. Philip. Bot. 4 (1911) 1192.

Luzon (Laguna, Sorsogon), Negros, Mindanao (Agusan), Elmer 9813, 16671, 14119, B. S. 16640 Ramos, 38855 Ramos & Edaño, F. B. 19069, 22676 Curran, 7280 Everett, 24661 Amarillas. In primary forests at low and medium altitudes, ascending to 1,200 m. Endemic.

Local name: Buyon-buyon (C. Bis.).

CREOCHITON ROSEA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 32.

Mindanao (Davao, Zamboanga), *Copeland 1297, Merrill 8104*. In primary forests, altitude 800 to 1,200 m. Endemic.

Local name: Isag (Bag.).

9. DISSOCHAETA Blume

DISSOCHAETA ACMURA Stapf & M. L. Green in Kew Bull. (1913) 42.

Luzon (Cagayan, Laguna, Tayabas, Sorsogon), Catanduanes, Leyte, Bucas Grande, Mindanao (Surigao, Lanao), Basilan, *Merrill Phil. Pl. 437* as *D. stellata* Merr., *B. S. 13988, 16612, 23836, 23644, 30366 Ramos, 29114 Ramos & Edaño, 23011, 22859 McGregor, Elmer 16844, 15257, Wenzel 662*. In damp primary forests at low altitudes. Endemic.

DISSOCHAETA CELEBICA Blume Mus. Bot. Lugd.-Bat. 1 (1849) 36; Cogn. in DC. Monog. Phan. 7 (1891) 561; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 207.

Dissochaeta subviridis Elm. Leaflet. Philip. Bot. 4 (1911) 1193.

Mindanao (Bukidnon, Davao), *Williams 2571, Elmer 10577, B. S. 38870 Ramos & Edaño*. In forests, altitude about 950 m. Malay Peninsula, Borneo, Bangka, Celebes.

Local name: Tolasola (Bag.).

DISSOCHAETA CUMINGII Naud. in Ann. Sci. Nat. Bot. III 15 (1851) 75 (*cunningii*); Walp. Ann. 3 (1853) 872 (*cunningii*); Miq. Fl. Ind. Bat. 1¹ (1856) 526; Triana in Trans. Linn. Soc. Bot. 28 (1871) 82; F.-Vill. Novis. App. (1880) 88; Vidal Phan. Cuming. Philip. (1885) 114, Rev. Pl. Vasc. Filip. (1886) 134.

Luzon (Cagayan), *Cuming 1344*. Known only from the original collection. Endemic.

DISSOCHAETA FURFURASCENS Elm. Leaflet. Philip. Bot. 8 (1915) 2754.

Mindanao (Agusan, Lanao), *Elmer 13352, Clemens*. In thickets and forests, altitude 600 to 900 m. Endemic.

Local name: Kaelan (Bag.).

EXCLUDED SPECIES

DISSOCHAETA BRACTEATA Blume; F.-Vill. Novis. App. (1880) 88.

DISSOCHAETA PALLIDA Blume; F.-Vill. l. c.

DISSOCHAETA PUNCTULATA Hook. f.; F.-Vill. l. c.; Vidal Sinopsis Atlas (1883) 27, *t. 51, f. B*.

Vidal's figure probably represents *Dissochaeta acmura* Stapf & Green.

10. CARIONIA Naudin

CARIONIA ELEGANS Naud. in Ann. Sci. Nat. Bot. III 15 (1851) 312, *t. 15, f. 6*; Walp. Ann. 3 (1853) 882; Miq. Fl. Ind. Bat. 1¹ (1856) 558; Triana in Trans. Linn. Soc. Bot. 28 (1871) 85; F.-Vill. Novis. App. (1880) 89; Cogn. in DC. Monog. Phan. 7 (1891) 571; Vidal Rev. Pl. Vasc. Filip. (1886) 136.

Luzon (Benguet), *Merrill 8006, 9689, Phil. Pl. 767, B. S. 12723 Fénix, 40500 Ramos & Edaño*. In thickets and forests, altitude 1,000 to 1,600 m. A monotypic endemic genus; very close to *Medinilla*.

Local name: Pagirang (Ig.).

11. POGONANTHERA Blume

POGANANTHERA REFLEXA Blume in *Flora* 14 (1831) 521, *Mus. Bot. Lugd.-Bat.* 1 (1849) 24; *Cogn. in DC. Monog. Phan.* 7 (1891) 610; *Merr. in Govt. Lab. Publ. (Philip.)* 35 (1906) 53.

Luzon (Cagayan, Laguna, Tayabas, Camarines, Sorsogon), Mindoro, Samar, Leyte, Negros, Panay, Dinagat, Mindanao, Basilan, Jolo, *B. S. 20584 Ramos, 33881, 36579 Ramos & Edaño, 24908 Edaño, F. B. 24147 Miranda, 18983 Miranda, Elmer 15796, 12110, McGregor 313, Merrill Phil. Pl. 1615, Wenzel 276, 586, 1919*. In forests at low and medium altitudes, sometimes in the mangrove swamps. Malay Peninsula, Java, Borneo, and the Moluccas.

12. MEDINILLA Gaudichaud

MEDINILLA ACUMINATA Merr. in *Philip. Journ. Sci.* 8 (1913) Bot. 238.

Mindoro, *Merrill 5667*. In the mossy forest, altitude about 1,800 m. Endemic.

MEDINILLA AFFINIS Merr. in *Philip. Journ. Sci.* 10 (1915) Bot. 281.

Luzon (Camarines, Sorsogon), Leyte, *Wenzel 1091, 1003, B. S. 22191 Ramos, Elmer 14976, 16440, 17094* as *M. pachyphylla* Elm. In primary forests, altitude about 500 m. Endemic.

MEDINILLA ALBIFLORA Merr. in *Philip. Journ. Sci.* 8 (1913) Bot. 385.

Luzon (Sorsogon), Samar, Panay, Leyte, Mindanao (Surigao), *Wenzel 262, B. S. 23420, 24116, 24153 Ramos, 26021 Fénix*. Pseudoepiphytic in primary forests at medium altitudes. Endemic.

MEDINILLA AMPLIFOLIA Merr. in *Govt. Lab. Publ. (Philip.)* 29 (1905) 37, *Philip. Journ. Sci.* 1 (1906) Suppl. 107.

Luzon (Apayao, Benguet, Tayabas, Bataan, Rizal), *Elmer 6112, 8721, Merrill 9668, Phil. Pl. 721, F. B. 1338 Borden, B. S. 28354 Fénix*. In damp ravines and in the mossy forest, altitude 800 to 1,500 m. Endemic.

Local names: Balangbanosol (Ig.); galandong (Tag.); lanug (Ibn.); magalonga (Ig.).

MEDINILLA ANNULATA C. B. Rob. in *Philip. Journ. Sci.* 6 (1911) Bot. 215.

Luzon (Laguna, Sorsogon), Polillo, Catanduanes, Leyte, *B. S. 16656, 23630, 30441, 15365 Ramos, 10265 McGregor, 9002 Robinson, Baker 3708*. In primary forests at low and medium altitudes. Endemic.

MEDINILLA ANTONII Elm. *Leaf. Philip. Bot.* 8 (1915) 2756.

Mindanao (Agusan), *Elmer 13477, 13633*. In primary forests, altitude about 1,000 m. Endemic.

Local names: Itag (Mbo.); lagikau (Mbo.).

MEDINILLA APAYAOENSIS Merr. in *Philip. Journ. Sci.* 12 (1917) Bot. 343.

Luzon (Apayao), *B. S. 28142 Fénix*. On trees in forests. Endemic.

MEDINILLA APOENSIS C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 207.

Medinilla confluentinervia Elm. Leaf. Philip. Bot. 4 (1911) 1224.

Mindanao (Bukidnon, Davao), *Williams 2569, Elmer 11469, B. S. 38904 Ramos & Edaño*. In damp forests, altitude about 1,900 m. Endemic.

Local name: Kalámbuglámbug (Bag.).

MEDINILLA ASTRONIOIDES Triana in Trans. Linn. Soc. 28 (1871) 88; F.-Vill. Novis. App. (1880) 89; Vidal Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 135; Cogn. in DC. Monog. Phan. 7 (1891) 594; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 37, Philip. Journ. Sci. 1 (1906) Suppl. 107, 2 (1907) Bot. 286.

Medinilla versicolor Elm. Leaf. Philip. Bot. 4 (1911) 1214.

Luzon (Bontoc, Lepanto, Benguet, Bataan, Rizal, Laguna, Batangas), Mindoro, Mindanao (Davao, Zamboanga), *Williams 915, 1113, Merrill 3895, 8103, 6149, Phil. Pl. 782, Elmer 11824, 17832, 17946, F. B. 3007 Meyer, 37618 Ramos & Edaño*. In primary forests, altitude 800 to 1,500 m. Endemic.

Local names: Iualos (Bag.); talanak (If.).

MEDINILLA ATTENUATA Elm. Leaf. Philip. Bot. 4 (1911) 1223.

Medinilla hirsuta Merr. in Philip. Journ. Sci. 8 (1913) Bot. 246.

Mindanao (Davao, Zamboanga, Basilan), *Elmer 11740, Merrill 8296, B. S. 16085 Reillo*. On forested slopes, altitude 800 to 1,000 m. Endemic.

Local name: Tialos (Bag.).

MEDINILLA AURANTIFLORA Elm. Leaf. Philip. Bot. 4 (1911) 1208.

Medinilla cauliflora Merr. in Philip. Journ. Sci. 5 (1910) Bot. 207, non Hemsl.

Medinilla trunciflora Merr. in Philip. Journ. Sci. 8 (1913) Bot. 247.

Negros, Panay, *Elmer 9934, Merrill 6983, F. B. 17397 Curran, B. S. 32239 McGregor, 18190 Robinson*. In damp forests, altitude 900 to 1,200 m. Endemic.

Local name: Hognopilipogon (C. Bis.).

MEDINILLA BAGOBO Elm. Leaf. Philip. Bot. 4 (1911) 1212.

Mindanao (Agusan, Davao), *Elmer 11617, 13769*. In humid forests, altitude about 1,000 m. Endemic.

The leaves are verticillate, not opposite as originally described.

Local names: Bagóbo (Bag.); liuayosan (Mbo.).

MEDINILLA BANAHAENSIS Elm. Leaf. Philip. Bot. 4 (1911) 1225.

Luzon (Rizal, Tayabas), Mindanao (Davao), *Elmer 7761, (11466a), Whitford 952, Copeland 1148, De Vore & Hoover 367*. In the mossy forest, altitude 1,500 to 1,800 m. Endemic.

Local name: Kalámbuglámbug (Bag.).

MEDINILLA BENGUETENSIS Elm. Leaf. Philip. Bot. 4 (1911) 1207.

Luzon (Benguet, Nueva Vizcaya), *Elmer 6309, B. S. 20067 McGregor*. On limestone cliffs up to 1,500 m altitude. Endemic.

MEDINILLA BICOLOR Merr. in Philip. Journ. Sci. 3 (1908) Bot. 152.

Mindanao (Lanao), *Clemens 514, 885*. In forests, altitude about 900 m. Endemic.

MEDINILLA BINARIA Elm. Leaf. Philip. Bot. 4 (1911) 1211.

Negros, *Elmer* 9736. In the mossy forest, altitude about 1,800 m. Endemic.

MEDINILLA BOLSTERI Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 214.

Luzon (Cagayan, Ilocos Norte, Rizal), *Bolster* 173, *B. S.* 33006, 32963 *Ramos*, 3262 *Ahern's collector*, *Clark*. In primary forests at low and medium altitudes. Endemic.

MEDINILLA BREVIPEDUNCULATA Elm. Leaf. Philip. Bot. 4 (1911) 1216.

Luzon (Tayabas, Camarines), Catanduanes, Mindoro, *Elmer* 7584, *B. S.* 30401, 30400 *Ramos*, 33852, 40620 *Ramos & Edaño*. In damp primary forests, altitude about 900 m. Endemic.

MEDINILLA BREVIPES Merr. in Philip. Journ. Sci. 8 (1913) Bot. 241.

Luzon (Laguna, Tayabas), Panay, *B. S.* 13179 *Foxworthy & Ramos*, 28833, 30704, 31463, 30799 *Ramos & Edaño*, 20754 *Escritor*, *F. B.* 26781 *Mabesa*. On trees in primary forests at low altitudes. Endemic.

MEDINILLA CALCICOLA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 244.

Luzon (Cagayan), *Weber* 1574, *B. S.* 13867 *Ramos*. In crevices on limestone formation at low altitudes. Endemic.

MEDINILLA CALELANENSIS Elm. Leaf. Philip. Bot. 4 (1911) 1209.

Mindanao (Davao), *Elmer* 11406, *DeVore & Hoover* 309. In forests, altitude about 1,900 m. Endemic.

Local name: Tualos-tatana (Bag.).

MEDINILLA CAMIGUINENSIS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 233.

Luzon (Sorsogon), Camiguin de Misamis, *B. S.* 14639, 23368 *Ramos* as *M. alata* Elm. On forested slopes. Endemic.

MEDINILLA CANLAONENSIS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 239.

Negros, Panay, Mindanao (Bukidnon), *Merrill* 6992, *B. S.* 32408 *McGregor*, 38558 *Ramos & Edaño*. In forests, altitude 1,000 to 1,500 m. Endemic.

Local name: Kalibas (Buk.).

MEDINILLA CAPITATA Merr. in Philip. Journ. Sci. 17 (1920) 295.

Dinagat, *B. S.* 35179 *Ramos & Pascasio*. On trees in primary forests at low altitudes. Endemic.

MEDINILLA CARDIOPHYLLA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 206.

Mindanao (Albay), Leyte, Samar, Mindanao (Lanao), Basilan, *Clemens* 861, *Wenzel* 548, *B. S.* 6509 *Robinson*, 24151 *Ramos*, 16083 *Reillo*. On trees in forests, altitude 400 to 800 m. Endemic.

MEDINILLA CEPHALOPHORA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 250; *C. B. Rob.* op. cit. 6 (1911) Bot. 216.

Luzon (Laguna, Tayabas, Camarines), Polillo, Leyte, Panay, Mindanao (Surigao, Zamboanga, Agusan), *B. S.* 28699, 31265, 36598 *Ramos & Edaño*,

10261 *McGregor*, 15382 *Ramos*, 35498, 35509 *Martelino & Edaño*, *Bolster* 290, *Merrill* 7277, *F. B.* 21127 *Fischer*, 4223 *Everett*. In damp primary forests at low altitudes. Endemic.

Local name: Daruñgol (Sub.).

MEDINILLA CLEMENTIS Merr. in *Philip. Journ. Sci.* 5 (1910) Bot. 208.
Medinilla cordatifolia Elm. *Leaf. Philip. Bot.* 4 (1911) 1226.

Luzon (Ifugao, Kalinga, Bontoc, Benguet, Rizal, Sorsogon), Mindoro, Leyte, Panay, Negros, Mindanao (Bukidnon, Lanao), *Elmer* 9435, 10890a *Clemens*, *Vanoverbergh* 826, 1388, *B. S.* 29729, 38627, 37594, 37605 *Ramos & Edaño*, 15368, 23562 *Ramos*, 35696, 35700 *Martelino & Edaño*, 32439 *McGregor*. In primary forests, usually on trees, up to 1,800 m altitude. Endemic.

Local names: Balagon (C. Bis.); gubangbang (Ig.); manago (Bag.); palangpang (Klg.); sindayuhan (Mang.).

MEDINILLA COGNIAUXII Merr. in *Philip. Journ. Sci.* 3 (1908) Bot. 249.
Medinilla bracteata F.-Vill. *Novis. App.* (1880) 89; *Vidal Phan. Cuming. Philip.* (1885) 114, *Rev. Pl. Vasc. Filip.* (1886) 135; *Cogn.* in *DC. Prodr.* 7 (1891) 601, *quoad Philip.*; Merr. in *Govt. Lab. Publ. Philip.* 29 (1905) 38, non *Blume*.

Luzon (Cagayan, Nueva Vizcaya), Mindoro, Mindanao (Davao), *Cuming* 1487, *Merrill* 4035, *McGregor* 183, 200, *Elmer* 10602, *F. B.* 11426 *Merritt*, 11865 *Amarillas*. In damp primary forests at low altitudes. Endemic.

Var. **ANGUSTIFOLIA** Merr. in *Philip. Journ. Sci.* 3 (1908) Bot. 250.

Mindanao (Misamis), *F. B.* 4567 *Mearns & Hutchinson*. In forests, altitude about 600 m. Endemic.

Local name: Tiualos (Bag.).

MEDINILLA COMPRESSICAULIS Merr. in *Philip. Journ. Sci.* 8 (1913) Bot. 238.

Luzon (Ifugao, Bontoc, Lepanto, Benguet), *Merrill* 7687, *B. S.* 31948 *Santos*, 37656 *Ramos & Edaño*, 19865 *McGregor*, *F. B.* 5739 *Klemme*. In the mossy forest, usually epiphytic, altitude 1,800 to 2,200 m. Endemic.

Local names: Balangbang (Ig.); salanakad (Ig.).

MEDINILLA CONFERTIFLORA Merr. in *Philip. Journ. Sci.* 17 (1920) 296.

Panay, *B. S.* 35413 *Martelino & Edaño*. In primary forests at low altitudes. Endemic.

MEDINILLA CONGESTA Merr. in *Philip. Journ. Sci.* 3 (1908) Bot. 251.

Luzon (Tayabas, Rizal), Mindoro, *Loher* 6292, *B. S.* 9397 *Robinson*, 28739 *Ramos & Edaño*, *F. B.* 9760 *Merritt*. In the mossy forest, altitude about 1,000 m. Endemic.

Local name: Yagamyon-balagon (C. Bis.).

MEDINILLA COPELANDII Merr. in *Govt. Lab. Publ. (Philip.)* 35 (1906) 52.

Mindanao (Davao, Zamboanga), *Copeland*, *Merrill* 8261, *Elmer* 10502. In forests, altitude 700 to 1,200 m. Endemic.

Local name: Tiualos (Bag.).

MEDINILLA CORDATA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 37, Philip. Journ. Sci. 2 (1907) Bot. 287, 5 (1910) Bot. 368.

Luzon (Bontoc, Lepanto, Benguet, Tayabas, Laguna), Mindoro. In the mossy forest, altitude 1,900 to 2,400 m, often common. Endemic.

Local name: Gubangbang (Ig.).

MEDINILLA CORIACEA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 35, Philip. Journ. Sci. 1 (1906) Suppl. 107.

Luzon (Benguet, Bataan, Rizal), *Whitford 1159, 228, Williams 1459, Elmer 5865, Merrill Phil. Pl. 1974, F. B. 3121 Meyer*. On forested ridges, altitude 750 to 1,300 m. Endemic.

Local name: Pagirang (Ig.).

MEDINILLA CRASSATA Elm. Leaf. Philip. Bot. 4 (1911) 1208.

Luzon (Tayabas), *Elmer 9311, B. S. 28795 Ramos & Edaño*. In primary forests, altitude about 600 m. Endemic.

MEDINILLA CUERNOSENSIS Elm. Leaf. Philip. Bot. 4 (1911) 1221.

Negros, *Elmer 10227*. On trees in damp forests, altitude about 1,300 m; allied to and perhaps not distinct from *M. inaequifolia* C. B. Rob. Endemic.

MEDINILLA CUMINGII Naud. in Ann. Sci. Nat. Bot. III 15 (1851) 292 (*cummingii*); Walp. Ann. 3 (1852) 877 (*cummingii*); Miq. Fl. Ind. Bat. 1^a (1855) 544; Triana in Trans. Linn. Soc. 28 (1871) 87; Vidal Sinopsis Atlas (1883) 27, t. 51, f. E, Phan. Cuming. Philip. (1885) 114, Rev. Pl. Vasc. Filip. (1886) 135; Cogn. in DC. Monog. Phan. 7 (1891) 592; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 36.

Luzon (Nueva Ecija, Tayabas, Albay, Sorsogon), *B. S. 26410, 26574, 26576, 26575 Ramos & Edaño*. In primary forests at low or medium altitudes. Celebes (fide Koorders).

Cuming 836 is a mixture of two species; the form with quaternate leaves and lateral inflorescences is the type.

MEDINILLA CURRANII Merr. in Philip. Journ. Sci. 4 (1909) Bot. 302.

Luzon (Camarines), *F. B. 12289 Curran*. In forests at low altitudes. Endemic.

MEDINILLA DISPARIFOLIA C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 351.

Luzon (Laguna, Tayabas, Sorsogon), *B. S. 9764 Robinson, 22106, 23439 Ramos, Merrill Phil. Pl. 1334, Baker 2415, Elmer 14511*. In damp forests at low and medium altitudes. Endemic.

MEDINILLA DOLICHOPHYLLA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 214.

Luzon (Ifugao, Kalinga, Bontoc, Benguet), *B. S. 19868 McGregor, 13477 Ramos, 37538, 37602, 37961 Ramos & Edaño, F. B. 4888 Curran, Williams 1309, Topping 44, Sandkuhl 212, Merrill 4332*. In damp shaded ravines and in forests, altitude 1,200 to 1,800 m. Endemic.

Local name: Gunang (Ig.).

MEDINILLA DUODECANDRA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 229.

Mindanao (Agusan), *Weber 1010*. On trees in primary forests, altitude about 150 m. Endemic.

MEDINILLA ELEGANS Elm. Leaf. Philip. Bot. 4 (1911) Bot. 1213.

Mindanao (Davao), *Elmer 10900, 11311*. In primary forests, altitude about 1,200 m. Endemic.

The description of the leaves as opposite is erroneous; they are verticillate in both numbers cited.

Local name: Tialos (Bag.).

MEDINILLA EPIPHYTICA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 242.

Luzon (Laguna, Camarines, Sorsogon), *B. S. 15002, 22172 Ramos, Elmer 16378, 15651, 15818*. Epiphytic in damp primary forests at low or medium altitudes. Endemic.

MEDINILLA ERYTHROTRICHA Elm. Leaf. Philip. Bot. 4 (1911) 1222.

Mindanao (Agusan, Davao), *Elmer 10537, 14174*. In primary forests, altitude about 1,300 m. Endemic.

Local names: Dugang (Mbo.); tualis-tatana (Bag.).

MEDINILLA FERRUGINEA Merr. in Philip. Journ. Sci. 17 (1920) 297.

Bucas Grande, Dinagat, *B. S. 35217, 35223, 35048 Ramos & Pascasio*. In primary forests at low altitudes. Endemic.

MEDINILLA FENICIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 344.

Luzon (Apayao, Kalinga), Panay, *B. S. 28426 Félix, 30727, 37503 Ramos & Edaño*. On damp rocky slopes, probably above 1,000 m altitude. Endemic.

MEDINILLA FURFURACEA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 245.

Leyte, Bucas Grande, *B. S. 15224 Ramos, 35054 Ramos & Pascasio, Wenzel 334*. In primary forests at low altitudes. Endemic.

MEDINILLA GITINGENSIS Elm. Leaf. Philip. Bot. 4 (1911) 1218.

Sibuyan, *Elmer 12417*. On damp cliffs, altitude about 450 m. Endemic.

MEDINILLA GRACILIPES Merr. in Philip. Journ. Sci. 8 (1913) Bot. 236.

Luzon (Rizal), *Loher 6275, B. S. 40760 Ramos*. In primary forests, altitude about 1,200 m. Endemic.

MEDINILLA HALCONENSIS Merr. in Philip. Journ. Sci. 2 (1907) Bot. 287.

Luzon (Pangasinan, Nueva Vizcaya), Mindoro, Panay, *Merrill 5642, B. S. 8201, 8185 Ramos, 32535, 32299 McGregor, 35744, 35365, 35471 Martelino & Edaño, 30722 Ramos & Edaño*. In damp forests, altitude 800 to 1,100 m. Endemic.

MEDINILLA HASSELTII Blume in Flora 14 (1831) 513; Cogn. in DC. Monog. Phan. 7 (1891) 586; Merr. in Philip. Journ. Sci. 14 (1919) 432.

Panay, Basilan, *B. S. 31215 Ramos, 16808 Reillo*. Along streams in forests at medium altitudes. Malay Peninsula, Sumatra, Borneo, Java.

MEDINILLA INAEQUIFOLIA C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 219.

Luzon (Tayabas, Laguna), Polillo, Catanduanes, *B. S.* 9095, 9382 Robinson, 29208, 28641, 28748, 29185, 28640 Ramos & Edaño, 15125 Ramos, 10264 McGregor. In damp primary forests, altitude 150 to 800 m. Endemic.

MEDINILLA INVOLUCRATA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 51, Philip. Journ. Sci. 2 (1907) Bot. 287; C. B. Rob. op. cit. 6 (1911) Bot. 216.

Luzon (Tayabas to Sorsogon), Polillo, Mindoro, Catanduanes, Biliran, Leyte, Negros, Panay, Mindanao, Basilan, Jolo, incl. *Elmer* 15643, 14368, 15779 as *M. curtiflora* Elm. Common in damp primary forests at low and medium altitudes. Endemic.

Local names: Lagikau (Mbo.); tutuñgau (Sub.).

MEDINILLA LAGUNAE Vidal Cat. Pl. Prov. Manila (1880) 31, *nomen nudum*, Sinopsis Atlas (1883) 27, t. 51, f. F, Phan. Cuming. Philip. (1885) 114, Rev. Pl. Vasc. Filip. (1886) 135; F.-Vill. Novis. App. (1880) 89; Cogn. in DC. Monog. Phan. 7 (1891) 600; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 38, Sp. Blancoanae (1918) 20.

Luzon (Ilocos Norte, Apayao, Bontoc, Benguet, Bulacan, Rizal, Laguna), *Elmer* 6291, *Merrill Phil. Pl.* 813, *Loher* 6234, *B. S.* 33354, 1121, 3332, 13588 Ramos, 29411 Ramos & Edaño. In damp ravines at medium altitudes, ascending to 1,500 m. Endemic.

Local name: Palikpik-hito (Tag.).

MEDINILLA LATERALIS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 232.

Mindanao (Zamboanga), *Merrill* 8292. Epiphytic in the mossy forest, altitude about 1,100 m. Endemic.

MEDINILLA LEYTENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 279.

Leyte, *Wenzel* 761, 1140. In primary forests, altitude about 650 m. Endemic.

MEDINILLA LOHERI Merr. in Philip. Journ. Sci. 8 (1913) Bot. 248; Solereder in Naturwis. Wochenschr. 35 (1920) 689, fig.

Luzon (Rizal), *Loher* 6280, 6299. In primary forests, probably at medium altitudes. Endemic.

MEDINILLA LONGIDENS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 345.

Luzon (Apayao), *B. S.* 28422 *Fénix*. In damp forests, altitude about 800 m. Endemic.

MEDINILLA LONGIPES Merr. in Philip. Journ. Sci. 10 (1915) Bot. 278.

Leyte, *Wenzel* 1131. In primary forests, altitude about 500 m. Endemic.

MEDINILLA LUZONENSIS Hook. f. ex Triana in Trans. Linn. Soc. 28 (1871) 88; F.-Vill. Novis. App. (1880) 89; Vidal Rev. Pl. Vasc. Filip. (1886) 135; Cogn. in DC. Monog. Phan. 7 (1890) 602; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 38.

Luzon, without locality, *Lobb* in Hb. Kew. It is not certain that this specimen came from the Philippines as *Lobb's* botanical material is notorious for its wrong localizations. It is known only from the one collection.

MEDINILLA MACGREGORII Merr. in Philip. Journ. Sci. 12 (1917) Bot. 346.

Luzon (Ifugao), *B. S. 19863 McGregor*. In the mossy forest, altitude probably about 2,000 m. Endemic.

MEDINILLA MAGNIFICA Lindl. in Paxt. Fl. Gard. 1 (1850) 55, *t. 12*; Hook in Curtis's Bot. Mag. III 6 (1850) *t. 4533*; Lemaire Jard. Fleur. 1: *t. 56, 57*; Miq. Fl. Ind. Bat. 1¹ (1855) 549; Triana in Trans. Linn. Soc. 28 (1871) 87; F.-Vill. Novis. App. (1880) 89; Vidal Rev. Pl. Vasc. Filip. (1886) 135; Cogn. in DC. Monog. Phan. 7 (1891) 593; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 37, Philip. Journ. Sci. 2 (1907) Bot. 287, 3 (1908) Bot. 423.

Luzon (Laguna, Rizal, Tayabas), Mindoro, Panay. Often common in damp primary forests at low and medium altitudes; the original locality cited as "Java" is an error. Endemic.

MEDINILLA MALINDANGENSIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 250.

Medinilla burebidensis Elm. Leaf. Philip. Bot. 4 (1911) 1229.

Mindanao (Davao, Misamis), *F. B. 4557 Mearns & Hutchinson, Elmer 11839*. In forests, altitude 1,300 to 1,500 m. Endemic.

Local name: Kapelala (Bag.).

MEDINILLA MEARNsii Merr. in Philip. Journ. Sci. 8 (1913) Bot. 230.

Mindanao (Misamis), *F. B. 4685 Mearns & Hutchinson*. In forests, altitude about 900 m. Endemic.

MEDINILLA MEGACALYX Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 36, Philip. Journ. Sci. 1 (1906) Bot. 108.

Luzon (Bataan), *F. B. 1514 Ahern's collector*. In forests, probably at medium altitudes. Endemic.

Local name: Lingai (Tag.).

MEDINILLA MEGACARPA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 237.

Luzon (Laguna, Sorsogon), Catanduanes, Leyte, Mindanao (Lanao), *B. S. 10977, 30539 Ramos, Merrill Phil. Pl. 1132, Wenzel 967, Clemens 1166, Elmer 16951* as *M. piperoides* Elm. In primary forests at low and medium altitudes; very near *M. merrittii* Merr. Endemic.

MEDINILLA MEMBRANACEA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 346.

Luzon (Apayao), *B. S. 28361 Fénix*. On rocky slopes in damp forests at medium altitudes. Endemic.

MEDINILLA MERRILLII Elm. Leaf. Philip. Bot. 4 (1911) 1219.

Mindanao (Davao), *Elmer 11249*. On trees in forests, altitude about 700 m. Endemic.

Local name: Kayaupang (Bag.).

MEDINILLA MERRITTII Merr. in Philip. Journ. Sci. 2 (1907) Bot. 286.

Luzon (Laguna, Camarines), Mindoro, Leyte, *F. B. 4336 Merritt, B. S. 29218 Ramos & Edaño, 6353 Robinson, 16542 Ramos, Wenzel 956, Elmer 17704*. In damp primary forests at low and medium altitudes. Endemic.

MEDINILLA MICROPHYLLA Merr. in Philip. Journ. Sci. 2 (1907) Bot. 288.

Luzon (Cagayan, Nueva Ecija), Catanduanes, Mindoro, *Merrill 5590, Clark, B. S. 30406 Ramos, 26304 Ramos & Edaño*. In damp primary forests, altitude 600 to 900 m. Endemic.

Local name: Darapinit (Neg.).

MEDINILLA MINDANAENSIS Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 34.

Camiguin de Misamis, Mindanao (Lanao, Davao), *Merrill Phil. Pl. 1586, Clemens 469, 986, Copeland 439*. In forests at low and medium altitudes. Endemic.

MEDINILLA MINDORENSIS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 302.

Luzon (Abra, Lepanto, Bontoc, Ifugao, Sorsogon), Mindoro, Panay, *B. S. 7067, 7276, 23457 Ramos, 40609 Ramos & Edaño, 19864 McGregor, F. B. 4368, 11489 Merritt, 5682, 11259 Klemme*. In primary forests, altitude 600 to 1,500 m. Endemic.

Local names: Pangalau (Mang.); saring (Tag.).

MEDINILLA MINIATA Merr. in Philip. Journ. Sci. 4 (1914) Bot. 382.

Leyte, *Wenzel 653, 951*. In primary forests, altitude about 500 m; closely allied to *M. magnifica* Lindl. Endemic.

MEDINILLA MIRANDAE Merr. in Philip. Journ. Sci. 8 (1913) Bot. 231.

Basilan, *F. B. 18922 Miranda*. In primary forests at medium altitudes. Endemic.

MEDINILLA MONANTHA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 152.

Mindanao (Lanao), *Clemens 1136*. Epiphytic in primary forests, altitude about 850 m; an ally of *M. myrtiformis* Triana. Endemic.

MEDINILLA MULTIFLORA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 35.

Luzon (Pampanga), *Merrill 3915*. In the mossy forest at the summit of Mt. Arayat, altitude about 820 m. Endemic.

MEDINILLA MULTINERVIA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 247.

Leyte, *B. S. 15386 Ramos*. On trees in primary forests at medium altitudes. Endemic.

MEDINILLA MYRIANTHA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 215.

Medinilla confusa Merr. in Philip. Journ. Sci. 8 (1913) Bot. 242.

Medinilla intermedia Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 37, Philip. Journ. Sci. 1 (1906) Suppl. 107, non Blume.

Luzon (Laguna, Rizal, Bataan), Negros, Panay, *Merrill 3965, Williams 648, Whitford 125, 1532, F. B. 2405 Meyer, 1663 Foxworthy, 32448 Mc-*

Gregor, 40763 *Ramos*. On exposed forested ridges and in the mossy forest, altitude 900 to 1,100 m. Endemic.

Local name: Malasamiling (Tag.).

MEDINILLA MYRTIFORMIS (Naud.) Triana in Trans. Linn. Soc. 28 (1871) 86; Vidal Phan. Cuming. Philip. (1885) 114, Rev. Pl. Vasc. Filip. (1886) 135; Cogn. in DC. Monog. Phan. 7 (1891) 583; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 36, Philip. Journ. Sci. 2 (1907) Bot. 286.

Anplectrum myrtiforme Naud. in Ann. Sci. Nat. Bot. III 15 (1851) 305, t. 15, f. 2; Walp. Ann. 3 (1853) 880.

Aplectrum myrtifolium Miq. Fl. Ind. Bat. 1¹ (1855) 555; F.-Vill. Novis. App. (1880) 88 (*Anplectrum*).

Luzon (Apayao to Sorsogon), Catanduanes, Leyte, Panay, Sibuyan, Negros, Camiguin de Misamis, Mindanao, Jolo, incl. *Elmer* 17386 as *M. bulusanensis* Elm. Common in the mossy forest on most or all higher mountains, altitude 600 to 1,800 m. Celebes, *Koorders* 17881!

Local names: Tiualos (Bag.); yodanon (Mbo.).

MEDINILLA NEGROSENSIS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 240.

Negros, *Elmer* 10049. In forests at medium or higher altitudes.

MEDINILLA NODIFLORA C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 217.

Luzon (Laguna, Tayabas, Sorsogon), Polillo, Catanduanes, *B. S.* 10263 *McGregor*, 29222, 28599 *Ramos & Edaño*, 12005, 23842, 16606, 30398 *Ramos*, *F. B.* 13096 *Curran*, *Elmer* 14602, 14846. In damp primary forests at low and medium altitudes. Endemic.

MEDINILLA OBLANCEOLATA Merr. in Philip. Journ. Sci. 14 (1919) 431.

Panay, *B. S.* 30703 *Ramos & Edaño*. In primary forests at low or medium altitudes. Endemic.

MEDINILLA OBOVATA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 108.

Luzon (Laguna), Negros, *B. S.* 22928 *McGregor*, 17353 *Curran*. Epiphytic in damp primary forests, altitude 100 to 500 m. Endemic.

MEDINILLA OLIGANTHA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 280.

Luzon (Sorsogon), Samar, Leyte, *Wenzel* 1145, *B. S.* 23506, 23528, 24123 *Ramos*. In damp primary forests at low and medium altitudes. Endemic.

MEDINILLA OVALIS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 303.

Luzon (Sorsogon), Panay, *F. B.* 12387 *Curran*, 35573, 35670 *Martelino & Edaño*. In primary forests, altitude about 600 m. Endemic.

MEDINILLA PACHYGONA C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 208.

Luzon (Abra, Ifugao, Bontoc, Benguet, Laguna), Panay, *Williams* 952, *B. S.* 27044, 13504 *Ramos*, 19867, 32330 *McGregor*, *Baker* 2460, *Vanover-bergh* 827. In the mossy forest, altitude 1,000 to 1,700 m. Endemic.

Local name: Pagirang (Ig.).

MEDINILLA PANAYENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 347.

Panay, *B. S. 18253 Robinson*. In forests, altitude about 250 m. Endemic.

MEDINILLA PARVA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 243.

Luzon (Tayabas, east coast), *B. S. 9398 Robinson*. In the mossy forest, altitude 950 m. Endemic.

MEDINILLA PARVIBRACTEA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 348.

Batan and Babuyan Islands, Luzon (Cagayan), *B. S. 4151, 3820 Fénix, Clark*. On forested ridges and peaks, altitude about 1,000 m; allied to *M. magnifica* Lindl. Endemic.

MEDINILLA PELTATA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 348.

Luzon (Sorsogon), Biliran, *Elmer 14833, B. S. 18953 McGregor*. In primary forests, altitude about 750 m. Endemic.

MEDINILLA PENDULA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 34. *Medinilla elmeri* Merr. op. cit. 36.

Luzon (Abra, Lepanto, Bontoc, Benguet, Pampanga), Mindanao (Lanao, Davao), *Elmer 5848, 6037, 14191, B. S. 31883 Santos, 12718 Fénix, 5906 Ramos, 40524 Ramos & Edaño, 3498 Mearns, Merrill 4349, Phil. Pl. 855, 1795, Williams 1448*. In damp ravines and overhanging damp banks, altitude 1,000 to 2,000 m; common in Mountain Province. Endemic.

Terminal and lateral inflorescences often occur on the same plant.

Local names: Baladu (Bag.); balangbang (Ig.); gubangbang (Ig.); sabsabang (Ig.).

MEDINILLA PERMICROPHYLLA Elm. Leaf. Philip. Bot. 4 (1911) 1230.

Mindanao (Davao), *Elmer 11226*. On forested ridges, altitude about 1,100 m. Endemic.

Local name: Kayaupang (Bag.).

MEDINILLA PHILIPPENSIS (Cham. & Schlecht.) Merr. in Philip. Journ. Sci. 3 (1908) Bot. 248.

Axanthos philippensis Cham. & Schlecht. in Linnaea 4 (1829) 193.

Luzon (Cavite, Batangas), *Chamisso* in herb. Berol., *B. S. 1341 Mangubat, 22650 Ramos & Deroy*. In thickets along streams, altitude 300 to 500 m. Endemic.

MEDINILLA PINNATINERVIA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 235.

Luzon (Cagayan), *B. S. 7483, 13998 Ramos*. In forests at low or medium altitudes. Endemic.

MEDINILLA POLILLENSIS C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 217.

Polillo, Catanduanes, *B. S. 10260 McGregor, 6859 Robinson, 30294, 30420 Ramos*. Climbing on trees in damp primary forests at low altitudes. Endemic.

MEDINILLA POLISENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 349.

Luzon (Ifugao), *B. S. 19870 McGregor*. In forests, probably above 1,000 m altitude. Endemic.

MEDINILLA PULOGENSIS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 368.

Luzon (Benguet), *B. S. 18105 Curran, Merritt, & Zschokke*. In the mossy forest, altitude about 2,250 m; very close to *M. whitfordii* Merr. Endemic.

MEDINILLA PUMILA Elm. Leaf. Philip. Bot. 4 (1911) 1217.

Leyte, Mindanao (Davao), *Elmer 10533, Wenzel 955*. In forests, altitude 500 to 1,250 m. Endemic.

Local name: Divalo (Bag.).

MEDINILLA PURPUREA Elm. ex Merr. in Philip. Journ. Sci. 17 (1920) 298.

Luzon (Tayabas, Sorsogon), Catanduanes, *B. S. 23701, 30526 Ramos, 25461 Yates*. In primary forests at and above 700 m altitude. Endemic.

MEDINILLA RAMIFLORA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 35, Philip. Journ. Sci. 1 (1906) Suppl. 108, 2 (1907) Bot. 286.

Luzon (Cagayan, Apayao, Abra, Isabela, Ifugao, Lepanto, Bontoc, Benguet, Zambales, Bataan, Laguna, Tayabas), Mindoro, Panay, Mindanao. Common in the mossy forest, altitude 1,000 to 2,200 m. In habit and vegetative characters closely approximating *M. myrtiformis* Triana but with very different inflorescences. Endemic.

Local names: Balangbang (Ig.); kayaupong (Bag.); tukulan (Ig.).

MEDINILLA ROBINSONII Elm. Leaf. Philip. Bot. 4 (1911) 1228.

Negros, Mindanao (Bontoc, Davao), *Elmer 11254a, (9826), B. S. 37823 Ramos & Edaño*. On forested ridges, altitude about 1,300 m. Endemic.

Local name: Kayaupong (Bag.).

MEDINILLA ROLFEI Merr. in Philip. Journ. Sci. 8 (1913) Bot. 230.

Negros, Panay, *Whitford 1500, B. S. 35594 Martelino & Edaño*. In the mossy forest, altitude 900 to 1,100 m. Endemic.

MEDINILLA ROTUNDIFOLIA Elm. Leaf. Philip. Bot. 8 (March 27, 1915) 2757.

Medinilla wenzelii Merr. in Philip. Journ. Sci. 10 (Aug. 9, 1915) Bot. 281.

Leyte, Mindanao (Agusan), *Elmer 13738, Wenzel 941, 1196*. In primary forests, altitude 500 to 1,100 m. Endemic.

Local name: Bodung (Mbo.).

MEDINILLA SESSILIFOLIA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 234.

Basilan, *B. S. 16145 Reillo*. In primary forests at low or medium altitudes. Endemic.

MEDINILLA SORSOGONENSIS Merr. in Philip. Journ. Sci. 11 (1916) Bot. 25.

Luzon (Sorsogon), *B. S.* 23556 *Ramos*. In the mossy forest, probably above 700 m altitude; very similar to *M. polillensis* C. B. Rob. but with 5-nerved leaves. Endemic.

MEDINILLA STENOBOTRYS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 350.

Luzon (Apayao, Kalinga), *B. S.* 28355 *Fénix*, 37596 *Ramos & Edaño*. In forests along streams, altitude about 800 m. Endemic.

Local names: Lalanug (Ap.); lañgasa (Kgl.).

MEDINILLA SUBDOLICHOPHYLLA Elm. Leaf. Philip. Bot. 4 (1911) 1220.

Luzon (Benguet), *Elmer* 8635. Sprawling over limestone boulders in the pine region, altitude about 1,500 m. Endemic.

MEDINILLA SUBSESSILIS Merr. in Philip. Journ. Sci. 7 (1912) Bot. 94.

Luzon (Bontoc), *Vanoverbergh* 792. In forests, altitude about 1,550 m; the upper leaves are often ternate. Endemic.

Local names: Gubañgang (Bon.); gubangbang ti tao (Bon.).

MEDINILLA SUBUMBELLATA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 232.

Luzon (Tayabas), Mindoro, *Merrill* 5660, *B. S.* 29174 *Ramos & Edaño*. In primary forests, altitude about 650 m. Endemic.

MEDINILLA TAYABENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 351.

Luzon (Tayabas, east coast), *B. S.* 28605, 28637 *Ramos & Edaño*. On trees in the mossy forest, probably above 700 m altitude. Endemic.

MEDINILLA TENUIPES Merr. in Philip. Journ. Sci. 12 (1917) Bot. 353.

Medinilla gracilipes Merr. in Philip. Journ. Sci. 8 (1913) Bot. 249, non Merr. op. cit. 236.

Leyte, *B. S.* 15228 *Ramos*. On trees in the mossy forest, probably above 800 m altitude. Endemic.

MEDINILLA TERNIFOLIA Triana in Trans. Linn. Soc. 28 (1871) 88; F.-Vill. Novis. App. (1880) 89; Cogn. in DC. Monog. Phan. 7 (1891) 602; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 38.

Luzon (Laguna, Tayabas), Negros, Mindanao (Bukidnon), *B. S.* 28817, 38791, 38998 *Ramos & Edaño*, 21979 *Ramos*, 23008 *McGregor*, 17050 *Robinson*, *Merrill Phil. Pl.* 418, *Elmer* 17518, *Whitford* 1620, *Baker* 2456, 3501, 372. In primary forests at medium altitudes, ascending to 1,000 m. Endemic.

MEDINILLA TEYSMANNI Miq. in Ann. Mus. Bot. Lugd.-Bat. 1 (1864) 217; Cogn. in DC. Monog. Phan. 7 (1891) 593; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 215.

Samar, Leyte, Panay, Mindanao (Surigao, Lanao, Agusan), *B. S.* 17406, 17629, 15287, 15311 *Ramos*, 35709, 35639, 35724 *Martelino & Edaño*, *Bolster*

250, 323, *Clemens*. In primary forests at low and medium altitudes. Celebes, New Guinea.

Local names: Chapu-chapu (C. Bis.); kalibas (Buk.).

MEDINILLA TRIANAE Merr. in Philip. Journ. Sci. 12 (1917) Bot. 352.

Luzon (Laguna, Rizal), *Merrill Phil. Pl. 1131, Elmer 17705, 18244* as *M. humida* Elm., *B. S. 22224 Brown, 29308 Ramos & Edaño, F. B. 20593 Villamil*. In primary forests at low and medium altitudes. Endemic.

MEDINILLA UMBELLATA Merr. in Philip. Journ. Sci. 17 (1920) 299.

Mindanao (Surigao), *B. S. 34744, 34773 Ramos & Pascasio*. In forests along streams at low altitudes. Endemic.

MEDINILLA UMBRINA Elm. Leaf. Philip. Bot. 4 (1911) 1215.

Mindanao (Davao, Bukidnon), *Elmer 11496, B. S. 38657 Ramos & Edaño*. In forested ravines, altitude about 1,800 m. Endemic.

Local names: Kalayan (Bag.); laṅganasi (Buk.).

MEDINILLA VANOVERBERGHII Merr. in Philip. Journ. Sci. 7 (1912) Bot. 94.

Luzon (Bontoc), *Vanoverbergh 448*. In forests or thickets, altitude about 1,450 m. Endemic.

Local name: Gubangbang (Bon.).

MEDINILLA VENOSA Blume in Flora 14 (1831) 518; Triana in Trans. Linn. Soc. 28 (1871) 88; F.-Vill. Novis. App. (1880) 89; Vidal Phan. Cuming. Philip. (1885) 114, Rev. Pl. Vasc. Filip. (1886) 135; Cogn. in DC. Monog. Phan. 7 (1891) 600; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 38, Philip. Journ. Sci. 8 (1913) Bot. 247.

Luzon (Laguna), Alabat, *Merrill 10489, Elmer 17893, Baker 404, F. B. 28472 Salvosa*. In primary forests at low altitudes. Moluccas.

MEDINILLA VERTICILLATA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 34, Philip. Journ. Sci. 2 (1907) Bot. 287.

Luzon (Benguet), *Elmer 6080*. In forests, altitude about 1,000 m. Endemic.

MEDINILLA VULCANICA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 352.

Camiguin de Misamis, *Merrill Phil. Pl. 1164*. In the mossy forest, altitude above 1,200 m. Endemic.

MEDINILLA WEBERI Merr. in Philip. Journ. Sci. 8 (1913) Bot. 235.

Mindanao (Agusan), *Weber 1009*. In damp primary forests, altitude about 400 m. Endemic.

MEDINILLA WHITFORDII Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 37, Philip. Journ. Sci. 5 (1910) Bot. 209.

Carionia triplinervia Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 310; Rolfe Rev. Pl. Vasc. Filip. (1886) 136; Cogn. in DC. Monog. Phan. 7 (1891) 571, non *Medinilla triplinervia* Cogn.

Luzon (Benguet, Ifugao, Lepanto, Zambales, Tayabas, Laguna, Albay); Negros, *B. S.* 31849 Santos, *B. S.* 2388 Foxworthy, 6062, 6504 Robinson, 19578 Ramos, Merrill 4779, *Phil. Pl.* 245, Whitford 961. In the mossy forest, altitude 1,400 to 2,200 m; often forming thickets on exposed ridges; Endemic.

MEDINILLA WILLIAMSII C. B. Rob. in *Philip. Journ. Sci.* 3 (1908) Bot. 208.

Mindanao (Zamboanga), *Williams* 2412. In forests, altitude about 150 m; very similar to *M. venosa* Blume but with 5-merous flowers. Endemic.

EXCLUDED SPECIES

MEDINILLA EXIMIA Blume; *F.-Vill. Novis. App.* (1880) 88.

MEDINILLA MACROCARPA Blume; *F.-Vill. l. c.*

MEDINILLA MACROPHYLLA Blume; *F.-Vill op. cit.* 89.

MEDINILLA QUADRIFOLIA Blume; *F.-Vill. op. cit.* 88.

MEDINILLA ROSEA Gaudich.; *F.-Vill. l. c.*

MEDINILLA SPECIOSA Blume in *Flora* 14 (1831) 515; Hook. in *Curtis's Bot. Mag.* (1847) *t.* 4321, *Bot. Zeit.* 5 (1847) 869; *F.-Vill. Novis. App.* (1880) 88.

This is a Javan species which was apparently credited to the Philippines by error.

MEDINILLA VERRUCOSA Blume; *F.-Vill. l. c.*

13. CEPHALOMEDINILLA Merrill

CEPHALOMEDINILLA ANISOPHYLLA Merr. in *Philip. Journ. Sci.* 5 (1910) Bot. 205.

Luzon (Laguna, Tayabas, Sorsogon), Catanduanes, *B. S.* 8986 Foxworthy, 29203 Ramos & Edaño, 23029 McGregor, 10919, 16644, 15124, 23509 Ramos, *F. B.* 13196 Curran, 26787 Mabesa. In damp primary forests at low altitudes. A monotypic endemic genus; perhaps better reduced to *Medinilla*.

Local name: Bugosbugusan (Tag.).

14. PACHYCENTRIA Blume

PACHYCENTRIA FORMICARIA Merr. in *Philip. Journ. Sci.* 1 (1906) Suppl. 215.

Mindanao (Lanao), *Clemens* 361, 433, *F. B.* 3920 Hutchinson. Epiphytic, altitude about 700 m. Endemic.

15. ASTRONIA Noronha

ASTRONIA ACUMINATISSIMA Merr. in *Philip. Journ. Sci.* 8 (1913) Bot. 345.

Luzon (Rizal, Laguna, Tayabas, Sorsogon), Mindoro, Mindanao (Agusan), Merrill *Phil. Pl.* 357 as *A. rolfei*, *Loher* 6276, *F. B.* 7903 Curran & Merritt, *Elmer* 13786, 16388 as *A. membranacea* Elm., *B. S.* 39573 Ramos. In primary forests at medium altitudes. Endemic.

Local name: Undayai (Mbo.).

ASTRONIA APOENSIS Elm. Leaflet. Philip. Bot. 4 (1911) 1206; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 340.

Mindanao (Davao), *Elmer 11427*. In forested ravines along streams, altitude about 1,500 m. Endemic.

Local name: Bagóbo (Bag.).

ASTRONIA BADIA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 26.

Luzon (Sorsogon), *B. S. 23646 Ramos, Elmer 16382*. In the mossy forest at or above 500 m altitude. Endemic.

Local name: Tuñgau-tuñgau (Bik.).

ASTRONIA BICOLOR Merr. in Philip. Journ. Sci. 8 (1913) Bot. 350.

Luzon (Cagayan, Apayao, Abra, Benguet, Sorsogon), *F. B. 10851 Curran, 26962 Velasco, 18004 Merritt, B. S. 26986, 26988 Ramos, 28402 Fénix, Elmer 16108* as *A. avellana* Elm. In primary forests at medium altitudes in northern Luzon, ascending to 2,000 m in Benguet. Endemic.

ASTRONIA BRACHYBOTRYS Merr. in Philip. Journ. Sci. 14 (1919) 434.

Luzon (Ilocos Norte, Tayabas), *B. S. 33279, 33266, 33278 Ramos, 26649, 26308 Ramos & Edaño*. On forested slopes, altitude about 1,000 m. Endemic.

ASTRONIA CANDOLLEANA Cogn. in DC. Monog. Phan. 7 (1891) 1099; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 108, 8 (1913) Bot. 344.

Luzon (Cagayan, Bontoc, Bulacan, Bataan, Rizal, Laguna, Albay, Sorsogon), Mindoro, *F. B. 26955 Velasco, 11315 Klemme, 18395 Alvarez, B. S. 34086 Ramos & Edaño, 981, 2645, 23805, 16626, 40859 Ramos, Merrill 2357, Phil. Pl. 1042, Elmer 17849, 14979, 17036* as *A. bulusanensis* Elm. In primary forests at low and medium altitudes. Endemic.

Local names: Kalukalupañgan (Pamp.); talanak (Bon.).

ASTRONIA CONSANGUINEA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 338.

Luzon (Tayabas, east coast), *B. S. 29215 Ramos & Edaño*. In primary forests along small streams at low altitudes. Endemic.

ASTRONIA CUMINGIANA Vidal Phan. Cuming. Philip. (1885) 114, 174, Rev. Pl. Vasc. Filip. (1886) 136; Cogn. in DC. Monog. Phan. 7 (1891) 1098; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 108, 3 (1908) Bot. 423, 7 (1912) Bot. 353.

Astronia papetaria F.-Vill. Novis. App. (1880) 89; Vidal Phan. Cuming. Philip. (1885) 114; Ceron Cat. Pl. Herb. Manila (1892) 84, non Blume.

Luzon (Cagayan to Sorsogon, all or most provinces), Mindoro, Leyte, Mindanao, Basilan. In primary forests at low and medium altitudes, often common. Celebes.

Local names: Badling (Tag.); busensen (Iv.); buyo-búyo (Bik.); halentihinau (Bis.); kaliñgai (Tag.); kiri (Ig.); mañgulis (Sub.); ma-raasal (Neg.); salasik (Tag.); talunpupusai (Ibn.); tieri (Ig.); tuñgau (Tag.).

ASTRONIA DIOICA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 343.

Catanduanes, Leyte, *B. S.* 15293, 30487 Ramos, Wenzel 881. In primary forests, ascending to 500 m. Endemic.

ASTRONIA DISCOLOR Merr. in Philip. Journ. Sci. 8 (1913) Bot. 352.

Astronia maquilingsensis Elm. Leaf. Philip. Bot. 8 (1919) 3092.

Luzon (Rizal, Laguna, Tayabas, Batangas), *Loher* 6270, *B. S.* 26584 Ramos & Edaño, 40762 Ramos, 17325 Robinson & Brown, *Baker* 2795, *Elmer* 17628, 17533. In primary forests, altitude 300 to 900 m. Endemic.

ASTRONIA FERRUGINEA Elm. Leaf. Philip. Bot. 4 (1911) 1205; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 342.

Luzon (Nueva Ecija, Rizal, Tayabas), Mindanao (Davao), *Elmer* 11426, *Loher* 6281, *B. S.* 26329, 25535 Ramos & Edaño. In primary forests, altitude 500 to 1,600 m. Endemic.

Var. **AMPLA** Merr. l. c.

Luzon (Ilocos Norte), Mindanao (Bukidnon), Basilan, *B. S.* 16123 Reillo, 33276 Ramos, 39029, 39108 Ramos & Edaño, *F. B.* 18900 Miranda. In primary forests at medium altitudes. Endemic.

Local name: Bagóbo-marintok (Bag.).

ASTRONIA GITINGENSIS Elm. Leaf. Philip. Bot. 4 (1911) 1202; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 349.

Sibuyan, *Elmer* 12518. On forested ridges, altitude about 1,400 m.

ASTRONIA GLAUCA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 31; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 355.

Luzon (Benguet, Nueva Vizcaya), *Elmer* 6294, *Merrill Phil. Pl.* 1756, *Sandkuhl* 375, *F. B.* 14868 Darling. In thickets on slopes, altitude 700 to 1,600 m. Endemic.

ASTRONIA LAGUNENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 213, 8 (1913) Bot. 341.

Luzon (Laguna, Sorsogon), incl. *Elmer* 16526, 17072 as *A. pacifica* Elm. Common in primary forests on Mt. Maquilang, altitude 700 to 1,100 m. Endemic.

Local name: Dúñgau (Tag.).

ASTRONIA LOHERI Merr. in Philip. Journ. Sci. 8 (1913) Bot. 341.

Luzon (Rizal), *Loher* 6294. In primary forests, probably above 800 m altitude; very close to *A. lagunensis* Merr. Endemic.

ASTRONIA MEARNsii Merr. in Philip. Journ. Sci. 8 (1913) Bot. 340.

Mindanao (Misamis), *F. B.* 4689 Mearns & Hutchinson. In forests, altitude about 1,700 m. Endemic.

ASTRONIA MEGALANTHA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 347.

Leyte, Camiguin de Misamis, Mindanao (Bukidnon), *B. S.* 15258 Ramos, 38586, 38842 Ramos & Edaño, Wenzel 1086, *Merrill Phil. Pl.* 1147 as *A. vulcanica* Merr. In primary forests at and above 600 m altitude. Endemic.

Local name: Bagaúbau (Buk.).

ASTRONIA MEYERI Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 51, Philip. Journ. Sci. 1 (1906) Suppl. 108, 2 (1907) Bot. 288, 8 (1913) Bot. 342.

Dissochaeta cumingii A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 600, non Naud.

Luzon (Bataan, Laguna, Tayabas), Mindoro, Panay, *F. B. 2840 Meyer, 4347 Merritt, B. S. 19541 Ramos, 29219, 30653 Ramos & Edaño, 22942 McGregor, Elmer 17629*. In primary forests, altitude 600 to 1,000 m. Endemic.

Local name: Dúṅgau (Tag.).

ASTRONIA NEGROSENSIS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 348.

Negros, Samar, *F. B. 4298, 7303 Everett, 15034 Danao, B. S. 24390 Ramos, Merrill Phil. Pl. 1921, Whitford 1567*. In primary forests at low altitudes. Endemic.

Local name: Upong-úpong-na-daítoi (S. L. Bis.).

ASTRONIA PACHYPHYLLA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 339.

Luzon (Tayabas, east coast), *B. S. 28558, 28695 Ramos & Edaño*. In primary forests, altitude about 1,000 m. Endemic.

ASTRONIA PARVIFOLIA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 351.

Luzon (Ilocos Norte), Leyte, Camiguin de Misamis, Mindanao (Bukidnon), *Wenzel 746, 1209, 677, B. S. 14682, 15290, 33124 Ramos, 38667, 38828 Ramos & Edaño*. In primary forests, altitude 400 to 600 m. Endemic.

Local name: Tuṅgau-túṅgau (Buk.).

ASTRONIA PAUCIFLORA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 340.

Luzon (Tayabas, east coast), *B. S. 28646, 28780 Ramos & Edaño*. In the mossy forest, altitude probably about 1,000 m. Endemic.

ASTRONIA PIPERI Merr. in Philip. Journ. Sci. 8 (1913) Bot. 354.

Luzon (Camarines, Sorsogon), Polillo, Catanduanes, Mindoro, Samar, Leyte, Bucas Grande, Mindanao (Surigao, Agusan), *Piper 495, Elmer 13934, 17345, 16647, Wenzel 1025, 222, F. B. 25528 Cenabre, B. S. 23612, 23381, 23380, 23410, 17441, 40999, 41020 Ramos, 9270 Robinson, 35104 Ramos & Pascasio*. In primary forests at low and medium altitudes. Endemic.

Local names: Togau-tógau (Bik.); tuṅgau-túṅgau (Bik.).

ASTRONIA PLATYPHYLLA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 355.

Luzon (Laguna), *B. S. 16545 Ramos*. In damp primary forests at low altitudes. Endemic.

ASTRONIA PULCHRA Vidal Rev. Pl. Vasc. Filip. (1886) 136; Cogn. in DC. Monog. Phan. 7 (1891) 1097; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 117, 8 (1913) Bot. 350.

Astronia cuernosensis Elm. Leaf. Philip. Bot. 4 (1911) 1204.

Luzon (Ilocos Norte to Sorsogon, most or all provinces), Leyte, Negros, Mindanao (Davao), incl. *Elmer 16107* as *A. vulcanica* Elm. In the mossy forest on most high mountains, altitude 1,000 to 2,200 m. Formosa.

Var. **OBOVATA** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 350.

Luzon (Zambales), *B. S. 5013 Ramos*. In the mossy forest on Mt. Tapulao, altitude about 1,500 m. Endemic.

Local names: Bagóbo (Bag.); bulugigan (Bik.); dita-dita (Bik.); dulaan (Klg.); malatúṅgau (Bik.); parataṅgat (Neg.); talanak (Ig.); tuṅgau-túṅgau (Bik.).

ASTRONIA RAMOSII Merr. in Philip. Journ. Sci. 8 (1913) Bot. 343.

Luzon (Laguna, Sorsogon), *B. S. 10972, 16524 Ramos, Elmer 15742*. In primary forests at medium altitudes. Endemic.

ASTRONIA ROLFEI Vidal Phan. Cuming. Philip. (1885) 174; Rev. Pl.

Vasc. Filip. (1886) 136; Cogn. in DC. Monog. Phan. 7 (1891)

1095; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 108, 8 (1913)

Bot. 345.

Astronia lucbanensis Elm. Leaf. Philip. Bot. 4 (1911) 1201.

Astronia foxworthyi Elm. op. cit. 8 (1919) 3091.

Luzon (Ilocos Norte to Sorsogon, in most provinces), Samar, Mindanao (Surigao). In primary forests at low and medium altitudes. Endemic.

Var. **FURFURACEA** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 345.

Luzon (Cagayan), *F. B. 17180 Curran*. In forests, altitude about 250 m. Endemic.

Local names: Alintutunau (C. Bis.); furanan (Gad.); gatúṅgau (Mbo.); makakabaran (Ibn.); pulang-dúṅgau (Tag.); tuṅgau-túṅgau (Bik.).

ASTRONIA SORSOGONENSIS Merr. in Philip. Journ. Sci. 11 (1916) Bot. 26.

Luzon (Tayabas, east coast, Sorsogon), *B. S. 23699, 23430 Ramos, 28737 Ramos & Edaño*. In the mossy forest, altitude about 1,000 m. Endemic.

ASTRONIA SUBCAUDATA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 349.

Luzon (Laguna, Tayabas), Catanduanes, *B. S. 9457 Robinson, 25423 Yates, 26547 Ramos & Edaño, 30234 Ramos, F. B. 25813 Amarillas, Edaño, 30234 Ramos, 19268 Curran*. In primary forests, altitude 400 to 800 m. Endemic.

Local name: Takpó-dalipos (Tag.).

ASTRONIA TETRAGONA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 341.

Luzon (Benguet, Abra), Mindanao (Lanao), *F. B. 25204 Alvarez, B. S. 26993 Ramos, 26104 Garcia, Sandkuhl 340*. In forests, altitude 900 to 1,500 m. Endemic.

Local name: Pakra (Lan.).

ASTRONIA VERRUCULOSA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 342.

Luzon (Bontoc, Kalinga, Camarines, Sorsogon), Catanduanes, *Merrill Phil. Pl. 1569, B. S. 23568, 23371, 23501, 30477 Ramos, 33878, 37484, 37832 Ramos & Edaño*. On forested ridges, altitude about 1,000 m. Endemic.

Local name: Amulyong (Bon.).

ASTRONIA VIRIDIFOLIA Elm. Leaf. Philip. Bot. 4 (1911) 1203; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 344.

Astronia wenzelii Merr. in Philip. Journ. Sci. 8 (1913) Bot. 346.

Luzon (Cagayan, Nueva Ecija, Laguna, Tayabas, Camarines, Sorsogon), Sibuyan, Panay, Leyte, Bucas Grande, *Elmer* 12281, 16350 as *A. purpuriflora* Elm., *F. B.* 25650 *Cailipan*, *B. S.* 26650, 33733 *Ramos & Edaño*, 15118, 10963, 16642, 10032, 23697 *Ramos*, *Wenzel* 633, 938, 684, 204. In primary forests up to 800 m altitude. Endemic.

Local names: Dalipos (Tag.); dōngau (Tag.); koykanigag (P. Bis.).

ASTRONIA WILLIAMSII Merr. ex C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 214, 8 (1913) Bot. 342.

Astronia merrillii Elm. Leaf. Philip. Bot. 8 (1919) 3091.

Luzon (Bataan, Rizal, Laguna, Tayabas), Polillo, Mindoro, Mindanao (Zamboanga), *Elmer* 18430, *Williams* 722, 663, 621, *Merrill Phil. Pl.* 451, *Loher* 6286, *B. S.* 28711, 29685, 29684 *Ramos & Edaño*, 19424, 16538, 16546, 16590, 70927, 15025, 15099, 39397, 39781 *Ramos*. In primary forests up to 800 m altitude. Endemic.

Local names: Dūngau (Tag.); sambolaúan (Mbo.).

EXCLUDED SPECIES

ASTRONIA MACROPHYLLA Blume; F.-Vill. Novis. App. (1880) 89.

ASTRONIA SMILACIFOLIA Triana; F.-Vill. l. c.

ASTRONIA SPECTABILIS Blume; F.-Vill. l. c.; Vidal Sinopsis Atlas (1883) 27, t. 51, f. A.

Vidal's figure apparently represents *Astronia rolfei* Vidal or *A. cumingiana* Vidal.

16. ASTROCALYX Merrill

ASTROCALYX CALYCINA (Vidal) Merr. in Philip. Journ. Sci. 8 (1913) Bot. 335, t. 11.

Astronia calycina Vidal Rev. Pl. Vasc. Filip. (1886) 136; Cogn. in DC. Monog. Phan. 7 (1891) 1095.

Astrocalyx pleiosandra Merr. in Philip. Journ. Sci. 5 (1910) Bot. 203.

Luzon (Laguna, Tayabas, Sorsogon), Catanduanes, Leyte. In damp primary forests at low and medium altitudes. A monotypic endemic genus.

Local names: Buñgau (Tag.); duñgau (Tag.); tanghau (S. L. Bis.); tunan-túnan (Bis.); tunai-túnai (Bis.).

17. BECCARIANTHUS Cogniaux

BECCARIANTHUS ICKISII Merr. in Philip. Journ. Sci. 8 (1913) Bot. 358.

Mindanao (Agusan), *Merrill* 7342. In damp primary forests at low altitudes. Endemic.

Var. **PUBERULUS** Merr. op. cit. 12 (1917) Bot. 343.

Luzon (Tayabas, east coast), *B. S.* 29230 *Ramos & Edaño*. In damp primary forests at low altitudes. Endemic.

Var. **SETOSUS** Merr. op. cit. 10 (1915) Bot. 278.

Luzon (Sorsogon, Samar, Leyte, Panay), *Wenzel 1015, Elmer 16514, 14690, B. S. 31370, 35650 Ramos & Edaña, 23395, 24400 Ramos*. In damp primary forests at low altitudes. Endemic. One other species of the genus is known from Borneo.

Local names: Tuñgau-tuñgau-na-dadako (Bik.); upon-úpong (S. L. Bis.).

18. **EVERETTIA** Merrill

EVERETTIA OCTODONTA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 315.

Luzon (Camarines), Catanduanes, *B. S. 30556 Ramos, F. B. 27061 Magistrado*. In primary forests at low or medium altitudes. Endemic.

Local name: Tuñgau-gúbat (Tag.).

EVERETTIA PULCHERRIMA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 357, t. 12.

Catanduanes, Leyte, Negros, Mindanao (Misamis, Bukidnon, Davao), *B. S. 30529, 15291 Ramos, 38596, 38925, 39113 Ramos & Edaña, F. B. 4690 Mearns & Hutchinson, Merrill Phil. Pl. 249, Wenzel 946, 852, Whitford 1538, Elmer 10225, 11425*. In primary forests, altitude 600 to 1,400 m. Endemic. The genus is known only from the Philippines.

Local names: Bagóbo (Bag.); malintuñgau (C. Bis.).

19. **MEMECYLON** Linnaeus

MEMECYLON AFFINE Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 52, Philip. Journ. Sci. 1 (1906) Suppl. 108, 8 (1913) Bot. 218.

Luzon (Ilocos Norte, Apayao, Zambales, Bulacan, Rizal), Panay, *Merrill 3190, Loher 6241, Whitford 454, Williams 425, F. B. 1336 Borden, 17318 Curran, B. S. 33382, 5075, 13030, 22312 Ramos, 28405 Fénix*. In primary forests on slopes and ridges, altitude 200 to 1,000 m. Endemic.

Var. **LANCIFOLIUM** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 218.

Luzon (Rizal, Laguna, Bataan), *Merrill 3148, B. S. 2661 Ramos, 22902, 23158 Ramos*. Habitat of the species, from which it differs only in leaf shape. Endemic.

Local names: Machil (Ig.); malakúlis (Tag.); sigai (Ibn.).

MEMECYLON APOENSE Elm. Leaf. Philip. Bot. 4 (1911) 1199; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 217.

Memecylon urdanetense Elm. op. cit. 8 (1915) 2764.

Negros, Mindanao (Davao), Agusan, *Elmer 11697, 14113, F. B. 23663 Hinolan*. In primary forests, altitude 1,000 to 1,200 m. Endemic.

Local names: Balitioan (Mbo.); malabasag (Bag.).

MEMECYLON BASILANENSE Merr. in Philip. Journ. Sci. 8 (1913) Bot. 217.

Basilan, *F. B. 18915 Miranda, B. S. 16146 Reillo*. In primary forests at low or medium altitudes. Endemic.

MEMECYLON BRACHYBOTRYS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 216.

Luzon (Ilocos Norte, Rizal, Laguna), Mindoro, *F. B. 3070 Ahern's collector, 19279 Curran, 24673 Amarillas, B. S. 2631, 10011, 33053, 40858 Ramos*. In primary forests at low and medium altitudes. Endemic.

MEMECYLON CALDERENSE A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 574, *t. 71*; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 83, 8 (1913) Bot. 224.

Negros, Mindanao (Zamboanga), Basilan, *Elmer 7246, F. B. 9215 Whitford & Hutchinson, Ahern 588, Hallier*. In forests at low altitudes. Endemic.

MEMECYLON CORDIFOLIUM Merr. in Philip. Journ. Sci. 8 (1913) Bot. 221.

Mindanao (Agusan, Zamboanga), *F. B. 9011 Whitford & Hutchinson, 28651 Mallonga, B. S. 36559, 36905, 37086 Ramos & Edaño*. On forested ridges at low altitudes. Endemic.

Local names: Bagobahi (C. Bis.); yayan (Sub.).

MEMECYLON CUMINGII Naud. in Ann. Sci. Nat. Bot. III 18 (1852) 273 (*cummingii*); Walp. Ann. 4 (1857) 802; Miq. Fl. Ind. Bat. 1¹ (1855) 573; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 218.

Memecylon preslianum Triana in Trans. Linn. Soc. 28 (1871) 157; F.-Vill. Novis. App. (1880) 90; Vidal Phan. Cuming. Philip. (1885) 114, Rev. Pl. Vasc. Filip. (1886) 138; Cogn. in DC. Monog. Phan. 7 (1891) 1139; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 108, 2 (1907) Bot. 288.

Memecylon umbellatum Presl Epim. (1851) 208, non Burm. f.

Luzon (Cagayan, Apayao, Isabela, Tayabas, Laguna, Camarines, Sorsogon), Catanduanes, *Cuming 760, B. S. 28128 Fénix, 29147 Ramos & Edaño, 12017, 10006, 15080 Ramos, F. B. 26069 Barros, 25534 Cenabre*. In primary forests at low and medium altitudes. Endemic.

Local names: Gisgis (Tag.); kagigai (Ibn.); katagumai (Klg.); mala-bahi (Bik.); timbaras (Bag.).

MEMECYLON DENSIFLORUM Merr. in Philip. Journ. Sci. 3 (1908) Bot. 248, 8 (1913) Bot. 225.

Memecylon palawanense Elm. Leaf. Philip. Bot. 4 (1911) 1197.

Luzon (Cagayan, Ilocos Norte, Tayabas, Rizal), Mindoro, Palawan, Polillo, Leyte, Mindanao, *Bolster 368, Elmer 13235, Loher 6239, 6032, 6031, Merrill 2251, Ahern 515, Wenzel 1880, Clemens, B. S. 33213, 33096 Ramos, 16380 Reillo, F. B. 26016 Cailipan, 11898 Miranda*. In primary forests at low and medium altitudes. Endemic.

Local names: Agam (Neg., Ilk.); babagion (C. Bis.); bahoko (Tag.); kúlis (Tag.); tagobahi (S. L. Bis.).

MEMECYLON ELLIPTIFOLIUM Merr. in Philip. Journ. Sci. 13 (1918) Bot. 314.

Luzon (Camarines), *B. S. 33508 Ramos & Edaño, F. B. 27060 Magistrado*. In primary forests at low altitudes. Endemic.

Local name: Kalasgas (Bik., Tag.).

MEMECYLON ELONGATUM Merr. in Philip. Journ. Sci. 8 (1913) Bot. 219.

Mindanao (Zamboanga), *F. B. 9383 Whitford & Hutchinson, 21855 Villamil*. In forests at low altitudes. Endemic.

MEMECYLON GITINGENSE Elm. Leaf. Philip. Bot. 4 (1911) 1195; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 212.

Memecylon agusanense Elm. Leaf. Philip. Bot. 8 (1915) 2760.

Luzon (Nueva Ecija, Sorsogon), Mindoro, Sibuyan, Leyte, Biliran, Mindanao (Agusan), *Elmer 12189, 13562, 14181, B. S. 26350 Ramos & Edaño, 23352 Ramos, 18743 McGregor, F. B. 26204 Franco*. In forests at low and medium altitudes, ascending to 1,000 m. Endemic.

Local names: Anaba (P. Bis.); batiñgiroi (Neg.); lantoganon (Mbo.); siganog (Mbo.); tagabahian (S. L. Bis.).

MEMECYLON GRACILIPES C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 353; Merr. op. cit. 8 (1913) Bot. 226.

Luzon (Ilocos Norte), *B. S. 7753, 32988, ? 33295 Ramos*. In forests at low and medium altitudes. Endemic.

MEMECYLON LANCEOLATUM Blanco Fl. Filip. (1837) 301, ed. 2 (1845) 209, ed. 3, 2 (1878) 26; Cogn. in DC. Monog. Phan. 7 (1891) 1172; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 212, Sp. Blancoanae (1918) 293.

Memecylon cumingianum Presl Epim. (1851) 209; Triana in Trans. Linn. Soc. 28 (1871) 156; F.-Vill. Novis. App. (1880) 90; Vidal Phan. Cuming. Philip. (1885) 114, Rev. Pl. Vasc. Filip. (1886) 137; Cogn. in DC. Monog. Phan. 7 (1891) 1168 (incl. var. *calleryanum* Cogn.).

Memecylon clausiflorum Naud. in Ann. Sci. Nat. Bot. III 18 (1852) 274; Walp. Ann. 4 (1857) 803.

Memecylon calleryanum Naud. in Ann. Sci. Nat. Bot. III 18 (1852) 275; Walp. Ann. 4 (1857) 803; Miq. Fl. Ind. Bat. 1¹ (1855) 577.

Memecylon pyriforme Presl Epim. (1851) 210; Vidal Phan. Cuming. Philip. (1885) 114, Rev. Pl. Vasc. Filip. (1886) 138.

Luzon (Cagayan to Sorsogon, most or all provinces), Mindoro, Palawan, Polillo, Samar, Leyte, Panay, Negros, Mindanao, incl. *Elmer 17404* as *M. irosinense* Elm. Common in thickets and second-growth forests at low and medium altitudes. Borneo. Celebes.

Local names: Bayan (Sbl.); digeg (Ibn.); kandong (Ilk.); kasiggai (Ilk.); kólis (Tag.); kúlís (Tag.); pamayabasen (Ilk.).

MEMECYLON LOHERI Merr. in Philip. Journ. Sci. 8 (1913) Bot. 220.

Luzon (Cagayan, Nueva Ecija, Rizal), *Loher 6278, B. S. 26325, 29385, 29689 Ramos & Edaño, 13594 Ramos, Clark*. In primary forests at medium altitudes, ascending to 1,000 m. Endemic.

MEMECYLON MYRTILLI Blume Mus. Bot. Lugd.-Bat. 1 (1851) 357.

Memecylon laevigatum Blume op. cit. 358; Cogn. in DC. Monog. Phan. 7 (1891) 1159.

Sibuyan, Bancalan, Mindanao (Zamboanga), *Elmer 12207* as *M. rhinophyllum* (non Thw.), *Weber, B. S. 36595 Ramos & Edaño*. In thickets or

forests at low altitudes. Indo-China, Malay Peninsula, Andamans, Sumatra, Java, Borneo.

Local name: Pupuntad (Sub.).

MEMECYLON OBSCURINERVE Merr. in Philip. Journ. Sci. 12 (1917) Bot. 357.

Luzon (Nueva Ecija), *B. S. 26401 Ramos & Edaño*. On forested slopes, altitude about 400 m. Endemic.

MEMECYLON OBTUSIFOLIUM Merr. in Philip. Journ. Sci. 8 (1913) Bot. 225.

Luzon (Pangasinan), *F. B. 8295 Curran & Merritt*. On dry forested ridges, altitude 200 m. Endemic.

MEMECYLON ODORATUM Elm. Leaf. Philip. Bot. 4 (1911) 1196; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 213.

Palawan, *Elmer 13140*. In thickets and forests along streams, altitude about 150 m. Endemic.

MEMECYLON OLIGONEURON Blume Mus. Bot. Lugd.-Bat. 1 (1851) 353; Cogn. in DC. Monog. Phan. 7 (1891) 1132; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 304, 8 (1913) Bot. 211.

Rhodamnia glabra Vidal Rev. Pl. Vasc. Filip. (1886) 129.

Luzon (Cagayan, Tayabas, Rizal, Laguna, Camarines), Samar, *F. B. 17074, 17242, 10111 Curran, 13100 Bernardo, 18634 Darling, B. S. 3314, 22687 Ramos, Merrill Phil. Pl. 1636*. In forests at low and medium altitudes. Malay Peninsula, Penang, Java, Borneo.

Local names: Gasgas (Bis.); gisgis (Tag.); kasiggai (Ibn.); kasirai (Ilk.).

MEMECYLON OLIGOPHLEBIUM Merr. in Philip. Journ. Sci. 12 (1917) Bot. 357.

Mindanao (Surigao), *F. B. 26475 Mallonga*. On dry slopes at low altitudes. Endemic.

MEMECYLON OVATUM Sm. in Rees Cycl. 23 (1816) No. 3; Benth. in Journ. Linn. Soc. Bot. 5 (1861) 78; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 215; Sp. Blancoanae (1918) 292.

Memecylon parviflorum Blanco Fl. Filip. (1837) 300; Cogn. in DC. Monog. Phan. 7 (1891) 1172.

Memecylon tinctorium Blanco op. cit. ed. 2 (1845) 208, ed. 3, 2 (1878) 26, t. 373, non Koenig.

Memecylon lucidum Presl Epim. (1851) 209.

Memecylon prasinum Naud. in Ann. Sci. Nat. Bot. III 18 (1852) 275; Walp. Ann. 4 (1857) 803; Miq. Fl. Ind. Bat. 1¹ (1855) 577.

Memecylon edule F.-Vill. Novis. App. (1880) 90; Vidal Phan. Cuming. Philip. (1885) 114, Rev. Pl. Vasc. Filip. (1886) 137; Cogn. in DC. Monog. Phan. 7 (1891) 1155, quoad Philip.; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 108, non Roxb.

Memecylon edule Roxb. var. *ovatum* C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1879) 564.

Memecylon umbellatum Merr. Fl. Manila (1912) 352, non Burm. f.

Batan Islands and northern Luzon to Palawan and Mindanao. Common in thickets at low altitudes, especially along or near the seashore but also extending inland. India to Malaya.

Local names: Bayan (Tag.); diok (Pang.); gisian (Tag.); kandong (Ilk.); kólis (Tag.); kúlis (Tag.); kulus (Sbl.); malabahi (Bik.); malabanggi (Kuy.); sagingsing (Bis.); sisirái (Ilk.).

MEMECYLON PACHYPHYLLUM Merr. in Philip. Journ. Sci. 12 (1917) Bot. 358.

Luzon (Nueva Ecija, Tayabas), *B. S.* 26475, 26464, 28666 *Ramos & Edaño*, 9383 *Robinson*. In the mossy forest, altitude about 800 m. Endemic.

Local name: Betauan (Neg.).

MEMECYLON PALLIDUM Merr. in Philip. Journ. Sci. 8 (1913) Bot. 223.

Basilan, *B. S.* 15401 *Reillo, Hallier*. In forests at low altitudes. Endemic.

MEMECYLON PANICULATUM Jack in Malay Miscel. 2⁷ (1822) 62; Hook. Comp. Bot. Mag. 1: 219; Triana in Trans. Linn. Soc. 28 (1871) 157; F.-Vill. Novis. App. (1880) 90; Vidal Phan. Cuming. Philip. (1885) 114, Rev. Pl. Vasc. Filip. (1886) 137; Cogn. in DC. Monog. Phan. 7 (1891) 1136; Koord. & Val. Bijdr. Boom. Java 5 (1900) 204; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 223.

Luzon (Cagayan, Nueva Vizcaya, Bulacan, Batangas, Bataan, Zambales, Rizal, Tayabas, Laguna), Mindoro, Palawan, Balabac, Polillo, Negros, Siargao, Mindanao. In primary forests at low and medium altitudes, common. Sumatra, Java.

Local names: Gisgis (Tag.); kasirai (Ilk.); kúlis (Tag.); kumantayog (P. Bis.); malabahi (Tag.); pasagit (Tag.).

MEMECYLON PHANEROPHLEBIUM Merr. in Philip. Journ. Sci. 8 (1913) Bot. 219.

Memecylon gigantifolium Elm. Leaflet. Philip. Bot. 8 (1915) 2762.

Luzon (Laguna, Tayabas, Camarines), Leyte, Mindanao (Agusan, Sorogon), *Elmer* 13548, *Wenzel* 1481, 1567, *B. S.* 28876, 33543, 28642 *Ramos & Edaño*, 15375 *Ramos*. In primary forests at low and medium altitudes. Endemic.

Local names: Lasgás (Bik.); magbabahag (Bag.); panaipái (C. Bis.).

MEMECYLON PTEROPUS Merr. in Philip. Journ. Sci. 8 (1913) 224.

Luzon (Cagayan), *B. S.* 13846 *Ramos*. In forests at low altitudes. Endemic.

MEMECYLON RAMOSII Merr. in Philip. Journ. Sci. 14 (1919) 432.

Luzon (Ilocos Norte), *B. S.* 32962 *Ramos*. In primary forests at low altitudes. Endemic.

MEMECYLON REVOLUTUM Merr. in Philip. Journ. Sci. 8 (1913) Bot. 226.

Luzon (Cagayan, Ilocos Norte), *F. B.* 13055 *Wood*, 17105 *Curran*, *B. S.* 33112, 33026 *Ramos*, *Adduru* 11. In thickets along the seashore. Endemic.

Local name: Kasiggái (Ibn.).

MEMECYLON SESSILIFOLIUM Merr. in Philip. Journ. Sci. 5 (1910) Bot. 209, 8 (1913) Bot. 225.

Luzon (Nueva Ecija, Tayabas, Camarines), Samar, *F. B. 18734 Darling, 22155 Alvarez, 27303 Mabesa, B. S. 33503 Ramos & Edaño*. In forests at low altitudes. Endemic.

Local names: Babahian (S. L. Bis.); madidígnai (Bik.).

MEMECYLON SORSOGONENSE Elm. Leaf. Philip. Bot. 4 (1911) 1200; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 222.

Luzon (Nueva Ecija, Sorsogon), Leyte, *Elmer 7310, 7361, 17184, 15533, B. S. 26432*. In forests at low altitudes. Endemic.

Local name: Pariñgol (Neg.).

MEMECYLON STENOPHYLLUM Merr. in Philip. Journ. Sci. 14 (1919) 432.

Luzon (Bulacan), *B. S. 34101 Ramos & Edaño*. On dry forested slopes at low altitudes. Endemic.

MEMECYLON SUBCAUDATUM Merr. in Philip. Journ. Sci. 8 (1913) Bot. 222.

Camiguin de Misamis, *B. S. 14689 Ramos*. In forests at low or medium altitudes. Endemic.

MEMECYLON SUBFURFURACEUM Merr. in Philip. Journ. Sci. 8 (1913) Bot. 213.

Luzon (Cagayan, Pangasinan, Nueva Ecija, Pampanga, Rizal, Bataan, Laguna, Batangas), *Merrill 1395, 2495, 3788, Williams 728, 656, 225, etc.* Common in primary forests at low altitudes. Endemic.

Var. **DEPAUPERATUM** Merr. op. cit. 214.

Luzon (Ilocos Norte, Ilocos Sur, Benguet, Rizal, Tayabas, Albay), *F. B. 1992 Ahern's collector, 23599 Paraiso, Merrill 1936, Loher 6034*. In primary forests at low and medium altitudes. Endemic.

Local names: Digne (Ilk.); kandong (Pang.); kasiggái (Ilk.); kasirai (Ibn.); kúlis (Tag.); lasgas (Bik.); masalisi (Tag.).

MEMECYLON SYMPLOCIFORME Merr. in Philip. Journ. Sci. 12 (1917) Bot. 359.

Luzon (Tayabas, east coast, Sorsogon), *B. S. 26598 Ramos & Edaño, Elmer 15945* as *M. vulcanicum* Elm. On forested slopes. Endemic.

Local name: Ambatiki (Tag.).

MEMECYLON TAYABENSE Merr. in Philip. Journ. Sci. 12 (1917) Bot. 359.

Luzon (Tayabas), *F. B. 24932 Bawan*. On forested ridges, altitude about 200 m. Endemic.

Local name: Gísgis (Tag.).

MEMECYLON TENUIPES Merr. in Philip. Journ. Sci. 8 (1913) Bot. 211.

Luzon (Cagayan, Ilocos Norte), *B. S. 13835, 32976 Ramos*. Along streams in forests at low altitudes. Endemic.

MEMECYLON TERMINALIFLORUM Elm. Leaf. Philip. Bot. 4 (1911) 1198, Merr. in Philip. Journ. Sci. 3 (1913) Bot. 224.

Palawan, Negros, *Elmer 13060, F. B. 21599, 13700 Curran*. In primary forests, altitude about 225 m. Endemic.

Local name: Tulambak (Tagb.).

MEMECYLON VENOSUM Merr. in Philip. Journ. Sci. 3 (1908) Bot. 154, 8 (1913) Bot. 221.

Mindanao (Agusan, Misamis, Bukidnon, Lanao, Davao, Zamboanga), *Clemens 432, Elmer 13666, 11752, Merrill 8100, F. B. 20277 Miranda, 27036 Malana, 38798, 39019, 39158 Ramos & Edaño*. In primary forests, ascending to 900 m. Endemic.

Local names: Gikayan (Lan., Mbo.); hikayan (Buk.); timbaras (Bag.).

EXCLUDED SPECIES

MEMECYLON ACUMINATUM Sm.; F.-Vill. Novis. App. (1880) 90.

MEMECYLON AMPLEXICAULE Roxb.; F.-Vill. l. c.

MEMECYLON CAERULEUM Jack; F.-Vill. l. c.

MEMECYLON COSTATUM Miq.; F.-Vill. l. c.

MEMECYLON DIVERSIFOLIUM Presl Epim. (1851) 208; Triana in Trans. Linn. Soc. 28 (1871) 156; F.-Vill. Novis. App. (1880) 90; Cogn. in DC. Monog. Phan. 7 (1891) 1149; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 218.

The type was an unnumbered *Cuming* specimen supposed to have come from the Philippines; an examination of it shows that it is identical with *Memecylon caeruleum* Jack and that it was probably a part of *Cuming 2322* from Malacca.

MEMECYLON ELEGANS Kurz; F.-Vill. op. cit. 89.

MEMECYLON GRANDE Retz.; F.-Vill. op. cit. 90.

MEMECYLON LAEVIGATUM Blume; F.-Vill. l. c.

MEMECYLON MACROPHYLLUM Thw.; F.-Vill. l. c.

MEMECYLON MANILLANUM Naud. in Ann. Sci. Nat. Bot. III 18 (1852) 276; Walp. Ann. 4 (1857) 803; Miq. Fl. Ind. Bat. 1¹ (1855) 576.

The type is *Cuming 2322* from Malacca. A synonym of *Memecylon caeruleum* Jack.

MEMECYLON TERMINALE Dalz.; F.-Vill. op. cit. 90.

EXCLUDED GENERA

ALLOMORPHIA EXIGUA Blume; Triana in Trans. Linn. Soc. 28 (1871) 74; F.-Vill. Novis. App. (1880) 88.

Cuming 2295 on which the reference was based was from Malacca, not from the Philippines.

ANPLECTRUM DIVARICATUM Triana; F.-Vill. Novis. App. (1880) 88.

DISSOCHAETA PEPERICARPA Naud. in Ann. Sci. Nat. Bot. III 15 (1851) 71; Walp. Ann. 3 (1853) 871; Miq. Fl. Ind. Bat. 1¹ (1856) 522; F.-Vill. Novis. App. (1880) 88.

Cuming 2259, the basis of the Philippine reference, was from Malacca.

MARUMIA ZEYLANICA Blume; F.-Vill. Novis. App. (1880) 88.

The Philippine record based on *Cuming 2383* is wrong; the specimen was from Malacca.

KIBESSIA CORDATA Korth.; F.-Vill. Novis. App. (1880) 89.

KIBESSIA SIMPLEX Korth.; F.-Vill. l. c.

KIBESSIA TUBERCULATA Hook. f.; Vidal Sinopsis Atlas (1883) 27, t. 51, f. C.

Vidal's figure is unrecognizable; a single fruit is shown.

PTERNANDRA CAERULESCENS Jack; Triana in Trans. Linn. Soc. 28 (1871) 153; F.-Vill. Novis. App. (1880) 89.

The Philippine reference was based on *Cuming 2316* which was from Malacca.

OENOTHERACEAE

1. JUSSIAEA Linnaeus

JUSSIAEA ERECTA Linn. Sp. Pl. (1753) 388; Blanco Fl. Filip. (1837) 365, ed. 2 (1845) 257, ed. 3, 2 (1878) 114, t. 322 (poor).

Jussiaea angustifolia Lam. Encycl. 3 (1789) 331.

Jussiaea blumeana DC. Prodr. 3 (1828) 55; Presl Epim. (1851) 217; F.-Vill. Novis. App. (1880) 92.

Jussiaea suffruticosa Miq. Fl. Ind. Bat. 1¹ (1856) 628; F.-Vill. Novis. App. (1880) 92; Vidal Phan. Cuming. Philip. (1885) 115, Rev. Pl. Vasc. Filip. (1886) 140; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 108, 3 (1908) 424, Fl. Manila (1912) 357, Sp. Blancoanae (1918) 293, non Linn.; see Ridley in Journ. Bot. 59 (1921) 257.

Throughout the Philippines in open damp places, in swamps, etc., variable in size, indumentum, etc. Pantropic.

Local names: Balansuit (Mag.); malapáko' (Bik.); pachar-pachar (Sul.); palangdisin (Ig.); talangkau (Ilk.); tayilakton (Tag.); túbong-talapang (Bik.).

JUSSIAEA LINIFOLIA Vahl Eclog. Am. 2 (1798) 32; DC. Prodr. 3 (1828) 55; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 240, Fl. Manila (1912) 356; Usteri Beitr. Ken. Philip. Veg. (1905) 118.

Jussiaea acuminata Sw. Fl. Ind. Occ. 2 (1800) 745, Rolfe in Journ. Bot. 23 (1885) 312; Vidal Phan. Cuming. Philip. (1885) 115, Rev. Pl. Vasc. Filip. (1886) 140.

Jussiaea costata Presl Epim. (1851) 217.

Throughout the Philippines. In open damp places, old rice fields, margins of streams etc., at low and medium altitudes. Pantropic; probably of American origin.

Local names: Barigauá (Bik.); manakatud (Ilk.); pasau-hapai (Tag.); taklang-duron (Pamp.); tohod-tóhod (Bik.).

JUSSIAEA REPENS Linn. Sp. Pl. (1753) 388; Wight in Hook. Bot. Miscel. 3 (1833) 300, t. 40; Presl Rel. Haenk. 2 (1830) 33; Miq. Fl. Ind. Bat. 1¹ (1856) 628; C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1879) 587; F.-Vill. Novis. App. (1880) 92; Vidal Phan. Cuming. Philip. (1885) 115, Rev. Pl. Vasc. Filip. (1886) 140; Merr. Fl. Manila (1912) 355, Sp. Blancoanae (1918) 293.

Jussieua inclinata Blanco Fl. Filip. (1837) 366, non Linn. f.

Jussieua fluviatilis Blume Bijdr. (1826) 1132; Blanco Fl. Filip. ed. 2 (1845) 257, ed. 3, 2 (1878) 114.

In shallow water of quiet streams, shallow lakes, and fresh-water swamps throughout the Philippines at low and medium altitudes. Pantropic.

Local names: Gabi-gábi (Mag.); sigang-dágat (Tag.).

JUSSIAEA VILLOSA Lam. Encycl. 3 (1789) 331; Ridl. in Journ. Bot. 59 (1921) 259.

Babuyan Islands, Luzon (Isabela, Tayabas, Camarines, Sorsogon), Busuanga, Balabac, Negros, Mindanao, Sulu Archipelago, *Elmer 10305, 14379, Whitford 637, Clemens 171, B. S. 488 Mangubat, 8084, 41185 Ramos*. In open, rather wet places at low altitudes. Tropical Africa and India to Indo-China, southern China through Malaya to tropical Australia.

2. LUDWIGIA Linnaeus

LUDWIGIA PROSTRATA Roxb. Hort. Beng. (1814) 11, *nomen nudum*, Fl. Ind. 1 (1820) 441; C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1879) 588; F.-Vill. Novis. App. (1880) 93; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 108, 3 (1908) Bot. 83, Fl. Manila (1912) 355.

Ludwigia diffusa Ham. in Trans. Linn. Soc. 14 (1824) 301; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 326.

Ludwigia jussiaeoides A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 619, non ? Lam.

Luzon (Cagayan, Rizal), Negros, Palawan, Mindanao (Davao), *Merrill 3670, 797, Williams 2633*. In open wet places, old rice paddies, etc.; probably of general Philippine distribution but not much collected. India to Japan and Malaya.

Local name: Alubihud (P. Bis.).

LUDWIGIA PARVIFLORA Roxb. Hort. Beng. (1814) 11, *nomen nudum*, Fl. Ind. 1 (1820) 440; C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1879) 588; F.-Vill. Novis. App. (1880) 93; Merr. Fl. Manila (1912) 355.

Luzon (Cagayan, Rizal), Balabac, Mindanao (Davao), *Merrill 3663, 5160, Phil. Pl. 1462*. In fallow rice paddies, open wet places at low altitudes, probably of general distribution in the Philippines, but not much collected. Persia through tropical Asia and Malaya to Australia.

3. EPILOBIUM Dillenius

EPILOBIUM PHILIPPINENSE C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 369.

? *Epilobium sarmentaceum* Hausskn.; Koord. Exkurs. Fl. Java 2 (1912) 704, quoad Philip.

Luzon (Bontoc, Lepanto, Benguet), *Merrill 4665, 4484, 4561, 4379, 6524, Williams 1541, B. S. 4353 Mearns, F. B. 16241 Curran, Zschokke, & Merritt*. On slopes in the pine region, altitude 1,400 to 2,000 m; material from southern China apparently represents the same species.

EPILOBIUM PLATYSTIGMATOSUM C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 210.

Luzon (Ifugao, Bontoc, Benguet), *Merrill 4744, 4358, Phil. Pl. 900, B. S. 31862 Santos, 19712 McGregor*. Chiefly along small streams and about cliffs, altitude 1,200 to 2,400 m. Endemic.

HALORRHAGIDACEAE

1. HALORRHAGIS Forster

HALORRHAGIS HALCONENSIS Merr. in Philip. Journ. Sci. 2 (1907) Bot. 288.

Luzon (Tayabas), Mindoro, Negros, *Merrill 5700, Phil. Pl. 238, Holman 2*. On cliffs, open heaths on exposed ridges, etc., on Mts. Banahao, Halcon, and Canlaon, altitude 1,600 to 2,400 m. Endemic.

HALORRHAGIS MICRANTHA (Thunb.) R. Br. in Flinders Voy. App. (1814) 550; Sieb. & Zucc. Fl. Jap. 1 (1843) 25; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 217, 2 (1907) Bot. 289, 5 (1910) Bot. 369; Schindl. in Engl. Pflanzenreich 23 (1905) 42, f. 12.

Gonocarpus micranthus Thunb. Nov. Gen. (1783) 55, Fl. Jap. (1784) 69, t. 15.

Luzon (Benguet), Mindoro, Negros, Mindanao (Davao). In open, damp places on the higher mountains, Pulo, Pauai, Halcon, Canlaon, and Apo, altitude 1,700 to 2,800 m. India to Japan southward to Australia and New Zealand.

Local name: Panaynan (Bag.).

HALORRHAGIS PHILIPPINENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 216.

Luzon (Bontoc, Benguet), *Merrill 4553, 4357, 4444, 9653, B. S. 4530 Mearns, 31926 Santos*. On open grassy slopes and on banks in pine forests, altitude 1,400 to 2,300 m. Endemic.

Local name: Tukui (Ig.).

HALORRHAGIS SCABRA (Koenig) Benth. Fl. Hongk. (1861) 139 var. **ELONGATA** Schindl. in Engl. Pflanzenreich 23 (1905) 29; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 216.

Culion, Mindanao (Lanao), *Clemens 658, Merrill 459*. In open grasslands at low and medium altitudes. India (the species), southern China, Tonkin, Borneo (the variety).

2. MYRIOPHYLLUM Linnaeus

MYRIOPHYLLUM SPICATUM Linn. Sp. Pl. (1753) 992; Schindl. in Engl. Pflanzenreich 23 (1905) 91; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 217.

Mindanao (Lanao), *Clemens 450*. In shallow water of Lake Lanao, altitude 670 m. Warmer parts of the world.

3. GUNNERA Linnaeus

GUNNERA MACROPHYLLA Blume Bijdr. (1826) 513, Mus. Bot. Lugd.-Bat. 2 (1856) 501; Benn. Pl. Jav. Rar. (1838) 70, t. 15;

A. DC. Prodr. 16² (1868) 598; Miq. Fl. Ind. Bat. 1¹ (1857) 769; F.-Vill. Novis. App. (1880) 78; Vidal Rev. Pl. Vasc. Filip. (1886) 125; Schindl. in Engl. Pflanzenreich 23 (1905) 114, f. 33.

Luzon (Ifugao, Bontoc, Lepanto, Benguet, Nueva Vizcaya, Pangasinan, Laguna, Tayabas, Albay), Negros. Along streams, on semiopen seepage slopes and damp ridges, altitude 1,000 to 2,400 m. Sumatra, Java, New Guinea.

Local names: Balai (Ig., Bon.); baloi (Bon.); buanas (Bon.); dedit (Ig.).

ARALIACEAE

1. TETRAPLASANDRA A. Gray

TETRAPLASANDRA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 219.

Palawan, *F. B.* 3844, 3809 Curran. In thickets or forests near the beach at sea level. Endemic.

2. BOERLAGIODENDRON Harms

BOERLAGIODENDRON AGUSANENSE Elm. Leaf. Philip. Bot. 7 (1914) 2330.

Mindanao (Agusan), *Elmer* 13546, *Bolster* 384. Along small streams in primary forests, altitude 225 to 500 m; very close to *B. serratifolium* Elm. Endemic.

Local name: Iyangnok (Mbo.).

BOERLAGIODENDRON CAMIGUINENSE Merr. in Philip. Journ. Sci. 3 (1908) Bot. 252, 424.

Babuyan Islands (Camiguin), *B. S.* 4135 *Fénix*. On forested slopes at low or medium altitudes. Endemic.

BOERLAGIODENDRON CATANDUANENSE Merr. in Philip. Journ. Sci. 13 (1918) Bot. 318.

Catanduanes, *B. S.* 30438 *Ramos*. On forested slopes, altitude about 300 m. Endemic.

BOERLAGIODENDRON CAUDATUM Merr. in Philip. Journ. Sci. 14 (1919) 440.

Luzon (Ilocos Norte), *B. S.* 33303 *Ramos*. On forested slopes, altitude about 1,000 m. Endemic.

BOERLAGIODENDRON CLEMENTIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 155.

Luzon (Sorsogon), Mindanao (Lanao, Davao), *Clemens* 91, *Elmer* 10860a, 16762, *F. B.* 3921 *Hutchinson*. On forested slopes along streams, altitude about 750 m. Endemic.

BOERLAGIODENDRON DINAGATENSE Merr. in Philip. Journ. Sci. 17 (1920) 301.

Dinagat, *B. S.* 35220 *Ramos & Pascasio*. In forests at low altitudes. Endemic.

BOERLAGIODENDRON DIVERSIFOLIUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 333.

Samar, Siargao, Mindanao (Agusan, Bukidon), *B. S.* 15727 *Fénix*, 24142 *Ramos*, 24760 *Edaño*, 35005 *Ramos & Pascasio*, 21447 *Escritor*, *Weber* 1099. In primary forests at low and medium altitudes. Endemic.

Local names: Malakapáyás (S. L. Bis.); molonpolon (Buk.); tañgan-tañgan-batú (Buk.).

BOERLAGIODENDRON EMINENS (Bull.) comb. nov.

Trevesia eminens Bull. Cat. (1884) 17; Retail List (1885) 64, fig.

Boerlagiodendron mindanaense Merr. in Philip. Journ. Sci. 3 (1908)

Bot. 154.

Samar, Dinagat, Mindanao (Lanao, Davao, Zamboanga), Basilan, *Copeland* 464, *Loher* 6059 (cult. Manila), *Clemens* 1191, *Williams* 2150, *Ahern* 398, *F. B.* 12842 *Rosenbluth*, 20622 *Miranda*, 27470 *DeMesa*, *B. S.* 35208 *Ramos & Pascasio*. In primary forests at low and medium altitudes. Endemic. Cultivated in the Singapore Botanical Garden, received direct from the Philippines, fide Ridley, and at Buitenzorg, *Hort. Bogor.* XIII-Y-57 as *Trevesia cminens* Bull.

The original description was based on an immature cultivated specimen without flowers or fruits.

Local names: Apalong (Bis.); apulong (Bis.); bunglui-babáe (Sul.); magunpulun (Bag.); palad-ulot (S. L. Bis.); piña-piña (Sul.); ulo-ulo (C. Bis.).

BOERLAGIODENDRON FENICIS Merr. in Philip. Journ. Sci. 13 (1918) Bot. 44.

Luzon (Apayao), *B. S.* 28186 *Fénix*. On rocky forested slopes near streams. Endemic.

BOERLAGIODENDRON HETEROPHYLLUM Merr. in Philip. Journ. Sci. 9 (1914) Bot. 329.

Dinagat, Mindanao (Agusan), *Weber* 1126, *Elmer* 13855, *Ahern* 445. In primary forests at low and medium altitudes, ascending to 550 m. Endemic.

Local names: Kayuung (Mbo.); magusayag (C. Bis.).

BOERLAGIODENDRON HUMILE Elm. Leaf. Philip. Bot. 7 (1914) 2327.

Mindanao (Agusan), *Elmer* 10860. In primary forests, altitude about 950 m. Endemic.

Local name: Saráng-ka-máno (Bag.).

BOERLAGIODENDRON LINEARE Merr. in Philip. Journ. Sci. 3 (1908) Bot. 253.

Luzon (Pangasinan), *B. S.* 4953 *Ramos*. In forests at low or medium altitudes. Endemic.

BOERLAGIODENDRON LUZONIENSE Merr. in Philip. Journ. Sci. 3 (1908) Bot. 252.

Luzon (Benguet), *Merrill* 7654, *Elmer* 5928, *Sandkuhl* 278, *Williams* 1123, *B. S.* 2729 *Mearns*, *F. B.* 5088 *Curran*. In damp shaded ravines, altitude 1,400 to 1,600 m. Endemic.

Local names: Tachung (Ig.); vañgang (Ig.).

BOERLAGIODENDRON PECTINATUM Merr. in Philip. Journ. Sci. 3 (1908) Bot. 253, 424.

Batan Islands (Batan), *B. S.* 3775 *Fénix*. In forests near the summit of Mt. Iraya. Botel Tobago, *Kanehira & Sasaki* as *Osmoxylon kotoensis* Hayata.

Local name: Narapan (Iv.).

BOERLAGIODENDRON PULCHERRIMUM (Vidal) Harms in Engl. & Prantl Nat. Pflanzenfam. 3^s (1904) 32; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 254.

Osmoxylon pulcherrimum Vidal ex F.-Vill. Novis. App. (1880) 102, Sinopsis Atlas (1883) 28, t. 55, f. B.

Eschweilera pulcherrima Boerl. in Ann. Jard. Bot. Buitenz. 6 (1887) 123.

Luzon (Tayabas, east coast, Camarines), Panay, *B. S.* 9452 *Robinson*, 26573 *Ramos & Edaño*, 32484 *McGregor*. In damp primary forests, altitude about 800 m. Endemic.

Local names: Paladukai (Bik.); salapak (Neg.).

BOERLAGIODENDRON RAMOSII Merr. in Philip. Journ. Sci. 11 (1916) Bot. 27.

Luzon (Tayabas, Sorsogon), *B. S.* 19440, 23467. In damp forests at low or medium altitudes. Endemic.

BOERLAGIODENDRON SERRATIFOLIUM Elm. Leaf. Philip. Bot. 2 (1908) 505.

Leyte, *Elmer* 7194. In forests at low or medium altitudes. Endemic.

BOERLAGIODENDRON SIBUYANENSE Elm. Leaf. Philip. Bot. 7 (1914) 2328.

Mindoro, Sibuyan, Panay, *Elmer* 12531, *B. S.* 30899, 30898 *Ramos & Edaño*, 35357, 34539 *Martelino & Edaño*, 40825 *Ramos*. In primary forests, altitude about 225 m; allied to *B. eminens* Merr. Endemic.

Local name: Paladamok (P. Bis.).

BOERLAGIODENDRON SIMPLICIFOLIUM Elm. Leaf. Philip. Bot. 7 (1914) 2329.

Mindanao (Agusan), *Elmer* 13689. On exposed forested ridges, altitude about 1,650 m. Endemic.

Local name: Bolauanon (Mbo.).

BOERLAGIODENDRON TAYABENSE Merr. in Philip. Journ. Sci. 13 (1918) Bot. 45.

Luzon (Tayabas, east coast), *B. S.* 28752 *Ramos & Edaño*. In primary forests. Endemic.

BOERLAGIODENDRON TRILOBATUM Merr. in Philip. Journ. Sci. 2 (1907) Bot. 289.

Osmoxylon cumingii Seem. in Journ. Bot. 6 (1868) 141, *nomen nudum*.

Luzon (Nueva Ecija, Tayabas, Laguna, Rizal), Mindoro, Samar, Camiguin de Misamis, Mindanao (Surigao, Butuan), *Cuming* 754, *Merrill*

5620, *Loher* 6067, *Elmer* 7724, 14235, *B. S.* 21492 *Escritor*, 14618, 14711, 17486, 39410, 39641, 41001 *Ramos*, 27910, 27898 *Ocampo*, *F. B.* 7906 *Curran & Merritt*, 19721, 19691 *Barber*, 12123, 8750 *Merritt*. In primary forests at medium altitudes. Endemic.

Local name: Ayum (C. Bis.).

BOERLAGIODENDRON YATESII Merr. in Philip. Journ. Sci. 13 (1918) Bot. 44.

Luzon (Tayabas, Camarines), *B. S.* 25418 *Yates*, 33660, 33499 *Ramos & Edaño*. In damp primary forests at low and medium altitudes, ascending to 800 m. Endemic.

3. SCHEFFLERA Forster

SCHEFFLERA AGAMAE Merr. in Philip. Journ. Sci. 10 (1915) Bot. 196.

Palawan, *F. B.* 21603 *Agama*. On slopes at low altitudes. Endemic.

SCHEFFLERA AGUSANENSIS Elm. Leaf. Philip. Bot. 7 (1914) 2340.

Mindanao (Agusan), *Elmer* 13652. In forests along streams, altitude about 150 m. Endemic.

Local name: Paráran (Mbo.).

SCHEFFLERA ALBIDO-BRACTEATA Elm. Leaf. Philip. Bot. 7 (1914) 2339.

Palawan (Agusan, Bukidnon), *Elmer* 13722, 13808, *Wester* 58, *F. B.* 26551 *Rola*. In forests, altitude 700 to 1,000 m. Endemic.

Local names: Makinging (Mbo.); otonoliton (Mbo.); palálan (Buk.).

SCHEFFLERA ALVAREZII Merr. in Philip. Journ. Sci. 14 (1919) 436.

Mindanao (Lanao), *F. B.* 25240 *Alvarez*. On forested slopes, altitude about 1,000 m. Endemic.

SCHEFFLERA ANGUSTIFOLIA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 53.

Luzon (Rizal), *F. B.* 1117, 3111 *Ahern's collector*, *B. S.* 6765 *Robinson*, 40773 *Ramos*, *Merrill* 1735, 1889, *Loher* 3597, 6060. In thickets on limestone cliffs and steep slopes at low and medium altitudes. Endemic.

Local names: Lalaiginan (Tag.); saynat (Tag.).

SCHEFFLERA BANAHAENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 197.

Luzon (Ifugao, Laguna, Tayabas), *B. S.* 19522 *Ramos*, *F. B.* 13079 *Curran*, 7858 *Curran & Merritt*, *Sandkuhl* 319, *Elmer* 18256. Along streams in forests at medium altitudes. Endemic.

SCHEFFLERA BENGUETENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 198.

Luzon (Bontoc, Lepanto, Benguet), *Elmer* 6311, 5973, *Williams* 1163, 1164, *Merrill Phil. Pl.* 1778, *B. S.* 31768 *Santos*, 40198 *Ramos & Edaño*, 2815, 3370, 3424, 3505 *Mearns*, *F. B.* 21848 *Leaño*. In thickets about limestone boulders and on slopes, altitude 1,200 to 2,000 m. Endemic.

Local names: Kanunei (Ig.); lamáyen (Ig.).

SCHEFFLERA BINUANGENSIS C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 354.

Luzon (Nueva Ecija, Tayabas, east coast), *B. S.* 9435 Robinson, 26400 Ramos & Edaño. In the mossy forest, altitude about 900 m. Endemic.

SCHEFFLERA BORDENII Merr. in Philip. Journ. Sci. 1. (1906) Suppl. 110.

Luzon (Bataan), *F. B.* 1350 Borden. In primary forests, altitude about 750 m. Endemic.

SCHEFFLERA BREVIPES Merr. in Philip. Journ. Sci. 5 (1910) Bot. 210.

Luzon (Isabela), *F. B.* 18545 Alvarez. In forests at low or medium altitudes. Endemic.

SCHEFFLERA BUKIDNONENSIS Merr. in Philip. Journ. Sci. 20 (1922) 414.

Mindanao (Bukidnon), *B. S.* 38737 Ramos & Edaño. On trees, altitude about 1,600 m.

SCHEFFLERA CATENSIS Elm. Leaf. Philip. Bot. 7 (1914) 2336.

Mindanao (Davao), *Elmer* 11519. In very wet forests, altitude about 1,800 m. Endemic.

Local name: Salapiabukolod (Bag.).

SCHEFFLERA CAUDATA (Vidal) Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 118; Merr. op. cit. 5 (1910) Bot. 369.

Heptapleurum caudatum Vidal Phan. Cuming. Philip. (1885) 175, Pl. Vasc. Filip. (1886) 145 (*Vidal* 793 type, excl. *Cuming* 800). *Schefflera acuminatissima* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 109.

Luzon (Bataan, Albay), *Whitford* 172, 1222, *F. B.* 3005 Meyer. In primary forests, altitude about 650 m. Endemic.

Local name: Lima-líma (Tag., Bis.).

SCHEFFLERA CAUDATIFOLIA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 331.

Luzon (Camarines, Sorsogon), Catanduanes, Negros, Panay, *B. S.* 30222, 22062 Ramos, 32539 McGregor, *F. B.* 12328 Everett, *Elmer* 17130 as *S. bulusanensis* Elm. On forested slopes, altitude 500 to 1,000 m. Endemic.

Local name: Kong-kong (C. Bis.).

SCHEFFLERA CHARTACEA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 456.

Luzon (Bontoc), *Vanoverbergh* 1789. In forests, altitude about 1,750 m. Endemic.

SCHEFFLERA CLEMENTIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 156.

Mindanao (Bukidnon, Lanao), *Clemens* 366, *B. S.* 38844 Ramos & Edaño. In forests along streams, altitude about 650 m. Endemic.

Local name: Kamang-kámang (Buk.).

SCHEFFLERA CRASSIFOLIA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 332.

Luzon (Camarines, Albay, Sorsogon), Catanduanes, *B. S.* 22152 Ramos, *F. B.* 12384 Curran, 28722 Simeon, Elmer 16274 as *S. longispicata* Elm. In primary forests at low or medium altitudes. Endemic.

Local name: Sagong (Bik.).

SCHEFFLERA CUMINGII (Seem.) Harms in Engl. & Prantl Nat. Pflanzenfam. 3⁸ (1894) 39; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 118; Viguier in Ann. Sci. Nat. Bot. IX 9 (1909) 354.

Heptapleurum cumingii Seem. in Journ. Bot. 3 (1865) 81.

Luzon (Cagayan, Isabela, Nueva Vizcaya), *Cuming* 1292, *Adduru* 144, 277, *B. S.* 7997, 7808 Ramos, *F. B.* 23279 Velasco, 27066 Guzman, 23260 Barros. In primary forests at low altitudes. Endemic.

Local names: Kalkugamat (Ibn.); kolokagama (Neg.).

SCHEFFLERA CURRANII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 199.

Palawan, *F. B.* 3853 Curran. On rocky river banks, Victoria Peak, altitude 1,200 m. Endemic.

SCHEFFLERA DEMESAE Merr. in Philip. Journ. Sci. 9 (1914) Bot. 330.

Mindanao (Zamboanga), *F. B.* 13396 Foxworthy, DeMesa, & Villamil, *B. S.* 36571, 36980 Ramos & Edaño. In forests along streams at low altitudes. Endemic.

Local names: Gagauak (Sub.); kanonukan (Sul.).

SCHEFFLERA DIGITATA (Blanco) Merr. Sp. Blancoanae (1918) 294.

Polyscias digitata Blanco Fl. Filip. (1837) 224.

Aralia octophylla Blanco op. cit. ed. 2 (1845) 158, ed. 3, 1 (1877) 284, non Lour.

Schefflera macrantha Merr. in Philip. Journ. Sci. 3 (1908) Bot. 156.

Heptapleurum rigidum F.-Vill. Novis. App. (1880) 102, non Seem.

Mindoro, Cebu, Negros, Mindanao (Lanao), *Clemens*, *F. B.* 5221, 5230, 5562, 7250 Everett, *B. S.* 41114 Ramos. In forests at medium altitudes. Endemic.

Local names: Bognai (P. Bis.); tagíma (C. Bis.).

SCHEFFLERA DIVARICATA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 199.

Basilan, *B. S.* 16132 Reillo. In forests at low altitudes. Endemic.

SCHEFFLERA ELLIPTIFOLIOLA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 320.

Luzon (Rizal, Laguna, Tayabas, Camarines), Catanduanes, Mindoro, Mindanao, *B. S.* 30511, 22026, 23804, 30206 Ramos, 21459 Escritor, 33906 Ramos & Edaño, *F. B.* 24925 Bawan, 24666 Amarillas, 5410 Merritt, Loher 6070, Elmer 14457, 14815 as *S. auranticarpa* Elm. In primary forests at low and medium altitudes. Endemic.

SCHEFFLERA EUCAUDATA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 200.

Basilan, *B. S.* 16108 Reillo. In primary forests at low or medium altitudes. Endemic.

SCHEFFLERA FOETIDA Merr. in Philip. Journ. Sci. 2 (1907) Bot. 290.

Schefflera paniculata Elm. Leaf. Philip. Bot. 2 (1909) 585.

Mindoro, Leyte, Negros, Mindanao (Bukidnon), *Merrill* 5762, 5678, *Wenzel* 1158, *Elmer* 9535, *F. B.* 16909 *Rosenbluth*, 4423 *Merritt*, *B. S.* 38912 *Ramos & Edaño*. In the mossy forest, altitude 1,000 to 1,800 m. Endemic.

Local names: Bagalbal (Bag.); tagima-itam (P. Bis.).

SCHEFFLERA FOXWORTHYI Merr. in Philip. Journ. Sci. 3 (1908) Bot. 254.

Palawan, *B. S.* 915, 796 *Foxworthy*, *Elmer* 13020. In forests at low or medium altitudes. Endemic.

SCHEFFLERA GIGANTIFOLIA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 157.

Mindanao (Lanao, Misamis, Bukidnon, Zamboanga), *Clemens* 717, 931, *Merrill* 8116, *F. B.* 4565 *Mearns & Hutchinson*, 25244 *Alvarez*, *B. S.* 36912, 39042 *Ramos & Edaño*. In primary forests, altitude 650 to 1,000 m. Endemic.

Local names: Bubulang (Sub.); palálan (Buk.).

SCHEFFLERA GLABRA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 201.

Luzon (Benguet, Nueva Vizcaya), *F. B.* 14195 *Merritt*, *B. S.* 40369 *Ramos & Edaño*. In the mossy forest, altitude about 1,500 m. Endemic.

SCHEFFLERA GLOBOSA Merr. in Philip. Journ. Sci. 14 (1919) 437.

Panay, *B. S.* 31087 *Ramos & Edaño*. On trees in forests at medium altitudes. Endemic.

SCHEFFLERA GRACILIPES Merr. in Philip. Journ. Sci. 3 (1908) Bot. 158.

Mindanao (Lanao), *Clemens* 695a. In forests along streams, altitude about 650 m. Endemic.

SCHEFFLERA HALCONENSIS Merr. in Philip. Journ. Sci. 20 (1922) 415.

Mindoro, *Merrill* 5696. In damp primary forests, altitude 900 m. Endemic.

SCHEFFLERA INSULARUM (Seem.) Harms in Engl. & Prantl Nat. Pflanzenfam. 3^s (1894) 39; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 290; Viguier in Ann. Sci. Nat. Bot. IX 9 (1909) 354.

Heptapleurum insularum Seem. in Journ. Bot. 3 (1865) 80.

Schefflera mindanaensis Merr. in Philip. Journ. Sci. 3 (1908) Bot. 157.

Luzon (Laguna, Tayabas, Camarines, Albay, Sorsogon), Mindoro, Masbate, Polillo, Catanduanes, Samar, Leyte, Negros, Mindanao (Agusan). Common in primary forests along streams at low altitudes. Endemic.

Local names: Galámai-amo (Tag.); kalang-kálang (P. Bis.); kalangkáng (P. Bis.); kulolo (Sub.); paráran (Bag.).

SCHEFFLERA LEYTENSIS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 211.

Leyte, *F. B.* 16904 *Rosenbluth*. In forests, altitude about 1,150 m. Endemic.

SCHEFFLERA LONGIFRUCTESCENS Elm. Leaf. Philip. Bot. 1 (1908) 331 (*longifrutescens*).

Luzon (Tayabas, Camarines, Sorsogon), Leyte, Siargao, Mindanao (Agusan, Bukidnon, Lanao, Misamis), *Elmer* 7354, 13778, *Wenzel* 385, *B. S.* 34914 *Ramos & Pascasio*, 38726, 39153 *Ramos & Edaño*, 15766 *Fénix*, *Clemens* 259, 422, 929. In primary forests at medium altitudes. Endemic.

Local names: Kalimugkat (Buk.); karangkang (Bik.); maráran (Mbo.); palálan (Buk.); paráran (Bag.).

SCHEFFLERA LUZONIENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 218, 5 (1910) Bot. 369.

Luzon (Benguet, Rizal, Laguna, Tayabas), *Whitford* 928, *Loher* 6050, 6051, 6066, *Merrill* 7507, *B. S.* 40753 *Ramos*. In forests, altitude 1,000 to 2,000 m. Endemic.

SCHEFFLERA MACGREGORII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 202.

Luzon (Ifugao), *B. S.* 19839 *McGregor*. In forests, probably above 1,500 m altitude. Endemic.

SCHEFFLERA MERRILLII Elm. Leaf. Philip. Bot. 7 (1914) 2335.

Mindanao (Davao), *Elmer* 11277. In primary forests, altitude about 900 m. Endemic.

Local name: Basuloi (Bag.).

SCHEFFLERA MICROPHYLLA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 218, 5 (1910) Bot. 369.

Luzon (Abra, Ifugao, Bontoc, Lepanto, Benguet), *Merrill* 4605, 6564, *Williams* 1019, *B. S.* 7266 *Ramos*, 31743 *Santos*, 8486, 19766 *McGregor*, 40269, 38060 *Ramos & Edaño*, *F. B.* 14614, 14439 *Darling*, 25151 *Leaño*, 4967 *Curran*, 14158 *Merritt*. In the mossy forest on the higher mountains, altitude 1,800 to 2,400 m. Endemic.

Local names: Bitibit (Bon.); kalosio (Ig.); sagaga (Ting.).

SCHEFFLERA MULTIFLORA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 203.

Mindanao (Agusan, Bukidnon), *B. S.* 15776 *Fénix*, 21382 *Escritor*, *F. B.* 24448 *Miras*, *Cortez*, & *Soriano*. In forests along streams, altitude about 900 m. Endemic.

Local names: Gasiman (Mbo.); kamang-kámang (Buk.).

SCHEFFLERA MULTIRAMOSA Elm. Leaf. Philip. Bot. 7 (1914) 2332. *Schefflera perlucida* Elm. op. cit. 2333.

Mindanao (Agusan, Bukidnon, Davao), *Elmer* 11266, 14193, *B. S.* 38934 *Ramos & Edaño*. On forested ridges, altitude 1,050 to 1,650 m. Endemic.

Local names: Butong (Bag.); tonai (Mbo.).

SCHEFFLERA MYRIANTHELLA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 320.

Luzon (Laguna), *B. S.* 23824 *Ramos*. In damp primary forests at low or medium altitudes. Endemic.

- SCHEFFLERA NITIDA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 204.
 Basilan, *F. B. 18955 Miranda*. In forests near the seashore, altitude 15 m. Endemic.
- SCHEFFLERA OBLIQUA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 159.
 Luzon (Rizal, Camarines), Mindanao (Surigao, Lanao, Zamboanga), *Clemens 876, Bolster 377, F. B. 13445 Foxworthy, DeMesa, & Villamil, 22639 Alvarez, B. S. 40751 Ramos*. In primary forests, sea level to an altitude of 650 m. Endemic.
 Local name: Kupus-kupus (Chab.).
- SCHEFFLERA OBOVATA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 329.
 Luzon (Laguna), *B. S. 16653 Ramos, Merrill Phil. Pl. 1108*. In primary forests at low or medium altitudes; scarcely distinguishable from *S. caudatifolia* Merr. except in leaflet form. Endemic.
- SCHEFFLERA OBTUSIFOLIA** Merr. in Philip. Journ. Sci. 14 (1919) 435.
 Luzon (Ilocos Norte), *B. S. 32912, 33207, 32901 Ramos*. On trees and on rocks on forested slopes at low and medium altitudes. Endemic.
- SCHEFFLERA ODORATA** (Blanco) Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 117, 424; Merr. Fl. Manila (1912) 358.
Polyscias odorata Blanco Fl. Filip. (1837) 225.
Polyscias obtusa Blanco op. cit. 226.
Paratropia crassa Blanco op. cit. ed. 2 (1845) 158, ed. 3, 1 (1877) 285.
Paratropia obtusa Blanco op. cit. 226, 159.
Heptapleurum venulosum F.-Vill. Novis. App. (1880) 102; Vidal Sinopsis Atlas (1883) 28, t. 55, f. E, non Seem.
Schefflera venulosa Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 110, non Harms.
- Batan Islands and northern Luzon to Palawan and Mindanao. Common in secondary forests at low and medium altitudes, occurring in most or all islands and provinces. Endemic.
 Local names: Arasagat (Ilk.); galámai-amó (Tag.); kalákang (Bag.); karangkáng (Bik.); kayáangkang (Bik.); kokotimbalun (Yak.); lima-líma (Tag.); palan (Sul.); panagang (Tagb.); tagíma (Bis., Yak.); tagilíma (Bis.); tarangkang (S. L. Bis.); tughik (Iv.); tuglíma (Bis.).
- SCHEFFLERA PALAWANENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 204.
 Palawan, *Merrill 9221*. In thickets bordering open grasslands at low altitudes. Endemic.
- SCHEFFLERA PIPEROIDEA** Elm. Leaf. Philip. Bot. 1 (1908) 330.
 Luzon (Tayabas, Laguna), *Elmer 7461, Baker 3706, 3013, B. S. 15128, 20421 Ramos, 23018 McGregor, F. B. 13181 Curran*. In primary forests up to 1,000 m altitude; allied to *S. trifoliata* Merr. & Rolfe and not certainly distinct from it. Endemic.
- SCHEFFLERA PLATYPHYLLA** Merr. in Philip. Journ. Sci. 14 (1919) 438.
 Panay, *B. S. 30897 Ramos & Edaña*. In forests along small streams at low altitudes. Endemic.

SCHEFFLERA SANTOSII Merr. in Philip. Journ. Sci. 14 (1919) 438.

Luzon (Bontoc, Benguet), *B. S.* 31722* Santos, Merrill 4589, Vanoverbergh 1198, 2866. In damp forested ravines, altitude 1,600 to 2,000 m. Endemic.

SCHEFFLERA SIMPLICIFOLIA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 159; C. B. Rob. op. cit. 6 (1911) Bot. 218.

Luzon (Laguna, Tayabas, Sorsogon), Polillo, Catanduanes, Negros, Mindanao (Agusan, Lanao, Bukidnon, Cotabato, Zamboanga), *Clemens* 1143, 1168, Merrill 7274, 8073, *Phil. Pl.* 1328, Whitford 815, *Elmer* 17696, 16798, 9955, 14185, 14188, 15099 as *S. luzonensis* Elm., non Merr., *B. S.* 29192, 29002, 36890, 38859 Ramos & Edaña, 16611, 30354, 30350 Ramos, 9242 Robinson. In damp primary forests at low and medium altitudes. Endemic.

Local names: Salibatbat (Mbo.); tagíma (C. Bis.); tumakos (Mbo.).

SCHEFFLERA STELLULATA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 318.

Luzon (Nueva Vizcaya), *B. S.* 11251 McGregor. In forests at medium altitudes. Endemic.

SCHEFFLERA TRIFOLIATA Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 118; C. B. Rob. op. cit. 6 (1911) Bot. 218.

Heptapleurum caudatum Vidal Phan. Cuming. Philip. (1885) 175 quoad Cuming 800.

Luzon (Laguna, Tayabas), Polillo, Cuming 800, *B. S.* 19463, 23835, 10913 Ramos, 6958 Robinson, 10428, 10377 McGregor. In primary forests at low and medium altitudes; closely allied to *S. piperoides* Elm. Endemic.

Local names: Gauai-gáuai (Tag.); himainat (Tag.); sinat (Tag.).

SCHEFFLERA URDANETENSIS Elm. Leaf. Philip. Bot. 7 (1914) Bot. 2337.

Mindanao (Agusan), *Elmer* 14075. In dense primary forests, altitude about 1,700 m. Endemic.

Local name: Paráran (Mbo.).

SCHEFFLERA WILLIAMSII C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 211.

Mindanao (Davao), *Williams* 2568, *Elmer* 11400. In primary forests, altitude about 1,900 m. Endemic.

Local name: Paráran (Bag.).

EXCLUDED SPECIES

HEPTAPLEURUM SUBULATUM Seem.; F.-Vill. Novis. App. (1886) 102.

4. CEPHALOSCHEFFLERA (Harms) Merrill

CEPHALOSCHEFFLERA ALBIDA (Merr.) comb. nov.

Schefflera albida Merr. in Philip. Journ. Sci. 7 (1912) Bot. 94.

Luzon (Bontoc, Ifugao), Vanoverbergh 958, *B. S.* 19747 McGregor. In the mossy forest, altitude at and above 1,550 m; allied to *C. oblongifolia* Merr. Endemic.

CEPHALOSCHEFFLERA APOENSIS (Elm.) comb. nov.

Schefflera apoensis Elm. Leaf. Philip. Bot. 7 (1914) 2334.

Mindanao (Davao), *Elmer 10488, F. B. 25174 Alvarez*. In damp forests, altitude 1,000 to 2,000 m. Endemic.

Local name: Pararan (Bag.).

CEPHALOSCHEFFLERA BLANCOI (Merr.) comb. nov.

Nauclea digitata Blanco Fl. Filip. ed. 2 (1845) 102, ed. 3, 1 (1877) 188, non *Schefflera digitata* Forst.

Heptapleurum cephalotes F.-Vill. Novis. App. (1880) 102, non C. B. Clarke.

Schefflera blancoi Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 109, 2 (1907) Bot. 433, 5 (1910) Bot. 369, Sp. Blancoanae (1918) 295.

Luzon (Ilocos Norte, Bontoc, Benguet, Pampanga, Bulacan, Rizal, Bataan, Laguna, Batangas, Cavite), Mindanao (Bukidnon). Common on exposed ridges in the mossy forest and submossy forest and in damp forested ravines, altitude 700 to 1,500 m. Endemic.

Local names: Abchal (Ig.); abkal (Ig.); ganmat (Bon.); pad (Ig.); sagaba (Ilk.); sainat (Tag.).

CEPHALOSCHEFFLERA CATANDUANENSIS (Merr.) comb. nov.

Schefflera catanduanensis Merr. in Philip. Journ. Sci. 13 (1918) Bot. 319.

Luzon (Sorsogon), Catanduanes, *B. S. 30341, 23313 Ramos, Elmer 14745* as *S. mellifera* Elm. In primary forests, on ridges at or above 400 m altitude. Endemic.

CEPHALOSCHEFFLERA CINNAMOMEA (Merr.) comb. nov.

Schefflera cinnamomea Merr. in Philip. Journ. Sci. 20 (1922) 415.

Mindanao (Bukidnon), *B. S. 38907 Ramos & Edaño*. In the mossy forest, altitude about 1,700 m. Endemic.

Local name: Kamang-kamang (Buk.).

CEPHALOSCHEFFLERA CRASSISSIMA (Merr.) comb. nov.

Schefflera crassissima Merr. in Philip. Journ. Sci. 10 (1915) Bot. 195.

Luzon (Tayabas), *B. S. 19379 Ramos*. On trees, probably in the mossy forest at or above 700 m altitude. Endemic.

CEPHALOSCHEFFLERA OBLONGIFOLIA (Merr.) comb. nov.

Schefflera oblongifolia Merr. in Philip. Journ. Sci. 5 (1910) Bot. 369.

Luzon (Benguet, Bataan), Negros, *F. B. 18126 Curran, Merritt, & Zschokke, 14404 Darling, 18321 Alvarez, B. S. 40289, 40379 Ramos & Edaño, Elmer 8693, Loher 3589, Merrill 3847, Williams 1305, B. S. 31761 Santos*. In the mossy forest, altitude 1,000 to 2,200 m. Endemic.

Local names: Alibakun (Ig.); kolamat (Ig.).

CEPHALOSCHEFFLERA OVOIDEA (Merr.) comb. nov.

Schefflera ovoidea Merr. in Philip. Journ. Sci. 3 (1908) Bot. 160.

Mindanao (Lanao), *Clemens 1037*. On forested slopes, altitude about 600 m. Endemic.

CEPHALOSCHEFFLERA PANAYENSIS (Merr.) comb. nov.

Schefflera panayensis Merr. in Philip. Journ. Sci. 14 (1919) 439.

Panay, B. S. 30736 Ramos & Edaño. In the mossy forest, probably above 1,000 m altitude. Endemic.

5. POLYSCIAS Forster

POLYSCIAS NODOSA (Blume) Seem. in Journ. Bot. 3 (1865) 181; F.-Vill. Novis. App. (1880) 102; Vidal Phan. Cuming. Philip. (1885) 117, Rev. Pl. Vasc. Filip. (1886) 145; Koord. & Val. Bijdr. Boom. Java 7 (1900) 11; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 110, Interpret. Herb. Amb. (1917) 408, Sp. Blancoanae (1918) 294.

Aralia nodosa Blume Bijdr. (1826) 873.

Paratropia nodosa DC. Prodr. 4 (1830) 265; Presl Epim. (1851) 250.

Aralia umbraculifera Roxb. Hort. Beng. (1814) 22, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 108.

Aralia pendula Blanco Fl. Filip. (1837) 223, ed. 2 (1845) 157, ed. 3, 1 (1877) 283.

? *Polyscias acuminata* Vidal Sinopsis Atlas (1883) 28, t. 55, f. A; F.-Vill. Novis. App. (1880) 102, non Seem.

Luzon (Benguet, Pangasinan, Zambales, Rizal, Bataan, Laguna, Tayabas, Sorsogon), Palawan, Leyte, Mindanao, Basilan. In second-growth forests at low and medium altitudes. Conspicuous on account of its characteristic growth habit. Java to the Moluccas.

Local names: Bias-bias (Tag., Bis.); bingliu (Tag., Bis.); bonliu (Tag.); bungdiu (Ig.); bungliu (Tag.); goyung-góyung (Tag.); hagdan-anak (C. Bis.); malapapáya (Tag., Bis., Pang.); mano-máno (Yak.); bungloi (Bis.); tukod-lánġit (Tag., Pamp.).

DOUBTFUL SPECIES

POLYSCIAS DISPERMA Blanco Fl. Filip. (1837) 226; Merr. Sp. Blancoanae (1918) 384.

This was excluded by Blanco in the second edition of his Flora de Filipinas. It is unrecognizable from the very short and imperfect description.

6. NOTHOPANAX Miquel

NOTHOPANAX CRISPATUM (Bull.) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 241, Fl. Manila (1912) 357.

Panax crispatum Bull. Cat. (1888) 9.

Somewhat cultivated in the Philippines for ornamental purposes; of recent introduction and nowhere spontaneous. Widely cultivated, its origin uncertain.

NOTHOPANAX FRUTICOSUM (Linn.) Miq. Fl. Ind. Bat. 1¹ (1856) 765; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 241, Fl. Manila (1912) 358, Interpret. Herb. Amb. (1917) 410, Sp. Blancoanae (1918) 295.

Panax fruticosum Linn. Sp. Pl. ed. 2 (1763) 1513; Blanco Fl. Filip. ed. 2 (1845) 156, ed. 3, 1 (1877) 281, t. 78; A. Gray Bot. Wilkes

U. S. Explor. Exped. (1864) 716; F.-Vill. Novis. App. (1880) 101;
Merr. in Philip. Journ. Sci. 3 (1908) Bot. 84.

Commonly planted in hedges and about houses but nowhere spontaneous; of prehistoric introduction. Probably of Malayan origin, now planted in most or all tropical countries.

Local names: Báni (Bik.); makan (Bik.); papuá (Tag., Bik.)

Var. **PLUMATUM** (Hort.) Merr. Fl. Manila (1912) 358.

Planted here and there, but nowhere spontaneous.

Var. **VICTORIAE** (Hort.) Merr. l. c.

Planted occasionally for ornamental purposes; of recent introduction.

NOTHOPANAX GUILFOYLEI (Cogn. & March.) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 242, Fl. Manila (1912) 357.

Aralia guilfoylei Cogn. & March. Pl. Ornam. 2 (1874) t. 58.

Cultivated for ornamental purposes; of recent introduction. Probably of Polynesian origin and not certainly distinct from the Malayan *N. pinna-tum* (Lam.) Miq.

NOTHOPANAX ORNATUM (Bull.) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 241, Fl. Manila (1912) 357.

Panax ornatum Bull. Cat. (1888) 9.

Planted for ornamental purposes but nowhere spontaneous; of recent introduction. Probably of Polynesian origin.

NOTHOPANAX SCUTELLARIUM (Burm. f.) Merr. Interpret. Herb. Amb. (1917) 409.

Crassula scutellaria Burm. f. Fl. Ind. (1768) 78.

Aralia cochleata Lam. Encycl. 1 (1783) 224.

Panax cochleatum DC. Prodr. 4 (1830) 253; F.-Vill. Novis. App. (1880) 253.

Panax scutellarioides Reinw. in Blume Bijdr. (1826) 880.

Nothopanax cochleatum Miq. Fl. Ind. Bat. 1¹ (1856) 766; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 241, Fl. Manila (1912) 357.

Occasionally planted for ornamental purposes, rarely or never flowering in the Philippines. Probably of Malayan origin.

NOTHOPANAX TRICOCHELEATUM Miq. Fl. Ind. Bat. Suppl. (1862) 340; Merr. Interpret. Herb. Amb. (1917) 409.

Panax rumphii Hassk. in Abh. Naturf. Gesellsch. Halle 9 (1866) 220.

Occasionally planted in Manila for ornamental purposes; of recent introduction. Of Malayan origin.

7. **ACANTHOPANAX** Decaisne and Planchon

ACANTHOPANAX TRIFOLIATUS (Linn.) Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 217, Schneider Ill. Handb. Laubholz. 2 (1909) 427;

Harms & Rehder in Sargent Pl. Wils. 2 (1916) 563.

Zanthophyllum trifoliatum Linn. Sp. Pl. (1753) 270.

Panax aculeatum Ait. Hort. Kew. 3 (1789) 448; DC. Prodr. 4 (1830) 252.

Acanthopanax aculeatum Seem. in Journ. Bot. 5 (1867) 238; Forbes & Hemsl. in Journ. Linn. Soc. Bot. 23 (1888) 229.

Luzon (Bontoc, Benguet), *Merrill 4661, Vanoverbergh 660, B. S. 5929 Ramos, 38115 Ramos & Edaño, 16548 Curran & Merritt*. In thickets, altitude 1,100 to 1,400 m. India to Japan, southern China, and Formosa.

8. ARTHROPHYLLUM Blume

ARTHROPHYLLUM AHERNIANUM Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 109.

Arthrophyllum pinnatum F.-Vill. Novis. App. (1880) 103; Vidal Sinopsis Atlas (1883) 28, t. 55, f. C, non C. B. Clarke.

Arthrophyllum sablanense Elm. Leaf. Philip. Bot. 1 (1908) 331.

Luzon (Cagayan, Isabel, Bontoc, Benguet, Nueva Vizcaya, Laguna, Rizal, Bataan, Tayabas, Camarines), Mindoro, Busuanga, Palawan, Panay, Guimaras, Siargao, Mindanao, *B. S. 20469, 13880 Ramos, 33669, 31449, 37849 Ramos & Edaño, 35659 Martelino & Edaño, 34932, 34481 Ramos & Pascasio, 32504, 11252 McGregor, F. B. 25680 Amarillas, 8627, 6181 Merritt, 26292 Barros, 278 Gammill, Lohr 6069, Williams 1557, Clemens 585, Merrill 1232, 5597, 9329*. In forests at low and medium altitudes, variable. Endemic unless referable to the Malayan *A. diversifolium* Blume to which it is, at least, closely allied.

Local names: Alabihig (P. Bis.); binaláyon (C. Bis.); danipo (Ig.); dokloi (P. Bis.); higin (Mang.); malapapáya (Tag.); pamalatángen-apurau (Ilk.); puyga-puygáhan (Tag.).

ARTHROPHYLLUM CENABREI Merr. in Philip. Journ. Sci. 20 (1922) 417.

Cebu, *F. B. 28343 Cenabre & de la Cruz*. On slopes, altitude 600 m. Endemic.

Local name: Bingliu (C. Bis.).

ARTHROPHYLLUM PULGARENSE Elm. Leaf. Philip. Bot. 7 (1915) 2551.

Palawan, *Elmer 13193, B. S. 563 Foxworthy, F. B. 3884 Curran*. In thickets on the upper parts of Mt. Pulgar, altitude about 1,200 m. Endemic.

EXCLUDED SPECIES

ARTHROPHYLLUM DIVERSIFOLIUM Blume; F.-Vill. Novis. App. (1880) 102.

9. ARALIA Linnaeus

ARALIA APOENSIS Elm. Leaf. Philip. Bot. 7 (1914) 2325.

Mindanao (Davao), *Elmer 11608*. In thin forests, altitude about 1,050 m. Endemic, but to be compared with *A. dasphylla* Miq.

Local name: Marabaugá (Bag.).

ARALIA BIPINNATA Blanco Fl. Filip. (1837) 222, ed. 2 (1845) 157, ed. 3, 1 (1877) 282; Merr. Sp. Blancoanae (1918) 294.

Aralia hypoleuca Presl Epim. (1851) 250; Miq. Fl. Ind. Bat. 1¹ (1857) 751; F.-Vill. Novis. App. (1880) 101; Vidal Phan. Cuming. Philip. (1885) 117, Rev. Pl. Vasc. Filip. (1886) 144; Harms in Engl. Bot. Jahrb. 23 (1896) 18; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 369.

Aralia javanica F.-Vill. Novis. App. (1880) 101, non Miq.

Aralia spinosa Hemsl. in Journ. Linn. Soc. Bot. 23 (1888) 338 quoad Philip., non Linn.

Luzon (Bontoc, Benguet, Nueva Ecija, Bataan, Tayabas, Albay), Leyte, Negros, *Cuming* 792, 920, *Loher* 3601, *Elmer* 6293, *Merrill Sp. Blancoanae* 164, *Williams* 1030, 1145, *B. S.* 26495 *Ramos & Edaño*, *F. B.* 10914 *Curran*, 22915 *Leaño*. In thickets and forests, altitude chiefly above 1,000 m, ascending to 2,000 m. Endemic.

Local names: Badbaranai (C. Bis.); dasanat (Neg.); magkasau (Bis.); papang (Bon.); sugsuga (Ig.).

ARALIA GLAUCA Merr. in Philip. Journ. Sci. 2 (1907) Bot. 291.

Mindoro, Mindanao (Bukidnon), *Merrill* 6177, *B. S.* 15714 *Fénix*. In forests and forested ravines, altitude about 700 m. Endemic.

Local name: Karugi (Buk.).

EXCLUDED SPECIES

ARALIA MONTANA Blume; F.-Vill. Novis. App. (1880) 101.

10. ACANTHOPHORA Merrill

ACANTHOPHORA SCANDENS Merr. in Philip. Journ. Sci. 13 (1918) Bot. 316.

Luzon (Laguna, Sorsogon), Catanduanes, Mindanao (Davao, Bukidnon, Lanao), *B. S.* 23833, 30211 *Ramos*, 38978 *Ramos & Edaño*, *Elmer* 14825, 11605, *Clemens* 752. In damp forests at medium altitudes. A monotypic genus also in Celebes, *Koorders* 16095.

Local name: Simbar (Bag.).

11. ANOMPANAX Harms

ANOMPANAX CUMINGIANUS (Presl) Merr. in Philip. Journ. Sci. 17 (1920) 300.

Paratropia cumingiana Presl Epim. (1851) 250; Walp. Ann. 2 (1852) 725.

Panax cumingiana Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 310; Vidal Phan. Cuming. Philip. (1885) 117, Rev. Pl. Vasc. Filip. (1886) 145.

Polyscias cumingiana F.-Vill. Novis. App. (1880) 102.

Nothopanax cumingii Seem. Fl. Vit. (1865) 114, Journ. Bot. 4 (1866) 295.

Mindoro, Siquijor, *Cuming* 1553, *Piper* 400. Reported by Seeman also from Borneo.

ANOMPANAX DIGITATUS Merr. in Philip. Journ. Sci. 17 (1920) 301.

Siargao, *B. S.* 34925 *Ramos & Pascasio*. In forests at low altitudes. Endemic.

ANOMPANAX PHILIPPINENSIS Harms in Ann. Jard. Bot. Buitenz. 19 (1904) 15.

Pentapanax sp. Ceron Cat. Pl. Herb. Manila (1892) 89.

Samar, Negros, Panay, Mindanao (Misamis, Zamboanga, Lanao, Davao), Basilan, *Merrill* 7034, 8293, *Clemens* 1058, *F. B.* 13681, 17355 *Curran*, 7269, 12329 *Everett*, *B. S.* 30798, 36831, 37294 *Ramos & Edaño*, 32354 *McGregor*. In damp primary forests at low and medium altitudes, ascending to 1,000

m. Endemic, although scarcely distinguishable from *A. celebicus* Harms, the type of the genus.

Local names: Binlaon (C. Bis.); pararau (Bag.); tagima (Sub.).

EXCLUDED GENERA

ARALIDIUM PINNATIFIDUM Miq.; F.-Vill. Novis. App. (1880) 101.

HETEROPANAX FRAGRANS Seem.; F.-Vill.¹ op. cit. 102.

MACROPANAX sp.; Vidal Rev. Pl. Vasc. Filip. (1886) 145.

The reference is based on *Vidal 1428* from northern Luzon; not seen.

TREVESIA PALMATA Vis.; F.-Vill. Novis. App. (1880) 102; Vidal Sinopsis Atlas (1883) 28, t. 55, f. c.

Vidal's figure, a single flower, is unrecognizable.

UMBELLIFERAE

1. *HYDROCOTYLE* Tournefort

HYDROCOTYLE BENGUETENSIS Elm. Leaf. Philip. Bot. 2 (1909) 628.

Luzon (Lepanto, Bontoc, Benguet), Mindanao (Lanao), *Elmer 8903*, 6496, *Merrill 7657*, 4516, *Phil. Pl. 764*, *Clemens 919*. In cool open swampy places, altitude 650 to 2,200 m. Formosa!

Perhaps only a form or variety of *H. sibthoroides* Lam. with deeply lobed leaves.

HYDROCOTYLE DELICATA Elm. Leaf. Philip. Bot. 2 (1909) 629.

Luzon (Bontoc, Benguet, Laguna), Negros, Mindanao (Davao), *Elmer 8895*, *Merrill 4352*, 6989, *Vanoverbergh 1093*, *Clemens 9101*, *B. S. 9782* *McGregor*. In open wet places, on damp rocks, etc., altitude 800 to 2,300 m. Endemic.

This seems to be matched by Riu Kiu material referred to *H. rotundifolia* Roxb. It may be referable to *H. sibthoroides* Lam.

Local name: Sigbut-ta-bató (Bag.).

HYDROCOTYLE JAVANICA Thunb. Diss. Hydrocot. (1798) No. 17, t. 2; Hook. f. Fl. Brit. Ind. 2 (1879) 667; F.-Vill. Novis. App. (1880) 100; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 144; Elm. Leaf. Philip. Bot. 2 (1909) 629.

Luzon (Benguet, Sorsogon), Mindanao (Lanao), *Merrill 4420*, *Phil. Pl. 752*, *Clemens 577*, 669, *B. S. 23452* *Ramos*. In ravines along streams, on wet cliffs, etc., altitude 650 to 1,600 m. India to southern China and Malaya.

The identity of the Philippine material with Thunberg's species is uncertain. The specimens are much smaller than Indian and Chinese ones so named.

HYDROCOTYLE SIBTHORPOIDES Lam. Encycl. 3 (1789) 153.

Hydrocotyle rotundifolia Roxb. Hort. Beng. (1814) 21, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 88; C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1879) 668; F.-Vill. Novis. App. (1880) 100; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 110, 5 (1910) Bot. 370, Fl. Manila (1912) 360; Elm. Leaf. Philip. Bot. 2 (1909) 629.

Hydrocotyle nitidula A. Rich. Monog. Hydrocot. (1820) 35, f. 33.

Luzon (Cagayan, Ilocos Norte, Abra, Bontoc, Benguet, Laguna, Bataan, Tayabas, Pangasinan, Rizal, Manila), Negros. Along small streams in shaded ravines, ascending to 1,600 m; in Manila occasional in damp shaded gardens at sea level (typical *H. rotundifolia* Lam.). India to Japan, Malaya, and the Mascarene Islands.

Local names: Kanapa (Ig.); tomtomon (Bon.).

2. CENTELLA Linnaeus

CENTELLA ASIATICA (Linn.) Urban in Mart. Fl. Bras. 11¹ (1879) 287; Merr. Fl. Manila (1912) 360, Sp. Blancoanae (1918) 296.

Hydrocotyle asiatica Linn. Sp. Pl. (1753) 234; DC. Prodr. 4 (1830) 62; Blanco Fl. Filip. (1837) 212, ed. 2 (1845) 149, ed. 3, 1 (1877) 268; Miq. Fl. Ind. Bat. 1¹ (1857) 731; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 345; F.-Vill. Novis. App. (1880) 100; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 144; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 110, 3 (1908) Bot. 84, 424; Elm. Leaf. Philip. Bot. 2 (1909) 628.

In open damp grasslands, on rice-paddy banks, etc., throughout the Philippines. Pantropic.

Local names: Hahanghalo (C. Bis.); panggaga (Sub.); pispising (Bon.); tagaditak (Iv.); takip-kohól (Tag.); takip-susó (Tag.) tapiñgan-dagá (Tag.); yahong-yáhong (S. L. Bis.).

3. DIDISCUS de Candolle

DIDISCUS SANICULAEFOLIUS (Stapf) Merr. in Philip. Journ. Sci. 2 (1907) Bot. 292; Domin in Sitz. Kgl. Böhm. Ges. Wissensch. Prag (1908) 65.

Trachemene saniculaefolia Stapf in Trans. Linn. Soc. Bot. 4 (1894) 167, Hook. Ic. IV 4 (1895) t. 2308.

Mindoro, Merrill 6174. On open heaths, Mt. Halcon, altitude 2,400 m. Borneo, Celebes, New Guinea; an Australian type.

4. SANICULA Tournefort

SANICULA EUROPAEA Linn. Sp. Pl. (1753) 235, var. **JAVANICA** (Blume) Wolff in Engl. Pflanzenreich 61 (1913) 64.

Sanicula javanica Blume Bijdr. (1826) 882.

Sanicula montana Reinw. ex Blume l. c.

Mindanao (Davao, Bukidnon), Elmer 10765, B. S. 39117 Ramos & Edaña. In forests at higher altitudes. Europe to Japan, southward to the mountains of India, Africa, and Malaya, the variety in Sumatra, Java, Borneo, and Celebes.

Local name: Tasig (Bag.).

5. CARUM Ruppius

CARUM COPTICUM (Linn.) Benth. ex C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1879) 682; F.-Vill. Novis. App. (1880) 100; Merr. Sp. Blancoanae (1918) 296.

Ammi copticum Linn. Mant. 1 (1767) 56.

Ammi glaucifolium Blanco Fl. Filip. (1837) 213, non Linn.

Daucus anisodorus Blanco op. cit. ed. 2 (1845) 150, ed. 3, 1 (1877) 269.

Ptychotis coptica DC. Prodr. 4 (1830) 108.

Luzon (Batangas), *Merrill 10649*, cult. Manila, *Phil. Pl. 1027*. Rarely cultivated in the Philippines, a native of India.

Local names: Damóro (Pamp., Tag.); lamudío' (Bik., Tag.).

CARUM INVOLUCRATUM (Roxb.) Baill. ex Hook. f. & Jacks. Index Kewensis 1 (1895) 445.

Apium involucratum Roxb. ex Flem. in As. Research 11 (1810) 157, Hort. Beng. (1814) 22, Fl. Ind. ed. 2, 2 (1832) 97.

Carum roxburghianum Benth. ex C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1879) 682.

Pimpinella ? *involucrata* W. & A. Prodr. (1834) 369.

Ptychotis roxburghiana DC. Prodr. 4 (1830) 109.

Mindanao (Agusan, Zamboanga), *F. B. 24416 Cortez & Fernandez, B. S. 37406 Ramos & Edaño*. Occasionally planted by Filipinos and used for medicinal purposes. India to Malaya in cultivation; scarcely known wild.

Local names: Kanuikui (Mbo.); malungkoi (Sub.).

6. FOENICULUM Tournefort

FOENICULUM VULGARE Gaertn. Fruct. 1 (1788) 105, *t. 23, f. 5*; Miq. Fl. Ind. Bat. 1¹ (1857) 742; F.-Vill. Novis. App. (1880) 101; Merr. Fl. Manila (1912) 359, Sp. Blancoanae (1918) 296.

Anethum foeniculum Linn. Sp. Pl. (1753) 263; Blanco Fl. Filip. (1837) 214, ed. 2 (1845) 150, ed. 3, 1 (1877) 270.

Planted here and there about houses but nowhere spontaneous. A native of Europe, cultivated in all warm countries.

Local names: Anís (Sp.); haras (Tag.).

7. OENANTHE Linnaeus

OENANTHE LACINIATA (Blume) Zoll. Syst. Verzeich. Ind. Archipel. (1854) 139.

Oenanthe stolonifera F.-Vill. Novis. App. (1880) 101, non Wall.

Sium laciniatum Blume Bijdr. (1826) 881.

Falcaria laciniata DC. Prodr. 4 (1830) 110.

Dasyloma laciniatum Miq. Fl. Ind. Bat. 1¹ (1857) 741.

Luzon (Bontoc, Lepanto, Benguet, Nueva Vizcaya, Laguna, Tayabas), Mindanao (Lanao), *Merrill 7481, 204, Phil. Pl. 888, Elmer 8628, 6499, 5971, Loher 3572, 3571, B. S. 31935, 31945 Santos, 2837, 2471 Mearns*. In cool open swampy places, along streams and on seepage slopes, chiefly at altitudes between 1,400 and 2,200 m, in places occurring as low as 650 m. Java to New Guinea.

Local names: Alusis (Bon.); galiui-giuan (Ig.); gisgisí (Bon.).

EXCLUDED GENERA

APIUM GRAVEOLENS Linn.; F.-Vill. Novis. App. (1880) 100.

DAUCUS CAROTA Linn.; F.-Vill. op. cit. 101.

CORIANDUM SATIVUM Linn.; F.-Vill. l. c.

The first, celery, locally known as apio [unsoi, or ongsoi Tag., kaung-kai (Sul.)] and the second, carrot, locally known as zanahoria, are somewhat cultivated by Chinese gardeners for local markets in the Philippines. Coriander is occasionally planted for flavoring purposes. None of these has any claim to be considered as Philippine species, a statement that is almost equally applicable to *Carum copticum* Benth., *C. involucebratum* Baill., and *Foeniculum vulgare* Gaertn.

ALANGIACEAE

1. ALANGIUM Lamarck

ALANGIUM BRACHYANTHUM Merr. in Philip. Journ. Sci. 7 (1912) Bot. 319.

Luzon (Tayabas), *F. B. 10341 Curran*. In forests along the seashore. Endemic.

ALANGIUM CHINENSE (Lour.) Rehder in Sargent Pl. Wils. 2 (1916) 552; Merr. Sp. Blancoanae (1918) 296.

Stylidium chinense Lour. Fl. Cochinch. (1790) 220.

Marlea begoniaefolia Roxb. Hort. Beng. (1814) 28, *nomen nudum*, Pl. Coromandel 3 (1819) 80, *t. 283*; DC. Prodr. 4 (1830) 267; Miq. Fl. Ind. Bat. 1¹ (1857) 775; F.-Vill. Novis. App. (1880) 103; Vidal Sinopsis Atlas (1883) 28, *t. 57, f. G*, Rev. Pl. Vasc. Filip. (1886) 146; Wang. in Engl. Pflanzenreich 41³ (1910) 20, *f. 5*.

Guettarda jasminiflora Blanco Fl. Filip. (1837) 722.

Guettarda speciosa Blanco op. cit. ed. 2 (1845) 499, ed. 3, 3 (1879) 124, non Linn.

Alangium octopetalum Llanos ex Blanco op. cit. 310, 210.

Alangium begoniaefolium Baill. Hist. Pl. 6 (1877) 270; Harms in Engl. & Prantl Nat. Pflanzenfam. 3⁸ (1898) 261.

Luzon (Ilocos Norte, Rizal, Batangas, Laguna), *Merrill Sp. Blancoanae 73, 1009, Loker 2213, Elmer 17567, B. S. 978, 27669 Ramos, F. B. 21521 Tamesis*. In forests at low altitudes.

Subsp. **TOMENTOSUM** (Blume) var. **VULGARE** (Wang.) comb. nov.

Alangium begoniifolium Baill. subsp. *tomentosum* Wang. var. *vulgare* Wang. in Engl. Pflanzenreich 41³ (1910) 21, 22.

Mindanao (Lanao), *Clemens 1157*. In forests, altitude about 650 m. The species tropical East Africa to India, China, and Malaya, the variety in Java.

Local names: Bagaloan (Tag.); kalumpagin (Tag.).

ALANGIUM LONGIFLORUM Merr. in Philip. Journ. Sci. 7 (1912) Bot. 319.

Alangium lamarckii F.-Vill. Novis. App. (1880) 103; Vidal Sinopsis Atlas (1883) 28, *t. 57, f. F*, non Thw.

Alangium octopetalum Vidal Phan. Cuming. Philip. (1885) 117, Rev. Pl. Vasc. Filip. (1886) 146, non Llanos.

Luzon (Cagayan, Ilocos Norte, Laguna, Tayabas, Camarines, Sorsogon), Palawan, Samar, Leyte, Mindanao. In forests at low and medium altitudes; allied to *A. salviifolium* Wang. Endemic.

Local names: Apitan (Ibn.); bunglas (Bik.); busahin (Tag.); gun-tapái (Mag.); lumuluas (Mag.); magatapái (Tagk.); malakapái (C. Bis., Bik.); malatapái (Bik., Tag.).

ALANGIUM MEYERI Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 54, Philip. Journ. Sci. 1 (1906) Suppl. 111, 7 (1912) Bot. 321; Wang. in Engl. Pflanzenreich 41³ (1910) 15.

Luzon (Cagayan to Sorsogon), Mindoro, Polillo, Samar, Panay, Negros, Mindanao, Basilan. In primary forests at low and medium altitudes, often common. Borneo.

Local names: Agakaan (Neg.); aṅgatuan (Neg.); liemban (Ilk.); malatapái (Bik.); maragabúlo (Tag.); paang-darága (Bik.); purauan (Ilk.); putian (Tag., P. Bis.).

ALANGIUM PILOSUM Merr. in Philip. Journ. Sci. 20 (1922) 417.

Luzon (Rizal, Ilocos Norte), *B. S. 32715 Ramos, F. B. 32608 Paraiso, 3307 Ahern's collector, Loher 6229*. In forests at medium altitudes. Endemic.

Var. **SUBGLABRUM** Merr. op. cit. 418.

Negros, *F. B. 23399 Contreras*. On rocky slopes, altitude 300 m. Endemic.

Local names: Malabúlau (Tag.); pangograúen (Ilk.).

ALANGIUM SALVIIFOLIUM (Linn. f.) Wang. subsp. **HEXAPETALUM** (Lam.) Wang. in Engl. Pflanzenreich 41³ (1910) 9; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 321.

Alangium hexapetalum Lam. Encycl. 1 (1783) 174, f. 2, F.

Mindanao (Lanao), Palawan, Balabac, *Clemens 594, 1153, B. S. 400 Mangubat*. In forests at low altitudes, ascending to 700 m. India to New Guinea.

Local name: Guntápai (Sul.).

CORNACEAE

1. MASTIXIA Blume

MASTIXIA PACHYPHYLLA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 325.

Catanduanes, *B. S. 30399, 30413 Ramos*. On forested slopes at low or medium altitudes. Endemic.

MASTIXIA PHILIPPINENSIS Wang. in Fedde Repert. 10 (1912) 273.

Mastixia pentandra Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 111, non Blume.

Luzon (Apayao, Pangasinan, Tarlac, Zambales, Bataan, Rizal, Laguna, Sorsogon), Catanduanes, Leyte, *Merrill 2275, 2982, 3740, Phil. Pl. 1090* as *M. ardisioides* Merr., *Elmer 14679* as *Symplocos atrocyanea* Elm., *17971* as *Urandra plumbea* Elm., *Whitford 222, 208, 1195, Williams 395, B. S. 20587, 10057, 23830, 14921, 15120, 16548, 23667, 30204 Ramos*. In primary forests chiefly at medium altitudes, ascending to 1,000 m and often found on exposed ridges in the mossy forest. Endemic.

Local names: Bakan (Ibn.); balikbíkan (Tag.); kaititin (Sbl.); tapú-lau (Tag.).

MASTIXIA PREMNOIDES (Elm.) Hallier f. in Beihefte Bot. Centralbl. 34² (1916) 41; Merr. in Philip. Journ. Sci. 13 (1918) Bot. 43.

Vitex premnoides Elm. Leaflet. Philip. Bot. 8 (1915) 2874.

Mindanao (Davao, Bukidnon, Lanao), *Elmer 11644, Clemens 963, F. B. 25224, 25208 Alvarez, B. S. 38841 Ramos & Edaña*. In primary forests, altitude 700 to 1,200 m. Endemic.

Local name: Lamog (Bag.).

MASTIXIA SUBCAUDATA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 43.

Luzon (Sorsogon), *B. S. 23353 Ramos*. In forests, probably at medium altitudes. Endemic.

MASTIXIA TETRAPETALA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 42.

Luzon (Tayabas, east coast), *B. S. 28575, 28628, 29088 Ramos & Edaña*. In the mossy forest, altitude probably about 1,000 m. Endemic.

CLETHRACEAE

1. CLETHRA Gronovius

CLETHRA CANESCENS Reinw. ex Blume Bijdr. (1826) 863; J. J. Sm. in Ic. Bogor. 4 (1910) t. 318, Koord. & Val. Bijdr. Boom. Java 13 (1914) 85.

Clethra williamsii C. B. Rob. in Bull. Torr. Bot. Club 35 (1908) 73, 75.

Mindanao (Misamis, Lanao, Davao), *Williams 2596, Elmer 11223, Clemens 580, F. B. 4677 Mearns & Hutchinson*. In the mossy forest, altitude 900 to 2,100 m. Java, Celebes.

Local name: Kalyapi (Bag.).

CLETHRA LANCIFOLIA Turcz. in Bull. Soc. Nat. Mosc. 36² (1863) 231; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 111, 2 (1907) Bot. 292.

Clethra alnifolia Blanco Fl. Filip. ed. 2 (1845) 259, ed. 3, 2 (1878) 117, non Linn.

Clethra canescens F.-Vill. Novis. App. (1880) 121; Vidal Sinopsis Atlas (1883) 30, t. 60, f. B, Phan. Cuming. Philip. (1885) 123, Rev. Pl. Vasc. Filip. (1886) 172, non Reinw.

Luzon (Cagayan to Sorsogon), Mindoro, Leyte, Negros, Mindanao (Bukidnon, Lanao). Common in primary forests, especially on ridges and peaks, altitude 700 to 1,600 m. Endemic.

Lobb's specimen on which the species was based was from Luzon, probably from Mt. Banahao, not from Singapore.

Local names: Alibun̄gog (C. Bis.); kayat-buntót (Bag.); kamog (Ilk.); kamueg (Ig.); malaklak (Tag.); maratuñgau (Ibn.); tagobahi (P. Bis.).

CLETHRA LUZONICA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 38, Philip Journ. Sci. 5 (1910) Bot. 371.

Luzon (Bontoc, Lepanto, Benguet, Nueva Vizcaya, Tayabas, east coast). Common in the mossy forest on the higher mountains in the Mountain Province, altitude 2,000 to 2,700 m. Endemic.

Local names: Amog (Ig.); apiit (Bon.); kamueg (Ig.).

CLETHRA PULGARENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1757.

Palawan, *Elmer 13190*. In thickets at the summit of Mt. Pulgar, altitude about 1,200 m. Endemic.

CLETHRA TOMENTELLA Rolfe in Kew Bull. (1922) 185.

Luzon (Lepanto, Benguet, Nueva Vizcaya, Laguna, Rizal, Tayabas, Batangas). In forests, chiefly on ridges in the mossy forest, altitude 600 to 1,800 m. Endemic.

Local names: Amog (Ig.); ayusan (Tag.); kamug (Ig.); kamung (Ig.).

ERICACEAE

1. RHODODENDRON Linnaeus

RHODODENDRON APOANUM Stein in Gartenflora 34 (1885) 194, *t. 1196*; Vidal Rev. Pl. Vasc. Filip. (1886) 172; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 43, Philip. Journ. Sci. 3 (1908) Bot. 380; Elm. Leaf. Philip. Bot. 3 (1911) 1107.

Rhododendron sp. Vidal Sinopsis Atlas (1883) 30, *t. 60, f. E*.

Rhododendron jasminiflorum F.-Vill. Novis. App. (1883) 353, non Hook.

Mindanao (Agusan, Bukidnon, Davao), *Copeland 1045, 1440, Williams 2559, Elmer 11386, 13754, DeVore & Hoover 293, 375, B. S. 38497 Ramos & Edaña*. On ridges and peaks on the higher mountains, Apo and Urdaneta; scarcely more than a variety of *R. malayanum* Jack. Endemic.

Local names: Kalumping-busau (Bag.); malagos (Bag.); malagos-tabus (Bag.); singsingon (Mbo.).

RHODODENDRON CLEMENTIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 160.

Luzon (Bontoc), Mindanao (Lanao), *Clemens 732, F. B. 25221 Alvarez, 10989 Curran*. Epiphytic, altitude 600 to 1,000 m. Endemic.

Local name: Lasatan (Bon.).

RHODODENDRON COPELANDII Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 42, Philip. Journ. Sci. 3 (1908) Bot. 381; Elm. Leaf. Philip. Bot. 3 (1911) 1105.

Mindanao (Davao), *Copeland 1439, 1034, DeVore & Hoover 292, 382, Elmer 11395, Williams 2681*. In thickets, altitude 2,200 to 2,800 m; known only from Mt. Apo. Endemic.

Local names: Malagos (Bag.); malambaho (Bag.).

RHODODENDRON CURRANII Merr. in Philip. Journ. Sci. 3 (1908) Bot. 255, 381.

Luzon (Zambales), *F. B. 8061 Curran & Merritt, B. S. 4988 Ramos*. In the mossy elfinwood on exposed ridges, altitude about 2,000 m. Endemic.

RHODODENDRON KOCHII Stein in Gartenflora 34 (1885) 193, *t. 1195*; Vidal Rev. Pl. Vasc. Filip. (1886) 172; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 41, Philip. Journ. Sci. 3 (1908) Bot. 380; Elm. Leaf. Philip. Bot. 3 (1911) 1105.

Rhododendron sp. Vidal Sinopsis Atlas (1883) 30, *t. 60, f. F*.

Rhododendron javanicum F.-Vill. Novis. App. (1883) 353; Vidal Rev. Pl. Vasc. Filip. (1886) 170, non Blume.

Luzon (Bontoc, Bataan, Tayabas, Laguna), Negros, Mindanao (Misamis, Davao), *De Vore & Hoover* 73, *Elmer* 6856, 11435, *Whitford* 958, 450, *Merrill* 3255, 7035, *F. B.* 790, 2117 *Borden*, 6284 *Curran*. On ridges in the mossy forest, altitude 1,000 to 2,300 m; the type was from Mt. Apo. Endemic.

Local name: Malagos (Bag.).

RHODODENDRON LEYTENSE Merr. in Philip. Journ. Sci. 10 (1915) Bot. 55.

Luzon (Sorsogon), Leyte, *B. S.* 15252 *Ramos*, *Elmer* 16797 as *R. flaviflorum* Elm. In the mossy forest, probably above an altitude of 1,000 m. Endemic.

RHODODENDRON MALINDANGENSE Merr. in Philip. Journ. Sci. 3 (1908) Bot. 256, 381.

Luzon (Sorsogon), Mindanao (Agusan, Bukidnon, Misamis), *F. B.* 4705 *Mearns & Hutchinson*, *Elmer* 13695, *B. S.* 23422 *Ramos*, 38929 *Ramos & Edaño*. In the mossy forest, altitude 1,000 to 1,600 m. Endemic.

Local names: Malagos (Bag.); moga (Sub.); tagum-tágum (Mbo.).

RHODODENDRON MINDANAENSE Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 41, Philip. Journ. Sci. 3 (1908) Bot. 381; Elm. Leaf. Philip. Bot. 3 (1911) 1106.

Mindanao (Davao), *Copeland* 1042, *De Vore & Hoover* 73, *Elmer* 11383. In the mossy forest on Mt. Apo, altitude about 2,700 m. Endemic.

RHODODENDRON NORTONAE Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 220, 3 (1908) Bot. 380.

Mindanao (Lanao), *Clemens* 500. Epiphytic, altitude about 650 m. Endemic.

RHODODENDRON QUADRASIANUM Vidal Rev. Pl. Vasc. Filip. (1886) 170; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 43, Philip. Journ. Sci. 1 (1906) Suppl. 111, 2 (1907) Bot. 292, 3 (1908) Bot. 382; Elm. Leaf. Philip. Bot. 3 (1911) 1106.

Rhododendron retusum F.-Vill. Novis. App. (1883) 353, non R. Br.

Luzon (Ifugao, Zambales, Bataan, Laguna, Tayabas, Batangas, Albay), Mindoro, Leyte, Negros, Camiguin de Misamis, Mindanao (Davao). On exposed ridges in the mossy forest, altitude 1,200 to 2,500 m. Endemic.

Var. **INTERMEDIUM** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 382.

Rhododendron cuneifolium Stapf in Trans. Linn. Soc. Bot. 4 (1894) 198 p. p., quoad Philip.; Rendle in Journ. Bot. 34 (1896) 355; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 43.

Luzon (Abra, Bontoc, Benguet, Zambales), Mindoro, *Merrill* 5736, *B. S.* 5722, 7104 *Ramos*, 31988 *Santos*, 38072 *Ramos & Edaño*, *F. B.* 15840, 8068, 6063 *Curran & Merritt*. On open exposed ridges, altitude 2,000 to 2,400 m. Endemic.

The typical form and the var. *intermedium* occur in the Philippines, var. *villosum* J. J. Sm. occurs in Borneo.

Local names: Kutmu (Ig.); tongog (Bag.).

RHODODENDRON ROSMARINIFOLIUM Vidal Rev. Pl. Vasc. Filip. (1886) 172; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 43, Philip. Journ. Sci. 2 (1907) Bot. 292, 3 (1908) Bot. 382.

Luzon (Bontoc, Lepanto, Benguet), *Elmer* 5708, 6377, 14285, *Williams* 1335, *Merrill* 4752, *F. B.* 5034, 10949 *Curran*, 25129 *Leaño*, 14167 *Merritt*, 14453 *Darling*, *B. S.* 8423 *McGregor*. In damp ravines and in the mossy forest, altitude 1,300 to 2,400 m. Endemic.

Local names: Bikbiki (Ig.); sisisip (Ig.).

RHODODENDRON SCHADENBERGII Warb. in Perk. Frag. Fl. Philip. (1905) 172; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 380.

Luzon (Abra, Lepanto, Bontoc, Benguet, Laguna), *Merrill Phil. Pl.* 1750, *Elmer* 6519, *Williams* 990, 1348, *B. S.* 19589, 5392 *Ramos*, 37773 *Ramos & Edaño*, *F. B.* 10961 *Curran*. Along streams, in ravines, etc., altitude 1,500 to 2,200 m. Endemic.

RHODODENDRON SPECTABILE Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 42; Philip. Journ. Sci. 3 (1908) Bot. 381; Elm. Leaf. Philip. Bot. 3 (1911) 1106.

Camiguin de Misamis, Mindanao (Davao, Zamboanga), *Copeland* 1438, *De Vore & Hoover* 369, *Merrill* 8136, *B. S.* 14599 *Ramos*. In the mossy forest, altitude 700 to 2,200 m. Endemic.

Local name: Malagos (Bag.).

RHODODENDRON SUBSESSILE Rendle in Journ. Bot. 34 (1906) 356; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 40, Philip. Journ. Sci. 3 (1908) Bot. 379, 5 (1910) Bot. 371.

Luzon (Abra, Lepanto, Bontoc, Benguet). Common on open slopes, in thickets, and in the mossy forest, altitude 1,400 to 2,400 m. Endemic.

Local names: Ausip (Ig.); ayusip (Ig.); buga-buga (Ig.); bugo-gugua (Ig.); salangon (Ig.).

RHODODENDRON VIDALII Rolfe in Journ. Bot. 24 (1886) 348; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 43, Philip. Journ. Sci. 1 (1906) Suppl. 111, 3 (1908) Bot. 381.

Rhododendron verticillatum Vidal Rev. Pl. Vasc. Filip. (1886) 171; Ceron Cat. Pl. Herb. Manila (1892) 106, non Low.

Rhododendron lussoniense Rendle in Journ. Bot. 34 (1906) 356.

Luzon (Cagayan, Isabela, Abra, Ifugao, Lepanto, Bontoc, Bataan, Tayabas, Laguna), *Vanoverbergh* 70, *Elmer* 7475, 17881, *Merrill* 3743, 3868, *Whitford* 452, *F. B.* 18559 *Alvarez*, 1591 *Borden*, 7839 *Curran & Merritt*, 10963 *Curran*, *B. S.* 7229 *Ramos*, 37983 *Ramos & Edaño*. In the mossy forest on exposed ridges, altitude 1,000 to 2,100 m. Endemic.

Local names: Lofong (Bon.); lopong (Bon.); tingei (Bon.).

RHODODENDRON WHITEHEADII Rendle in Journ. Bot. 34 (1896) 356; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 43, Philip. Journ. Sci. 3 (1908) Bot. 381.

Luzon (Lepanto, Benguet), *Whitehead*, *F. B.* 15738 *Merritt & Curran*. In the mossy forest, epiphytic, altitude about 2,000 m. Endemic.

RHODODENDRON XANTHOPETALUM Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 41, Philip. Journ. Sci. 1 (1906) Suppl. 111, 3 (1908) Bot. 380.

Luzon (Bataan, Batangas), Cebu, *Whitford 332, F. B. 6279 Curran, 28045 Mabesa*. Epiphytic in the mossy forest, altitude about 1,000 m. Endemic.

2. GAULTHERIA Kalm

GAULTHERIA BORNEENSIS Stapf in Trans. Linn. Soc. Bot. 4 (1894) 190, t. 15, f. C, 4-6; Rendle in Journ. Bot. 34 (1896) 355; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 378; Hayata Ic. Pl. Formos. 2 (1912) t. 13.

Gaultheria itoana Hayata in Bot Mag. Tokyo 20 (1906) 74, Journ. Coll. Sci. Univ. Tokyo 25¹⁹ (1908) 150, t. 25.

Luzon (Lepanto, Benguet), *Merrill 4796, Phil. Pl. 710, B. S. 31839 Santos, 8421 McGregor, 4236, 4283 Mearns*. In open places, altitude 1,800 to 2,400 m; allied to the Australian and New Zealand *G. antipoda* Forst. f. Formosa. Borneo.

GAULTHERIA CUMINGIANA Vidal Phan. Cuming. Philip. (1885) 184, Rev. Pl. Vasc. Filip. (1886) 170; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 292, 3 (1908) Bot. 378; Elm. Leaf. Philip. Bot. 3 (1911) 1091.

Luzon (Bontoc, Lepanto, Benguet, Tayabas, Laguna, Albay), Mindoro, Negros, Mindanao (Bukidnon). In thickets, ravines, and sometimes on open slopes, altitude 1,300 to 2,400 m; represented by numerous collections. Scarcely distinguishable from the Malayan *G. leucocarpa* Blume. Formosa.

Local names: Idsa (Ig.); kalumiñga (Ig.); logauai (Bag.); taliktuk (Ig.); uakuakei (Bon.).

3. DIPLYCOSIA Blume

DIPLYCOSIA APOENSIS Elm. Leaf. Philip. Bot. 3 (1911) 1101.

Mindanao (Bukidnon, Davao), *Elmer 11676b, B. S. 38545 Ramos & Edaño*. In the mossy elfinwood on exposed peaks and ridges, altitude about 2,500 m. Endemic.

DIPLYCOSIA BACLAYANENSIS Elm. Leaf. Philip. Bot. 3 (1911) 1100.

Mindanao (Davao), *Elmer 11595*. In dense mossy forests, altitude about 1,950 m. Endemic.

Local name: Sigbut-ta-kayo (Bag.).

DIPLYCOSIA CALELANENSIS Elm. Leaf. Philip. Bot. 3 (1911) 1103.

Mindanao (Bukidnon, Davao), *Elmer 11681, Copeland, B. S. 38540 Ramos & Edaño*. In the mossy elfinwood on exposed peaks and ridges, altitude about 2,500 m. Endemic.

Local name: Limatmat (Bag.).

DIPLYCOSIA FASCICULIFLORA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 52.

Luzon (Bontoc, Ifugao), *B. S. 19758 McGregor, 37811 Ramos & Edaño*. In the mossy forest above 2,000 m altitude. Endemic.

DIPLYCOSIA GLABRA Merr. in Philip. Journ. Sci. 14 (1919) 442.

Luzon (Benguet), *B. S. 31784 Santos, 8509 McGregor, F. B. 14434 Darling, Copeland*. In the mossy forest, altitude about 2,400 m. Endemic.
Local names: Dugni-is (Ig.); manitil (Ig.).

DIPLYCOSIA LUZONICA (A. Gray) Merr. in Philip. Journ. Sci. 2 (1907) Bot. 293, 3 (1908) Bot. 378, 5 (1910) Bot. 371; Elm. Leaf. Philip. Bot. 3 (1911) 1105.

Gaultheria luzonica A. Gray in Proc. Am. Acad. 5 (1861) 324.

Luzon (Abra, Lepanto, Benguet, Laguna, Tayabas), Negros, Mindanao (Misamis). In the mossy forest, altitude 1,900 to 2,700 m; represented by numerous collections. The type was from Mt. Banahao. Endemic.

Local names: Ginula (Ig.); sagumáti (Bag.).

DIPLYCOSIA MERRITTII Merr. in Philip. Journ. Sci. 2 (1907) Bot. 293, 3 (1908) Bot. 378.

Mindoro, Palawan, Negros, *Merrill 5670, Elmer 10184, B. S. 666 Foxworthy, F. B. 4415, 4437, 4413 Merritt*. In the mossy forest, altitude 1,100 to 1,600 m. Endemic.

DIPLYCOSIA OPACA C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 355.

Luzon (Tayabas, east coast), *B. S. 9385 Robinson*. In the mossy forest, altitude 800 m. Endemic.

DIPLYCOSIA PARVIFOLIA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 211.

Negros, *Merrill 6995*. In the mossy forest on Canlaon Volcano, altitude about 1,500 m. Endemic.

DIPLYCOSIA SCANDENS Merr. in Philip. Journ. Sci. 1 (1906) Bot. 219.

Luzon (Lepanto, Benguet), *Merrill 4597, B. S. 40307 Ramos & Edaño*. In the mossy forest, altitude about 2,200 m. Endemic.

Local name: Atepen (Ig.).

DIPLYCOSIA TRINERVIA Elm. Leaf. Philip. Bot. 3 (1911) 1102.

Mindanao (Davao), *Elmer 11676a*. In the mossy elfinwood at the summit of Mt. Calelan, altitude about 2,500 m; closely allied to *D. luzonica* Merr. and *D. apoensis* Elm. Endemic.

DIPLYCOSIA URDANETENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2628.

Mindanao (Agusan), *Elmer 13800*. In the mossy forest, altitude about 2,000 m; closely allied to *D. calelanensis* Elm. Endemic.

Local name: Minamol (Mbo.).

4. VACCINIUM Linnaeus

VACCINIUM AGUSANENSE Elm. Leaf. Philip. Bot. 7 (1915) 2630.

Mindanao (Agusan, Lanao), *Elmer 13765, F. B. 25223 Alvarez*. In the mossy forest, epiphytic, altitude 1,100 to 1,700 m. Endemic.

Local name: Duligagan (Mbo.).

VACCINIUM ALVAREZII Merr. in Philip. Journ. Sci. 4 (1909) Bot. 304.

Luzon (Cagayan), *F. B. 18466 Alvarez, 16718 Curran*. In primary forests, altitude about 700 m. Endemic.

VACCINIUM ANGUSTILIMBUM Merr. in Philip. Journ. Sci. 12 (1917) Bot. 294.

Luzon (Tayabas, east coast), *B. S.* 26603 *Ramos & Edaño*. In primary forests at or above 300 m altitude. Endemic.

Local name: Darikidik (Neg.).

VACCINIUM BANKSII Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 54, Philip. Journ. Sci. 2 (1907) Bot. 293, 3 (1908) Bot. 372.

Negros, *Banks, Merrill Phil. Pl.* 223. On ridges in the mossy forest on Canlaon Volcano, altitude about 1,850 m. Endemic.

VACCINIUM BARANDANUM Vidal Rev. Pl. Vasc. Filip. (1886) 169; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 376, 5 (1910) Bot. 372.

Luzon (Abra, Bontoc, Lepanto, Benguet), *F. B.* 971 *Barnes*, 5672 *Klemme*, 14500, 14596 *Darling*, 18096, 18053, 16073 *Curran*, *Merritt*, & *Zschokke*, *B. S.* 5599 *Ramos*, *Merrill* 4580, *Phil. Pl.* 854, 1733, *Vanoverbergh* 1053, *Elmer* 14269, 5806. In damp shaded ravines and in the mossy forest, altitude 1,300 to 2,600 m. Endemic.

Local names: Dusong (Ig.); loso (Ig.); lusong (Ig.).

VACCINIUM BENGUETENSE Vidal Rev. Pl. Vasc. Filip. (1886) 168; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 376, 5 (1910) Bot. 372.

Luzon (Ilocos Norte, Ilocos Sur, Abra, Bontoc, Lepanto, Benguet, Zambales), *Merrill* 4653, *Loher* 3781, *Elmer* 8663, *F. B.* 14600, 14661 *Darling*, 17006, 10930 *Curran*, 25488 *Paraiso*, 4983 *Ramos*, 2566, 2561, 2579 *Foxworthy*, 37892 *Ramos & Edaño*. On forested slopes and in ravines, altitude 500 to 1,600 m. Endemic.

Local names: Balbalasang (Ting.); dusonug (Ig.); lusung (Bon., Ig.).

VACCINIUM CAMIGUINENSE Merr. in Philip. Journ. Sci. 7 (1912) Bot. 321.

Camiguin de Misamis, Mindanao (Bukidnon), *B. S.* 14622, 14680 *Ramos*, 39122 *Ramos & Edaño*. In the mossy forest at or above an altitude of 1,000 m. Endemic.

VACCINIUM CAUDATUM Warb. in Perk. Frag. Fl. Philip. (1905) 173; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 376.

Luzon (Laguna, Tayabas, Albay), Mindoro, Panay, *Cuming* 905, *Warburg* 13753, *B. S.* 14970 *Ramos*, 22865, 22879, 22771 *McGregor*, 18238 *Robinson*, 34550, 35609 *Martelino & Edaño*, *F. B.* 12194 *Ronsenbluth*, 12033 *Merritt*, *Wenzel* 1118. In damp primary forests at low altitudes.

VACCINIUM COSTEROIDES nom. nov.

Diplycosia lucida Merr. in Philip. Journ. Sci. 11 (1916) Bot. 28, non *Vaccinium lucidum* Miq.

Luzon (Sorsogon), *B. S.* 23504 *Ramos*. Epiphytic, in the mossy forest at or above 1,000 m altitude. Endemic.

VACCINIUM CUMINGIANUM Vidal Rev. Pl. Vasc. Filip. (1886) 167; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 112, 3 (1908) Bot. 375.

Vaccinium sp. Vidal Sinopsis Atlas (1883) 30, t. 60, f. C.

Luzon (Abra, Bontoc, Lepanto, Benguet, Nueva Vizcaya, Zambales, Nueva Ecija, Pampanga, Bataan, Batangas, Tayabas, Laguna, Camarines, Albay), Panay, Palawan. Common on exposed ridges in the mossy forest on the higher mountains, altitude 1,100 to 2,300 m. Endemic.

Local names: Daneodu (Ig.); daniri (Tag.); darusarip (Neg.); gutung (Ig.); itangan (Ig.); karang (Ig.).

VACCINIUM ELEGANS Elm. Leaf. Philip. Bot. 3 (1911) 1093.

Mindanao (Davao), *Elmer 11683*. On ridges in the mossy forest, altitude about 2,000 m. Endemic.

Local name: Mandalogong (Bag.).

VACCINIUM EPIPHYTICUM Merr. in Philip. Journ. Sci. 7 (1912) Bot. 322.

Mindanao (Zamboanga), *Merrill 8087*. Epiphytic in the mossy forest, altitude about 900 m; closely allied to *V. barandanum* Vidal and *V. hutchinsonii* Merr. Endemic.

VACCINIUM GITINGENSE Elm. Leaf. Philip. Bot. 4 (1912) 1490.

Sibuyan, Mindanao (Surigao), *Elmer B. S. 34626, 34577, 34591 Ramos & Pascasio, F. B. 26005 Mallonga*. Along streams and on ridges at low altitudes, ascending to 450 m. Endemic.

Local name: Pagangpang (P. Bis.).

VACCINIUM HALCONENSE Merr. in Philip. Journ. Sci. 2 (1907) Bot. 294, 3 (1908) Bot. 377.

Luzon (Zambales), Mindoro, Negros, *Merrill 5665, F. B. 17392 Curran, 8101 Curran & Merritt, 4422 Merritt, B. S. 4697 Ramos*. In the mossy forest on exposed ridges, altitude 1,200 to 1,700 m. Endemic.

Local name: Ayusin (Sbl.).

VACCINIUM HUTCHINSONII Merr. in Philip. Journ. Sci. 2 (1907) Bot. 294.

Mindoro, *Merrill 5524*. On exposed ridges in the mossy forest, altitude about 1,950 m; closely allied to *V. barandanum* Vidal, but apparently distinct. Endemic.

VACCINIUM ILOCANUM Merr. in Philip. Journ. Sci. 14 (1919) 441.

Luzon (Ilocos Norte), *B. S. 33372 Ramos*. Epiphytic in the mossy forest on exposed ridges, altitude about 1,100 m. Endemic.

VACCINIUM INDUTUM Vidal Rev. Pl. Vasc. Filip. (1886) 169; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 376, 7 (1912) Bot. 96.

Luzon (Ifugao, Bontoc), *Vidal 1831, Vanoverbergh 1013, Merrill Phil. Pl. 1347, B. S. 37686, 38018 Ramos & Edaño*. In forests, altitude at and above 1,500 m. Endemic.

Local names: Banuai (Bon.); bunuai (Bon.); paluai (Bon.).

VACCINIUM IRIGAENSE Merr. in Philip. Journ. Sci. 10 (1915) Bot. 52.

Luzon (Camarines, Sorsogon), Catanduanes, *Merrill Phil. Pl. 1549, Elmer 16867* as *V. jagori* Warb., *B. S. 23676, 23361 Ramos*. On ridges in the mossy forest at or above 1,000 m altitude. Endemic.

Local name: Dalupaan (Bik.).

VACCINIUM JAGORI Warb. in Perk. Frag. Fl. Philip. (1905) 174; Merr. in Philip. Journ. Sci. 1 (1906) 112, 3 (1908) Bot. 377.

Luzon (Isabela, Abra, Lepanto, Bontoc, Benguet, Zambales, Bataan, Rizal, Tayabas), *Jagor*, *F. B.* 9521, 9503 *Curran & Merritt*, 2623 *Meyer*, *B. S.* 5024 *Ramos*, 9364 *Robinson*, 40423 *Ramos & Edaño*, 1654 *Foxworthy*, *Whitford* 1101, 145, *Merrill* 3955, *Phil. Pl.* 781, *Elmer* 7026. On exposed ridges in the mossy forest, altitude 1,000 to 2,000 m. Endemic.

Local names: Gutmo (Ting.); multamut (Ting.).

VACCINIUM LANAENSE Merr. in Philip. Journ. Sci. 3 (1908) Bot. 161, 372.

Vaccinium medinilloides Elm. Leaf. Philip. Bot. 3 (1911) 1097.

Mindanao (Lanao, Zamboanga, Davao), *Clemens* 431, *Merrill* 8301, 8307, *Elmer* 11310. Epiphytic in forests along streams and on ridges, altitude 600 to 1,200 m. Endemic.

Local name: Lumus (Bag.).

VACCINIUM LOHERI Merr. in Philip. Journ. Sci. 7 (1912) Bot. 323.

Luzon (Rizal), *Loher* 6187. In the mossy forest, probably above 1,000 m altitude. Endemic.

VACCINIUM LUZONIENSE Vidal Rev. Pl. Vasc. Filip. (1886) 168; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 377.

Luzon (Lepanto, Benguet), *F. B.* 10932, 5143 *Curran*, *B. S.* 31800 *Santos*, *Williams* 1296, *Loher* 3775, *Vidal* 1535. In forested stream depressions and on ridges in the mossy forest, altitude 1,500 to 2,100 m. Endemic.

Local name: Suliuag (Ig.).

VACCINIUM MACGREGORII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 53.

Luzon (Ifugao), *B. S.* 19846 *McGregor*. In the mossy forest, probably above 1,500 m altitude; closely allied to *V. indutum* Vidal and *V. barandatum* Vidal. Endemic.

VACCINIUM MEARNSII Elm. Leaf. Philip. Bot. 3 (1911) 1098.

Mindanao (Davao), *Elmer* 11251. On forested ridges, altitude about 1,000 m. Endemic.

Local name: Mangobibas (Bag.).

VACCINIUM MICROPHYLLUM Blume Bijdr. (1826) 851; Miq. Ann. Mus. Bot. Lugd.-Bat. 1 (1863) 38; F.-Vill. Novis. App. (1880) 121; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 221, 3 (1908) Bot. 371; Elm. Leaf. Philip. Bot. 3 (1911) 1092.

Vaccinium mindorense Rendle in Journ. Bot. 34 (1896) 355; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 293.

Luzon (Laguna, Tayabas), Mindoro, Panay, Negros, Mindanao (Davao), *Copeland* 1417, 1037, *Merrill* 7519, 5676, *Phil. Pl.* 234, *Yoder*, *F. B.* 4414 *Merritt*. On mossy exposed ridges and also epiphytic on mossy trees on the highest mountains, altitude 1,600 to 2,800 m. Moluccas.

Local names: Likoplikop-ihalas (C. Bis.); manalali (Bag.).

VACCINIUM MYRTOIDES (Blume) Miq. Fl. Ind. Bat. 2 (1859) 1062; Merr. in Philip. Journ. Sci. 12 (1917) Bot. 293; J. J. Sm. Meded. Rijks. Herb. 30 (1916) 7.

Thibaudia myrtoides Blume Bijdr. (1826) 861.

Vaccinium villarii Vidal Rev. Pl. Vasc. Filip. (1886) 166; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 294, 3 (1908) Bot. 374, 5 (1910) Bot. 372; Elm. Leaf. Philip. Bot. 3 (1911) 1092.

Vaccinium varingaefolium Vidal Sinopsis Atlas (1883) 30, t. 60, f. D, non Miq.

Agapetes myrtoidea G. Don Gen. Syst. 3 (1834) 863; DC. Prodr. 7 (1838) 555.

Luzon (Benguet, Bontoc, Lepanto, Tayabas, Laguna, Albay), Mindoro, Mindanao (Davao). In open places, altitude 1,300 to 2,800 m, often abundant, south of Benguet only on the highest mountains. Represented by very numerous collections. Celebes, Tidore.

Local names: Alimani (Ilk.); ayumani (Bon.); duñgal (Bag.); gatmo (Ig.); gutmo (Ig.); panlina (Bon.); teñge (Bon.).

VACCINIUM PALAWANENSE Merr. in Philip. Journ. Sci. 3 (1908) Bot. 373; Elm. Leaf. Philip. Bot. 3 (1911) 1099.

Palawan, Mindanao (Davao), *B. S.* 696, 649 *Foxworthy*, *Merrill* 9526, *Elmer* 11390, 11252. On exposed ridges in the mossy forest, altitude 1,000 to 1,800 m. Endemic.

Local names: Iualus (Bag.); kayanpang (Bag.).

VACCINIUM PERRIGIDUM Elm. Leaf. Philip. Bot. 3 (1911) 1094.

Mindanao (Davao, Agusan), *Elmer* 11686, 13281. Epiphytic on ridges in the mossy forest, altitude about 1,600 m. Endemic.

Local names: Balau (Mbo.); basisir (Bag.).

VACCINIUM PHILIPPINENSE Warb. in Perk. Frag. Fl. Philip. (1905) 174; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 377.

Luzon (Nueva Ecija, Rizal, Laguna, Tayabas), *Cuming* 832, *Merrill* 8035, *Phil. Pl.* 303, *Loher* 6185, 6191, *Elmer* 17938, 18308, *B. S.* 26408, 29359, 29769 *Ramos & Edaño*, *F. B.* 24897 *Mabesa*. On forested slopes and ridges, altitude 800 to 1,200 m. Endemic.

VACCINIUM PLATYPHYLLUM Merr. in Philip. Journ. Sci. 12 (1917) Bot. 294.

Luzon (Tayabas, east coast), *B. S.* 26583 *Ramos & Edaño*. In primary forests at medium altitudes. Endemic.

VACCINIUM PYRIFORME Merr. in Philip. Journ. Sci. 2 (1907) Bot. 295, 3 (1908) Bot. 373.

Mindoro, *F. B.* 4424 *Merritt*. Epiphytic in the mossy forest, altitude about 1,600 m. Endemic.

VACCINIUM SYLVATICUM Elm. Leaf. Philip. Bot. 3 (1911) 1095.

Mindanao (Davao), *Elmer* 11819. Epiphytic on forested ridges, altitude about 1,250 m. Endemic.

Local name: Taupol (Bag.).

VACCINIUM TENUIPES Merr. in Philip. Journ. Sci. 3 (1908) Bot. 375.

Luzon (Cagayan, Benguet), Mindoro, Panay, Negros, *Elmer* 10108, *Merrill* 6133, *F. B.* 11485 *Merritt*, *B. S.* 30867, 40404 *Ramos & Edaño*. In primary forests, epiphytic and terrestrial, altitude 700 to 1,400 m. Endemic.

VACCINIUM TURBINATUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 54.

Luzon (Rizal, Laguna), *B. S.* 15068, 40743 *Ramos*, *F. B.* 26767 *Mabesa*, 26820 *Catalan*. Epiphytic in damp primary forests, altitude about 300 m. Endemic.

VACCINIUM VIDALII Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 374.

Luzon (Nueva Ecija, Rizal, Zambales), *Vidal* 3144, *Loher*, *B. S.* 4765, 5132 *Ramos*, 29618 *Ramos & Edaño* as *V. myrtoides* Miq., *F. B.* 8256 *Curran & Merritt*. On exposed ridges in the mossy forest, altitude about 1,400 m. Endemic.

Local name: Kamiing (Sbl.).

VACCINIUM WHITFORDII Merr. in Philip. Journ. Sci. 2 (1907) Bot. 295, 3 (1908) Bot. 372.

Luzon (Ilocos Norte, Abra, Lepanto, Ifugao, Bontoc, Benguet, Nueva Ecija), Mindoro, Leyte, Negros, *Whitford* 1534, *Merrill* 5798, *Phil. Pl.* 712, *B. S.* 7108, 33210 *Ramos*, 31971 *Santos*, 19697 *McGregor*, 29296, 37611 *Ramos & Edaño*, *F. B.* 14428, 16581 *Darling*, 10976 *Curran*, 13402 *Klemme*. In thickets and forests, altitude 1,000 to 2,400 m. Endemic.

Local names: Fafalong (Bon.); gutmu (If., Ig.); katmo (Ig.); lusong (Ig.); parukapol (Neg.).

5. DIMORPHANTHERA F.-Mueller

DIMORPHANTHERA APOANA (Merr.) Schltr. in Engl. Bot. Jahrb. 55 (1918) 185.

Vaccinium apoanum Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 39, Philip. Journ. Sci. 3 (1908) Bot. 372; Elm. Leaf. Philip. Bot. 3 (1911) 1091.

Vaccinium calelanum Elm. Leaf. Philip. Bot. 3 (1911) 1096.

Panay, Negros, Mindanao (Bukidnon, Davao), *Copeland* 1105, *Merrill Phil. Pl.* 224, *Elmer* 11258, 11345, *Williams* 2550, *Whitford* 1497, *B. S.* 38914 *Ramos & Edaño*. In the mossy forest, often on exposed ridges, altitude 1,200 to 2,000 m. Endemic.

Local name: Kalumping (Bag.).

DIMORPHANTHERA MINDANAENSIS Merr. in Philip. Journ. Sci. 20 (1922) 418.

Mindanao (Misamis, Bukidnon), *F. B.* 4708 *Mearns & Hutchinson*, *B. S.* 38537 *Ramos & Edaño*. In the mossy forest, altitude about 1,700 m. Endemic.

The genus is otherwise known by twenty-seven species in New Guinea and one in Amboina.

EPACRIDACEAE

1. STYPHELIA Smith

STYPHELIA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 20 (1922) 419.

Leucopogon suaveolens Vidal Sinopsis Atlas (1883) 30, t. 60, f. A, non Hook. f.

Luzon (Benguet), Negros, Mindanao (Davao), *Merrill 4762, Phil. Pl. 243, Elmer 11389, Loher 3784, Copeland 1040, 1419, De Vore & Hoover 313, 379, F. B. 14443 Darling*. On exposed ridges on the higher mountains, altitude 2,000 to 2,700 m. Endemic.

Local names: Gaing (Bag.); sadumdum (Bag.).

EXCLUDED SPECIES

LEUCOPOGON JAVANICUS De Vriese; F.-Vill. Novis. App. (1883) 353.

LEUCOPOGON MALAYANUS Jack; Vidal Rev. Pl. Vasc. Filip. (1886) 173; F.-Vill. Novis. App. (1883) 353.

Vidal's record was based on a specimen collected by Lobb and labeled as Philippine; the specimen certainly came from the Malay Peninsula, Java, or Borneo, not from the Philippines.

MYRSINACEAE

1. MAESA Forskål

MAESA BRUNNEA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 321.

Catanduanes, *B. S. 30308, 30500 Ramos*. In damp primary forests at low or medium altitudes. Endemic.

MAESA CUMINGII Mez in Engl. Pflanzenreich 9 (1902) 49; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 112.

Maesa membranacea A. DC. in Ann. Sci. Nat. Bot. II 16 (1841) 79, Prodr. 8 (1844) 78 p. p. (quoad Philip.); Miq. Fl. Ind. Bat. 2 (1859) 1007 p. p.; F.-Vill. App. (1880) 122; Vidal Phan. Cuming. Philip. (1885) 123, Rev. Pl. Vasc. Filip. (1886) 173.

Luzon (Abra, Bontoc, Benguet, Pangasinan, Zambales, Nueva Ecija, Bulacan, Rizal, Bataan, Laguna, Tayabas, Camarines), Mindoro, Palawan, Romblon, Mindanao (Surigao, Lanao, Zamboanga, Davao). In forests and thickets at low and medium altitudes; common. Endemic.

Local names: Katiput (Tag.); malalapi (Sbl.); patipol (Tag.); patipot (Sbl., Tag.); sulinau (Tag.).

MAESA DENTICULATA Mez in Engl. Pflanzenreich 9 (1902) 48; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 425, 5 (1910) Bot. 372, Sp. Blancoanae (1918) 297; Elm. Leaf. Philip. Bot. 2 (1910) 666.

Maesa membranacea Blanco Fl. Filip. ed. 2 (1845) 590, ed. 3, 1 (1877) 164, non A. DC.

Batan Islands and northern Luzon to Palawan and Mindanao, incl. *Elmer 14966* as *M. vulcanica* Elm. In most or all islands and provinces at low and medium altitudes, ascending to 1,200 m, in thickets, secondary forests, and in openings in primary forests; common. Endemic.

Local names: Burobalatong (P. Bis.); dagangdang (Sul.); kalikot (Tag.); katikot (Tag.); logut (Tag.); magutata (Sul.); malabulik (Neg.); malatiosis (S. L. Bis.); nukud (Tagb.); ototai (Ig.); palang (Tag.); patipat (Tag.); saan-kabáyo (Pamp.); solinau (Tag.); tablong (Sbl.).

MAESA ELMERI Mez in Philip. Journ. Sci. 1 (1906) Suppl. 271, Fedde Repert. 3 (1906) 97.

Luzon (Bontoc, Benguet), *Elmer 5925, 8438, Williams 1217, Merrill Phil. Pl. 818, B. S. 31939, 31881 Santos, 12558 Fénix, 5377 Ramos, 37632,*

37751, 38047 *Ramos & Edaño*, *F. B.* 22911 *Leaño*, 18313 *Alvarez*, 4845 *Curran*. In thickets, altitude 1,000 to 2,200 m; very close to *M. laxa* Mez. Endemic.

Local names: Piñgi (Ig.); ututoi (Ig.).

MAESA FERRUGINEA Merr. in *Philip. Journ. Sci.* 7 (1912) Bot. 327.

Abra, *B. S.* 7109 *Ramos*. In forests at low or medium altitudes. Endemic.

MAESA GAUDICHAUDII A. DC. in *Ann. Sci. Nat. Bot.* II 16 (1841) 80, *Prodr.* 8 (1844) 82; *Miq. Fl. Ind. Bat.* 2 (1859) 1010; *F.-Vill. Novis. App.* (1880) 122.

Maesa piscatorum Mez in *Fedde Repert.* 16 (1920) 309.

Luzon (Rizal, Cavite, Laguna, Batangas), *Merrill* 1700, 10598, *Phil. Pl.* 1800, *B. S.* 19 *Foxworthy*, 955 *Ramos*, *F. B.* 400, 1166 *Ahern's collector*, 11906 *Tamesis*, 24070 *Mabesa*. In forested ravines and in forests at low and medium altitudes. Endemic.

Local name: Patipot (Tag.).

MAESA HAENKEANA Mez in *Engl. Pflanzenreich* 9 (1902) 32.

Maesa embelioides Elm. *Leaf. Philip. Bot.* 2 (1908) 444.

Luzon (Tayabas, Laguna, Sorsogon), Samar, Masbate, *Elmer* 7459, *Merrill* 3388, *Warburg* 13035, 13880, *B. S.* 17553 *Ramos*, 28877, 28731 *Ramos & Edaño*, 23046 *McGregor*, 25439 *Yates*. In thickets and forests at low and medium altitudes; scarcely distinguishable from *M. denticulata* Mez. Endemic.

MAESA LAXA Mez in *Engl. Pflanzenreich* 9 (1902) 32; *Merr. Sp. Blancoanae* (1918) 298.

Maesa indica A. DC. in *DC. Prodr.* 8 (1844) 80 p. p. (quoad *Philip. sub var. wightiana* A. D.C. et *var. obtusa* A. DC.); *F.-Vill. Novis. App.* (1880) 122; *Vidal Phan. Cuming. Philip.* (1885) 123, *Rev. Pl. Vasc. Filip.* (1886) 173, *Sinopsis Atlas* (1883) 30, *t. 61, f. A. Bassovia sylvatica* Blanco *Fl. Filip. ed. 2* (1845) 95, *ed. 3, 1* (1877) 174, non *Aubl.*

Maesa grossedentata Mez in *Fedde Repert.* 16 (1920) 309.

Luzon (Cagayan to Sorsogon, all provinces), Mindoro, Palawan, Samar, Leyte, Panay, Mindanao, incl. *Elmer* 15224 as *M. irosinensis* Elm. Common in secondary and also often in primary forests at low and medium altitudes. Endemic.

Local names: Bagumaomau (Bik.); kalapailapai (Buk.); malataiutes (S. L. Bis.); tablong (Tag.); tablonglong (Tag.); tagbaya (Mang.); túbang-aso (Tag.).

MAESA LONGIPETIOLATA Merr. in *Philip. Journ. Sci.* 11 (1916) Bot. 28.

Luzon (Sorsogon), Mindanao (Bukidnon), *B. S.* 23358 *Ramos*, *Elmer* 16521 as *M. cuprifolia* Elm., 15558 as *M. platyphylla* var. *minor* Elm., *B. S.* 38960, 38973 *Ramos & Edaño*. In forests above 1,000 m altitude. Endemic.

MAESA MANILLENSIS Mez in *Engl. Pflanzenreich* 9 (1902) 34.

Luzon (Ilocos Norte, Benguet), *B. S.* 7636 *Ramos*, 12670 *Fénix*. In forests along streams at medium altitudes. Endemic.

Local name: Ututoi (Ig.).

MAESA MEGALOBOTRYA Merr. in Philip. Journ. Sci. 20 (1922) 422.

Palawan, Merrill 9176. In thickets, at low altitudes. Endemic.

MAESA MEGAPHYLLA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 158.

Maesa lobuligera Mez in Fedde Repert. 16 (1920) 310.

Palawan, Leyte, Mindanao (Surigao, Lanao), Wenzel 1275, 1510, 1627, B. S. 34449 Ramos & Pascasio, 727 Foxworthy, Clemens s. n. In primary forests at low altitudes. Endemic.

MAESA PACHYPHYLLA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 328.

Cebu, B. S. 11030 Ramos. In thickets at low or medium altitudes. Endemic.

MAESA PLATYPHYLLA Elm. Leaf. Philip. Bot. 2 (1910) 667.

Mindanao (Davao), Elmer 10570. In primary forests, altitude about 1,200 m. Endemic.

Local name: Tabing (Bag.).

MAESA UNDULATA Merr. in Philip. Journ. Sci. 20 (1922) 422.

Luzon (Tayabas), B. S. 26872 Edaño. In thickets or forests at low altitudes. Endemic.

EXCLUDED SPECIES

MAESA HIRTELLA Miq.; F.-Vill. Novis. App. (1880) 122.

MAESA FULVINERVIS A. DC.; F.-Vill. l. c.

MAESA MOLLISSIMA A. DC.; F.-Vill. l. c.

MAESA RAMENTACEA Wall.; A. DC. Prodr. 8 (1844) 77; F.-Vill. Novis. App. (1880) 122.

Cuming 2286 on which the Philippine record was based was from Malacca, not from the Philippines.

MAESA VIRGATA A. DC.; F.-Vill. l. c.

2. AEGICERAS Gaertner

AEGICERAS CORNICULATUM (Linn.) Blanco Fl. Filip. (1837) 79, ed. 2 (1845) 59, ed. 3, 1 (1877) 112, t. 38; F.-Vill. Novis. App. (1880) 123; Mez in Engl. Pflanzenreich 9 (1902) 55, f. 8; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 45, Philip. Journ. Sci. 1 (1906) Suppl. 112, 3 (1908) Bot. 425, Fl. Manila (1912) 361, Sp. Blancoanae (1918) 299.

Rhizophora corniculata Linn. in Stickman Herb. Amb. (1754) 13, Amoen. Acad. 4 (1759) 123.

Aegiceras majus Gaertn. Fruct. 1 (1788) 216, t. 46; A. DC. Prodr. 8 (1844) 142; Miq. Fl. Ind. Bat. 2 (1859) 1031; Vidal Sinopsis Atlas (1883) 30, t. 61, f. E, Rev. Pl. Vasc. Filip. (1886) 176.

Malaspinaea laurifolia Presl Rel. Haenk. 2 (1830) 68, t. 61.

Aegiceras malaspinaea A. DC. Prodr. 8 (1844) 143.

Batan Islands to Palawan, Sulu Archipelago, and Mindanao. Along the seashore and tidal streams on most or all islands. India to south-eastern China throughout Malaya to tropical Australia.

Local names: Batag-batag (Sbl.); bulali (P. Bis.); dumanai (Ibn.); kauilan (C. Bis.); kindug-kindug (Tag.); lamauas (Bag.); pilapil (Tag.);

pipisik (Tag.); saging-ságing (P. Bis., C. Bis., Tag.); saging-sagínġan (Tag.); sulásig (Tag.); tagísa (Sul.); tayókon (C. Bis.); timbambakis (Tag.); tindók (Tag.); tinduk-tindúk (Sul.); tundók (Tag.); tundok-tundók (S. L. Bis.); tunduk-tundúkan (Tag.); tiġgan-bagis (Tag.).

AEGICERAS FLORIDUM Roem. & Schultes Syst. 4 (1819) 512; A. DC. Prodr. 8 (1844) 143; Miq. Fl. Ind. Bat. 2 (1859) 1031; Mez in Engl. Pflanzenreich 9 (1902) 57; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 45, Interpret. Herb. Amb. (1917) 414.

Aegiceras ferreum Blume Bijdr. (1826) 693.

Luzon (Tayabas, Camarines, Albay), Mindoro, Culion, Palawan, Polillo, Panay, Negros, Bohol, Mindanao, Basilan. Along the seashore and in tidal swamps. Borneo, Moluccas, New Guinea.

Local names: Anglai (Bis.); balanságing (Mag.); batag-batag (Bik.); katunganung (P. Bis.); kuasai (C. Bis.); oási (C. Bis.); putútan (Tag.); saging-ságing (Sul.); saging-sagínġan (Bis., Tag.); tunduk-tundúkan (Sul., Tag.).

3. **ARDISIA** Swartz

ARDISIA ANGUSTIFOLIA A. DC. Prodr. 8 (1844) 134; Miq. Fl. Ind. Bat. 2 (1859) 1023; F.-Vill. Novis. App. (1880) 123; Vidal Phan. Cuming. Philip. (1885) 123, Rev. Pl. Vasc. Filip. (1886) 175.

Tinus candolleana O. Kuntze Rev. Gen. Pl. (1891) 973.

Ardisia candolleana Mez in Engl. Pflanzenreich 9 (1902) 138, f. 21.

Luzon (Cagayan, Tayabas), Biliran, Leyte, Samar, Cuming 1711, Wenzel 784, Warburg 12207, B. S. 18902 McGregor, 13239, 24162 Ramos. In primary forests at low and medium altitudes, ascending to 800 m. Endemic.

ARDISIA APOENSIS Elm. Leaf. Philip. Bot. 2 (1910) 663.

Leyte, Mindanao (Davao), Elmer 11890, Wenzel 1205. On forested ridges, altitude about 1,200 m. Endemic.

Local name: Kari-kari (Bag.).

ARDISIA BASILANENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 153.

Basilan, Mindanao (Zamboanga), B. S. 16434, 15437 Reillo, 36597, 36809, 36931 Ramos & Edaño. In primary forests at low or medium altitudes. Endemic.

ARDISIA BREVIPETIOLATA (Merr.) comb. nov.

Ardisia serrata Pers. var. *brevipetiolata* Merr. in Philip. Journ. Sci. 2 (1907) Bot. 296.

Mindoro, Merrill 4049, F. B. 4316 Merritt, B. S. 40587, 40802, 41077, 41078 Ramos. In damp primary forests at low altitudes. Endemic.

ARDISIA CAGAYANENSIS Merr. in Philip. Journ. Sci. 7 (1912) Bot. 323.

Luzon (Cagayan), Catanduanes, F. B. 19620 Curran, B. S. 30292 Ramos. In primary forests at low altitudes. Endemic.

ARDISIA CALAVITENSIS Merr. in Philip. Journ. Sci. 20 (1922) 423.

Mindoro, B. S. 39435, 39632, 41014 Ramos, 40570, 40644 Ramos & Edaño. In primary forests at medium altitudes. Endemic.

Local name: Puyáka (Mang.).

ARDISIA CASTANEIFOLIA Mez in Engl. Pflanzenreich 9 (1902) 138.

Luzon (Bulacan), *Vidal* 424. Probably in forests at low or medium altitudes. Endemic.

ARDISIA CLEMENTIS Elm. Leaf. Philip. Bot. 2 (1910) 665; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 213.

Ardisia lanaensis Mez in Fedde Repert. 16 (1920) 411.

Mindanao (Davao, Lanao), *Elmer* 11271, *Clemens* 231, 889. In primary forests, altitude 650 to 1,100 m. Endemic.

Local name: Katigpo (Bag.).

ARDISIA CONFERTIFLORA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 213.

Batan and Babuyan Islands (Fuga, Batan), Mindoro, *B. S.* 3589 *Fénix*, 3214, 3216, 3245 *Mearns*, 39520 *Ramos*, *F. B.* 19370 *Agudo*. In thickets at low altitudes. Endemic.

Local names: Apain (Iv.); pain (Iv.).

ARDISIA COPELANDII Mez in Philip. Journ. Sci. 1 (1906) Suppl. 272, Fedde Repert. 3 (1906) 98; Elm. Leaf. Philip. Bot. 2 (1910) 660.

Mindanao (Bukidnon, Lanao, Davao), *Copeland* 1242, *Clemens* 342, *F. B.* 25175 *Alvarez*, 26560 *Rola*. In primary forests, altitude 600 to 1,000 m. Borneo.

Local names: Katigpotigpo (Bag.); tatalagtañgad (Buk.); tígpu (Bag.).

ARDISIA CRISPA (Thunb.) A. DC. in Trans. Linn. Soc. 17 (1834) 124, Prodr. 8 (1844) 134; Miq. Fl. Ind. Bat. 2 (1859) 1020; F.-Vill. Novis. App. (1880) 123; Mez in Engl. Pflanzenreich 9 (1902) 144, f. 22; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 372.

Bladhia crispa Thunb. Fl. Jap. (1784) 97.

Luzon (Ilocos Norte, Bontoc, Benguet, Nueva Vizcaya, Pangasinan, Zambales), *Merrill* 4411, *B. S.* 33203 *Ramos*, 37532 *Ramos & Edaño*, 31816 *Santos*, 4469 *Mearns*, 8770, 14190, 14399, 20094 *McGregor*, *F. B.* 14892, 14861 *Darling*, 15951 *Curran*, 18170 *Curran*, *Merritt*, & *Zschokke*. Chiefly in the mossy forest, altitude 800 to 2,200 m. India to Japan southward to Borneo, Sumatra, and Java.

ARDISIA CUMINGIANA A. DC. Prodr. 8 (1844) 136; Miq. Fl. Ind. Bat. 2 (1859) 1023; F.-Vill. Novis. App. (1880) 123; Vidal Phan. Cuming. Philip. (1885) 123, Rev. Pl. Vasc. Filip. (1886) 175; Mez in Engl. Pflanzenreich 9 (1902) 143.

Ardisia centenoi Vidal Sinopsis Atlas (1883) 30, t. 61, f. F.

Luzon (Cagayan, Ilocos Sur, Benguet, Batangas), *Cuming* 1155, *Elmer* 6036, *Adduru* 221, *Merrill Phil. Pl.* 1839 as *A. crispa* A. DC., *F. B.* 22913 *Leaño*. In ravines, altitude up to 1,500 m. Endemic.

ARDISIA CUPREA Elm. Leaf. Philip. Bot. 8 (1915) 2777.

Mindanao (Agusan, Surigao), *Elmer* 13287, *B. S.* 34402 *Ramos & Pascasio*. In primary forests at low altitudes, ascending to 450 m. Endemic.

Local name: Sina-sína (Mbo.).

ARDISIA CURRANII Merr. in Philip. Journ. Sci. 5 (1910) Bot. 214.

Luzon (Camarines), *F. B.* 10760 Curran, 21124 Valderrama, 18728, 18737 Darling. In primary forests at low altitudes. Endemic.

Local names: Balinugan (Bik.); malapútat (Bik.).

ARDISIA CURTIFLORA Elm. Leaf. Philip. Bot. 8 (1915) 2778.

Mindanao (Agusan), *Elmer* 14169. In the mossy forest, altitude about 1,600 m. Endemic.

Local names: Gandiñgan (Mbo.); kandiñgon (Mbo.).

ARDISIA CURTIPEDES Merr. in Philip. Journ. Sci. 5 (1910) Bot. 372.

Ardisia dataënsis Mez in Fedde Repert. 16 (1920) 414.

Luzon (Ifugao, Bontoc, Lepanto, Benguet), *Merrill* 4496, *Phil. Pl.* 866, *B. S.* 32044 Santos, 37921, 38073, 40288, 40184 Ramos & Edaño, 8489, 8827, 19763 McGregor, *F. B.* 18093, 18097, 18137 Curran, *Merritt*, & *Zschokke*. In the mossy forest, altitude 1,600 to 2,400 m. Endemic.

Local names: Talugtug (Buk.).

ARDISIA DARLINGII Merr. in Philip. Journ. Sci. 5 (1910) Bot. 215.

Luzon (Abra, Apayao, Benguet, Tayabas), *B. S.* 28418 Fénix, 28668, *F. B.* 14601, 14611 Darling, 26399 Oteyza & Garcia, 28667 Ramos & Edaño. In the mossy forest, altitude 1,300 to 1,800 m. Endemic.

Local name: Malinasag (Ting.).

ARDISIA DIFFUSA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 216.

Ardisia milleflora Mez in Fedde Repert. 16 (1920) 410.

Mindanao (Misamis), *F. B.* 1579 Mearns & Hutchinson. In forests, probably at medium altitudes. Endemic.

ARDISIA ELMERI Mez in Philip. Journ. Sci. 1 (1906) Suppl. 273, Fedde Repert. 3 (1906) 100.

Luzon (Bontoc, Benguet, Rizal, Sorsogon), *Elmer* 6493, 16448, 16809, *Phil. Pl.* 871, *Loher* 6141, *F. B.* 27278 Gacad, 20421 Sandkuhl. In damp shaded ravines and in the mossy forest, altitude 1,200 to 1,600 m. Endemic.

Local name: Bitol (Ig.).

ARDISIA FRAGRANS Elm. Leaf. Philip. Bot. 2 (1910) 664.

Mindanao (Davao), *Elmer* 11647. In damp primary forests, altitude about 1,200 m; very similar to *A. elmeri* Mez. Endemic.

Local name: Kaligpotigpo (Bag.).

ARDISIA GEISSANTHOIDES Mez in Fedde Repert. 16 (1920) 412.

Ardisia glauca Mez l. c.

Mindoro (Mt. Halcon), *Merrill* 6138, *F. B.* 4444, 4457 *Merritt*, *B. S.* 40642, 40569, 40961 Ramos. In the mossy forest, altitude 1,800 to 2,000 m. Endemic.

ARDISIA GITINGENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1498.

Luzon (Nueva Ecija), Sibuyan, *Elmer* 12430, *B. S.* 26392 Ramos & Edaño. On forested ridges at and above 800 m altitude. Endemic.

Local names: Barasiñgag (Neg.); grasos (P. Bis.).

ARDISIA GRANDIDENS Mez in Engl. Pflanzenreich 9 (1902) 137.

Luzon (Lepanto, Nueva Ecija, Rizal); 409 *Ahern's collector*, 5716 *Klemme*, *Loher* 6130, *B. S.* 26488 *Ramos & Edaño*, *Llanos* in hb. de Candolle. In forests at medium altitudes, ascending in Lepanto to 1,600 m. Endemic.

Local names: Dalayno (Tag.); kalgakag (Ig.).

ARDISIA ILOCANA Merr. in Philip. Journ. Sci. 14 (1919) 443.

Luzon (Ilocos Norte), *B. S.* 32982 *Ramos*. In forests, altitude about 500 m. Endemic.

ARDISIA IWAHIGENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1817.

Palawan, *Elmer* 12865, *F. B.* 27892, 27875 *Cenabre*, *Gellidon*, & *Paras*. In dense primary forests, altitude about 225 m. Endemic.

Local name: Samadodai (Tagb., Kuy.).

ARDISIA JAGORII Mez in Engl. Pflanzenreich 9 (1902) 148.

Luzon, without definite locality, *Jagor* 891 in hb. Berol. Not otherwise known unless *A. ramosii* Merr. should prove to be the same. Endemic.

ARDISIA KEITHLEYI Merr. in Philip. Journ. Sci. 10 (1915) Bot. 335.

Ardisia oblongifolia Merr. in Philip. Journ. Sci. 5 (1910) Bot. 219, non Gamble.

Mindanao (Lanao, Zamboanga), *Clemens* 779, *Merrill* 8109, *B. S.* 36748, 37089 *Ramos & Edaño*. In primary forests, altitude about 650 m. Endemic.

Local name: Tamaynok (Sub.).

ARDISIA LANCEOLATA Roxb. Hort. Beng. (1814) 85, *nomen nudum*, Fl.

Ind. 2 (1824) 273; Mez in Engl. Pflanzenreich 9 (1902) 122; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 216.

Ardisia purpurea Reinw. ex Blume Bijdr. (1825) 684; A. DC. Prodr. 8 (1844) 129.

Mindanao (Zamboanga, Basilan), *Ahern* 596, *F. B.* 17879 *Miranda*. In forests at low altitudes, sometimes near the seashore. Malay Peninsula, Sumatra, Java, Borneo, and Celebes.

ARDISIA LAXIFLORA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 153.

Mindanao (Lanao), *F. B.* 25907 *Alviar*. In primary forests at low altitudes. Endemic.

ARDISIA LOHERI Merr. in Philip. Journ. Sci. 12 (1917) Bot. 152.

Luzon (Rizal, Laguna), Mindanao (Bukidnon), *Loher* 6164, 6145, *Elmer* 17809, 17523 as *Discocalyx makilingensis* Elm., *Baker* 368, 5977, *B. S.* 15685 *Fénix*. In primary forests at medium altitudes, ascending to 1,200 m. Endemic.

Local name: Kandulit (Buk.).

ARDISIA LONGIPETIOLATA Merr. in Philip. Journ. Sci. 14 (1919) 444.

Luzon (Camarines), *B. S.* 33492, 33554 *Ramos & Edaño*. In damp primary forests at low altitudes. Endemic.

ARDISIA MACGREGORII Merr. in Philip. Journ. Sci. 5 (1910) Bot. 217.

Luzon (Ilocos Norte), Cebu, Samar, *B. S.* 1722 *McGregor*, 27182, 27336, 27461 *Ramos* as *A. boissieri* A. DC., *F. B.* 25778 *Cardona*. In thickets or forests at low or medium altitudes. Endemic.

ARDISIA MACROPUS Mez in Fedde Repert. 16 (1920) 415.

Luzon (Ilocos Norte, Bulacan, Rizal), *F. B.* 13997 *Merritt & Darling*, *B. S.* 967, 21664 *Ramos*. In primary forests at low and medium altitudes; scarcely more than a form of *A. saligna* Mez. Endemic.

ARDISIA MARGINATA Blume Bijdr. (1826) 688; A. DC. Prodr. 8 (1844) 127; F.-Vill. Novis. App. (1880) 123; Mez in DC. Prodr. 9 (1902) 108; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 112.

Ardisia cincta Mez in Fedde Repert. 16 (1920) 312.

Luzon (Cagayan, Abra, Lepanto, Benguet, Rizal, Nueva Ecija, Laguna, Tayabas, Camarines), Biliran, Cagayan de Misamis, Mindanao, *Merrill* 1831, 2698, *Elmer* 9793, *Loher* 6143, *Warburg* 12289, *B. S.* 7212, 3284, 2116, 12110, 22690, 14628, 14637 *Ramos*, 26247 *Ramos & Edaño*, 18903 *McGregor*. In primary forests at low and medium altitudes. Java.

Local names: Dajou (Ig.); kalimutas (Tag.); kulong (Ig.); tágbo (Tag.); tirikikisit (Neg.); uno (Ig.).

Ardisia cincta Mez may be the correct name for the Philippine form but the type represents the same species as Philippine material identified by Mez as *A. marginata* Blume.

ARDISIA MEZII Elm. Leaf. Philip. Bot. 2 (1908) 440.

Luzon (Tayabas, Laguna, Sorsogon), Mindanao (Bukidnon), *Elmer* 9354, *Whitford* 936, *Baker* 3011, *Merrill* *Phil. Pl.* 1323, *F. B.* 20362 *Tabat*, 27974 *Ocampo*, 26777 *Mabesa*, *B. S.* 20495, 23495 *Ramos*, 28466, 38977 *Ramos & Edaño*. In primary forests, altitude 700 to 1,200 m. Endemic.

ARDISIA MINDANAENSIS Mez in Engl. Pflanzenreich 9 (1902) 107; Elm. Leaf. Philip. Bot. 2 (1910) 659.

Leyte, Mindanao (Bukidnon, Lanao, Davao), *Warburg* 14360, *Wenzel* 673, 805, *Clemens* 478, *F. B.* 28561 *Rola*, *B. S.* 38789, 38868 *Ramos & Edaño*. In primary forests, altitude 500 to 1,000 m. Endemic.

ARDISIA MINDORENSIS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 218.

Mindoro, Panay, *Merrill* 6145, 5732, 5675, *F. B.* 8727, 4327, 8793, 11012 *Merritt*. In the mossy forest, altitude 1,000 to 2,000 m. Endemic.

ARDISIA MIRANDAE Merr. in Philip. Journ. Sci. 12 (1917) Bot. 154.

Luzon (Camarines), *F. B.* 21686 *Miranda*. On exposed peaks and ridges in the mossy forest, altitude about 700 m. Endemic.

ARDISIA NIGRO-MACULATA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 49.

Luzon (Tayabas, east coast), Panay, *B. S.* 28978, 28659, 30721 *Ramos & Edaño*. In the mossy forest, altitude about 1,000 m. Endemic.

ARDISIA OLIGANTHA Elm. Leaf. Philip. Bot. 4 (1912) 1496.

Sibuyan, *Elmer* 12310. On forested ridges, altitude about 450 m; very closely allied to *A. pyramidalis* (Cav.) Pers. Endemic.

ARDISIA PACHYPHYLLA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 157.

Palawan, Balabac, *Merrill 9216, 9188, B. S. 21613 Escritor*. In dry thickets and borders of forests at low altitudes. Endemic.

ARDISIA PALAWANENSIS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 220.

Ardisia palawanensis Mez in Fedde Repert. 16 (1920) 413.

Palawan, *F. B. 3518 Curran, 21608 Agama, Elmer 13218*. In forests at low altitudes. Endemic.

ARDISIA PARDALINA Mez in Engl. Pflanzenreich 9 (1902) 148; Elm. Leaf. Philip. Bot. 2 (1910) 659; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 372.

Luzon (Ilocos Norte, Bontoc, Benguet, Nueva Vizcaya, Rizal, Bataan, Laguna, Camarines, Sorsogon, Albay), Mindoro, Biliran, Leyte, Panay, Mindanao, *Warburg 14361, Elmer 6269, 17326, 14901 as A. perpunctata* Elm., *Merrill 3726, 6556, Williams 979, 999, 1328, Wenzel 506, B. S. 5346, 5429, 13411, 16631, 12009, 22015 Ramos, 38702 Ramos & Edaño, 18849, 18747 McGregor*. In primary forests at medium and higher altitudes, in the mossy forest ascending to 2,300 m. Endemic.

ARDISIA PHILIPPINENSIS A. DC. Prodr. 8 (1844) 128; F.-Vill. Novis. App. (1880) 123; Vidal Phan. Cuming. Philip. (1885) 124, Rev. Pl. Vasc. Filip. (1886) 175; Mez in Engl. Pflanzenreich 9 (1902) 100; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 46, Philip. Journ. Sci. 1 (1906) Suppl. 112, 5 (1910) Bot. 373.

Luzon (Isabela, Camarines), *Cuming 1467, Warburg 12039*. Probably in primary forests at low altitudes; the recently collected Philippine material distributed as *A. philippinensis* is nearly all the allied *A. disticha* A. DC. = *A. tomentosa* Presl. Endemic.

ARDISIA PIRIFOLIA Mez in Engl. Pflanzenreich 9 (1902) 129; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 218; Merr. op. cit. 5 (1910) Bot. 217.

Luzon (Tayabas, Rizal), Polillo, *Warburg 13872* in hb. Berol., *B. S. 9292 Robinson, 29148, 29398 Ramos & Edaño*. In forests at low altitudes; scarcely distinguishable from *A. squamulosa* Presl. Endemic.

ARDISIA PROTEIFOLIA Mez in Engl. Pflanzenreich 9 (1902) 143.

Luzon (Cagayan, Bontoc, Benguet, Pampanga, Zambales), *Cuming 1867, B. S. 7498, 13922 Ramos, 1976 Foxworthy*. In forests at medium altitudes, ascending to 1,700 m. Endemic.

ARDISIA PULCHELLA Mez in Fedde Repert. 16 (1920) 410.

Luzon (Bontoc, Benguet), *F. B. 5003, 4995 Curran, 18138 Curran, Merritt, & Zschokke, B. S. 37891, 38004, 37760 Ramos & Edaño, Williams 1040, 1213, Clemens 9151*, mostly identified as *Discocalyx philippinensis* Mez. In the mossy forest on the higher mountains, altitude 2,000 to 2,400 m. Endemic.

ARDISIA PYRAMIDALIS (Cav.) Pers. Syn. 1 (1805) 233; A. DC. Prodr. 8 (1844) 133; Miq. Fl. Ind. Bat. 2 (1859) 1021; F.-Vill. Novis. App. (1880) 123; Vidal Rev. Pl. Vasc. Filip. (1886) 174.

Anguillaria pyramidalis Cav. Ic. 6 (1801) 1, t. 502.

Ardisia perrottetiana A. DC. in Ann. Sci. Nat. Bot. II 16 (1841) 95, Prodr. 8 (1844) 128; Miq. Fl. Ind. Bat. 2 (1859) 1027; F.-Vill. Novis. App. (1880) 123; Vidal Phan. Cuming. Philip. (1885) 124, Rev. Pl. Vasc. Filip. (1886) 175; Mez in Engl. Pflanzenreich 9 (1902) 137; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 46 (*perrottetii*), Sp. Blancoanae (1918) 298.

Bladhia japonica Blanco Fl. Filip. (1837) 126, ed. 2 (1845) 90, ed. 3, 1 (1877) 164, non Thunb.

Tinus perrottetiana O. Kuntze Rev. Gen. Pl. (1891) 974.

Tinus pyramidalis O. Kuntze l. c.

Northern Luzon (Cagayan to Albay), Palawan, and Mindanao, in most or all islands and provinces. In forested ravines and in primary forests at low and medium altitudes, often common; represented by more than 100 collections. Borneo.

Local names: Aunasin (Bik.); kalalaki-ti-rugsú (Ilk.); katáypa (C. Bis.); liuhin bakit (Sbl.); paraparañgit (Neg.); rugrugsú (Ilk.); rugsú (Ilk.); tagiman (C. Bis.).

ARDISIA RACEMOSO-PANNICULATA Mez in Philip. Journ. Sci. 1 (1906) Suppl. 273, Fedde Repert. 3 (1906) 99; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 296; Elm. Leaf. Philip. Bot. 2 (1910) 661.

Mindanao (Davao), *Copeland 1187, Elmer 10748, 10612*. In primary forests, altitude about 1,600 m. Endemic.

ARDISIA RAMOSII Merr. in Philip. Journ. Sci. 7 (1912) Bot. 324.

Luzon (Cagayan), Samar, *B. S. 13968, 24175 Ramos, 24861 Edaña, F. B. 16608, 19613 Curran*. In damp primary forests at low altitudes; perhaps referable to *A. jagori* Mez, but the leaves much larger than in type of Mez's species. Endemic.

ARDISIA REPTANS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 220.

Ardisia reptans Mez in Fedde Repert. 16 (1920) 416.

Luzon (Pampanga), *B. S. 1933 Foxworthy*. In forested ravines, altitude about 1,350 m. Southeastern China and Hainan.

ARDISIA RIVULARIS Merr. in Philip. Journ. Sci. 13 (1918) Bot. 50.

Luzon (Tayabas, east coast), *B. S. 29020, 28956 Ramos & Edaña*. Along streams in forests at low or medium altitudes. Endemic.

ARDISIA ROMANII Elm. Leaf. Philip. Bot. 5 (1913) 1820.

Ardisia magnifica Mez in Fedde Repert. 16 (1920) 413.

Palawan, *Elmer 12902, B. S. 774 Foxworthy, F. B. 21591 Danao*. In forests at low altitudes. Endemic.

Local name: Táppo (Tagb.).

ARDISIA SALIGNA Mez in Engl. Pflanzenreich 9 (1902) 143; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 112, 2 (1907) Bot. 296.

Luzon (Ilocos Norte, Abra, Bontoc, Benguet, Tayabas, Nueva Ecija, Bulacan, Bataan, Rizal, Cavite, Laguna), Polillo, *B. S. 29012 Ramos & Edaña*; and with broader leaves than the type, *Merrill 1345, 3867, Williams 240, Loher 6153, Warburg 13876, B. S. 26592, 29041, 26471 Ramos & Edaña*,

3277, 4608 *Ramos*, 1348 *Mangubat*. In primary forests at low and medium altitudes, ascending to 1,000 m. Endemic.

ARDISIA SAMARENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 151.
Samar, *B. S.* 24462 *Ramos*. In damp primary forests at low altitudes. Endemic.

ARDISIA SCABRIDA Mez in Engl. Pflanzenreich 9 (1902) 118; Elm. Leaf. Philip. Bot. 2 (1910) 660.

Ardisia punctata Elm. Leaf. Philip. Bot. 2 (1908) 439, non Lindl.

Negros, Camiguin de Misamis, Mindanao (Misamis, Bukidnon, Davao), Sulu, *Merrill* 7002, *Warburg* 14357, *Elmer* 10151, 10385, 10903, 11397, *Copeland* 1111, *De Vore & Hoover* 304, *Clemens* 9388, *B. S.* 14490 *McGregor*, 38720, 38885 *Ramos & Edaño*. *F. B.* 4701 *Mearns & Hutchinson*. In forests, altitude 600 to 1,300 m. Endemic.

Local name: Rois (Bag.).

ARDISIA SCALARIS Mez in Engl. Pflanzenreich 9 (1902) 142.

Luzon (Rizal, Tayabas), *Whitford* 766, *B. S.* 26209 *Ramos*. In primary forests along streams at low altitudes; very similar to *A. saligna* Mez. Endemic.

ARDISIA SERRATA (Cav.) Pers. Syn. 1 (1805) 233; A. DC. Prodr. 8 (1844) 133 (incl. var *microbotrys* A. DC.); Miq. Fl. Ind. Bat. 2 (1859) 1022; Scheff. Comm. Myrsin. Archip. Ind. (1867) 74; F.-Vill. Novis. App. (1880) 123; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 166; Vidal Rev. Pl. Vasc. Filip. (1886) 174, Phan. Cuming. Philip. (1885) 124; Mez in Engl. Pflanzenreich 9 (1902) 137; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 296.

Anguillaria serrata Cav. Ic. 6 (1801) 2, t. 503.

Ardisia cavanillesii R. & S. Syst. 4 (1819) 515.

Ardisia luzonensis Presl Rel. Haenk. 2 (1830) 65; A. DC. Prodr. 8 (1844) 133; F.-Vill. Novis. App. (1880) 123.

Tinus serrata O. Kuntze Rev. Gen. Pl. (1891) 975.

Northern Luzon to Mindanao and Palawan, in most or all islands and provinces, often common. In primary forests at low and medium altitudes, ascending in some regions to 1,400 m. Borneo.

Local names: Dapui (Gad.); labat (Ibn.); lagonhon (P. Bis.); panabon (Tag.); rogrogso (Ilk.); rukruksó (Ilk.); unggó (Tag.).

ARDISIA SIBUYANENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1497.

Sibuyan, *Elmer* 12192. In primary forests along streams, altitude about 225 m; very similar to *A. brevipetiolata* Merr. but with entire leaves. Endemic.

Local name: Lolúmboi (P. Bis.).

ARDISIA SINUATO-CRENATA Mez in Engl. Pflanzenreich 9 (1902) 148.

Luzon (*Haenke*); possibly also represented by *B. S.* 33045 *Ramos* from Ilocos Norte, Luzon, at low altitudes, but if so too close to *A. pardalina* Mez to be easily distinguished. Endemic.

ARDISIA SQUAMULOSA Presl Rel. Haenk. 2 (1830) 65; A. DC. Prodr. 8 (1844) 128; Miq. Fl. Ind. Bat. 2 (1859) 1019; F.-Vill. Novis. App. 1880) 123.

Willughbeia drupacea Blanco Fl. Filip. (1837) 132, ed. 2 (1845) 94, ed. 3, 1 (1877) 173, t. 439.

? *Willughbeia multilocularis* Blanco Fl. Filip. (1837) 131, ed. 2 (1845) 94, ed. 3, 1 (1877) 172, p. p. (quoad fl.).

Ardisia boissieri A. DC. Prodr. 8 (1844) 129; Miq. Fl. Ind. Bat. 2 (1859) 1027; F.-Vill. Novis. App. (1880) 123; Vidal Phan. Cuming. Philip. (1885) 123, Rev. Pl. Vasc. Filip. (1886) 175; Mez in Engl. Pflanzenreich 9 (1902) 129; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 112, 2 (1907) Bot. 296, 5 (1910) Bot. 217.

Ardisia obovata F.-Vill. Novis. App. (1880) 123, non Blume.

Ardisia drupacea Merr. Sp. Blancoanae (1918) 298.

Ardisia littoralis Merr. in Philip. Journ. Sci. 5 (1910) Bot. 216, non ? Andr.

Ardisia humilis F.-Vill. Novis. App. (1880) 123; Miq. Fl. Ind. Bat. 2 (1859) 1023; Vidal Phan. Cuming. Philip. (1885) 124, Rev. Pl. Vasc. Filip. (1886) 175; Mez in Engl. Pflanzenreich 9 (1902) 127, f. 20 [var. *obovata* (Blume) Mez], non ? Vahl.

Ardisia negroënsis Mez in Fedde Repert. 16 (1920) 411.

Northern Luzon to Palawan and Mindanao in most or all islands and provinces. Common in primary forests at low and medium altitudes, ascending to 1,000 m, incl. *Elmer 15882, 18203, 17494* as *A. sorsogonensis* Elm.; represented by more than 150 collections, chiefly identified as *A. boissieri* A. DC. Endemic?

This is a tree rather than a shrub and is not certainly specifically distinct from *Ardisia obovata* Blume. It appears to be neither the same as *A. humilis* Vahl to which Mez referred Presl's species, nor *A. littoralis* Andr. Fragments from the original collection of *A. squamulosa* Presl and *A. boissieri* and a cotype of *A. negroënsis* Mez are before me and they certainly represent the same species.

Local names: Apiot (Mbo.); babagion (C. Bis.); butau (Bik.); dandulit (Sul.); kanai (Tagb.); katágpo (Tag.); katágpok (Tag.); katatbun (Tag.); katingi (Bon.); kodang (Mbo.); kolagpung-pulá (Sbl.); kolen (Ilk.); koleng (Ilk.); lipúting-gúbat (Tag.); lunídang (Bon.); malasiak (Bik.); malayambis (Tag.); mampa (Neg.); maramaatam (Ibn.); mulang (Ibn.); oksor (Ilk.); pamutul (Sbl.); panghas (P. Bis.); paninglon (Sbl.); pataktol (Pamp.); piñgil (Neg.); pognaan (Mbo.); sirapian (Bik.); tagpó (Tag., Bik., C. Bis., Sul.); tagpúng-pulá (Tag.); takpó (Bik.); tamil (C. Bis.); tayúpo (C. Bis.); tukal (Tag.); turo (Pamp.).

ARDISIA SULCATA Mez in Engl. Pflanzenreich 9 (1902) 112.

Ardisia leytenensis Merr. in Philip. Journ. Sci. 8 (1913) Bot. 386.

Luzon (Cagayan, Apayao, Tayabas, Camarines), Samar, Biliran, Leyte, *Warburg 12286, Wenzel, F. B. 26956 Velasco, 21120 Valderrama, 25567 Duldulao, 20996 Sherfese, Cenabre, & Cortes, B. S. 28166 Fénix, 15193 Ramos, 29229 Ramos & Edaño, 18606, 18742 McGregor*. In damp primary forests at low altitudes. Endemic.

Local names: Botong-manok (Tag.); taluga-an (S. L. Bis.).

ARDISIA TAYABENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 156.

Luzon (Tayabas, east coast), *B. S. 26527 Ramos & Edaño*. In primary forests at or above 300 m altitude. Endemic.

ARDISIA TOMENTOSA Presl Rel. Haenk. 2 (1830) 66; A. DC. Prodr. 8 (1844) 132; Miq. Fl. Ind. Bat. 2 (1859) 1016; F.-Vill. Novis. App. (1880) 123; Mez in Engl. Pflanzenreich 9 (1902) 100.

Ardisia disticha A. DC. Prodr. 8 (1844) 129; Miq. Fl. Ind. Bat. 2 (1859) 1856; Mez in Engl. Pflanzenreich 9 (1902) 100.

Pimelandra disticha F.-Vill. Novis. App. (1880) 123; Vidal Sinopsis Atlas (1883) 30, t. 61, f. G, Phan. Cuming. Philip. (1885) 124, Rev. Pl. Vasc. Filip. (1886) 175.

Tinus disticha O. Kuntze Rev. Gen. Pl. (1891) 974.

Tinus tomentosa O. Kuntze op. cit. (1891) 975.

Luzon (Zambales, Nueva Ecija, Bulacan, Rizal, Laguna, Batangas, Camarines, Albay), Panay, Mindanao, *F. B. 28058 Mabesa, 23775 Alvarez, 29780, 28738, 34062, 37239 Ramos & Edaño, 2129, 13417, 15083 Ramos, Merrill 2300, 2905, Phil. Pl. 494, Cuming 849, Presl in herb. Prague! Loher 6121, 6132*. In forests at low and medium altitudes. Endemic.

Local names: Gulayan (Ilk.); lukti (Sul.); malatádian (Sbl.); pughol (Sbl.).

ARDISIA VERRUCOSA Presl Rel. Haenk. 2 (1830) 66; A. DC. Prodr. 8 (1844) 128; Miq. Fl. Ind. Bat. 2 (1859) 1018; F.-Vill. Novis. App. (1880) 123; Mez in Engl. Pflanzenreich 9 (1902) 134; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 217.

Tinus verrucosa O. Kuntze Rev. Gen. Pl. (1891) 975.

Luzon (Ilocos Norte, Cavite, Pangasinan, Batangas, Tayabas), Mindoro, Panay, Mindanao (Davao), *Presl in herb. Prague, B. S. 22653, 22494 Ramos & Deroy as A. cavitensis Merr., 20726 Escritor, 28068, 27438, 27488, 39584, 40829, 40850, 41121 Ramos, 29954 Fénix, 35495 Martelino & Edaño, F. B. 27653, 27605 DeMesa*. In primary forests at low and medium altitudes; scarcely distinguishable from *A. squamulosa* Presl. Endemic.

Local names: Bunutang (Ilk.); katágpong-pulá (Tag.); sagoi (Sul.); tágpo (S. L. Bis.); tapiuk (Mand.).

ARDISIA WARBURGIANA Mez in Engl. Pflanzenreich 9 (1902) 143; Elm. Leaf. Philip. Bot. 2 (1910) 659.

Ardisia sibulanensis Elm. Leaf. Philip. Bot. 2 (1910) 661.

Ardisia membranifolia Mez in Fedde Repert. 16 (1920) 415.

Luzon (Sorsogon), Mindoro, Samar, Panay, Mindanao (Agusan, Bukidnon, Lanao, Davao), *Warburg 14358, Merrill 5567, Elmer 11165, 13720, 16471, Clemens 1106, B. S. 24492 Ramos, 24835, 24761 Edaño, 32553 McGregor, 15745 Fénix, F. B. 9994 Merritt*. In damp primary forests at low and medium altitudes, ascending to 800 m. Endemic.

Local names: Katig-katigpo (Bag.); katípu (Buk.); malakalipayan (S. L. Bis.); malakarosong (S. L. Bis.); sambulauán (S. L. Bis.).

ARDISIA WHITFORDII Mez in Philip. Journ. Sci. 1 (1906) Suppl. 271, Fedde Repert. 3 (1906) 98; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 218.

Luzon (Apayao, Tayabas), Polillo, Mindoro, *Whitford 772, B. S. 28052, 28189 Fénix, 19498bis, 40981 Ramos*. In primary forests at low altitudes; very close to *A. serrata* Pers. Endemic.

Local name: Tágpo (Tag.).

ARDISIA YATESII Merr. in Philip. Journ. Sci. 12 (1917) Bot. 155.

Luzon (Tayabas, east coast), *B. S.* 25453, 25389, 25494 *Yates*. In primary forests, altitude about 400 m; closely allied to *A. tomentosa* Presl. Endemic.

ARDISIA ZAMBALENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 334.

Ardisia biflora Merr. op. cit. 5 (1910) Bot. 212, non Gamble.

Luzon (Zambales), *B. S.* 5073 *Ramos*, *F. B.* 8110 *Curran & Merritt*. On exposed forested ridges, altitude 1,000 to 1,400 m. Endemic.

EXCLUDED SPECIES

ARDISIA ATTENUATA Wall.; F.-Vill. Novis. App. (1880) 123.

ARDISIA COMPLANATA Wall.; F.-Vill. l. c.

ARDISIA COMPRESSA HBK.; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 101.

ARDISIA LAEVIGATA Blume; F.-Vill. l. c.

ARDISIA LURIDA Blume; F.-Vill. l. c.

4. LABISIA Lindley

LABISIA PUMILA (Blume) F.-Vill. Novis. App. (1880) 123; Mez in Engl. Pflanzenreich 9 (1902) 171, f. 29; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 296.

Ardisia pumila Blume Bijdr. (1825) 688; A. DC. Prodr. 8 (1844) 137.

Mindoro, Leyte, Jolo, *F. B.* 4335 *Merritt*, *Wenzel* 666, *Clemens* 9387. In damp primary forests up to 500 m altitude; very rare and local in the Philippines. Indo-China, Malay Peninsula, Sumatra, Java, Borneo.

5. AMBLYANTHOPSIS Mez

AMBLYANTHOPSIS CRASSIFOLIA Merr. in Philip. Journ. Sci. 14 (1919) 445.

Luzon (Ilocos Norte, Tayabas, east coast), *B. S.* 33288, 33381 *Ramos*, 28609 *Ramos & Edaño*. On forested slopes, altitude about 1,000 m. Endemic.

AMBLYANTHOPSIS PHILIPPINENSIS Mez in Philip. Journ. Sci. 1 (1906) Suppl. 274, Fedde Repert. 3 (1906) 100.

Luzon (Bataan), *Merrill* 3881, *F. B.* 23220 *Alambra & Canlas*. In primary forests along small streams, altitude about 800 m; perhaps better referable to *Discocalyx*. A number of specimens distributed as this species are *Discocalyx effusa* Mez.

6. DISCOCALYX Mez

DISCOCALYX ANGUSTIFOLIA Mez in Engl. Pflanzenreich 9 (1902) 214.

Luzon (Laguna, Tayabas), Alabat, Panay, *Merrill* 10478, *B. S.* 19480 *Ramos*, 31053 *Ramos & Edaño*, *F. B.* 8897 *Curran*. In damp primary forests at low altitudes.

DISCOCALYX ANGUSTISSIMA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 143.

Luzon (Cagayan, Nueva Ecija, Tayabas), *B. S.* 14502, 7504 Ramos, 13106 Foxworthy & Ramos, 26554 Ramos & Edaño, *F. B.* 19631 Curran, 22193, 22187 Alvarez. In primary forests at low or medium altitudes. Endemic.

Local names: Maraasi (Tag.); parupineg (Neg.).

DISCOCALYX BRACHYBOTRYS Merr. in Philip. Journ. Sci. 20 (1922) 424.

Mindanao (Zamboanga), *B. S.* 37463 Ramos & Edaño. Along streams in forests at low altitudes. Endemic.

DISCOCALYX CYBIANTHOIDES (A. DC.) Mez in Engl. Pflanzenreich 9 (1902) 213; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 113.

Badula cybianthoides A. DC. Prodr. 8 (1844) 107.

Ardisia cybianthoides Miq. Fl. Ind. Bat. 2 (1859) 1028.

Cybianthus philippinensis Hook. f. ex F.-Vill. Novis. App. (1880) 122; Vidal Sinopsis Atlas (1883) 30, t. 61, f. B, Rev. Pl. Vasc. Filip. (1886) 174, Phan. Cuming. Philip. (1885) 107.

Tinus cybianthoides O. Kuntze Rev. Gen. Pl. (1891) 974.

Peckia cybianthoides O. Kuntze op. cit. 402.

Luzon (Cagayan, Ilocos Norte, Abra, Nueva Vizcaya, Pangasinan, Nueva Ecija, Bulacan, Rizal, Bataan, Batangas, Laguna, Tayabas, Sorsogon), Mindoro, Masbate, Leyte. In primary forests at low and medium altitudes, often common. Borneo.

Local name: Pagiñga (Neg.).

DISCOCALYX EFFUSA Mez in Engl. Pflanzenreich 9 (1902) 213.

Luzon (Nueva Ecija, Rizal, Laguna, Tayabas), Catanduanes, Mindoro, Panay, Negros, Mindanao (Davao), *Merrill Phil. Pl.* 1039, 1291, *Elmer* 2347, *B. S.* 1754, 13418, 19419, 30569 Ramos, 29090, 30753, 30890, 40714 Ramos & Edaño, 27961 Ocampo, *F. B.* 26762 Mabesa, 28211 Elumir. In damp primary forests at low and medium altitudes. Endemic.

Local names: Buñgang-dikai (Tag.); daraduyan (Neg.).

DISCOCALYX EUPHLEBIA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 144.

Samar, *B. S.* 17646 Ramos. In damp primary forests at low altitudes. Endemic.

DISCOCALYX FILIPES Mez in Fedde Repert. 16 (1920) 416.

Luzon (Rizal), *B. S.* 1857 Ramos, 29396 Ramos & Edaño, *Merrill Phil. Pl.* 1982 as *D. merrillii* Mez. In primary forests at medium altitudes. Endemic.

DISCOCALYX HYMENDROIDES Mez in Fedde Repert. 16 (1920) 422.

Luzon (Cagayan, Benguet, Rizal), *F. B.* 5096 Curran, *B. S.* 12114, 7477 Ramos, 3417 Mearns, Williams 1454, Loher 6147. In damp forests at medium altitudes, in Benguet ascending to 1,400 m. Endemic.

DISCOCALYX INSIGNIS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 221.

Discocalyx congestiflora Elm. Leaf. Philip. Bot. 8 (1915) 2780.

Luzon (Tayabas, Camarines), Negros, Leyte, Mindanao (Agusan, Surigao), *B. S.* 22149 Ramos, *F. B.* 13688 Curran, 7616 Hutchinson, Elmer 13724, Baker 3337, Wenzel 591. In primary forests at low altitudes. Endemic.

Local name: Sitaas (Mbo.).

DISCOCALYX LINEARIFOLIA Elm. Leaf. Philip. Bot. 2 (1908) 441; C.

B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 218.

Luzon (Ilocos Norte, Abra, Kalinga, Bontoc, Rizal, Laguna, Tayabas, Sorsogon), Polillo, Catanduanes, Samar, Siargao, Elmer 7674, 16823 as *D. sorsogonensis* Elm., *B. S.* 32971, 27001, 20488, 24526, 24145, 17435 Ramos, 34839 Ramos & Pascasio, 22807 McGregor, 37497, 37853 Ramos & Edaño. In primary forests at low and medium altitudes, ascending to 1,400 m. Endemic.

DISCOCALYX LONGIFOLIA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 325.

Luzon (Tayabas), *B. S.* 13181 Foxworthy & Ramos. In forests at low altitudes. Endemic.

DISCOCALYX LONGISSIMA Merr. in Philip. Journ. Sci. 17 (1920) 302.

Mindanao (Surigao), *B. S.* 34456 Ramos & Pascasio. In forests, on rocky slopes, at low altitudes. Endemic.

DISCOCALYX LUZONIENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 145.

Luzon (Nueva Ecija), *B. S.* 26474 Ramos & Edaño. In forests, altitude about 350 m. Endemic.

DISCOCALYX MACROPHYLLA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 222.

Luzon (Cagayan, Ilocos Norte), *F. B.* 17237 Curran, *B. S.* 33039 Ramos. In forests at low altitudes. Endemic.

DISCOCALYX MACULATA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 326.

Luzon (Cagayan), *B. S.* 13967 Ramos. In forests at low altitudes. Endemic.

DISCOCALYX MERRILLII Mez in Philip. Journ. Sci. 1 (1906) Suppl. 274, Fedde Repert. 3 (1906) 101.

Luzon (Cagayan, Pangasinan, Zambales, Bulacan, Rizal, Bataan, Tayabas), Merrill 3745, Elmer 6836, Whitford 213, Loher 6151, *B. S.* 30000 Fénix, 4814, 1857, 19498 Ramos, 34114 Ramos & Edaño, *F. B.* 139 Barnes, 2085, 1348 Borden. In primary forests at medium altitudes, ascending to 1,000 m. Endemic.

Local name: Tagbayad (Tag.).

DISCOCALYX MICRANTHA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 146.

Luzon (Ilocos Norte), Mindanao (Surigao), *B. S.* 27132 Ramos, *F. B.* 27005 Mallonga. In forests at low altitudes. Endemic.

DISCOCALYX MINDANAENSIS Elm. Leaf. Philip. Bot. 2 (1910) 674.

Mindanao (Agusan), Bukidnon, Lanao, Davao, *Elmer* 11294, 14099, *Clemens* 1229, *B. S.* 15753 *Fénix*. In primary forests at medium altitudes, ascending to 1,200 m. Endemic.

Local names: Baklayon (Buk.); ginarai (Mbo.); samaluko (Bag.).

DISCOCALYX MINOR Mez in Engl. Pflanzenreich 9 (1902) 213.

Luzon (Cagayan, Ilocos Norte, Apayao, Rizal, Laguna, Tayabas, Camarines, Mindoro, *Merrill* 2606, *Phil. Pl.* 1103, *Loher* 6148, *Ahern* 272, *B. S.* 33360, 15116 *Ramos*, 27881, 22814, 22945 *McGregor*, *F. B.* 25025 *Amarillas*, 13077 *Curran*, 25308 *Bawan*. In primary forests at low altitudes. Endemic.

Var. **OLIGANTHA** var. nov.

A typo differt foliis minoribus, 2 ad 5 cm longis, 1 ad 2 cm latis, inflorescentiis paucifloris, floribus circiter 4.

Catanduanes, *B. S.* 30243, 30302 *Ramos*. In damp primary forests at low altitudes. Endemic.

Local name: Siko-siko (Tag.).

DISCOCALYX MONTANA Elm. Leaf. Philip. Bot. 2 (1908) 443.

Discocalyx dolichopus Mez in Fedde Repert. 16 (1920) 417.

Discocalyx crenulatus Mez l. c.

Luzon (Cagayan, Ilocos Norte, Apayao, Bontoc, Benguet, Nueva Vizcaya, Tayabas, Laguna), Mindoro, *Elmer* 8816, *Williams* 1440, 1349, *Merrill* 5608, *B. S.* 37015, 37059 *Ramos*, 40474, 40601 *Ramos & Edaño*, 28057, 12932 *Fénix*, *F. B.* 4855, 10857 *Curran*, 22910 *Leaño*. In stream depressions and on forested slopes, altitude 1,000 to 2,000 m. Endemic.

Local names: Tauako (Ig.); tauaki (Ig.).

DISCOCALYX PACHYPHYLLA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 146.

Luzon (Ilocos Norte, Tayabas), *B. S.* 20766, 20729, 20830 *Escritor*, 32965, 32996 *Ramos*. On damp forested slopes at medium altitudes, ascending to 1,000 m. Endemic.

DISCOCALYX PALAWANENSIS Elm. in herb.

Discocalyx merrillii Elm. Leaf. Philip. Bot. 5 (1913) 1821, non Mez.

Mindoro, Palawan, Bancalan, *Elmer* 12825, *F. B.* 4134 *Curran*, 8656 *Merritt*, *B. S.* 40990 *Ramos*, *Weber*. In primary forests at low altitudes. Endemic.

DISCOCALYX PHANEROPHLEBIA Merr. in Philip. Journ. Sci. 20 (1922) 425.

Mindanao (Bukidnon), *B. S.* 38690, 38792 *Ramos & Edaño*. In forests along streams, altitude 1,200 to 1,400 m. Endemic.

DISCOCALYX PHILIPPINENSIS (A. DC.) Mez in Engl. Pflanzenreich 9 (1902) 212.

Badula philippinensis A. DC. Prodr. 8 (1844) 108.

Ardisia subcuneata Miq. Fl. Ind. Bat. 2 (1859) 1028; F.-Vill. Novis.

App. (1880) 123; Vidal Phan. Cuming. Philip. (1885) 124, Rev. Pl. Vasc. Filip. (1886) 175.

Tinus subcuneata O. Kuntze Rev. Gen. Pl. (1891) 975.

Luzon (Ilocos Norte, Bontoc, Benguet, Nueva Ecija, Pampanga, Bataan, Rizal, Laguna, Batangas), Panay, *Cuming 1385, Elmer 5997, Merrill Phil. Pl. 865, 1728, Williams 614, Loher 3810, 6151, Whitford 1080, 1310, B. S. 19259 Reillo, 14964, 19573 Ramos.*

In damp ravines and primary forests, extending into the mossy forest, altitude 600 to 1,400 m. Endemic.

DISCOCALYX PSYCHOTRIOIDES Elm. Leaf. Philip. Bot. 2 (1908) 442.

Luzon (Tayabas, Laguna, Rizal), *Elmer 9097, Loher 6144, B. S. 28610 Ramos & Edaño, F. B. 26765 Mabesa.* In primary forests, altitude 300 to 800 m. Endemic.

DISCOCALYX SAMARENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 147.

Samar, *F. B. 24004 Lasquety.* In forests along streams, altitude about 300 m. Endemic.

DISCOCALYX SESSILIFOLIA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 149.

Mindanao (Agusan), *F. B. 20735 Rafael & Ponce.* In swamp forests at low altitudes. Endemic.

DISCOCALYX STENOPHYLLA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 148.

Luzon (Ilocos Norte, Pangasinan, Rizal), *F. B. 24815 Pascual, B. S. 33312 Ramos, 29288 Ramos & Edaño.* In primary forests, altitude 300 to 700 m. Endemic.

Local name: Rokroksó (Ilk.).

DISCOCALYX TECSONII Merr. in Philip. Journ. Sci. 12 (1917) Bot. 150.

Mindanao (Misamis), Basilan, *F. B. 24683 Tecson, 17984, 18977 Miranda.* In primary forests at low altitudes. Endemic.

DISCOCALYX VIDALII Mez in Engl. Pflanzenreich 9 (1902) 213.

Luzon (Tayabas), (*Vidal 423*). Perhaps also represented by *B. S. 26635, 26445 Ramos & Edaño* from primary forests, altitude about 300 m. Endemic.

7. APOIA Merrill

APOIA MACROCARPA (Elm.) Merr. in Philip. Journ. Sci. 17 (1920) 605.

Discocalyx macrocarpa Elm. Leaf. Philip. Bot. 8 (1915) 2781.

Mindanao (Davao), *Elmer 11867, 10660, 10553.* In ravine and on forested ridges, altitude 750 to 1,100 m. A monotypic endemic genus, perhaps, however, not belonging in this family.

Local name: Pamaluian (Bag.).

8. LOHERIA Merrill

LOHERIA BRACTEATA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 374.

Jubilaria magnoliifolia Mez in Fedde Repert. 16 (1920) 421.

Luzon (Benguet, Bontoc, Lepanto), *Merrill 4783, Loher 3817, Vidal 1771, F. B. 18083 Curran, Merritt, & Zschokke, B. S. 37690, 37837, 40187, 40441 Ramos & Edaño.* In the mossy forest, altitude 1,900 to 2,400 m. An endemic genus.

LOHERIA PORTEANA (Mez) comb. nov.

Embelia porteana Mez in Engl. Pflanzenreich 9 (1902) 302 p. p. (excl. *Vidal 1771*); C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 219.

Luzon (Tayabas, Rizal), Polillo, *B. S. 10411 Robinson, 29107, 28553, 28674, 28493 Ramos & Edaño, 20836 Escritor, 13366, 13233 Ramos, Loher 6134*. In damp primary forests at low altitudes. Endemic.

LOHERIA RADLKOFERI (Mez) comb. nov.

Jubilaria radlkoferi Mez in Fedde Repert. 16 (1920) 421.

Mindoro, *Merrill 5743, F. B. 6885 Merritt, B. S. 40563, 40689 Ramos & Edaño*. In damp primary forests at low altitudes. Endemic.

9. **EMBELIA** Burman f.**EMBELIA BATAANENSIS** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 44, Philip. Journ. Sci. 1 (1906) Suppl. 113.

Luzon (Bontoc, Benguet, Bataan), *Merrill 3207, Whitford 1114, Elmer 6893, F. B. 2832 Meyer, 1394 Borden, B. S. 1658 Foxworthy, Vanoverbergh 3972*. In ravines and on forested ridges, altitudes 600 to 1,300 m. Endemic.

EMBELIA CORIACEA Wall. Cat. (1830) No. 2314 *nomen nudum*; A. DC. in Trans. Linn. Soc. 17 (1834) 135, Prodr. 8 (1844) 87; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1882) 513; Mez in Engl. Pflanzenreich 9 (1902) 313; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 223; Elm. Leaf. Philip. Bot. 2 (1910) 669.

Mindanao (Agusan, Bukidnon, Lanao, Davao), Basilan, *Clemens 671, 1069, Elmer 13607, 11305, B. S. 16176 Reillo, 38585 Ramos & Edaño*. In primary forests at low and medium altitudes. Malay Peninsula, Sumatra, Java, Borneo.

Local name: Kotapai (Mbo.).

EMBELIA ELLIPTICA Merr. in Philip. Journ. Sci. 20 (1922) 426.

Mindanao (Bukidnon), *B. S. 39069 Ramos & Edaño*. In thickets along streams, altitude 900 m. Endemic.

Local name: Kalumai (Buk.).

EMBELIA LUZONIENSIS Merr. in Philip. Journ. Sci. 20 (1922) 427.

Luzon (Nueva Vizcaya), *B. S. 20098 McGregor*. In thickets or forests at medium altitudes. Endemic.

EMBELIA NIGRO-PUNCTATA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 326.

Embelia latifolia Mez in Fedde Repert. 16 (1920) 422.

Luzon (Rizal, Bataan), Mindoro, Palawan, *B. S. 1068 Ramos, 938 Mangubat, Baker 3557, Merrill 9369*. In thickets and forests at low and medium altitudes. Endemic.

EMBELIA OBTUSIUSCULA Mez in Fedde Repert. 16 (1920) 422.

Luzon (Benguet), *Elmer 5881*. On steep slopes in thickets, altitude about 1,200 m. Endemic.

EMBELIA OVATIFOLIA Merr. in Philip. Journ. Sci. 20 (1922) 428.

Mindanao (Bukidnon), *B. S.* 39001 Ramos & Edaño. On forested slopes, altitude about 1,200 m. Endemic.

EMBELIA PHILIPPINENSIS A. DC. Prodr. 8 (1844) 83; Miq. Fl. Ind.

Bat. 2 (1859) 1010; F.-Vill. Novis. App. (1880) 122; Vidal Phan. Cuming. Philip. (1885) 123, Rev. Pl. Vasc. Filip. (1886) 174; Mez in Engl. Pflanzenreich 9 (1902) 306; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 377, Sp. Blancoanae (1918) 299; Elm. Leaf. Philip. Bot. 2 (1910) 668.

Rhamnus lando Llanos Frag. Fl. Philip. (1851) 57; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 41.

Samara philippinensis Vidal Sinopsis Atlas (1883) 30, t. 61, f. D.

Ribesoides philippense O. Kuntze Rev. Gen. Pl. (1891) 403.

Luzon (Benguet, Pangasinan, Nueva Vizcaya, Nueva Ecija, Bulacan, Rizal, Laguna, Sorsogon), Leyte, Mindanao (Bukidnon, Davao, Lanao), Merrill Sp. Blancoanae 732, Loher 6131, Elmer 6120, 7155, 15514, B. S. 12597 Fénix, 20182, 36741 Ramos & Edaño, 11242 McGregor, 19212 Reillo, F. B. 24915 Mabesa, 2002 Ahern's collector. In forests at medium altitudes, often common. Borneo.

Local names: Balako-o (Ig.); binurok (Ilk.); bisalak (Ig.); bisudak (Ig.); dekaï-dekaïang (Buk.); lando (Tag.); palongpong (Ilk.); pongpong (Bon.).

EMBELIA URDANETENSIS Elm. Leaf. Philip. Bot. 8 (1915) 2783.

Mindanao (Agusan), Elmer 13745. In the mossy forest, altitude about 2,000 m. Endemic.

Local name: Buluan (Mbo.).

EMBELIA WHITFORDII Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 113; Elm. Leaf. Philip. Bot. 2 (1910) 668.

Luzon (Bontoc, Benguet, Bataan, Laguna), Whitford 453, 1308, Merrill 6559, Phil. Pl. 1732, Williams 1133, 933, B. S. 31920 Santos, 14087 Robinson, 8812 McGregor, 3417 Mearns, 14919 Ramos, F. B. 5116, 4864 Curran. In the mossy forest, altitude 900 to 2,200 m. Endemic.

Local names: Malaumáu (Bik.); palongpong (Ilk.); pongpong (Bon.).

DOUBTFUL AND EXCLUDED SPECIES

EMBELIA MYRTILLUS Kurz; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Rev. Pl. Vasc. Filip. (1886) 174.

Myrsine myrtillus Hook. Ic. II 5 (1852) t. 825; Walp. Ann. 5 (1858) 473.

The Philippine record was based on Lobb 478, labeled as originating in Luzon; in some herbaria the label appears as Java. Lobb's specimen unquestionably came from the Malay Peninsula, the species being known from no other region.

EMBELIA RIBES Burm. f.; A. DC. Prodr. 8 (1844) 85; Miq. Fl. Ind. Bat. 2 (1859) 1011; F.-Vill. Novis. App. (1880) 122.

The Philippine record was based on Cuming 2320, which was from Malacca, not from the Philippines.

EMBELIA VIRIDIFOLIA Scheff.; Mez in Engl. Pflanzenreich 9 (1902) 327.

Mez mentions a sterile specimen collected by Warburg in northern Luzon as possibly representing this species.

10. *RAPANEA* Aublet

RAPANEA APOENSIS Elm. Leaf. Philip. Bot. 2 (1910) 669.

Mindanao (Davao), *Elmer* 10629. On ridges in the mossy forest, altitude about 2,250 m. Endemic.

Local name: Marintok (Bag.).

RAPANEA ANGUSTIFOLIA Merr. in Philip. Journ. Sci. 20 (1922) 429.

Luzon (Ilocos Norte), *B. S.* 33243 *Ramos*. On forested slopes, altitude 1,000 m. Endemic.

RAPANEA AVENIS (Blume) Mez in Engl. Pflanzenreich 9 (1902) 357;

Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 275.

Ardisia avenis Blume Bijdr. (1825) 691.

Myrsine avenis A. DC. in Trans. Linn. Soc. 17 (1834) 107, Prodr.

8 (1844) 96.

Rapanea fastigiata Elm. Leaf. Philip. Bot. 2 (1910) 670.

Luzon (Benguet, Ifugao, Abra, Camarines), Negros, Mindanao (Bukidnon, Davao), *Elmer* 5811, 6539, 11447, *B. S.* 19646 *McGregor*, 31782, 31995 *Santos*, 5579 *Ramos*, 38494 *Ramos & Edaño*, *Merrill* 6998, *Phil. Pl.* 1524, 1525. In the mossy forest, altitude 1,400 to 2,400 m. Java, Celebes.

Local names: Aribañgib (Neg.); berig (Neg.); paspas (Buk.); taribabau (Neg.); toñgog (Bag.).

RAPANEA GLANDULOSA Elm. Leaf. Philip. Bot. 8 (1915) 2784.

Mindanao (Agusan), *Elmer* 14148. Epiphytic in the mossy forest on exposed ridges, altitude about 1,350 m. Endemic.

Local name: Nagas (Mbo.).

RAPANEA MINDANAENSIS Elm. Leaf. Philip. Bot. 2 (1910) 671.

Mindanao (Davao), *Elmer* 11332, 11820. On ridges in the mossy forest, altitude about 1,300 m. Endemic.

Local names: Baliuk (Bag.); toñgog (Bag.).

RAPANEA OBLONGIBACCA Merr. in Philip. Journ. Sci. 20 (1922) 429.

Luzon (Ilocos Norte), *B. S.* 33256, 33311 *Ramos*. On forested slopes, altitude 1,000 m. Endemic.

RAPANEA PHILIPPINENSIS (A. DC.) Mez in Engl. Pflanzenreich 9

(1902) 364; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 113, Philip. Bureau Forestry Bull. 1 (1903) 46.

Myrsine philippinensis A. DC. Prodr. 8 (1844) 94; Miq. Fl. Ind. Bat. 2 (1859) 1014.

Myrsine capitellata F.-Vill. Novis. App. (1880) 122; Vidal Sinopsis Atlas (1883) 30, t. 61, f. C, Phan. Cuming. Philip. (1885) 123, Rev. Pl. Vasc. Filip. (1886) 173, non Wall.

Northern Luzon to Mindanao, in most islands and provinces, occurring in thickets and forests from sea level to at least 1,600 m altitude; variable. Endemic.

Local names: Anumbága (P. Bis.); good-good (Tag.); gurimómo (Ibn.); hanígad (C. Bis.); kalumánai (Tag.); lipóte (Buk.); luklúkso (Ibn.); maga (P. Bis.); magaspang (P. Bis.); marúpig (Neg.); supak (Ig.).

RAPANEA RETUSA Merr. in Philip. Journ. Sci. 2 (1907) Bot. 297.

Luzon (Tayabas, Ilocos Norte, Rizal, Sorsogon), Mindanao (Bukidnon) Merrill 5734, 5735, F. B. 4426, 4449 Merritt, B. S. 26577, 38538, 38918, 28282, 28758 Ramos & Edaño, 23512, 23616, 32757, 32903 Ramos. In the mossy forest, altitude up to 2,400 m, or in northern Luzon at low and medium altitudes. Endemic.

Local name: Marómo (Neg.).

RAPANEA VENOSA Elm. Leaf. Philip. Bot. 2 (1910) 672.

Rapanea peregrina Mez in Fedde Repert. 16 (1920) 424.

Luzon (Ilocos Norte, Benguet, Laguna, Nueva Ecija, Tayabas), Mindoro, Mindanao (Surigao, Lanao, Davao), Elmer 9352, 11445, 11456, Clemens 917, B. S. 19576, 33285 Ramos, 34674 Ramos & Pascasio, 26397, 40712 Ramos & Edaño, F. B. 10838 Curran, 14153 Merritt. In the mossy forest up to an altitude of 2,200 m. Endemic.

Local name: Ton̄gog (Bag.).

PRIMULACEAE

1. ANDROSACE Tournefort

ANDROSACE UMBELLATA (Lour.) Merr. in Philip. Journ. Sci. 15 (1919) 237.

Drosera umbellata Lour. Fl. Cochinch. (1790) 186.

Androsace saxifragifolia Bunge in Mém. Acad. St. Petersb. 2 (1835) 127; Duby in DC. Prodr. 8 (1844) 53; Pax & Knuth in Engl. Pflanzenreich 22 (1905) 179.

Luzon (Ilocos Norte, Bontoc, Benguet, Nueva Vizcaya), Merrill 4430, Elmer 8814, Vanoverbergh 830, B. S. 27548 Ramos. On open damp banks at medium altitudes, ascending to 1,500 m. India to Japan southward to Indo-China, southern China, and Formosa.

2. LYSIMACHIA Tournefort

LYSIMACHIA CAPILLIPES Hemsl. in Journ. Linn. Soc. Bot. 26 (1889) 48; Pax & Knuth in Engl. Pflanzenreich 22 (1905) 270; Merr. in Philip. Journ. Sci. 7 (1912) 93.

Luzon (Bontoc, Lepanto, Benguet), B. S. 31726, 31756 Santos, 40223 Ramos & Edaño, Merrill Phil. Pl. 845, Vanoverbergh 732, 3653, Williams 1153. In damp thickets, along streams, etc., altitude 1,300 to 2,000 m. Central China.

Local name: Osiak (Ig.).

LYSIMACHIA DECURRENS Forst. f. Prodr. (1786) 12; Pax & Knuth in Engl. Pflanzenreich 22 (1905) 296; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 93.

Luzon (Bontoc, Benguet), Merrill Phil. Pl. 738, Williams 1289, Vanoverbergh 596, 1189, Loher 1560. In thickets and in the mossy forest, altitude 1,200 to 1,900 m. India to southern China and Formosa, Java, Timor, and New Caledonia.

LYSIMACHIA JAPONICA Thunb. Fl. Jap. (1784) 83; Duby in DC. Prodr. 8 (1844) 67; Pax & Knuth in Engl. Pflanzenreich 22 (1905) 262. *Lysimachia microphylla* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 221.

Luzon (Bontoc, Benguet), *Merrill 4668, 4405, Vanoverbergh 945*. On damp banks, altitude about 1,400 m. India to Korea and Japan southward to southern China, Formosa, Java, and northern Australia (perhaps introduced).

LYSIMACHIA MAURITIANA Lam. Encycl. 3 (1789) 592; Pax & Knuth in Engl. Pflanzenreich 22 (1905) 273, f. 58; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 425.

Batan Islands (Batan), *B. S. 10687 McGregor, 3188, 3197 Mearns*, habitat not indicated. Mauritius, India to Japan, Formosa, New Caledonia, Marianne Islands, Hawaii.

LYSIMACHIA RAMOSA Wall. Cat. (1828) No. 1490, *nomen nudum*; Duby in DC. Prodr. 8 (1844) 65; Hook. f. in Fl. Brit. Ind. 3 (1882) 503; Pax & Knuth in Engl. Pflanzenreich 22 (1905) 271, f. 57, A-C (var. *typica* Knuth); Merr. in Philip. Journ. Sci. 2 (1907) Bot. 298, 5 (1910) Bot. 377.

Luzon (Bontoc, Kalinga, Benguet), Mindoro, Negros, Camiguin de Misamis, Mindanao (Bukidnon, Zamboanga), *Merrill 6991, 8121, Phil. Pl. 822, Elmer 6620, B. S. 14032 Robinson, 14492 Ramos, 37557, 38624, 39118 Ramos & Edaño, 4383 Mearns, F. B. 4954 Curran, 4443 Merritt*. In the mossy forest, in damp ravines, etc., altitude 1,200 to 2,300 m. India to Yunnan southward to Java.

Local names: Lupo-lupo (C. Bis.); tasig-tauig (Bag.).

PLUMBAGINACEAE

PLUMBAGO Tournefort

PLUMBAGO AURICULATA Lam. Encycl. 2 (1786) 270; Merr. Fl. Manila (1912) 361.

Plumbago capensis Thunb. Prodr. Fl. Cap. (1794) 33; F.-Vill. Novis. App. (1880) 122; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 27.

Cultivated for ornamental purposes but nowhere spontaneous. A native of Africa, now planted in most tropical and subtropical countries.

PLUMBAGO INDICA Linn. in Stickm. Herb. Amb. (1754) 24, Amoen. Acad. 4 (1759) 133; Merr. Interpret. Herb. Amb. (1917) 414.

Plumbago rosea Linn. Sp. Pl. ed. 2 (1762) 215; Usteri Beitr. Ken. Philip. Veg. (1905) 120; Merr. Fl. Manila (1912) 362.

Plumbago coccinea Salisb. Prodr. (1796) 122; F.-Vill. Novis. App. (1880) 122; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 298.

Planted for ornamental purposes throughout the Archipelago, here and there persistent in abandoned cultivation. Tropical Asia and Malaya.

Local names: Laurél (Bik., Sp., Tag.); panting-pánting (Mag.); su-tuñgau (Tagb.); ulanda (Sul.).

PLUMBAGO ZEYLANICA Linn. Sp. Pl. (1753) 151; Boiss. in DC. Prodr. 12 (1848) 692; Miq. Fl. Ind. Bat. 2 (1859) 994; F.-Vill. Novis. App. (1880) 122; Merr. Fl. Manila (1912) 362, Sp. Blancoanae (1918) 300.

Plumbago viscosa Blanco Fl. Filip. (1837) 78, ed. 2 (1845) 58, ed. 3, 1 (1877) 111.

Luzon (Ilocos Norte, Ilocos Sur, Batangas, Rizal, Laguna), Palawan. In thickets at low and medium altitudes, probably introduced. Old World Tropics.

Local names: Bangbang (Ilk.); sangdikit (Tag.); talankau (Ilk.).

SAPOTACEAE

MADHUCA Gmelin *

(*Bassia* Koenig, 1771, non Allioni, 1766)

MADHUCA BETIS (Blanco) comb. nov.

Azaola betis Blanco Fl. Filip. (1837) 402, ed. 2 (1845) 281, ed. 3, 2 (1878) 157; A. DC. Prodr. 8 (1844) 196; Miq. Fl. Ind. Bat. 2 (1859) 1039; Vidal Sinopsis Atlas (1883) 31, t. 62, f. F.

Payena betis F.-Vill. Novis. App. (1880) 125.

Illipe betis Merr. in Philip. Bureau Forestry Bull. 1 (1903) 46, Govt. Lab. Publ. (Philip.) 25 (1905) 57.

Bassia betis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 56, Sp. Blancoanae (1918) 300.

Luzon (Cagayan, Cavite, Rizal, Tayabas, Camarines), *F. B.* 4286, 6651, 7056 Klemme, 701 Van Wickle, *B. S.* 2143 Ramos, Merrill 2066, *Phil. Pl.* 956. In primary forests at low altitudes. Endemic.

Local names: Bakaiau (Pang.); baniti (Bik.); banitis (Bik.); bétis (Tag., Pamp., Bik.); manilig (Mag.); pappágai (Ibn.); pappágan (Ibn.); piañga (Ibn., Ilk.); piañgan (Ibn.).

MADHUCA CORIACEA (Merr.) comb. nov.

Illipe coriacea Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 41.

Bassia coriacea Merr. in Philip. Journ. Sci. 10 (1915) Bot. 56.

Luzon (Tayabas, east coast), Samar, Leyte, Merrill 1008, Wenzel 1111, *F. B.* 22724 Lasquety. In primary forests at low altitudes. Endemic.

Local name: Lisong-insík (Tag.).

MADHUCA FUSICARPA (Elm.) comb. nov.

Payena fusicarpa Elm. Leaf. Philip. Bot. 8 (1915) 2820.

Bassia cagayanensis Merr. in Philip. Journ. Sci. 13 (1918) Bot. 48.

Luzon (Cagayan), Dinagat, Mindanao (Davao, Agusan), Elmer 14058, 13890, *F. B.* 26883 Bernardo, 28313 Elumir, *B. S.* 35219 Ramos. In primary forests, ascending to 1,000 m. Endemic.

Local names: Malobon (Mbo.); marobon (Mbo.); silanangsang (Mbo.).

MADHUCA LANCEOLATA (Merr.) comb. nov.

Payena lanceolata Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 42.

Dinagat, Ahern 493. Probably in forests at low altitudes. Endemic.

Local name: Lono-lono (C. Bis.).

* *Bassia* Koenig (1771) is invalidated by *Bassia* Allioni (1766), the latter genus (Chenopodiaceae) having been reinstated by several botanists as a valid one. *Illipe* was not published by Koenig as a generic name as considered by Baillon and by Engler, but merely as a native name of *Bassia longifolia* Linn. *Madhuca* Gmelin is the oldest valid name for the genus.

MADHUCA LEERII (Teysm. & Binn.) comb. nov.

Azaola leerii Teyssm. & Binn. in Nat. Tijdschr. Nederl. Ind. 6 (1854) 116.

Ceratophorus leerii Hassk. in Nat. Tijdschr. Nederl. Ind. 10 (1856) 101; Miq. Fl. Ind. Bat. 2 (1859) 1039.

Haploceras ? arupa Hassk. in Abhandl. Naturf. Gesellsch. Halle 9 (1866) 193.

Payena leerii Kurz in Journ. As. Soc. Beng. 40² (1871) 69; Burck in Ann. Jard. Bot. Buitenz. 5 (1885) 56; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 47.

Palawan, Mindanao (Zamboanga), Tawitawi, *Ahern* 838, *F. B.* 9342 *Whitford & Hutchinson*, 27877 *Cenabre*, *Gellidon*, & *Paras*. In primary forests at low altitudes. Malay Peninsula, Sumatra, Java, Borneo, and the Moluccas.

Local name: Edkoyan (Tagb.).

MADHUCA MINDANAENSIS (Merr.) comb. nov.

Bassia mindanaensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 58.

Mindanao (Misamis), *F. B.* 17977 *Miranda*. In primary forests at low altitudes. Endemic.

MADHUCA MIRANDAE (Merr.) comb. nov.

Bassia mirandae Merr. in Philip. Journ. Sci. 13 (1918) Bot. 324.

Mindanao (Zamboanga), *F. B.* 24161 *Miranda*. On forested ridges at low altitudes. Endemic.

MADHUCA MONTICOLA (Merr.) comb. nov.

Bassia monticola Merr. in Philip. Journ. Sci. 10 (1915) Bot. 56.

Palawan, Sibuyan, *Merrill* 9622, *F. B.* 22498 *Hirro*, 27903 *Cenabre*, *Baldemor*, & *Aduviso*. On forested peaks and ridges, altitude up to 550 m. Endemic.

MADHUCA MULTIFLORA (Merr.) comb. nov.

Illipe multiflora Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 41.

Bassia multiflora Merr. in Philip. Journ. Sci. 10 (1915) Bot. 56.

Luzon (Bataan, Rizal), Mindanao (Lanao), *Ahern* 762, *F. B.* 411 *Ahern's collector*, 23152 *Agama*, *Merrill Dec. Phil. Forest Fl.* 125. In primary forests at low altitudes. Endemic.

Local names: Kalamiánes (Tag.); tagatoi (Tag.).

MADHUCA OBLONGIFOLIA (Merr.) comb. nov.

Bassia oblongifolia Merr. in Philip. Journ. Sci. 13 (1918) Bot. 323.

Luzon (Camarines), *F. B.* 27101 *Alambra*. In primary forests at low altitudes. Endemic.

Local name: Kalakalachúche (Tag.).

MADHUCA OBOVATIFOLIA (Merr.) comb. nov.

Bassia obovatifolia Merr. in Philip. Journ. Sci. 10 (1915) Bot. 57.

Luzon (Tayabas, Camarines), *F. B.* 21426 *Alvarez*, 24802 *Lomuntad*, 22773 *De Mesa & Rosario*, *B. S.* 20769 *Escritor*. In primary forests at low altitudes. Endemic.

Local names: Dulítan (Tag.); manikník (Bik.); náto (Tag.).

MADHUCA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 20 (1922) 430.

Luzon (Tayabas, Camarines), Mindanao (Cotabato), *F. B. 28399 Labitig, Merrill 2601, Ware, Hagger*. In primary dipterocarp forests at low altitudes. Endemic.

Local names: Banítis (Bik.); betis (Tag.); betis-laláki (Tag.); manilig (Mag.).

MADHUCA PLATYPHYLLA (Merr.) comb. nov.

Bassia platyphylla Merr. in Philip. Journ. Sci. 10 (1915) Bot. 58.

Mindanao (Zamboanga), *F. B. 21873 Villamil*. On forested slopes at low altitudes. Endemic.

MADHUCA RAMIFLORA (Merr.) comb. nov.

Illipe ramiflora Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 42, Philip. Journ. Sci. 1 (1906) Suppl. 113.

Bassia ramiflora Merr. in Philip. Journ. Sci. 10 (1915) Bot. 56.

Luzon (Pangasinan, Bulacan, Zambales, Bataan, Laguna, Tayabas), Mindoro, Leyte, *F. B. 189, 583 Barnes, 11190 Aguilar*. In primary forests at low altitudes. Endemic.

Local names: Baníti (Tag., Pamp.); buluan (Tag.); silang-batú (Tag.).

EXCLUDED SPECIES

BASSIA BUTYRACEA Roxb.; F.-Vill. Novis. App. (1880) 125.

2. PALAQUIUM Blanco

PALAQUIUM AHERNIANUM Merr. in Philip. Bureau Forestry Bull. 1 (1903) 46, Govt. Lab. Publ. (Philip.) 6 (1904) 14; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 384.

Mindanao (Agusan, Bukidnon, Lanao, Cotabato, Zamboanga), *Ahern 841, 608, Clemens 1033, Merrill Phil. Pl. 1915, F. B. 3432 Tarrosa, 20797 Ferraris & Stadtmüller*. In primary forests at low and medium altitudes. Endemic.

Local names: Kalapía (Sul.); kalipaya (Sul.); lahas (Sub.); lukut (Buk.); salikut (Mbo.); salukut (Buk.); salukutak (Mag.); tipdus (Mbo.); tipulo (Mbo.); tipulok (Mbo.).

PALAQUIUM BARNESII Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 13; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 383.

Luzon (Pampanga, Rizal, Bataan, Tayabas, Sorsogon), Masbate, *Merrill 2757, 3785, Elmer 16714 as P. sorsogonense Elm., Williams 484, Whitford 22, F. B. 171, 131, 170, 168 Barnes, 3350 Ahern's collector, 20002 Topacio, 5461, 17532, 17577 Curran, 12949 Alvarez, B. S. 1602 Foxworthy*. In primary forests at low and medium altitudes. Endemic.

Local names: Alakáak (Tag.); náto (P. Bis.); palak-pálak (Tag.).

PALAQUIUM BATAANENSE Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 44, Philip. Journ. Sci. 3 (1908) Bot. 425; Elm. Leaf. Philip. Bot. 3 (1910) 867; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 380.

Paladium whitfordii Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 55, Philip. Journ. Sci. 1 (1906) Suppl. 114; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 380.

Luzon (Cagayan, Ilocos Sur, Bataan), Palawan, Mindanao (Davao), *F. B.* 169, 496 *Barnes*, 20470 *Barros*, 11547 *Whitford*, 13040 *Paraiso*, *Elmer* 12813, *Whitford* 1015, 1204, *Copeland* 1318. In primary forests at low altitudes. Endemic.

Local names: Gasatán (Ilk.); tagatoi (Tag.).

PALAEQUIM CALOPHYLLUM (T. & B.) Pierre ex Burck in Ann. Jard. Bot. Buitenz. 5 (1886) 28; Boerl. in Bull. Inst. Bot. Buitenz. 5 (1900) 24; Dubard. in Bull. Soc. Bot. France 56 (1906) Mém. 16:8. *Isonandra calophylla* T. & B. in Nat. Tijdschr. Nederl. Ind. 27 (1864) 35.

Mindanao (Surigao), *F. B.* 27109 *Leuterio & Mallonga*, det. H. J. Lam. In primary forests at low altitudes. Borneo.

PALAEQUIM CELEBICUM Burck in Ann. Jard. Bot. Buitenz. 5 (1885) 32; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 47, Govt. Lab. Publ. (Philip.) 6 (1904) 15; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 379.

Mindanao (Zamboanga, Cotabato), *Ahern* 839, *Sherman* 19, sterile specimens only. Celebes.

PALAEQUIM CUNEIFOLIUM nom. nov.

Palaequium cuneatum Vidal Sinopsis Atlas (1883) 31, t. 62, f. A, Rev. Pl. Vasc. Filip. (1886) 177; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 47, Govt. Lab. Publ. (Philip.) 6 (1904) 14; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 382, non *Bassia cuneata* Blume.

Dichopsis cuneata F.-Vill. Novis. App. (1880) 124, non *Bassia cuneata* Blume.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Zambales, Pampanga, Bulacan, Rizal), Mindoro, Guimaras, Cebu, *Merrill* 2993, *Phil. Pl.* 1998, *B. S.* 13914, 27356, 11012, 39790, 39811 *Ramos*, *F. B.* 23611 *Paraiso*, 8245 *Curran & Merritt*, 6962, 17728 *Curran*, 1994 *Ahern's collector*, 9866 *Merritt*, 238 *Gammill*. In primary and secondary forests at low and medium altitudes. Endemic.

Local names: Anosep (Tag.); lako-lako (P. Bis.); malikmik (Tag.); tañgiling-kompól (Tag.).

PALAEQUIM CUPRIFOLIUM Elm. Leaf. Philip. Bot. 8 (1915) 2817.

Mindanao (Agusan), *Elmer* 13263. On ridges in the primary forests, altitude about 300 m. Endemic.

Local name: Takan (Mbo.).

PALAEQUIM DUBARDII Elm. Leaf. Philip. Bot. 3 (1910) 868.

Sibuyan, Panay, *Elmer* 12553, *B. S.* 35637 *Martelino & Edaño*. In primary forests, altitude 200 to 600 m. Endemic.

Local name: Molato (P. Bis.).

PALAEQUIM ELONGATUM Merr. in Philip. Journ. Sci. 3 (1908) Bot. 257; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 383.

Luzon (Nueva Ecija, Tayabas, east coast), *F. B.* 6620 *Reyes*, 22370 *Alvarez*. In primary forests, altitude about 200 m. Endemic.

Local names: Palak-palak (Tag.); tañgileng-pulá (Tag.).

PALAUQUIUM FORMOSANUM Hayata in Journ. Col. Sci. Univ. Tokyo 30¹ (1911) 184.

Palaquium polyandrum Hayata op. cit. 185, non C. B. Rob.

Batan and Babuyan Islands (Batan, Camiguin), *Prautch*, B. S. 3668, 4101. *Fénix*. In thickets and forests at low altitudes. Formosa, Botel Tobago, *Kanehira*, *Kanehira* & *Sasaki*.

Local name: Nátu (Iv.).

PALAUQUIUM FOXWORTHYI Merr. in Philip. Journ. Sci. 10 (1915) Bot. 60.

Luzon (Zambales, Bataan, Tayabas, Laguna), B. S. 13112 *Foxworthy* & *Ramos*, F. B. 156 *Barnes*, 24924 *Mariano*. In primary forests, ascending to 300 m. Endemic.

Local names: Danlig (Tag.); tagatoi-laláki (Tag.).

PALAUQUIUM GIGANTIFOLIUM Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 14; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 384.

Luzon (Ilocos Norte, Benguet, Rizal, Laguna, Camarines, Tayabas), Mindoro, Mindanao (Agusan), *Merrill* 5767, 4055, 2845, *Whitford* 797, *Loher* 6556, B. S. 13326, 23834, 10967, 20592 *Ramos*, F. B. 25356 *Bawan*, 12700 *Rosenbluth*, 6787 *Merritt*. In primary forests at low altitudes. Endemic.

Local names: Alakáa (Tag.); alakáak (Tag.); bayátis (Tag.); dulitan (Tag.); lakodog (Tag.); tagkan (Mbo.).

PALAUQUIUM GLABRIFOLIUM Merr. in Philip. Journ. Sci. 14 (1919) 446.

Panay, B. S. 30820 *Ramos* & *Edaño*. On forested slopes at medium altitudes. Endemic.

PALAUQUIUM GLABRUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 61.

Luzon (Rizal, Tayabas), B. S. 13582 *Ramos*, 26627 *Ramos* & *Edaño*. In primary forests at low or medium altitudes. Endemic.

Local name: Alakáak-na-putí (Tag.).

PALAUQUIUM HETEROSEPALUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 61.

Luzon (Rizal), B. S. 19160 *Reillo*, 29352 *Ramos* & *Edaño*. In forests at medium altitudes. Endemic.

PALAUQUIUM LANCEOLATUM Blanco Fl. Filip. (1837) 403, ed. 2 (1845) 282, ed. 3 2 (1878) 159; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 62, Sp. Blancoanae (1918) 301; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 383.

Bassia lanceolata A. DC. Prodr. 8 (1844) 199.

Dichopsis lanceolata F.-Vill. Novis. App. (1880) 124.

Luzon (Cagayan, Tayabas, Camarines, Sorsogon), B. S. 19483, 22135 *Ramos*, F. B. 12992 *Bernardo*, *Elmer* 17196 as *P. pacificum* Elm. In primary forests at low or medium altitudes. Endemic.

Local names: Araka (Ibn.); bagalañgit (Tag.); mikat (Ibn.); miket (Ibn.); miko (Ibn.); uban (Tag.); upong-úpong (Bik.).

PALAEQUIUM LUZONIENSE (F.-Vill.) Vidal Rev. Pl. Vasc. Filip. (1886) 176; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 15, Philip. Journ. Sci. 1 (1906) Suppl. 114; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 380.

Dichopsis luzoniensis F.-Vill. Novis. App. (1880) 125.

Palaquium latifolium Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 423, non Blanco.

Luzon (Cagayan, Abra, Ilocos Norte, Apayao, Ilocos Sur, Pangasinan, Zambales, Rizal, Bataan, Laguna, Tayabas), Mindoro, Sibuyan, Masbate, Guimaras, *F. B.* 179, 181, 162, 486, 155 *Barnes*, 26810, 23616 *Paraiso*, 696, 698, 1739, 1918, 2325 *Borden*, 2277, 2254 *Meyer*, 26426 *Miranda*, *Whitford* 1016, *Williams* 465, *Merrill* 1761, 1944, 1927, 1982. In primary forests at low and medium altitudes, common. Endemic.

Local names: Araka (Ibn.); bagalañgit (Tag.); dolítan (Tag.); dulítan (Pamp.); gasátan (Ilk.); gasátan-panalipáuen (Ilk.); náto (Tag., P. Bis.); náto-ñga-putí (P. Bis.); niket (Ilk.); palak-pálak (Tag.); tagatoi (Tag.); takaran (Pang.).

PALAEQUIUM MERRILLII Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 381, Fedde Repert. 11 (1912) 47.

Palaquium lanceolatum Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 15, non Blanco.

Luzon (Cagayan, Isabela, Rizal, Laguna, Tayabas, Camarines, Sorsogon), Mindoro, Guimaras, Mindanao (Davao), *Ahern* 42, *Loher* 6568, *Elmer* 16029, *Merrill* 2042, 2136, 1096, *F. B.* 8731 *Merritt*, 15369 *Tamesis*, 26386 *Catalan*, 10476 *Curran*, *B. S.* 6042 *Robinson*. In primary forests at low and medium altitudes. Endemic.

Local names: Akatan (Ibn.); baliuhod (Tag.); bulau-búlau (P. Bis.); dolítan (Tag.); dulítan (Tag.); halibis (Tag.); manung-kálou (Tag.); mihat (Ibn.); mikat (Ibn.); miko (Ibn.); náto (Tag.); palak-pálak (Tag.); tadkan (Bik.); tagkán (Bik.); tipudos (Sml.); yangauan (Mang.).

PALAEQUIUM MINDANAENSE Merr. in Govt. Lab. Publ. 6 (1904) 15; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 379.

Mindanao (Cotabato, Lanao), *Ahern* 837, *F. B.* 25212 *Alvarez*. In primary forests at low altitudes. Endemic.

Local name: Náto (Lan.).

PALAEQUIUM MONTANUM Elm. Leaf. Philip. Bot. 8 (1919) 3102.

Luzon (Laguna), *Elmer* 17189, *Baker* 2872. In the mossy forest, summit of Mt. Maquiling, altitude about 1,100 m; probably only a form of *P. philippinense* C. B. Rob. Endemic.

PALAEQUIUM NEGROSENSE Merr. in Philip. Journ. Sci. 10 (1915) Bot. 63.

Palaquium obovatum Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 380, non Engl.

Negros, Mindanao (Zamboanga), *F. B.* 20696 *Tamesis*, 7325 *Everett*, 15029 *Danao*, 24961 *Miranda*. In forests at low altitudes. Endemic.

Local names: Lapisan (Sub.); náto (P. Bis.).

PALAEQUIM PHILIPPENSE (Perr.) C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 304; Merr. Sp. Blancoanae (1918) 300.

Chrysophyllum philippense Perr. in Mém. Soc. Linn. Paris 3 (1824) 109.

Palaquium latifolium Blanco Fl. Filip. (1837) 404, ed. 2 (1845) 282, ed. 3, 2 (1878) 159; Vidal Sinopsis Atlas (1883) 31, t. 62, f. B, Rev. Pl. Vasc. Filip. (1886) 176; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 46, Govt. Lab. Publ. (Philip.) 6 (1904) 14, Philip. Journ. Sci. 1 (1906) Suppl. 114.

Palaquium oleiferum Blanco Fl. Filip. (1837) 405, ed. 2 (1845) 283, ed. 3, 2 (1878) 160; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 14, 27 (1905) 57, Philip. Journ. Sci. 1 (1906) Suppl. 114; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 382.

Chrysophyllum macrophyllum Desf. Cat. Hort. Paris ed. 3 (1829) 132, 398, non Lam.

Chrysophyllum grandifolium Steud. Nomencl. ed. 2, 1 (1840) 359; Miq. Fl. Ind. Bat. 2 (1859) 1035; A. DC. Prodr. 8 (1844) 163; F.-Vill. Novis. App. (1880) 124.

Bassia blancoi A. DC. Prodr. 8 (1844) 199.

Bassia oleifera A. DC. l. c.

Dichopsis latifolia F.-Vill. Novis. App. (1880) 134.

Dichopsis oleifera F.-Vill. l. c. 135.

Luzon (Cagayan to Sorsogon, in most or all provinces), Mindoro, Panay, Negros, Mindanao, incl. *Elmer* 15775 as *P. aureum* Elm. Common in primary forests at low and medium altitudes. Endemic.

Local names: Agas (Tag.); agrado (Bag.); alakáak (Tag., Pamp.); alakáak-na-pulá (Tag.); alákap (Tag.); alákau (Pamp.); apakapaka (Neg.); araka (Ibn.); bitok (Neg.); dalákan (Ilk.); darákan (Ilk.); dolítan (Tag.); dolítan-taklóban (Tag.); malakmak (Pamp.); malasaputi (Pamp.); manimparog (Tag.); manogtalísai (P. Bis.); nato-pulá (Bik.); pakankal (Pamp.); pakaran (Pang.); palak-pálak (Tag., Pamp.); tagogong (Sbl.).

PALAEQUIM PINNATINERVIUM Elm. Leaf. Philip. Bot. 8 (1915) 2819.

Mindanao (Agusan), *Elmer* 13896. In primary forests, altitude about 900 m. Endemic.

Local name: Tagkan (Mbo.).

PALAEQUIM POLYANDRUM C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 212; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 384.

Leyte, Panay, Mindanao (Agusan, Surigao, Zamboanga, Misamis, Lanao, *Clemens* 1017, 1154, *Elmer* 13660, *Williams* 2197, 2318, 2308, *B. S.* 15210 *Ramos*, 31287, 36901 *Ramos & Edaña*, *F. B.* 26008 *Mallonga*, 17974 *Miranda*. In primary forests at low and medium altitudes, ascending to 700 m. Endemic.

Local names: Bisuakan-na-kálau (Tagk.); tagkan (Mbo.); tipurus (Mag.).

PALAEQUIUM RETUSUM Merr. in Philip. Journ. Sci. 3 (1908) Bot. 250; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 384.

Luzon (Benguet, Pangasinan), *F. B.* 5095 *Curran*, 25154 *Leaño*, *B. S.* 29934, 29837 *Fénix*, *Elmer* 8523, *Sandkuhl* 172. In forests and in forested ravines, altitude 300 to 1,200 m. Endemic.

Local names: Adagi (Ig.); arábon (Ig.).

PALAEQUIUM TENUIPETIOLATUM Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 45, Philip. Journ. Sci. 1 (1906) 114; Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 382.

Luzon (Cagayan, Isabela, Pangasinan, Zambales, Bataan, Laguna, Tayabas, Sorsogon), Mindoro, Masbate, Mindanao, incl. *Elmer* 16303 as *P. vulcanicum* Elm. Common in primary forests at low and medium altitudes. Endemic.

Local names: Akátan (Klg.); dolítan (Tag.); dulítan-pulá (Tag.); maliknik (Sbl.); mamenik (Tag.); maniknik (Sbl., Tag.); manipnip (Tag., Pamp., Sbl.); mayusip (Tag.); pañgo (Ibn.); yañgauan (Mang.).

PALAEQUIUM THEOIDEA Elm. Leaf. Philip. Bot. 3 (1909) 868.

Luzon (Rizal), Mindoro, Sibuyan, Camiguin de Misamis, *Elmer* 12515, *Merrill*, *B. S.* 14656 *Ramos*, *Guerrero*. On forested ridges, altitude 1,000 to 1,300 m. Endemic.

Local name: Dulítan (Tag.).

PALAEQUIUM VIDALII Pierre ex Dubard in Bull. Mus. Hist. Nat. Paris 15 (1909) 381.

Philippines, without locality (*Vidal* in herb. Pierre); said by Dubard to be closely allied to *P. obovatum* Engl. Endemic.

EXCLUDED SPECIES

DICHOPSIS GUTTA Benth; F.-Vill. l. c.

DICHOPSIS POLYANTHA Wall.; F.-Vill. l. c.

3. ACHRAS Linnaeus

ACHRAS ZAPOTA Linn. Sp. Pl. (1753) 1190; O. F. Cook in Contr. U. S. Nat. Herb. 16 (1913) 285.

Achras zapota Linn. Sp. Pl. ed. 2 (1762) 470; Blanco Fl. Filip. (1837) 236, ed. 2 (1845) 165, ed. 3, 1 (1877) 298, t. 85; F.-Vill. Novis. App. (1880) 124; Vidal Sinopsis Atlas (1883) 31, t. 62, f. C; Merr. Fl. Manila (1912) 363, Sp. Blancoanae (1918) 301.

Sapota achras Mill. Gard. Dict. ed. 8 (1768) No. 1; Miq. Fl. Ind. Bat. 2 (1859) 1036.

Sapota zapotilla Coville in Contr. U. S. Nat. Herb. 9 (1905) 370.

Introduced from tropical America in the early colonial period, now generally cultivated in most parts of the Philippines. Tropics generally in cultivation. The sapodilla. Universally known as *chico* in the Philippines, a name of Mexican origin.

4. CALOCARPUM Pierre

CALOCARPUM SAPOTA (Jacq.) comb. nov.

Sideroxylon sapota Jacq. Enum. Pl. Carib. (1760) 15.

Achras mammosa Linn. Sp. Pl. ed. 2 (1762) 469.

Achras tchicomame Perr. in Mém. Soc. Linn. Paris 3 (1824) 95.

Achras lucuma Blanco Fl. Filip. (1837) 237, ed. 2 (1845) 166, ed. 3, 1 (1877) 299, t. 297, non Ruiz & Pav.

Lucuma mammosa Gaertn. f. Fruct. 3 (1805-07) 129, t. 203, 204; A. DC. Prodr. 8 (1844) 169; F.-Vill. Novis. App. (1880) 124; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 34, Sp. Blancoanae (1918) 301.

Vitellaria mammosa Radlk. in Sitzungsab. Math.-Phys. Akad. München. 12 (1882) 325.

Calospermum mammosum Pierre Notes Bot. Sapot. (1890) 11.

Calocarpum mammosum Pierre in Urban Symb. Antill. 5 (1904) 98; Dubard in Ann. Mus. Colon. Marseille 20 (1912) 6.

Achradelpha mammosa O. F. Cook in Journ. Wash. Acad. Sci. 3 (1913) 160, Contr. U. S. Nat. Herb. 16 (1913) 285.

Occasionally planted in Luzon (Cavite, Laguna, etc.), *Merrill Sp. Blancoanae* 54, *B. S. 1357 Mangubat*. Introduced from Mexico by the Spaniards.

Sideroxylon sapota Jacq. was published independently of and without reference to *Achras sapota* Linn., and represents this species, not the sapodilla. The reference to *Malus persica maxima* Sloane Voy. Jam. 2 (1725) 124, t. 218, definitely fixes its status. The genus *Calocarpum* Pierre is not invalidated by *Callicarpa* Linnaeus as Cook assumed in proposing the new generic name *Achradelpha*.

Local names: Chiko-mamei (Tag.); mamei (Tag.).

5. SIDEROXYLON Dillenius

SIDEROXYLON ACUMINATUM Elm. Leaf. Philip. Bot. 4 (1912) 1487.

Luzon (Tayabas), Mindoro, *Elmer* 7904, *B. S. 39540 Ramos*. In forests on Mt. Banahao, at medium altitudes. Endemic.

SIDEROXYLON AHERNIANUM Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 55.

Luzon (Benguet, Lepanto, Rizal), *F. B. 2165 Ahern's collector*, *B. S. 7020 Ramos*. In forests at medium altitudes. Endemic.

SIDEROXYLON ANGUSTIFOLIUM Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 56, Philip. Journ. Sci. 1 (1906) Suppl. 114.

Palaquium angustifolium Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 43.

Luzon (Bataan), *Merrill* 3744, *Williams* 751, *Whitford* 159, 1166. On exposed ridges in the mossy forest on Mt. Mariveles, altitude 1,000 to 1,150 m. Endemic.

SIDEROXYLON APOENSIS Elm. Leaf. Philip. Bot. 8 (1915) 2821.

Mindanao (Davao), *Elmer* 10800. In damp primary forests, altitude about 1,350 m. Endemic.

Local names: Baloloi (Bag.); botakdin (Bag.).

SIDEROXYLON DUCLITAN Blanco Fl. Filip. (1837) 129, ed. 2 (1845) 92, ed. 3, 1 (1877) 168; A. DC. Prodr. 8 (1844) 185; F.-Vill. Novis. App. (1880) 124; Vidal Phan. Cuming. Philip. (1885) 124, Rev. Pl. Vasc. Filip. (1886) 176; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 75, Philip. Journ. Sci. 1 (1906) Suppl. 114, 2 (1907) Bot. 434, Sp. Blancoanae (1918) 301.

Sideroxylon balitbitan Blanco op. cit. 130, 92, 169; A. DC. Prodr. 8 (1844) 186; F.-Vill. Novis. App. (1880) 124.

Beccariella dulitan (sic!) Pierre Notes Bot. Sapot. (1890) 30.

Beccariella balitbitan Pierre l. c.

Sideroxylon ramiflorum Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 43.

Babuyan Islands, Luzon (Cagayan, Ilocos Norte, Bataan, Laguna, Batangas, Tayabas, Camarines), Mindoro, Palawan, Mindanao (Zamboanga, Cotabato). In forests at low and medium altitudes, represented by numerous collections. Endemic.

Local names: Alalud (Tagb.); balayohot (Tag.); balitbítan (Tag.); bankalandi (Tag.) busili (Ilk.); dolítan (Tag.); duklítan (Tag.); malay-hot (Tag.); náto (Tag.); rirau (Bik.).

SIDEROXYLON FERRUGINEUM Hook. & Arn. Bot. Beechy Voy. (1841) 266, t. 55; Forbes & Hemsl. in Journ. Linn. Soc. Bot. 26 (1889) 68; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1882) 537.

Planchonella ferruginea Pierre Notes Bot. Sapot. (1890) 35.

Planchonella polymorpha Dubard in Ann. Mus. Colon. Marseille 20 (1912) 47.

Sideroxylon attenuatum A. DC. Prodr. 8 (1844) 178; Miq. Fl. Ind. Bat. 2 (1859) 1036; F.-Vill. Novis. App. (1880) 124; Vidal Phan. Cuming. Philip. (1885) 124; Rev. Pl. Vasc. Filip. (1886) 176; Elm. Leaf. Philip. Bot. 3 (1910) 870.

Planchonella attenuata Pierre Notes Bot. Sapot. (1890) 35.

Throughout the Philippines in most or all islands and provinces, chiefly in beach forests and thickets; *Sideroxylon obovatum* Burck is apparently a synonym. Burma to southern China and Malaya.

Local names: Bagatalon (Bik.); banasi (Tag.); buñgalong (Ilk.); kalamungus (Tag.); limis (Neg.); mamangkaskas (Bik.); mangkas (Sul.); nangka-nangka (Sul.); panisi (Bik.); saní (Neg.); tabakid (P. Bis.); tabigei (P. Bis.).

SIDEROXYLON FOXWORTHYI Elm. Leaf. Philip. Bot. 5 (1913) 1836.

Palawan, Mindanao (Bukidnon), *Elmer* 12824, *F. B.* 26531 *Rola*. In primary forests, altitude 300 to 800 m. Endemic.

SIDEROXYLON FRAGRANS Elm. Leaf. Philip. Bot. 3 (1910) 871.

Sibuyan, *Elmer* 12190, 12307. In primary forests, altitude 225 to 450 m. Endemic.

Local names: Bagomaho (P. Bis.); manaligsik (P. Bis.); topek (P. Bis.).

SIDEROXYLON GITINGENSE Elm. Leaf. Philip. Bot. 3 (1910) 873.

Luzon (Camarines), Sibuyan, Negros, Leyte, *Elmer* 12352, *B. S.* 15233 *Ramos*, 33487 *Ramos & Edaño*, *F. B.* 17341 *Curran*. On forested ridges, altitude 400 to 800 m. Endemic.

SIDEROXYLON LUZONIENSE Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 222.

Luzon (Cagayan, Pampanga, Rizal, Batangas, Tayabas, Camarines), Lubang, Ticao, *Merrill 976, Phil. Pl. 1080, Loher 5075, B. S. 127 Foxworthy, 25444 Yates, 1059, 4663 Ramos, F. B. 7747 Curran & Merritt, 28034 Mabesa*. In thickets and forests at low and medium altitudes. Endemic.

Local names: Amamangkás (S. L. Bis.); banokbók (Tag.); malapáho (Tag.).

SIDEROXYLON MACRANTHUM Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 56, Philip. Journ. Sci. 1 (1906) 114.

Luzon (Cagayan, Ilocos Sur, Nueva Ecija, Bataan, Tayabas, Camarines), Mindoro, Ticao, *F. B. 1809, 2741 Borden, 11296 Klemme, 25491 Paraíso, 12955, 12919, 23702, 21433, 22105 Alvarez, 17529 Curran, 51 Barnes, 21137 Miranda, 9835, 9833, 8670 Merritt, Merrill 2608, Phil. Pl. 2079*. In primary forests at low altitudes. Endemic.

Local names: Baid (P. Bis.); barotot (Ibn.); batun (Tag.); botgo (Bik.); burato (Neg.); butgo (Bik.); kalamuting (Ilk.); nato-putí (Tag.); palak-palak (Tag.).

SIDEROXYLON MERRILLII (Dubard) comb. nov.

Planchonella merrillii Dubard in Ann. Mus. Colon. Marseille 20 (1912) 50.

Sideroxylon coriaceum Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 44, non Baill.

Luzon (Cagayan, Ilocos Norte, Benguet, Nueva Ecija, Batangas), *Elmer 6071, Warburg 12225, F. B. 26487 Paraíso, 18338 Alvarez, B. S. 26330 Ramos & Edaña, 22380 Ramos*. In forested ravines, and on slopes ascending to 1,000 m. Endemic.

Local names: Bitok (Neg.); buñgalong (Ilk.).

SIDEROXYLON PARVIFOLIUM (A. DC.) F.-Vill. Novis. App. (1880) 124; Vidal Phan. Cuming. Philip. (1885) 124, Rev. Pl. Vasc. Filip. (1886) 176.

Sapota parvifolia A. DC. in DC. Prodr. 8 (1844) 175; Miq. Fl. Ind. Bat. 2 (1859) 1036.

Planchonella parvifolia Pierre Notes Bot. Sapot. (1890) 36; Dubard in Ann. Mus. Colon. Marseille 20 (1912) 55.

Luzon (Ilocos Norte, Ilocos Sur, Pangasinan, Batangas), *B. S. 27450 Ramos, 17892 Otanes, Merrill Phil. Pl. 1925, Cuming 1147*. In forests at low altitudes. Endemic.

Local names: Auanagin (Ilk.); kalunañgin (Ilk.); manzánas-gúbat (Tag.).

SIDEROXYLON PITTOSPORIFOLIUM Elm. Leaf. Philip. Bot. 3 (1910) 872.

Luzon (Laguna, Batangas, Camarines), Sibuyan, Palawan, Mindanao (Surigao), *Elmer 12552, 12318, 12086, Merrill 9368, Phil. Pl. 1391, 1884, F. B. 28143 Magistrado, 27887, 27889 Cenabre, Baldemor, & Aduviso*. In forests at low and medium altitudes. Endemic.

Local names: Empaparei (Tagb.); loter (P. Bis.); panangkolauan (Bik.).

SIDEROXYLON PHILIPPENSE (Dubard) comb. nov.

Planchonella philippensis Dubard in Not. Syst. 2 (1911) 82, Ann. Mus. Colon. Marseille 20 (1912) 50.

Philippines, without locality, (*Vidal* in herb. Pierre); said to be close to *Planchonella polymorpha* Dubard = *Sideroxylon ferrugineum* H. & A. Endemic.

SIDEROXYLON SARCOCARPUM Merr. in Philip. Journ. Sci. 11 (1916) Bot. 29.

Luzon (Sorsogon), Samar, *B. S.* 24302, 23415 *Ramos*, *Elmer* 16348, 16109, 15596 as *S. bulusanense* Elm. In primary forests at low and medium altitudes. Endemic.

SIDEROXYLON STENOPHYLLUM Merr. in Philip. Journ. Sci. 3 (1908) Bot. 258; Elm. Leaf. Philip. Bot. 3 (1910) 870.

Mindoro, *F. B.* 8626 *Merritt*. In primary forests, altitude about 600 m; perhaps a narrow-leaved form of *S. macranthum* Merr. Endemic.

SIDEROXYLON URDANETENSE Elm. Leaf. Philip. Bot. 8 (1915) 2823.

Mindanao (Agusan), *Elmer* 14161. In the mossy forest, altitude about 1,500 m. Endemic.

Local name: Bobonau (Mbo.).

SIDEROXYLON VELUTINUM Elm. Leaf. Philip. Bot. 5 (1913) 1834.

Luzon (Camarines), Palawan, Samar, Negros, Leyte, *Elmer* 13130, *Merrill Phil. Pl.* 1657 as *S. ferrugineum*, *F. B.* 23400 *Contreras*, *Wenzel* 1788. In forests at low altitudes. Endemic.

Local names: Boaya-boáya (Sul.); uakatan (S. L. Bis.).

SIDEROXYLON VILLAMILII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 59.

Luzon (Cagayan, Bataan, Laguna), Siargao, *F. B.* 19762, 20604 *Villamil*, 26322 *Mabesa*, 2508 *Meyer*, 10317, 17269 *Curran*, 2554 *Borden*, *B. S.* 34843 *Ramos & Pascasio*, *Whitford* 1246 as *S. macranthum* Merr. In primary forests at low altitudes. Endemic.

Local name: Dolitan (Tag.).

EXCLUDED SPECIES

SIDEROXYLON NITIDUM Blume; F.-Vill. Novis. App. (1880) 124.

SIDEROXYLON SERICEUM Ait.; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 105.

6. **CHRYSOPHYLLUM** Linnaeus

CHRYSOPHYLLUM ROXBURGHII G. Don Gen. Syst. 4 (1838) 33; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1882) 535; Koord. & Val. Bijdr. Boom. Java 1 (1894) 130; Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 41.

Chrysophyllum acuminatum Roxb. Fl. Ind. 2 (1824) 345, non Lam.

Chrysophyllum lanceolatum A. DC. Prodr. 8 (1844) 162, non Casar.

Chrysophyllum javanicum Steud. Nomencl. ed. 2, 1 (1840) 359.

Nycteristition lanceolatum Blume Bijdr. (1826) 676.

Luzon (Cagayan), Mindoro, Palawan, Negros, *Merrill 2479, 9296, Phil. Pl. 2098, F. B. 20703 Tamesis, 17803 Curran*. In primary forests at low altitudes. India to Sumatra and Java.

Local names: Buka-buka (Tagb.); kalalang (Ibn.); pisang-dagá (Tag.).

Chrysophyllum cainito Linn., the star apple, is a recent introduction from tropical America.

7. MIMUSOPS Linnaeus

MIMUSOPS CALOPHYLLOIDES Merr. in Philip. Journ. Sci. 10 (1915) Bot. 337.

Luzon (Tayabas, east coast), Samar, Mindanao (Surigao), *F. B. 22834 Ponce, 23020, 24026 Razon, 23530 Cenabre, 23574 Lasquety, B. S. 25531 Yates*. In primary forests at low altitudes. Endemic.

Local names: Dayak-dáyak (C. Bis.); duyok-dúyok (C. Bis.); duyuk-dúyuk (C. Bis.); pagsayagon (C. Bis.).

MIMUSOPS ELENGI Linn. Sp. Pl. (1753) 349; A. DC. Prodr. 8 (1844) 202; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1882) 548; F.-Vill. Novis. App. (1880) 126; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 105; Merr. Fl. Manila (1912) 368.

Luzon (Manila), *Merrill 2773, F. B. 19018 Curran, B. S. 12220 Ramos*. Introduced and cultivated only. A native of India, now planted in most tropical countries.

Local names: Bansalágin (Tag.); kabikí (Tag.).

MIMUSOPS KAUKI Linn. Sp. Pl. (1753) 349; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1882) 548.

Mimusops manilkara G. Don Gen. Syst. 4 (1838) 35; A. DC. Prodr. 8 (1844) 206; Miq. Fl. Ind. Bat. 2 (1859) 1043; F.-Vill. Novis. App. (1880) 126.

Manilkara kauki Dubard in Ann. Mus. Colon. Marseille 23 (1915) 48.

Jolo, *Wester 26*, certainly introduced. India (cultivated), Burma, through Malaya to tropical Australia.

Manilkara Rheede Hort. Malabar. 4: 53, t. 25, the basis of *Mimusops manilkara* G. Don, I consider to represent *Mimusops kauki*, not *Achras zapota* Linn.; the description does not apply to the latter. Rheede was wrong in thinking that this originated in the Philippines.

Local name: Bilat-bilat (Sul.).

MIMUSOPS PARVIFOLIA R. Br. Prodr. (1810) 531; F.-Vill. Novis. App. (1880) 126; Merr. Interpret. Herb. Amb. (1917) 417.

Mimusops erythroxyllum Llanos in Anal. Soc. Esp. Hist. Nat. 2 (1873) 255, t. 10; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 54, non Boj.

Mimusops elengi Vidal Phan. Cuming. Philip. (1885) 124, Rev. Pl. Vasc. Filip. (1886) 177; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 47, Philip. Journ. Sci. 1 (1906) Suppl. 114, non Linn. *Mimusops elengi* Linn. var. *parvifolia* Vidal Sinopsis Atlas (1883) 31, t. 62, f. E.

Mimusops elengi Linn. var. *phillipensis* (sic!) Dubard in Ann. Mus. Colon. Marseille 23 (1915) 48.

Mimusops latericia Elm. Leaf. Philip. Bot. 8 (1915) 2816.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces. In forests at low altitudes, often immediately back of the beach along the seashore. The very numerous Philippine specimens have largely been erroneously identified as *M. elengi* Linn. Moluccas to New Caledonia and Tropical Australia.

Local names: Anosep (Pang.); bansalágin (Tag., Bik., P. Bis.); bansalágon (Tag., Bik., Bis.); barsik (Tag.); basal (Tag.); kabibi (Tag., Bis.); ligayan (Sul.); pagagan (Ibn.); pagpagan (Ilk.); palpogan (Ilk.); pamalitien (Ilk.); pappágan (Ibn.); pappágin (Ibn.); pappaian (Ibn.); pásak (Tag.); tagatoi (Tag.); talipópo (Bis., Kuy.); tugatoi (Tag.).

EBENACEAE

1. MABA Forster

MABA BUXIFOLIA (Rottb.) Pers. Syn. 2 (1807) 606; A. DC. Prodr. 8 (1844) 240; Miq. Fl. Ind. Bat. 2 (1859) 1050; Hook. f. Fl. Brit. Ind. 3 (1882) 551; Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 116; F.-Vill. Novis. App. (1880) 126; Vidal Sinopsis Atlas (1883) 32, *t.* 63, *f.* H, Rev. Pl. Vasc. Filip. (1886) 177, Phan. Cuming. Philip. (1885) 124; Koord. & Val. Bijdr. Boom. Java 1 (1894) 23; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 425.

Maba cumingiana A. DC. Prodr. 8 (1844) 241; Miq. Fl. Ind. Bat. 2 (1859) 1051.

Throughout the Philippines in most or all islands and provinces. In thickets and forests along the seashore, and in some regions also extending inland on dry slopes. Tropical Africa and Asia through Malaya to tropical Australia.

Local names: Balatínau (Ilk.); balingágtá (Ilk.); bantolínau (Bik., S. L. Bis., C. Bis.); batulínau (Ibn., Pang.); ébano (Sp.); itom-ítom (Sub.); palatínau (Pang.); tagintin (Bik.).

MABA EUPHLEBIA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 333.

Luzon (Tayabas), *B. S.* 13335 *Ramos*. In primary forests at low altitudes. Endemic.

MABA MULTIBRACTEATA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 295.

Luzon (Nueva Ecija, Tayabas, Rizal), Alabat, Catanduanes, Panay, *Merrill* 10441, *B. S.* 26361, 26541, 29345, 31399 *Ramos & Edaño*, 25592 *Yates*. In damp primary forests at low altitudes. Endemic.

Local names: Mospos (Tag.); surot-kurot (Neg.).

2. DIOSPYROS Linnaeus

DIOSPYROS AHERNII Merr. in Philip. Journ. Sci. 4 (1909) Bot. 305.

Luzon (Isabela, Nueva Vizcaya, Rizal, Laguna, Tayabas, Camarines, Sorsogon), Mindoro, Samar, Leyte, Biliran, Negros, Mindanao (Agusan), Basilan. In primary forests at low and medium altitudes, represented by numerous collections. Endemic.

Local names: Anang (Tag.); ata-áta (P. Bis.); balupagto (Ilk.); kabag (Klg.); kanalum (P. Bis.); malabalóbo (Tag.); pugauí (Tag.); pugauí-itím (Tag.); talang-gúbat (Tag.).

DIOSPYROS ALATA Elm. Leaf. Philip. Bot. 5 (1913) 1774.

Palawan, *Elmer* 13128. In thickets and secondary forests at low altitudes. Endemic.

DIOSPYROS ALVAREZII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 335.

Luzon (Camarines, Sorsogon), *F. B.* 21417 *Alvarez*, *Elmer* 17148. In forests at low altitudes. Endemic.

Local name: Bantolínau (Bik.).

DIOSPYROS BRIDELIAEFOLIA Elm. Leaf. Philip. Bot. 2 (1908) 507.

Diospyros hypoleuca Elm. Leaf. Philip. Bot. 7 (1915) 2623.

Luzon (Benguet, Tayabas, Laguna), Negros, Mindanao (Agusan), *Elmer* 9722, 14203, *B. S.* 27969 *Ocampo*, 31801 *Santos*, *Quisumbing* 1254. In the mossy forest on the higher mountains, altitude 1,250 to 2,000 m. Endemic.

DIOSPYROS BUXIFOLIA (Blume) Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 218; Koord. & Val. Bijdr. Boom. Java 1 (1894) 55; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 305.

Leucoxyllum buxifolium Blume Bijdr. (1826) 1169; Choisy in Mém. Soc. Phys. Hist. Nat. Genève 14 (1858) 131, t. 2; Miq. Fl. Ind. Bat. 2 (1859) 1050.

Diospyros microphylla Bedd. Ic. Pl. Ind. Or. (1871) 27, t. 133; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1882) 559; King & Gamble in Journ. As. Soc. Beng. 74² (1905) 210.

Palawan, Mindanao (Zamboanga), *F. B.* 21592 *Danao*, 9435 *Whitford* & *Hutchinson*. In forests at low altitudes. India to Sumatra, Java, and Borneo.

DIOSPYROS CAMARINENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 336.

Luzon (Camarines), *F. B.* 21443, 22631, 23749 *Alvarez*, 21705 *Miranda*. In forests at low and medium altitudes. Endemic.

Local name: Kanúmai (Bik.).

DIOSPYROS COPELANDII Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 45, Philip. Journ. Sci. 1 (1906) Suppl. 114.

Luzon (Rizal, Bataan, Tayabas, Laguna), *Merrill* 1837, 2162, *Phil. Pl.* 995, *Williams* 712, *Copeland* 246, *Elmer* 17747, *B. S.* 3271 *Ramos*, *F. B.* 11670 *Whitford*, 3057 *Borden*. In primary forests at low altitudes. Endemic.

Local names: Sapóteng-hulo (Tag.); talang-gúbat (Tag.).

DIOSPYROS CURRANII Merr. in Philip. Journ. Sci. 4 (1909) Bot. 306.

Diospyros reticulata Elm. Leaf. Philip. Bot. 2 (1908) 506, non Willd.

Diospyros sibuyanensis Elm. op. cit. 5 (1912) 1506.

Diospyros viridifolia Elm. op. cit. 7 (1915) 2626.

Luzon (Rizal, Laguna, Tayabas, Camarines, Sorsogon), Marinduque, Sibuyan, Panay, Negros, Mindanao (Misamis, Lanao, Zamboanga). Common in many regions, in primary forests at low and medium altitudes. Endemic.

Local names: Alinau (Bik.); ánang (Tag.); ata-áta (P. Bis.); bagaitman (Bik.); baganító (Bik.); bagoitmon (Bik.); bologéta (Tag.); gu-

munan (Bag.); malagaítman (Tag.); malagaítmon (Tag.); panagitmon (Bik.); panalipan (Neg.).

DIOSPYROS DISCOLOR Willd. Sp. Pl. 4 (1805) 1108; A. DC. Prodr. 8 (1844) 235; Miq. Fl. Ind. Bat. 2 (1858) 1048; Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 260; F.-Vill. Novis. App. (1880) 127; Vidal Sinopsis Atlas (1883) 31, t. 63, f. B, Rev. Pl. Vasc. Filip. (1886) 177; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 115, 3 (1908) Bot. 425, Fl. Manila (1912) 364, Sp. Blancoanae (1918) 302.

Cavanillea philippensis Desr. in Lam. Encycl. 3 (1791) 663; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 304, non *Diospyros philippinensis* A. DC.

Cavanillea mabolo Poir. in Lam. Ill. 2 (1823) t. 454.

Diospyros mabolo Roxb. Hort. Beng. (1814) 40, *nomen nudum*; Lindl. Bot. Reg. (1828) t. 1139.

Embryopteris discolor G. Don Gen. Syst. 4 (1837) 41.

Diospyros kaki Blanco Fl. Filip. (1837) 302, non Linn.

Diospyros blancoi A. DC. Prodr. 8 (1844) 237.

Diospyros embryopteris Blanco Fl. Filip. ed. 2 (1845) 209, ed. 3, 2 (1878) 28, t. 109, non Pers.

Diospyros philippensis Gürke in Engl. & Prantl Nat. Pflanzenfam. 4¹ (1890) 164, non A. DC.

Diospyros merrillii Elm. Leaf. Philip. Bot. 5 (1913) 1775.

Batan Islands and northern Luzon to Palawan in most or all islands and provinces. A common species, occurring in primary and secondary forests at low and medium altitudes, and also commonly planted in and about towns for its large edible fruits. Endemic.

Introduced in various other tropical countries. Specimens from Formosa collected by Kawakami and identified as *D. utilis* Hemsl. appear to be referable here.

Local names: Amága (Bis.); baliñgáhta (Ibn.); itom-itom (Buk.); itúman (S. L. Bis.); kamagón, kamagong (Sbl., Pamp., Tag., Pang., Bik., Bis., Ibn., Mbo.); kamáya (Iv.); mabólo (Tag., Sbl., Ilk., P. Bis.); tálang (Pamp., Tag.).

DIOSPYROS EBENASTER Retz. Obs. 4 (1789) 31; Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 125; F.-Vill. Novis. App. (1880) 127; Vidal Sinopsis Atlas (1883) 31, t. 63, f. G; Merr. Fl. Manila (1912) 362, Sp. Blancoanae (1918) 302.

Sapote negro Sonn. Voy. Nouv. Guin. (1776) 45, t. 14-16.

Diospyros sapota Roxb. Hort. Beng. (1814) 40, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 535.

Diospyros nigra Perr. in Mém. Soc. Linn. Paris 3 (1824) 113.

Sapota nigra Blanco Fl. Filip. (1837) 409.

Diospyros nigra Blanco op. cit. ed. 2 (1845) 211, ed. 3, 2 (1878) 30, t. 372.

Luzon (Isabela, Nueva Ecija, Bataan, Rizal, and probably in other provinces). Occasionally planted in and about towns for its large edible fruits, but nowhere spontaneous. Introduced from Mexico during the early colonial period, and commonly known in the Philippines as sapóte negro.

DIOSPYROS EVERETTII Merr. in Philip. Journ. Sci. 4 (1909) Bot. 307.

Negros, Basilan, *F. B. 7261 Everett, 17484 Curran, 20089 Miranda*. In primary forests at low altitudes. Endemic.

Local name: Kamagóng (P. Bis.).

DIOSPYROS FASCICULIFLORA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 334.

Diospyros urdanetensis Elm. Leaf. Philip. Bot. 7 (1915) 2624.

Luzon (Cagayan, Isabela, Tayabas, Laguna), Mindoro, Negros, Cebu, Mindanao (Agusan, Surigao, Butuan, Zamboanga), Basilan, *B. S. 16101 Reillo, 8004, 40826 Ramos, 34504 Ramos & Pascasio, F. B. 10283 Curran, 23394 Contreras, 25383 Mabesa, 12416 Danao, 6450 Everett, 20541, 24163, 22785, 28620 Miranda, 21876, 21880 Villamil, Loher 6562, Warburg 11563, Adduru 167, Elmer 13435, 13466*. In primary forests at low and medium altitudes. Endemic.

Local names: Ata-áta (C. Bis.); baliñágta (Ibn.); hinlabató (P. Bis.); itom-ítom (Buk.); kamagóng (P. Bis., Mbo.); malinóag (Mbo.); panang-tilong (C. Bis.); tamil (Mag.); taming-taming-babáe (Sul.).

DIOSPYROS FOVEO-RETICULATA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 308.

Luzon (Camarines), Mindanao (Davao, Cotabato, Zamboanga), Basilan, *Ahern 29, 278, 790, F. B. 10780 Curran, 22660 Alvarez, 27532, 27524 De Mesa, 27699 Angeles & Soriano, 28095 Alambra, 18884 Miranda, 9062 Whitford & Hutchinson, B. S. 15424 Reillo*. In primary forests at low altitudes. Endemic.

Local names: Aláhan (Bik.); aráhan (Bik.); ata-áta (Bag.); bulat (Tagk.); kamagóng (Sul.); kolitum (Sul.); luis (Tagk.); palo-negro (Chab.).

DIOSPYROS INCLUSA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 308.

Diospyros mirandae Merr. op. cit. 9 (1914) Bot. 335.

Luzon (Tayabas), Masbate, Mindanao (Davao, Cotabato), *Whitford 1682, F. B. 24931 Bawan, 27566 De Mesa, 18752 Miranda, 14248 Tarrosa, Merrill 2123*. On forested slopes at low altitudes. Endemic.

Local names: Ánang (Tag.); balatínau (Tagk.); bantolínau (S. L. Bis.); bantulínai (Mag.).

DIOSPYROS LONGICILIATA Merr. in Philip. Journ. Sci. 17 (1920) 303.

Dinagat, *B. S. 35189 Ramos & Pascasio*. In primary forests at low altitudes. Endemic.

DIOSPYROS MARITIMA Blume Bijdr. (1825) 669; A. DC. Prodr. 8 (1844) 234; Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 211; F.-Vill. Novis. App. (1880) 126; Koord. & Val. Bijdr. Boom. Java 1 (1894) 52; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 426, Sp. Blancoanae (1918) 303.

Cargillia laxa R. Br. Prodr. (1810) 526, non *Diospyros laxa* T. & B. ? *Diospyros biflora* Blanco Fl. Filip. (1837) 303, ed. 2 (1845) 210, ed. 3, 2 (1878) 28; A. DC. Prodr. 8 (1844) 237; Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 217; F.-Vill. Novis. App. (1880) 126.

Batan Islands and northern Luzon to Palawan, Mindanao, and the Sulu Archipelago, in most or all islands and provinces. Often common in thick-

ets and forests along the seashore, occurring also inland. Along or near the seashore from Java to New Guinea, Samoa, and tropical Australia. *Diospyros kusanoi* Hayata, as represented by a specimen from Botel Tobago, collected by Kanehira and Sasaki, is referable here.

Local names: Kalúmai (S. L. Bis.); kanómai (Pang., Tag., Bik.); kanómas (P. Bis.); kanúmai (Ilk., Tag., Bik., Kuy., P. Bis., Chab.); malatínta (Pamp.); marumangkál (Tag.); tauag (Tagb.).

DIOSPYROS MINDANAENSIS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 309.

Diospyros rosenbluthii Elm. Leaf. Philip. Bot. 4 (1912) 1504.

Luzon (Laguna, Tayabas, Camarines), Samar, Sibuyan, Leyte, Biliran, Panay, Negros, Mindanao (Agusan, Lanao, Zamboanga), Basilan, represented by numerous collections. In primary forests at low altitudes. Endemic.

Local names: Amága (S. L. Bis.); á nang (Tag.); ata-áta (S. L. Bis., P. Bis.); bantolínau (Bik.); boloñgéta (Tag.); boloñgíta (Sul.); hinlahata (P. Bis.); itom-ítom (Lan.); itum-ítum (Lan., C. Bis.); kamagón (Bik., P. Bis., Sul.); makoyabas (P. Bis.); malagaítman (Tag.); sobsoban (Mbo.); tamil-laláki (Lan.); ugáu (Bik.).

DIOSPYROS MONTANA Roxb. Pl. Coromandel 1 (1795) 37, t. 48; Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 220; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 310.

Luzon (Nueva Ecija), *B. S. 5266* McGregor. In thickets or forests at low altitudes.

Var. **PARVA** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 310.

Luzon (Ilocos Norte), *F. B. 13953* Merritt & Darling. On rocky slopes at low altitudes. The variety endemic, the species extending from India to tropical Australia.

Local name: Antinagan (Ilk.).

DIOSPYROS MULTIFLORA Blanco Fl. Filip. (1837) 303; Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 216; F.-Vill. Novis. App. (1880) 126; Vidal Sinopsis Atlas (1883) 31, t. 63, f. D, Phan. Cuming. Philip. (1885) 124, Rev. Pl. Vasc. Filip. (1886) 178; Merr. Sp. Blancoanae (1918) 303.

Diospyros lotus Blanco op. cit. ed. 2 (1845) 210, ed. 3, 2 (1878) 29, non Linn.

Diospyros canomoi A. DC. Prodr. 8 (1844) 237; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 114.

Luzon (Cagayan, Ilocos Sur, Union, Pangasinan, Nueva Ecija, Pampanga, Rizal, Laguna, Batangas), Leyte, Mindanao (Zamboanga), *Merrill 2794*, *Sp. Blancoanae 536*, *Phil. Pl. 388*, *1825*, *Elmer 5742*, *B. S. 18327* *Otanes*, *1418*, *22378* *Ramos*, *F. B. 8445* *Curran*, *22063* *Villamil*, *3132* *Ahern's collector*. In thickets, secondary and primary forests at low and medium altitudes. Endemic.

Local names: Kanómai (Ilk.); kanómoi (Tag.); kanúmai (Ilk., Tag.); maratampúi (Ilk.).

Diospyros multiflora Wall. (1831) is a *nomen nudum* and does not invalidate Blanco's specific name.

DIOSPYROS NITIDA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 57, Philip. Journ. Sci. 1 (1906) Suppl. 115; C. B. Rob. op. cit. 6 (1911) Bot. 219.

Luzon (Union, Benguet, Pangasinan, Zambales, Pampanga, Bulacan, Bataan, Rizal, Cavite, Laguna, Camarines), Mindoro, Polillo, Catanduanes, Guimaras, Mindanao (Misamis, Davao), *Merrill 1737, 2976, Phil. Pl. 358, 1967, Elmer 6331, 5670, 6713, 11301, F. B. 8293 Curran & Merritt, 19256 Curran, 25384 Mabesa, 23519 Alvarez, 290 Gammill, B. S. 26857 Edaño, 5037, 13597, 21737 Ramos, 19263 Reillo*. In secondary and primary forests at low and medium altitudes. Endemic.

Local names: Atilma (Tag.); kanalum (Sbl.); karanung (P. Bis.); katilma (Tag.); kinarum (Bag.); malakanúmai (Tag.); manogarom (P. Bis.).

DIOSPYROS PAUCIFLORA C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 213.

Mindanao (Zamboanga), *Williams 2317, F. B. 9157 Whitford & Hutchinson*. In primary forests at altitudes up to 300 m. Endemic.

DIOSPYROS PELLUCIDA Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 209; F.-Vill. Novis. App. (1880) 126; Vidal Phan. Cuming. Philip. (1885) 124, Rev. Pl. Vasc. Filip. (1886) 178.

Luzon (Camarines Sur), Mindoro, Palawan, Panay, Basilan, *Ahern 261, Merrill 1191, 9392, Cuming 1496, B. S. 40834, 41082 Ramos, 31447, 30893 Ramos & Edaño, F. B. 26419 Tecson*. In primary forests at low altitudes. Endemic.

Local names: Kanómai (Bik.); lagikdi (Mang.).

DIOSPYROS PHANEROPHLEBIA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 310.

Luzon (Bontoc), *F. B. 10993 Curran*. Along streams in the pine region, altitude probably about 1,000 m. Endemic.

Local name: Aliuak (Bon.).

DIOSPYROS PHILIPPINENSIS A. DC. Prodr. 8 (1844) 231; Miq. Fl. Ind. Bat. 2 (1859) 1047; Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 212; F.-Vill. Novis. App. (1880) 126; Vidal Phan. Cuming. Philip. (1885) 124, Rev. Pl. Vasc. Filip. (1886) 178.

Luzon (Pangasinan, Zambales, Bataan, Rizal, Laguna, Camarines), Mindoro, *Cuming 1142, Merrill 2332, Elmer 15895 as D. bulusanensis Elm., F. B. 25885 Alambra & Borromeo, 17563 Curran, 2738, 2952, 3038 Borden, 24066 Mabesa, 25615 Medina, B. S. 29405 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

Local names: Batobangkílan (P. Bis.); kanúmai (Tag.); oioi (Neg.).

DIOSPYROS PILOSANTHERA Blanco Fl. Filip. (1837) 304, ed. 2 (1845) 211, ed. 3, 2 (1878) 31; A. DC. Prodr. 8 (1844) 237; Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 213; F.-Vill. Novis. App. (1880) 126; Vidal Sinopsis Atlas (1883) 31, t. 63, f. E; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 115, 3 (1908) Bot. 426, Sp. Blancoanae (1918) 302.

Diospyros carthei Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 198; F.-Vill. Novis. App. (1880) 126.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces, incl. *Elmer 16885* as *D. dubia* Elm. Common in primary forests at low altitudes. Endemic.

Local names: Alintatau (Tag.); amàga (Bik.); apopuyot (Ibn.); ata-ata (Bik.); atílma (Tag.); baganító (Bik., S. L. Bis.); balatínau (Tag.); balingágta (Ibn., Ilk., Ig.); balitínau (Ilk.); bantolínau (Bis., Tag.); batolínau (Ibn.); boloñgéta (Ibn., Tag., Sbl.); dalondong (Bik.); dam-buhala (Tag.); ditman (Klg.); galorigar (Pang.); katílma (Tag.); mabó-lo-ti-bakir (Ilk.); malapuyau (Tag.); malatálang (Pamp.); marabikal (Bik.); tálang-gúbat (Tag.); tauaylan (P. Bis.).

DIOSPYROS PLICATA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 336.

Diospyros tayabensis Merr. op. cit. 13 (1918) Bot. 47.

Luzon (Tayabas, Camarines), Samar, Mindanao (Zamboanga, Cotabato, Davao), Basilan, *F. B. 13281 Foxworthy, De Mesa, & Villamil, 27561 De Mesa, 21461 Alvarez, 21877, 21874 Villamil, 26834 Phasis, 18284 Miranda, 14901 Tarrosa, 22937 Belen & Oliveros, B. S. 24271 Ramos, 28489 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

Local names: Boloñgéta (Sul.); malagaítman (Tag.); magulitim (Tagk.); palo-négro (Chab.); tamil (Mag.); taming-taming (Sul.).

DIOSPYROS PONCEI Merr. in Philip. Journ. Sci. 10 (1915) Bot. 336.

Luzon (Tayabas, Camarines), Mindanao (Surigao), *F. B. 22842 Ponce, 24938 Bawan, 24990 Labitag, 28720 Simeon, B. S. 33742 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

Local names: Gumaan (Tag.); ituman (C. Bis.); marabikal (Bik.).

DIOSPYROS PULGARENSIS (Elm.) Merr. in Philip. Journ. Sci. 12 (1917) Bot. 286.

Rinora pulgarensis Elm. Leaf. Philip. Bot. 5 1913) 1849.

Palawan, *Elmer 12839, Merrill 9183, 9282, 9356, F. B. 27858, 27897 Cenabre*. In primary forests at low altitudes, ascending to 500 m; only critically distinguishable from *D. fasciculiflora* Merr. Endemic.

Local name: Aponan-tandikan (Tagb.).

DIOSPYROS SABTANENSIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 426.

Batán Islands (Sabtan), *B. S. 3757, 3765 Fénix*. In thickets or forests along streams. Endemic.

Local name: Kanarem (Iv.).

DIOSPYROS STREPTOSEPALA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 322.

Catanduanes, *B. S. 30481 Ramos*. In primary forests at medium altitudes. Endemic.

DIOSPYROS TRIFLORA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 333.

Balabac, *B. S. 15652 Fénix*. In forests at low altitudes. Endemic.

DIOSPYROS ULO Merr. in Philip. Journ. Sci. 11 (1916) Bot. 30.

Luzon (Cagayan, Sorsogon), *F. B. 23243 Barros, B. S. 23413 Ramos*. In primary forests at low and medium altitudes. Endemic.

Local name: Ulo (Ilk.).

DIOSPYROS VELASCOI Merr. in Philip. Journ. Sci. 13 (1918) Bot. 46.

Luzon (Cagayan, Rizal), *F. B. 23278 Velasco, 27079 Bernardo, B. S. 29387 Ramos & Edaño*. In primary forests at low and medium altitudes. Endemic.

Local name: Kalantoya (Ibn.).

DIOSPYROS WHITFORDII Merr. in Philip. Journ. Sci. 4 (1909) Bot. 311.

Mindanao (Surigao, Zamboanga), *F. B. 9019 Whitford & Hutchinson, 484 Hutchinson, 21648 Sherfese, Ccnabre, & Ponce, 21882 Villamil*. In primary forests at low altitudes. Endemic.

Local names: Kamagóng (Sul., Chab.); mahuyan (C. Bis.).

DOUBTFUL AND EXCLUDED SPECIES

DIOSPYROS CUNALON A. DC. Prodr. 8 (1844) 237; Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 197; F.-Vill. Novis. App. (1880) 126; Merr. Sp. Blancoanae (1918) 304.

Cunalon Blanco Fl. Filip. (1837) 304, ed. 2 (1845) 212, ed. 3, 2 (1878) 31.

A species of uncertain status, based on Blanco's imperfect description of *Cunalon*.

DIOSPYROS DICTYONEURA Hiern; F.-Vill. Novis. App. (1880) 126.

DIOSPYROS EMBRYOPTERIS Pers.; F.-Vill. op. cit. 127.

DIOSPYROS HORSFIELDII Hiern; F.-Vill. op. cit. 126.

DIOSPYROS KAKI Linn. f.; Blanco Fl. Filip. (1837) 211, ed. 3, 2 (1878) 29; F.-Vill. Novis. App. (1880) 126; Merr. Sp. Blancoanae (1918) 303.

Blanco apparently had specimens of this species, but they were from a cultivated tree. This Chinese species now occurs in the Philippines only as a recently introduced one in the Mountain Province.

DIOSPYROS LANCEAEFOLIA Roxb.; F.-Vill. Novis. App. (1880) 126.

DIOSPYROS MALACAPAI A. DC. Prodr. 8 (1844) 237; Hiern in Trans. Cambr. Philos. Soc. 12 (1873) 247; F.-Vill. Novis. App. (1880) 127; Merr. Sp. Blancoanae (1918) 303.

Malacapai Blanco Fl. Filip. (1837) 302, ed. 2 (1845) 210, ed. 3, 2 (1878) 27.

This is unrecognizable with certainty beyond the genus; Blanco's description of *Malacapai* on which the binomial is based is very imperfect.

DIOSPYROS POLYALTHOIDES Korth.; F.-Vill. Novis. App. (1880) 126.

SYMPLOCACEAE

1. SYMPLOCOS Jacquin

SYMPLOCOS ACUMINATISSIMA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 31.

Luzon (Sorsogon), Leyte, *Wenzel 888, B. S. 23333, 23690 Ramos*. In forests at and above 500 m altitude. Endemic.

SYMPLOCOS ADENOPHYLLA Wall. Cat. (1831) No. 4427 *nomen nudum*; A. DC. Prodr. 8 (1844) 257; Brand in Engl. Pflanzenreich 6 (1901) 48, var. **MERRITTII** Brand in Philip. Journ. Sci. 3 (1908) Bot. 7. *Symplocos adenophylla* Merr. op. cit. 2 (1907) Bot. 298, vix Wall. *Symplocos brandii* Elm. Leaf. Philip. Bot. 4 (1912) 1477.

Mindoro, Panay, Sibuyan, *F. B.* 4406, 4440, 4428 Merritt, *B. S.* 30638 Ramos & Edaña, Merrill 5742, Elmer 12304. In the mossy forest and on exposed ridges, altitude 400 to 2,400 m; the same form also occurs on Mt. Kinabalu, Borneo, and may be specifically distinct from *S. adenophylla* Wall., which occurs at low altitudes in Penang, Malay Peninsula, Singapore, and Banca.

Local name: Magalas (P. Bis.).

SYMPLOCOS AHERNII Brand in Philip. Journ. Sci. 3 (1908) Bot. 6, 4 (1909) Bot. 109, 7 (1912) Bot. 32.

Luzon (Bontoc, Benguet, Nueva Ecija, Bulacan, Rizal, Bataan, Laguna, Tayabas, Sorsogon), Mindoro, Mindanao (Misamis, Davao). In primary forests chiefly on ridges, altitude 600 to 1,700 m. Endemic.

Local names: Abuabu (Ig.); banatong-babae (Tag.); chaniusiu (Ig.); gudik (Ig.); ñgarau-ñgarau (Neg.); tarañgisi (Bag.).

SYMPLOCOS APOENSIS Elm. Leaf. Philip. Bot. 7 (1914) 2319.

Mindanao (Agusan, Davao), *Elmer* 11961, 14073. In primary forests, altitude about 1,300 m; scarcely distinguishable from *S. floridissima* var. *serrata* Brand. Endemic.

Local names: Bolabógon (Bag.); magobalógo (Mbo.).

SYMPLOCOS BETULA Brand in Philip. Journ. Sci. 3 (1908) Bot. 8.

Luzon (Bataan), *F. B.* 6283 Curran. On ridges in the mossy forest, altitude about 1,000 m. Endemic.

SYMPLOCOS BRACHYBOTRYS Merr. in Philip. Journ. Sci. 14 (1919) 447.

Luzon (Ilocos Norte), *B. S.* 33277 Ramos. On forested slopes, altitude about 900 m. Endemic.

SYMPLOCOS CAGAYANENSIS Brand in Philip. Journ. Sci. 7 (1912) Bot. 35.

Luzon (Cagayan, Rizal), *B. S.* 7207 Ramos, *F. B.* 16725 Curran, 18469 Alvarez, Loher 6190. In forests at low and medium altitudes. Endemic.

SYMPLOCOS CONFUSA Brand in Engl. Pflanzenreich 6 (1901) 88, Bull. Herb. Boiss. II 6 (1906) 750, Philip. Journ. Sci. 3 (1908) Bot. 3, 7 (1912) Bot. 31.

Luzon (Bontoc, Benguet, Lepanto, Bataan, Tayabas, Sorsogon), Negros, Leyte, Mindanao (Bukidnon, Misamis). Common in the mossy forest on exposed ridges, altitude 900 to 2,200 m. Malay Peninsula, Borneo, southern China.

Local names: Bulañgun (Ig.); sidas (Ig.).

SYMPLOCOS CUMINGIANA Brand in Engl. Pflanzenreich 6 (1901) 58, Philip. Journ. Sci. 3 (1908) Bot. 8, 4 (1909) Bot. 110, 7 (1912) Bot. 34.

Symplocos angularis Elm. Leaf. Philip. Bot. 2 (1908) 510.

Luzon (Ilocos Norte, Benguet, Apayao, Tayabas, Rizal, Laguna, Camarines, Sorsogon), Negros, Mindanao (Agusan), *Cuming* 1463, *Elmer* 8695, 8554, 8736, 17387, 16584, 17118, 14091, *Loher* 6194, *Merrill Phil. Pl.* 244, *Williams* 1271, 1308, *B. S.* 28349 *Fénix*, 13497, 23702, 23349 *Ramos*, *F. B.* 21702 *Miranda*. In primary forests, chiefly between 750 and 1,500 m altitude. Endemic.

Local names: Igkai (Ig.); lauisanan (Bag.); socha (Ig.).

SYMPLOCOS CURTIFLORA Elm. *Leaf. Philip. Bot.* 2 (1908) 509; Brand in *Philip. Journ. Sci.* 7 (1912) Bot. 34.

Negros, Camiguin de Misamis, *Elmer* 9802, 14039, *F. B.* 13624 *Curran & Foxworthy*, *B. S.* 14631 *Ramos*. In forests, altitude 1,000 to 1,300 m. Endemic.

Local name: Pun-pun (C. Bis.).

SYMPLOCOS DAGAMIENSIS Brand in *Fedde Repert.* 14 (1916) 324.

Leyte, *B. S.* 15356 *Ramos*. In the mossy forest, altitude probably about 1,000 m. Endemic.

SYMPLOCOS DEPAUPERATA Merr. in *Govt. Lab. Publ. (Philip.)* 29 (1905) 45; Brand in *Philip. Journ. Sci.* 3 (1908) Bot. 10, 7 (1912) Bot. 36.

Luzon (Abra, Bontoc, Benguet). Represented by numerous collections. Common in forested ravines and in the mossy forest, altitude 1,400 to 2,500 m. Reduced by Rolfe to *S. luzoniensis* Rolfe to which it is closely allied.

Local names: Balasbas (Ig.); dumaplas (Ig.); itañgan (Ig.).

Var. **ANGUSTISSIMA** Brand in *Philip. Journ. Sci.* 7 (1912) Bot. 36.

Luzon (Benguet, Bontoc), *Vanoverbergh* 1095, *B. S.* 40320 *Ramos & Edaño*. In forests, altitude about 1,600 m. Endemic.

Var. **SORDIDA** Brand op. cit. 3 (1908) Bot. 10.

Panay, *Yoder*. In the mossy forest on Mt. Midiaas above 1,500 m altitude. Endemic.

SYMPLOCOS ELLIPTIFOLIA Merr. in *Philip. Journ. Sci.* 12 (1917) Bot. 292.

Luzon. (Nueva Ecija, Tayabas), *B. S.* 28476, 26512 *Ramos & Edaño*. In primary forests, altitude at and above 300 m. Endemic.

SYMPLOCOS FLORIDISSIMA Brand in *Engl. Pflanzenreich* 6 (1901) 35, *Philip. Journ. Sci.* 3 (1908) Bot. 5, 4 (1909) Bot. 108.

Luzon (Cagayan), *Cuming* 1305, *Warburg* 11526, *F. B.* 24114 *Velasco*, 21773 *Barros*. In primary forests at low altitudes. Endemic.

Local name: Busigan (Ibn.).

Var. **SERRATA** Brand in *Philip. Journ. Sci.* 4 (1909) Bot. 108, 7 (1912) Bot. 32.

Luzon (Bulacan, Laguna, Tayabas), Mindoro, Mindanao (Davao), *F. B.* 11147 *Aguilar*, 25573 *Duldulao*, 21407 *Villamil*, *B. S.* 12015, 20555, 40995 *Ramos*, 29049 *Ramos & Edaño*, *Elmer* 17994. In primary forests at low and medium altitudes; probably specifically distinct from *S. floridissima* Brand, but not certainly different from *S. apoensis* Elm. Endemic.

Local name: Himamaliu-gúbat (Tag.).

SYMPLOCOS FOXWORTHYI Brand in Philip. Journ. Sci. 3 (1908) Bot. 3.

Palawan, *B. S.* 552, 558 *Foxworthy*. In the mossy scrub, summit of Mt. Pulgar, altitude about 1,200 m; scarcely distinguishable from *S. confusa* Brand. Endemic.

SYMPLOCOS FRAGRANS Elm. Leaf. Philip. Bot. 2 (1908) Bot. 508; Brand in Philip. Journ. Sci. 7 (1912) Bot. 33.

Negros, *Elmer* 9873. In primary forests, altitude about 1,350 m. Endemic.

SYMPLOCOS HUTCHINSONII Brand in Philip. Journ. Sci. 4 (1909) Bot. 109.

Symplocos peninsularis Brand. op. cit. 110.

Mindanao (Zamboanga), Palawan, *F. B.* 6551 *Hutchinson* (flower), 9188 *Whitford & Hutchinson* (fruit), *Merrill* 9334. In primary forests at low altitudes. Endemic.

SYMPLOCOS IMBRICATA Brand in Philip. Journ. Sci. 4 (1909) Bot. 108, 7 (1912) Bot. 31; *Merr.* op. cit. 5 (1910) Bot. 378.

Luzon (Bontoc, Benguet, Zambales), *B. S.* 4701, 5715 *Ramos*, 40427 *Ramos & Edaño*, 8320 *McGregor*, 4476 *Mearns*, *F. B.* 8067 *Curran & Merritt*, *Elmer* 14270, *Merrill* 6584. In the mossy forest on the higher mountains, altitude 2,000 to 2,500 m. Endemic.

SYMPLOCOS IMPERIALIS Brand in Philip. Journ. Sci. 4 (1909) Bot. 109.

Babuyan Islands (Camiguin), *B. S.* 4193 *Fénix*. In primary forests at medium altitudes. Endemic.

SYMPLOCOS INCONSPICUA Brand in Philip. Journ. Sci. 4 (1909) Bot. 110.

Luzon (Zambales, Sorsogon), Panay, *F. B.* 8093 *Curran & Merritt*, *B. S.* 5022, 23659 *Ramos*, 32431 *McGregor*, *Elmer* 16529. In the mossy forest on exposed ridges, altitude 1,400 to 1,700 m. Endemic.

SYMPLOCOS JAVANICA (Blume) Kurz in Journ. As. Soc. Beng. 40¹ (1871) 64; *Merr.* Interpret. Herb. Amb. (1917) 420.

Dicalyx javanicus Blume Bijdr. (1826) 117.

Dicalyx salaccensis Blume l. c. 118.

Symplocos ferruginea Roxb. Hort. Beng. (1814) 40, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 542; Koord. & Val. Bijdr. Boom. Java 7 (1900) 141; Brand in Engl. Pflanzenreich 6 (1901) 40, Perk. Frag. Fl. Philip. (1904) 36 (var. *salaccensis* Brand), Philip. Journ. Sci. 3 (1908) Bot. 6 (var. *philippinensis* Brand), 4 (1909) Bot. 109, 7 (1912) Bot. 32.

Luzon (Benguet, Nueva Ecija, Bulacan, Laguna), Dinagat, Marinduque *Elmer* 6091, 6008, 18363, 17771, 17686, *Merrill* Phil. Pl. 472, *F. B.* 23822, 8257 *Curran & Merritt*, 22194 *Alvarez*, 10167 *Curran*, 34120 *Ramos & Edaño*. In forests at medium altitudes, ascending to 1,400 m. India to southern China through Malaya to the Moluccas.

Local names: Balasbas (Ig.); balókbok (Sbl.); busigan (Ibn.); chaniuchiu (Ig.); libas-libas (C. Bis.).

SYMPLOCOS LAEVIRAMULOSA Elm. Leaf. Philip. Bot. 7 (1914) 2323.

Mindanao (Agusan), *Elmer 14122*. In primary forests, altitude about 1,300 m. Endemic.

Local name: Bangnon (Mbo.).

Hallier f., *Beih. Bot. Centralbl.* 32² (1921) 92, reduces this to *Symplocos theifolia* D. Don, of India, and extends the range of the species to Java and Lombok.

SYMPLOCOS LOHERI Brand in Philip. Journ. Sci. 7 (1912) Bot. 32.

Luzon (Rizal), (*Loher 6192*). Probably from forests at medium altitudes. Endemic.

SYMPLOCOS LUZONENSIS Rolfe in Journ. Bot. 24 (1886) 348, Kew Bull. (1912) 158.

Symplocos montana Vidal Rev. Pl. Vasc. Filip. (1886) 179, non Brongn. & Gris.

Symplocos merrilliana Brand in Philip. Journ. Sci. 3 (1908) Bot. 9, 4 (1909) Bot. 110, 7 (1912) Bot. 36.

Luzon (Bontoc, Laguna, Tayabas), *Vidal 67, 982, Loher 5696, 6179, Merrill 6987, Holman 13, F. B. 8006, 7867 Curran & Merritt, 876 Klemme, B. S. 19584 Ramos, 2415 Foxworthy, B. S. 9803, 6547 Robinson*. Common on exposed ridges at and near the summit of Mt. Banahao, altitude 1,800 to 2,200 m. Endemic.

Rolfe thinks that *S. depauperata* Merr. is referable here.

SYMPLOCOS MEGALOBOTRYS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 383.

Luzon (Sorsogon), Leyte, *Wenzel 298, Elmer 15862, F. B. 27019 Tomeldan*. In primary forests at low altitudes. Endemic.

Local name: Maragáat (S. L. Bis.).

SYMPLOCOS MINUTIFLORA Elm. Leaf. Philip. Bot. 7 (1914) 2320.

Symplocos agusanensis Elm. op. cit. 2321.

Luzon (Laguna, Tayabas), Leyte, Mindanao (Agusan), *Elmer 14039, Wenzel 806, 1126, 1127, 1117, F. B. 13177 Curran, B. S. 28971 Ramos & Edaño*. In primary forests at medium altitudes, ascending to 1,400 m. Endemic.

Local names: Magoting-dakol (Mbo.); talípsai (Mbo.).

SYMPLOCOS OBOVATIFOLIA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 290.

Luzon (Nueva Ecija), *B. S. 26447 Ramos & Edaño*. On forested slopes up to 500 m altitude. Endemic.

Local name: Paropok (Neg.).

SYMPLOCOS PACHYPHYLLA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 283.

Leyte, *Wenzel 1132*. In primary forests, altitude about 500 m. Endemic.

SYMPLOCOS PALAWANENSIS Brand in Philip. Journ. Sci. 3 (1908) Bot. 10.

Palawan, *F. B. 3870 Curran*. In the mossy scrub at the summit of Mt. Pulgar, altitude about 1,300 m. Endemic.

SYMPLOCOS PATENS Presl Rel. Haenk. 2 (1830) 61; F.-Vill. Novis. App. (1880) 127; Brand in Engl. Pflanzenreich 6 (1901) 34, Philip. Journ. Sci. 3 (1908) Bot. 4 (incl. f. *eupatens* Brand), 7 (1912) Bot. 31.

Luzon (Abra, Rizal), *F. B. 14574, 14668 Darling, B. S. 2080 Ramos*. In primary forests at medium altitudes. Endemic.

Local name: Duung (Ting.).

Forma **CILIATA** (Presl) Brand in Engl. Pflanzenreich 6 (1901) 35, Philip. Journ. Sci. 3 (1908) Bot. 5.

Symplocos ciliata Presl Rel. Haenk. 2 (1830) 61; F.-Vill. Novis. App. (1880) 127.

Luzon, without locality, (*Haenke*), (Bontoc), *Vanoverbergh 1300*. Endemic.

Forma **ELMERI** (Brand) Brand in Philip. Journ. Sci. 3 (1908) Bot. 5.

Symplocos elmeri Brand in Perk. Frag. Fl. Philip. (1904) 36; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 115.

Luzon (Rizal, Bataan), *Whitford 1333, Merrill 2356, F. B. 2718 Borden, 27428 Sajor*. In primary forests at low and medium altitudes, ascending to 600 m. Endemic.

SYMPLOCOS PHANEROPHLEBIA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 382.

Luzon (Laguna), Leyte, Panay, *Wenzel 552, 736, B. S. 19591, 20501 Ramos, 30932, 30926 Ramos & Edaña, F. B. 26795 Mabesa*. In damp primary forests at low and medium altitudes. Borneo.

SYMPLOCOS POLYANDRA (Blanco) Brand in Engl. Pflanzenreich 6 (1901) 36, quoad syn. Blanco, excl. descr. et syn Vidal; Merr. Sp. Blancoanae (1918) 304.

Guettarda polyandra Blanco Fl. Filip. ed. 2 (1845) 500, ed. 3, 3 (1879) 126.

Carlea oblongifolia Presl Epim. (1851) 217; Walp. Ann. 3 (1853) 862.

Symplocos oblongifolia Rolfe in Journ. Bot. 23 (1885) 214; Vidal Phan. Cuming. Philip. (1885) 124, Rev. Pl. Vasc. Filip. (1886) 178; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 115; Brand in Engl. Pflanzenreich 6 (1901) 55, Philip. Journ. Sci. 3 (1908) Bot. 7, 4 (1909) Bot. 109.

Luzon (Pangasinan, Bulacan, Zambales, Bataan, Camarines), Mindoro, Culion, Palawan, Dumarán, Guimaras, Panay, Mindanao (Surigao). A very characteristic species occurring in primary forests at low and medium altitudes. Borneo.

Local names: Balakbák (P. Bis.); balakbákan (P. Bis.); bangkunai (P. Bis.); buli-búli (Pang.); dilang-báka (Sbl.); ditáman (Tag.); malabúli (Pang.); mankónai (P. Bis.); rapo-rápo (Tag.); ribúli (Pang.).

SYMPLOCOS PULGARENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1841.

Palawan, *Elmer 12979*. In forests. Endemic.

SYMPLOCOS PURPURASCENS Brand in Philip. Journ. Sci. 7 (1912) Bot. 33.

Luzon (Zambales), *F. B. 8254 Curran & Merritt*. In ridge forests, altitude about 1,300 m. Endemic.

Local name: Dumani (Sbl.).

SYMPLOCOS RAMOSII Merr. in Philip. Journ. Sci. 12 (1917) Bot. 293.

Luzon (Laguna, Camarines), *B. S. 23801 Ramos, 23579 Ramos & Edaño*. In damp primary forests at medium altitudes. Endemic.

SYMPLOCOS SALIX Brand in Fedde Repert. 14 (1916) 325.

Luzon (Laguna), *B. S. 16540 Ramos*. In damp primary forests at low altitudes. Endemic.

SYMPLOCOS TRISEPALA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 291.

Luzon (Nueva Ecija), *B. S. 26515 Ramos & Edaño*. In primary forests, altitude at least 400 m. Endemic.

SYMPLOCOS VIDALII Rolfe in Kew Bull. (1912) 158.

Symplocos luzoniensis Brand in Engl. Pflanzenreich 6 (1901) 61, Philip. Journ. Sci. 3 (1908) Bot. 9, 7 (1912) Bot. 35, non Rolfe.

Luzon (Rizal, Nueva Ecija), *Vidal 2141, B. S. 26251 Ramos & Edaño, 40783 Ramos*. In primary forests at medium altitudes. Endemic.

SYMPLOCOS VILLARII Vidal Rev. Pl. Vasc. Filip. (1886) 178.

Symplocos spicata Vidal Sinopsis Atlas (1883) 32, t. 64; F.-Vill. Novis. App. (1880) 127, non Roxb.

Symplocos pseudospicata Vidal Rev. Pl. Vasc. Filip. (1886) 179.

Symplocos racemosa F.-Vill. Novis. App. (1880) 127, non Roxb.

Symplocos polyandra Brand in Engl. Pflanzenreich 6 (1901) 36 quoad descr. et syn. Vidal, excl. syn. Blanco, Perk. Frag. Fl. Filip. (1904) 36, Philip. Journ. Sci. 3 (1908) Bot. 5, 4 (1909) Bot. 109, 7 (1912) Bot. 32.

Luzon (Cagayan, Zambales, Bataan, Rizal, Laguna, Tayabas, Sorsogon), Mindoro, Samar, Mindanao (Davao). Common in primary forests at low and medium altitudes, represented by numerous collections. Endemic.

Local names: Agosip (Tag.); boloan (Ilk.); bursian (Neg.); goromon (S. L. Bis.); iguai (Bag.); karomampat (Tag.); lagitikan (Tag.); maka-nang (Lan.); otto (Ibn.); supsupiat (Ilk.).

SYMPLOCOS WENZELII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 282.

Leyte, *Wenzel 1022*. In primary forests, altitude about 500 m. Endemic.

SYMPLOCOS WHITFORDII Brand in Philip. Journ. Sci. 3 (1908) Bot. 8, 4 (1909) Bot. 110, 5 (1910) Bot. 378, 7 (1912) Bot. 33.

Luzon (Bontoc, Benguet, Laguna, Tayabas), Negros, *Whitford 962, Lohr 6207, 6201, 6199, Merrill 8005, 7031, Phil. Pl. 239, B. S. 31872, 31993 Santos, 2394, 2389, 2413 Foxworthy, 19586 Ramos, 40401, 40304, 40376 Ramos & Edaño, 27932 Ocampo, 6067, 9845 Robinson*. On exposed

ridges and peaks on the higher mountains, altitude 1,700 to 2,400 m. Endemic.

Local names: Kaipan (Ig.); kapkápaš (Bon.); upunan (Ig.).

SYMPLOCOS ZAMBOANGENSIS Brand in Fedde Repert. 14 (1916) 325.

Mindanao (Zamboanga), *Merrill 8083, 8090*. In the mossy forest, altitude about 1,050 m. Endemic.

F.-Villar records *Styrax benzoin* Dry. from the Philippines, Novis. App. (1880) 127; no representative of the Styraceaceae has been found in the Archipelago.

OLEACEAE

1. FRAXINUS Tournefort

FRAXINUS GRIFFITHII C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1882) 605; Lingelsh. in Engl. Pflanzenreich 72 (1920) 15.

Fraxinus bracteata Hemsl. in Journ. Linn. Soc. Bot. 26 (1889) 84.

Fraxinus eedenii Boerl. & Koord. in Nat. Tijdschr. Nederl. Ind. 62 (1902) 224.

Fraxinus philippinensis Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 57.

Fraxinus formosana Hayata in Journ. Coll. Sci. Tokyo 30 (1911) 189.

Fraxinus minute-punctata Hayata op. cit. 190.

Luzon (Cagayan, Ilocos Norte, Bontoc, Bataan, Rizal, Laguna), *Merrill 2274, Phil. Pl. 367, B. S. 32970, 1485 Ramos, 29783 Ramos & Edaño, F. B. 12396 Curran, 3082, 3200, 3386 Ahern's collector, 23983 Maneja*. In primary forests at medium altitudes. Bengal to southern Japan, Formosa, and Java.

Local names: Asáas (Tag.); lagilí (Tag.); lagilíd (Tag.).

2. LINOCIERA Swartz

LINOCIERA ACUMINATISSIMA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 312; Elm. Leaf. Philip. Bot. 5 (1913) 1651.

Palawan, *F. B. 4506, 7454 Curran, Merrill Phil. Pl. 1254*. In forests immediately back of the mangrove and along beaches. Endemic.

This seems to be very close to *L. caudata* King & Gamble of the Malay Peninsula.

LINOCIERA CORIACEA Vidal Rev. Pl. Vasc. Filip. (1886) 181; Elm. Leaf. Philip. Bot. 5 (1913) 1652.

Mayepea coriacea Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 11.

Linociera purpurea F.-Vill. Novis. App. (1880) 128, non Vahl.

Babuyan Islands, Luzon (Cagayan, Apayao, Rizal, Laguna, Tayabas), Mindoro, Panay, *B. S. 3365, 15005 Ramos, 28233 Fénix, 29143 Ramos & Edaño, F. B. 482 Ahern's collector, 26729, 26700 Peñas*. In damp primary forests at low altitudes. Endemic.

Local names: Anatau (Tag.); kurutan (Tag.); pulat (Tag.).

LINOCIERA GRANDIFOLIA Elm. Leaf. Philip. Bot. 5 (1913) 1657.

Mindanao (Agusan), *Elmer 13425*. In humid primary forests, altitude about 150 m. Endemic.

Local name: Kobolan (Mbo.).

LINOCIERA LONGIFOLIA Merr. in Philip. Journ. Sci. 20 (1922) 431.

Mindanao (Lanao), *F. B. 20626 Miranda*. In forests at sea level. Endemic.

LINOCIERA NITIDA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 339.

Basilan, *B. S. 15406 Reillo*. In primary forests at low or medium altitudes. Endemic.

LINOCIERA OBOVATA Merr. ex Elm. Leaf. Philip. Bot. 5 (1913) 1652, *nomen nudum*, Philip. Journ. Sci. 10 (1915) Bot. 338.

Luzon (Laguna, Nueva Ecija, Tayabas), *Merrill Phil. Pl. 1161*, *B. S. 15014 Ramos*, *B. S. 28792*, *26328* are atypic with smaller leaves than the type. In primary forests at medium altitudes. Endemic.

Local name: Daruparum (Neg.).

LINOCIERA PALUDOSA King & Gamble in Journ. As. Soc. Beng. 74² (1905) 268; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 340.

Linociera vidalii Elm. Leaf. Philip. Bot. 5 (1913) 1654 (err. *vidallii*).

Palawan, Sibuyan, *Elmer 12810*, *12127*, *Merrill 9177*, *9335*, *Phil. Pl. 1371*. In primary forests at low altitudes. Malay Peninsula, Borneo.

LINOCIERA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 313; Elm. Leaf. Philip. Bot. 5 (1913) 1651.

Mayepea pallida Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 58.

Linociera pallida Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 116, non K. Schum.

Olea sp. Vidal Phan. Cuming. Philip. (1885) 125, Rev. Pl. Vasc. Filip. (1886) 181.

Linociera gitingensis Elm. Leaf. Philip. Bot. 5 (1913) 1653.

Luzon (Cagayan, Ilocos Norte, Zambales, Pampanga, Bataan, Rizal, Laguna, Batangas, Camarines), Mindoro, Palawan, Guimaras, Sibuyan, Mindanao. Common in primary forests, chiefly at medium altitudes. Endemic.

Local names: Alinganoi (Mbo.); anatau (Tag.); kababating (P. Bis.); magubai (P. Bis.); ngabiat (Neg.); pulat (Tag.).

LINOCIERA RACEMOSA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 116; Elm. Leaf. Philip. Bot. 5 (1913) 1651.

Mayepea racemosa Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 58.

Luzon (Bataan, Rizal, Laguna, Tayabas), *F. B. 3042 Borden*, *23211 Alambra & Canlas*, *5960 Curran*, *25589 Borromeo*, *25688 Amarillas*, *3079 Ahern's collector*, *B. S. 1758*, *999 Ramos*, *Loher 6746*. In primary forests at medium altitudes. Endemic.

Local name: Barikai (Neg.).

LINOCIERA RAMIFLORA (Roxb.) Wall. Cat. (1831) No. 2824; F.-Vill. Novis. App. (1880) 128.

Chionanthus ramiflora Roxb. Hort. Beng. (1814) 3, *nomen nudum*, Fl. Ind. ed. 2, 1 (1832) 107; Koord. & Val. Bijdr. Boom. Java 8 (1902) 241.

Chionanthus luzonica Blume Mus. Bot. Lugd.-Bat. 1 (1850) 319; Miq. Fl. Ind. Bat. 2 (1857) 551.

Linociera luzonica F.-Vill. Novis. App. (1880) 128; Vidal Sinopsis Atlas (1883) 32, t. 65, f. B, Phan. Cuming. Philip. (1885) 125; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 115; Elm. Leaf. Philip. Bot. 5 (1913) 1651.

Linociera cumingiana Vidal Phan. Cuming. Philip. (1885) 185, Rev. Pl. Vasc. Filip. (1886) 180; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 115, 3 (1908) Bot. 427; Elm. Leaf. Philip. Bot. 5 (1913) 1651.

Mayepea cumingiana Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 11.

Batan Islands and northern Luzon to Palawan, Mindanao, and the Sulu Archipelago, in all or most islands and provinces. Common in thickets and secondary forests at low altitudes; ascending to 1,000 m; represented by more than 100 individual collections. India through Malaya to tropical Australia.

Local names: Bakayau (Pang.); balok-bálok (Tag.); bayogó (C. Bis.); bugog (Tagb.); bulanoi (Pang.); bulog (P. Bis.); buñgalong (Ilk.); guru-guanabo (S. L. Bis.); huntol (P. Bis.); hushus (C. Bis.); kalonakon (P. Bis.); karaksan (Tag.); karaksin (Tag.); karoksan (Tag.); karuksan (Tag.); karupsan (Tag.); kayantol (Sbl.); kiting-kíting (Tag.); kulatag (Neg.); kulilisiau (Tag.); lasatan (Ilk.); mamagiktik (P. Bis.); mamagitsit (P. Bis.); maramánnga (Ilk.); marasíli (Pang.); paking (Tag.); pamoplasin (Pang.); sagapsap (C. Bis.); tingko-tingko (Tag.); tumbid (Bag.); urutan (Tag.); untol (P. Bis.); vasañgo (Iv.).

LINOCIERA REMOTINERVIA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 324.

Luzon (Pangasinan), *B. S. 29933 Fénix*. In primary forests, altitude about 300 m. Endemic.

LINOCIERA RUBROVENIA Elm. Leaf. Philip. Bot. 2 (1909) 586, 5 (1913) 1652.

Leyte, Negros, Mindanao (Agusan, Bukidnon, Lanao), *Elmer 10224, 14198, Clemens 1169, B. S. 15294 Ramos, 38584 Ramos & Edaña*. In damp primary forests, altitude 900 to 1,400 m. Endemic.

Local names: Komagetget (Bag.); magdagug (Mbo.).

LINOCIERA URDANETENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1656.

Mindanao (Agusan, Lanao), *Elmer 13835, F. B. 25182, 25195 Alvarez*. In damp primary forests, altitude 1,000 to 1,400 m. Endemic.

Local names: Kobol (Mbo.); salañganan (Lan.).

EXCLUDED SPECIES

LINOCIERA DICHOTOMA Wall.; F.-Vill. Novis. App. (1880) 128.

LINOCIERA MONTANA DC.; F.-Vill. l. c.

3. **LIGUSTRUM** Tournefort

LIGUSTRUM PUBINERVE Blume Mus. Bot. Lugd.-Bat. 1 (1850) 314; Walp. Ann. 3 (1852) 19; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 329.

Visiania pubinervis Miq. Fl. Ind. Bat. 2 (1857) 548.

Ligustrum cumingianum Decne. in Nuov. Arch. Mus. Paris II 2 (1879) 28; Rolfe in Journ. Bot. 23 (1885) 214; Vidal Phan. Cuming. Philip. (1885) 125, Rev. Pl. Vasc. Filip. (1886) 181; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 116.

Luzon (Ilocos Norte, Bontoc, Lepanto, Benguet, Bataan, Cavite, Laguna, Batangas), Mindoro, Mindanao (Bukidnon). In forests, rarely at medium altitudes, more often on ridges in the mossy forest, altitude up to 2,200 m. Endemic.

Local names: Dangla (Ig.); kanunung (Ilk.); katilug (Ig.); kitlug (Ig.).

4. MYXOPYRUM Blume

MYXOPYRUM MACROLOBUM A. W. Hill in Kew Bull. (1910) 42; Merr. Interpret. Herb. Amb. (1917) 422.

Luzon (Tayabas, Batangas, Camarines), Sibuyan, *Elmer* 12333, *F. B.* 11119 *Curran*, 28373, 28017 *Mabesa*, *B. S.* 33666 *Ramos & Edaño*. In thickets and forests at low altitudes. Amboina, New Guinea.

MYXOPYRUM NERVOSUM Blume Bijdr. (1825) 683; Mus. Bot. Lugd.-Bat. 1 (1850) 320, *t.* 51; A. DC. Prodr. 8 (1844) 290; King & Gamble in Journ. As. Soc. Beng. 74² (1905) 272.

Palawan, *Elmer* 12827. In forests. Malay Peninsula, Sumatra, Java.

5. JASMINUM Tournefort

JASMINUM ACULEATUM (Blanco) Walp. ex Hassk. in Flora 47 (1864) 50; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 76, Philip. Journ. Sci. 2 (1907) Bot. 434, 5 (1910) Bot. 378, Fl. Manila (1912) 365, Sp. Blancoanae (1918) 304.

Mogorium aculeatum Blanco Fl. Filip. (1837) 9, ed. 2 (1845) 7, ed. 3, 1 (1877) 13, *t.* 445.

Jasminum marianum F.-Vill. Novis. App. (1880) 128, non DC.

Luzon (Ilocos Norte, Benguet, Union, Pangasinan, Zambales, Tarlac, Bulacan, Rizal, Bataan, Laguna), Mindoro, Palawan, Biliran, Negros, Cebu, Siquijor. In thickets at low and medium altitudes, often common. Endemic.

Local names: Layok-layok (P. Bis.); sikir (Ilk.); sili-sili (Tag.); tingkulkugos (Tag.).

JASMINUM APOENSE Elm. Leaf. Philip. Bot. 8 (1915) 2791.

Mindano (Davao, Bukidnon, Agusan), *Elmer* 11953, 13811, *B. S.* 15716 *Fénix*, 38694 *Ramos & Edaño*. In damp primary forests, at medium altitudes, ascending to 1,350 m. Endemic.

Local names: Mangayubog (Buk.); pamagkong (Mbo.); solo-solo (Bag.).

JASMINUM BIFARIUM Wall. Cat. (1830) No. 2866, *nomen nudum*; DC. Prodr. 8 (1844) 305; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1882) 595; Rolfe in Journ. Bot. 23 (1885) 214 (incl. var. *glabra* C. B. Clarke); Vidal Phan. Cuming. Philip. (1885) 125, Rev. Pl. Vasc. Filip. (1886) 180; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 116. *Jasminum ixoroides* Elm. Leaf. Philip. Bot. 2 (1908) 511.

Luzon (Ilocos Sur to Sorsogon, in most or all provinces), Mindoro, Cuyo, Palawan, Dumarán, Catanduanes, Leyte, Panay, Negros, Cebu, Bohol, Mindanao. A common species, occurring in thickets from sea level to an altitude of 1,500 m; frequently in thickets along the seashore and tidal streams. Malay Peninsula and Archipelago; not certainly distinct from *J. glabriusculum* Blume.

Local names: Chaksil (Ig.); dingsil (Ig.); horohamoráun (P. Bis.); manohiyas (C. Bis.); manol (C. Bis.); monomonot (Ilk.); sampagítang-gúbat (Tag.).

JASMINUM CRASSIFOLIUM Blume Bijdr. (1825) 679; DC. Prodr. 8 (1844) 309; Miq. Fl. Ind. Bat. 2 (1857) 544; Rolfe in Journ. Bot. 23 (1885) 214; Vidal Phan. Cuming. Philip. (1885) 125, Rev. Pl. Vasc. Filip. (1886) 180.

Luzon (Laguna, Tayabas), Palawan, *Cuming 830, Merrill 9403, Phil. Pl. 1107*. In forests at low altitudes. Java, Borneo.

JASMINUM CUMINGII Merr. in Philip. Journ. Sci. 5 (1910) Bot. 223.

Mindoro, Sibuyan, Panay, *Cuming 1565, Elmer 12477, B. S. 31109, 30951 Ramos & Edaño*. In primary forests at low or medium altitudes. Endemic.

JASMINUM DIDYMU Forst. f. Prodr. (1786) 3; DC. Prodr. 8 (1844) 311; Benth. Fl. Austral. 4 (1869) 294.

Jasminum triphyllum Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 223.

Palawan, Negros, Guimaras, *B. S. 261 Bermejós, Eskridge, Guerrero*. In thickets at low altitudes. Java to tropical Australia, New Caledonia, and Polynesia.

JASMINUM DOLICHOPETALUM Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 120.

Luzon (Cagayan, Rizal), Samar, Leyte, *B. S. 995 Ramos, F. B. 16596, 17164 Curran, Wenzel 965, 1203, Merrill Phil. Pl. 1611*. In primary forests at medium altitudes. Endemic.

JASMINUM GRANDIFLORUM Linn. Sp. Pl. ed. 2 (1762) 9; Miq. Fl. Ind. Bat. 2 (1857) 531; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1882) 603; F.-Vill. Novis. App. (1880) 128; Merr. Fl. Manila (1912) 365.

Occasionally cultivated in Manila and in other large towns for ornamental purposes but nowhere spontaneous. Widely cultivated; a native of India.

JASMINUM MACROCARPUM Merr. in Philip. Journ. Sci. 3 (1908) Bot. 258; C. B. Rob. op. cit. 6 (1911) Bot. 219.

Luzon (Benguet, Rizal, Bataan), Polillo, *Merrill 2326, Phil. Pl. 349, Whitford 394, B. S. 1073, 6972, 9308 Robinson, 31766 Santos, 29634 Ramos & Edaño, F. B. 3091 Ahern's collector*. In primary forests at low and medium altitudes, in Benguet ascending to 2,000 m. Endemic.

Local name: Patpatuk (Ig.).

JASMINUM MULTIFLORUM (Burm. f.) Andr. Bot. Repos. 8 (1799–1811) t. 496; Merr. Fl. Manila (1912) 366.

Nyctanthes multiflora Burm. f. Fl. Ind. (1768) 5, t. 3, f. 1.

Nyctanthes pubescens Retz. Obs. 5 (1789) 9.

Jasminum pubescens Willd. Sp. Pl. 1 (1797) 37; DC. Prodr. 8 (1844) 302, F.-Vill. Novis. App. (1880) 127; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1882) 592.

Mogorium pubescens Lam. Encycl. 4 (1797) 213.

Occasionally cultivated in Manila and in other large towns for ornamental purposes but nowhere spontaneous. A native of India.

Local names: Sampagíta de china (Tag., Sp.); sampagíta del japon (Sp.); sampagítang-sunsong (Tag.).

JASMINUM POPULIFOLIUM Blume Mus. Bot. Lugd.-Bat. 1 (1850) 276; Miq. Fl. Ind. Bat. 2 (1857) 538; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 222.

Jasminum luzoniense Vidal Phan. Cuming. Philip. (1885) 185, Rev. Pl. Vasc. Filip. (1886) 180; Usteri Beitr. Ken. Philip. Veg. (1905) 120.

Luzon (Ilocos Norte, Abra, Benguet, Nueva Vizcaya, Union, Pangasinan, Zambales, Rizal, Cavite, Laguna), Masbate, *Cuming 1029*, *B. S. 7651, 7082, 27649 Ramos, 31878 Santos, 11244 McGregor, 17833 Otones, Merrill 2340, 5065, Elmer 5559, Loher 3858*. In thickets and forests at low and medium altitudes, in Benguet ascending to 2,000 m. Endemic.

Local names: Dauinġan (Ig.); monomonot (Ting., Ilk.); munumunot (Ilk.); siñġitan (Bon.).

JASMINUM PSEUDOPINNATUM Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 119.

Luzon (Rizal), *B. S. 1111 Ramos*. In thickets or forests at medium altitudes. Endemic.

JASMINUM ROTUNDIFOLIUM Elm. Leaf. Philip. Bot. 8 (1915) Bot. 2792.

Mindanao (Davao), *Elmer 10571*. In primary forests, altitude about 1,200 m. Endemic.

Local name: Alok (Bag.).

JASMINUM SAMBAC (Linn.) Ait. Hort. Kew 1 (1789) 8; Miq. Fl. Ind. Bat. 2 (1857) 542; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1882) 591; F.-Vill. Novis. App. (1880) 127; Vidal Sinopsis Atlas (1883) 32, t. 65, f. A; Merr. Fl. Manila (1912) 365, Sp. Blancoanae (1918) 305. *Nyctanthes sambac* Linn. Sp. Pl. (1753) 6; Blanco Fl. Filip. (1837) 9, ed. 2 (1845) 6, ed 3, 1 (1877) 12, t. 6.

Jasminum blancoi Hassk. in Flora 47 (1864) 49.

Commonly cultivated throughout the Philippines for ornamental purposes but probably nowhere spontaneous. A native of tropical Asia, now pan-tropic.

Local names: Hubar (Sul.); kampúpót (Pamp., Tag.); kulatai (Pamp.); lumabi (Mag.); malul (Mag.); malur (Sul.); manul (Bis.); pongso (Pamp.); sampágang (Pamp.); sampagíta (Sp.-Fil.).

JASMINUM TRIPLINERVIUM Merr. in Philip. Journ. Sci. 5 (1910) Bot. 223.

Luzon (Sorsogon), Leyte, Panay, Negros, *F. B. 13557 Meyer & Foxworthy, B. S. 32528 McGregor, 23663 Ramos, Wenzel 575, Elmer 15226*. In primary forests at low and medium altitudes, ascending to 800 m. Endemic.

Closely allied to *J. crassifolium* Blume.

JASMINUM TRUNCATUM Merr. in Philip. Journ. Sci. 3 (1908) Bot. 259.
Sulu Archipelago (Sibutu), *Merrill 5286*. In thickets along the seashore.
Endemic.

EXCLUDED SPECIES

JASMINUM GRACILE Andr.; F.-Vill. Novis. App. (1880) 128.

JASMINUM LAETUM Wall.; F.-Vill. l. c.

JASMINUM REVOLUTUM Sims; F.-Vill. l. c.

JASMINUM SUBELONGATUM Blume; F.-Vill. l. c.

SALVADORACEAE

1. AZIMA Lamarck

AZIMA SARMENTOSA (Blume) F.-Vill. Novis. App. (1880) 128; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1882) 620; Vidal Sinopsis Atlas (1883) 32, *t. 65, f. C*; Merr. Fl. Manila (1912) 366, Sp. Blancoanae (1918) 305.

Actegeton sarmentosum Blume Bijdr. (1826) 1143; A. DC. Prodr. 17 (1873) 30.

Azima nova Blanco Fl. Filip. (1837) 68, ed. 2 (1845) 49, ed. 3, 1 (1877) 91; Vidal Phan. Cuming. Philip. (1885) 125, Rev. Pl. Vasc. Filip. (1886) 182, non Gmel.

Azima tetracantha A. DC. Prodr. 17 (1873) 29, quoad Philip.; F.-Vill. Novis. App. (1880) 128, non Lam.

Luzon (Ilocos Norte, Union, Rizal), Mindanao (Davao, Zamboanga), *Merrill 7381*, *Sp. Blancoanae 505*, *Phil. Pl. 777*, *Lete 334*, *Loher 3873, 3874*, *Williams 2976*, *B. S. 11755 Robinson, 27119 Ramos*. In thickets, usually near the sea and tidal streams. Burma to Malaya.

Local name: Añgañgri (Ilk.).

LOGANIACEAE

1. GENIOSTOMA Forster

GENIOSTOMA BATANENSE Merr. in Philip. Journ. Sci. 3 (1908) Bot. 427.

Batan Islands (Batan), Luzon (Ilocos Norte), *B. S. 3795 Fénix, 33375 Ramos*. On forested slopes at low or medium altitudes. Endemic.

Local name: Gagadang (Iv.).

GENIOSTOMA ACUMINATISSIMA Merr. Philip. Journ. Sci. 20 (1922) 432.

Mindanao (Bukidnon), *B. S. 38837 Ramos & Edaño*. In damp forests, altitude 1,000 m. Endemic.

GENIOSTOMA BREVIPES Merr. in Philip. Journ. Sci. 9 (1914) Bot. 384.

Geniostoma mindanaense Elm. Leaf. Philip. Bot. 8 (1915) Bot. 2747.

Luzon (Sorsogon), Leyte, Mindanao (Agusan), *Elmer 13812, 14735, 16381, 17213, Wenzel 441, B. S. 23357 Ramos*. In primary forests at low and medium altitudes, ascending to 900 m. Endemic.

Local name: Sañguadan (Mbo.).

GENIOSTOMA CUMINGIANUM Benth. in Journ. Linn. Soc. Bot. 1 (1857) 97; Rolfe in Journ. Bot. 23 (1885) 214; Vidal Rev. Pl. Vasc. Filip. (1886) 190, Phan. Cuming. Philip. (1885) 127; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 116.

Luzon (Bontoc, Benguet, Zambales, Bataan, Laguna, Tayabas, Camarines, Albay, Sorsogon), Mindoro, Panay, Negros. Common on ridges in the mossy forest, altitude 900 to 2,400 m. Endemic.

Local names: Tagobinlod (C. Bis.); umum (Ig.).

GENIOSTOMA LAXUM Elm. Leaf. Philip. Bot. 8 (1915) 2746.

Sibuyan, *Elmer* 12280. In forests along streams, altitude about 300 m; very similar to *G. cumingianum* Benth. Endemic.

GENIOSTOMA LANCILIMBUM Merr. in Philip. Journ. Sci. 17 (1920) 304.

Panay, *B. S.* 35332, 35344 *Martelino & Edaño*. In forests at low altitudes. Endemic.

GENIOSTOMA LONGIPES Merr. in Philip. Journ. Sci. 12 (1917) Bot. 296.

Luzon (Tayabas), *B. S.* 26536 *Ramos & Edaño*. In forests at or above 300 m altitude. Endemic.

Local name: Bilig-bitig (Neg.).

GENIOSTOMA NIGRESCENS (Blanco) Merr. Sp. Blancoanae (1918) 305.

Tayotum nigrescens Blanco Fl. Filip. (1837) 105, ed. 2 (1845) 76, ed. 3, 1 (1877) 141.

Geniostoma philippinense Merr. in Philip. Journ. Sci. 3 (1908) Bot. 259.

Norrisia malaccensis F.-Vill. Novis. App. (1880) 136, non Gardn.

Luzon (Benguet, Nueva Ecija, Rizal, Cavite, Batangas, Laguna), Mindoro, Catanduanes, *Merrill* 1833, *Sp. Blancoanae* 878, *Elmer* 6451, *Loher* 6592, 6499, 4105, *B. S.* 5721, 2667, 22427, 23854, 15017, 14972, 39765 *Ramos*, 26500, 29314 *Ramos & Edaño*, 60 *Foxworthy*, *F. B.* 6760, 11464, 12002 *Merritt*, 28054 *Mabesa*. In primary forests at low and medium altitudes. Endemic.

Local names: Saging-ságing (Tag); tayóto (Tag.).

GENIOSTOMA PACHYPHYLLUM Merr. in Philip. Journ. Sci. 14 (1919) 448.

Luzon (Ilocos Norte), *B. S.* 33316 *Ramos*. In primary forests, altitude about 1,000 m. Endemic.

GENIOSTOMA PULGARENSE Elm. Leaf. Philip. Bot. 5 (1913) 1808.

Palawan, *Elmer* 13197. In mossy thickets on Mt. Pulgar, altitude about 1,200 m. Endemic.

GENIOSTOMA RAMOSII Merr. in Philip. Journ. Sci. 17 (1920) 304.

Siargao, *B. S.* 34893 *Ramos & Pascasio*. In forests at low altitudes. Endemic.

GENIOSTOMA STENOPHYLLUM Merr. in Philip. Journ. Sci. 7 (1912) Bot. 329.

Luzon (Benguet), *Williams* 1127, 1068, 923, *Merrill Phil. Pl.* 725. In thickets, altitude about 1,500 m. Endemic.

EXCLUDED SPECIES

GENIOSTOMA CRASSIFOLIUM Benth.

"Ins. Philip." ex Index Kewensis; this is an error in localization, the type being from the Isle of Pines, New Caledonia.

GENIOSTOMA MICRANTHUM DC.; F.-Vill. Novis. App. (1880) 135.

2. MITREOLA Linnaeus

MITREOLA PETIOLATA (Walt.) Torr. & Gray Fl. North Am. 2 (1846) 45; Merr. in Philip. Journ. Sci. 11 (1916) Bot. 307.

Ophiorrhiza mitreola Linn. Sp. Pl. (1753) 150.

Anonymos petiolata Walt. Fl. Carol. (1788) 108.

Mitreola paniculata Wall. Cat. (1829) No. 1826, *nomen nudum*; DC. Prodr. 9 (1845) 9.

Mitreola oldenlandioides Wall. op. cit. (1831) No. 4350; DC. l. c.; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 260.

Cynoctonum mitreola Britton in Mem. Torr. Bot. Club 5 (1894) 258, var. *orthocarpa* Hochr. in Bull. N. Y. Bot. Gard. 6 (1910) 284.

Luzon (Pangasinan, Bulacan, Rizal), Guimaras, *B. S. 4852 Ramos, 19272 Reillo, Yoder, Guerrero*. At low altitudes; very rare and local in the Philippines. Pantropic.

3. MITRASACME Labillardière

MITRASACME ALSINOIDES R. Br. Prodr. (1810) 453; Rolfe in Journ. Bot. 23 (1885) 214; Vidal Phan. Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 190.

Oldenlandia brachyphylla Merr. Fl. Manila (1912) 448.

Luzon (Lepanto, Rizal), *Merrill Phil. Pl. 705, B. S. 9505 Robinson*. Occasional in fallow rice paddies at low and medium altitudes. India to China and Australia.

MITRASACME NUDICAULIS Reinw. ex Blume Bijdr. (1826) 849; A. DC. Prodr. 9 (1845) 12; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 80; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 120.

Luzon (Lepanto, Bontoc), *Merrill 4486, Vanoverbergh 892*. In open grasslands, altitude 1,600 to 2,000 m. India to China and Malaya.

MITRASACME POLYMORPHA R. Br. Prodr. (1810) 452; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 80.

Mitrasacme alsinoides Merr. ~~in~~ Philip. Journ. Sci. 1 (1906) Suppl. 116, non R. Br.

Luzon (Cagayan, Benguet, Bulacan, Bataan, Rizal, Laguna, Batangas, Camarines). In open grasslands, fallow rice lands, etc., at low and medium altitudes. India to Japan southward to Australia.

Local name: Bingbis-lúpa (Tag.).

4. NORRISIA Gardiner

NORRISIA PHILIPPINENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1482.

Sibuyan, Mindanao (Surigao), *Elmer 12058, F. B. 25072 Ponce, Pratt*. In thickets or forests along streams at low altitudes. Endemic.

5. STRYCHNOS Linnaeus

STRYCHNOS DUBIA A. W. Hill in Kew Bull. (1912) 298, *fig.*, (1917) 156.

Mindanao (Davao), *Elmer 10958*. In forests at medium altitudes. Endemic.

Local name: Dañgilian (Bag.).

STRYCHNOS CENABREI Merr. in Philip. Journ. Sci. 20 (1922) 433.

Luzon (Nueva Vizcaya), *F. B. 28546 Cenabre*. In forests along rivers at medium altitudes. Endemic.

STRYCHNOS IGNATII Berg. Mat. Med. 1 (1778) 146; Benth. in Journ. Linn. Soc. Bot. 1 (1857) 108; Vidal Rev. Pl. Vasc. Filip. (1886) 449, quoad fruct. et t. 2; Oliv. in Hook. Ic. IV 3 (1892) t. 2212; A. W. Hill in Kew Bull. (1911) 290, *plate*, (1917) 200; Merr. Sp. Blancoanae (1918) 306.

Ignatia amara Linn. f. Suppl. (1781) 149, p. p.; A. DC. Prodr. 9 (1845) 19; Blanco Fl. Filip. (1837) 82.

Ignatiana philippinica Lour. Fl. Cochinch. (1790) 126, saltem quoad Philip.

Strychnos philippense Blanco Fl. Filip. ed. 2 (1845) 61, ed. 3, 1 (1877) 116.

Biliran, Samar, Leyte, Mindanao (Agusan, Surigao, Lanao), *B. S. 24268, 15286 Ramos, 18713 McGregor, F. B. 26591 Sandique, 25999 Ponce, Merrill Sp. Blancoanae 631, Elmer 13560, Clemens 895*. In damp primary forests at low and medium altitudes. Borneo.

Local names: Aguason (Bis.); dankagi (Bis.); gasud (S. L. Bis.); ígasud (S. L. Bis., C. Bis.); kanlára (Bis.); katalónġa (Bis.); katbalónġa (Tag.); katbalónġan (Tag., Pamp.); mananáog (Bis.); pañgaguáson (Bis.); pepita de San Ignacio (Sp.); pepita-sa-katbalógan (Tag., Bis., Pamp.); yañgi-ilagan (Mbo.).

STRYCHNOS IMPRESSINERVIS A. W. Hill in Kew Bull. (1917) 180.

Palawan, *Merrill 9401, B. S. 15597 Fénix*. In dry forests at low altitudes. Endemic.

STRYCHNOS LANATA A. W. Hill in Kew Bull. (1911) 299, *fig.* (1917) 165.

Mindanao (Agusan, Lanao), *Clemens 747, Elmer 13905*. In primary forests, altitude about 700 m. Endemic.

Local name: Tolanan (Mbo.).

STRYCHNOS LUZONENSIS Elm. Leaf. Philip. Bot. 1 (1908) 332 p. p.; A. W. Hill in Kew Bull. (1911) 297, (1917) 180.

Luzon (Tayabas, Sorsogon), *Elmer 8251, 15571* as *S. lucbanensis* Elm., *B. S. 26964 Edaño*. In primary forests at medium altitudes. Endemic.

STRYCHNOS MERRILLII A. W. Hill in Kew Bull. (1911) 297, (1917) 161.

Luzon (Rizal, Camarines), *Merrill 2807, B. S. 23814 Ramos, 33488 Ramos & Edaño*. In forests at low altitudes. Endemic.

STRYCHNOS MULTIFLORA Benth. in Journ. Linn. Soc. Bot. 1 (1857) 102; Miq. Fl. Ind. Bat. 2 (1859) 1080; Oliv. in Hook. Ic. III 13 (1894) t. 2213; F.-Vill. Novis. App. (1880) 136; Vidal Phan. Cuming. Philip. (1885) 128, Rev. Pl. Vasc. Filip. (1886) 191;

Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 116; A. W. Hill in Kew Bull. (1911) 300, *plate, fig.*, (1917) 162.

Strychnos potatorum Linn. var. *multiflora* Vidal Sinopsis Atlas (1883) 33, t. 69, f. D.

Strychnos ignatii Vidal Rev. Pl. Vasc. Filip. (1886) 449, t. 1, excl. descr. fruct. et t. 2, non Berg.

Luzon (Ilocos Norte, Union, Bulacan, Bataan, Laguna, Rizal, Tayabas, Sorsogon), Mindoro, *Cuming* 641, *F. B.* 20493, 25002 *Mabesa*, 2875, 3249 *Ahern's collector*, *B. S.* 33030, 27188, 21735, 39694 *Ramos*, *Elmer* 6864, *Williams* 348, *Merrill* 1607. In primary forests at low and medium altitudes. Endemic.

Local names: Abukobuko (Ibn.); batul (Tag.); bugahin (Bis.); bukuan (Ibn., Neg.); fantandok (Ilk.); pamulaklak (Tag.); tibanglan (Tag.);

STRYCHNOS OLEIFOLIA A. W. Hill in Kew Bull. (1917) 156.

Palawan, *Merrill* 9364. In forests at low altitudes. Endemic.

STRYCHNOS OVATA A. W. Hill in Kew Bull. (1909) 360, (1911) 295, (1909) 143.

Palawan (*Vidal* 3315), *Merrill* 9431. In thickets at low altitudes. Endemic.

STRYCHNOS PANAYENSIS A. W. Hill in Kew Bull. (1917) 148, *fig.*

Panay, *B. S.* 21232 *Escritor*. In forests at low altitudes. Endemic.

STRYCHNOS SIMILIS A. W. Hill in Kew Bull. (1912) 38, (1917) 153.

Mindanao (Surigao), Siargao, *Piper* 504, *B. S.* 34854 *Ramos & Pascasio*. In forests at low altitudes. Endemic.

STRYCHNOS TESSEROIDEA A. W. Hill in Kew Bull. (1917) 206.

Samar, *B. S.* 24381 *Ramos*. In damp forests at low altitudes. Endemic.
Local name: Malaigasud (S. L. Bis.).

STRYCHNOS WENZELII Merr. in Philip. Journ. Sci. 11 (1916) Bot. 202, p. p.; A. W. Hill in Kew Bull. (1917) 178.

Leyte, *Wenzel* 1319, 1569. In forests at low altitudes. Endemic.

EXCLUDED SPECIES

STRYCHNOS CELEBICA Merr. in Philip. Bureau Forestry Bull. 1 (1903) 48, non Koord.

The specimen cited is perhaps a form of *Strychnos multiflora* Benth.

STRYCHNOS POTATORUM Linn. f.; F.-Vill. Novis. App. (1880) 136.

6. COUTHOVIA A. Gray

COUTHOVIA CELEBICA Koord. in Meded Lands. Plant. 19 (1898) 537; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 48; Koord. Suppl. Fl. N. O. Celebes 1 (1918) 7, t. 2.

Mindoro, Mindanao (Surigao, Agusan, Lanao, Davao), *F. B.* 3697 *Merritt*, 24413 *Cortez & Fernandez*, 20754 *Rafael & Ponce*, *Clemens*, *Elmer* 11977, *Ahern* 353. In swamp forests at low altitudes, sometimes within the influence of salt water. Celebes.

Local names: Bali-bali (C. Bis.); pagi-pagi (Mbo.); salinuok (P. Bis.); tanalak (Bag.).

7. FAGRAEA Thunberg

FAGRAEA AURICULATA Jack. in Malay Miscel. 2⁷ (1822) 82; Wall. in Roxb. Fl. Ind. 2 (1824) 34, Pl. As. Rar. 3 (1832) 15, t. 229; Blume Rumphia 2 (1836) t. 72; Koord. & Val. Bijdr. Boom. Java 9 (1903) 76; Merr. in Philip. Journ. Sci. 3 (1908) 260.

Fagraea jackii Elm. Leaf. Philip. Bot. 7 (1915) 2744.

Fagraea epiphytica Elm. op. cit. 2743.

Palawan, Negros, Panay, Mindanao (Bukidnon, Agusan), *Elmer 13234, 13850, Merrill 7254, B. S. 642 Foxworthy, 32418 McGregor, 38650 Ramos & Edaña, F. B. 19390 Curran, 24354 Cortez & Fernandez*. In primary forests, sea level to an altitude of 1,350 m; sometimes growing along the seashore, at higher altitudes epiphytic. India to the Malay Peninsula and Archipelago.

Local names: Nato (Mbo.); piakang (Buk.); tumakos (Mbo.).

FAGRAEA COCHINCHINENSIS (Lour.) A. Chev. Cat. Pl. Jard. Bot. Saigon (1919) 65.

Aidia cochinchinensis Lour. Fl. Cochinch. (1790) 143, ed. Willd. (1793) 177.

Fagraea fragrans Roxb. Fl. Ind. 2 (1824) 32; Benth. in Journ. Linn. Soc. Bot. 1 (1857) 100; Miq. Fl. Ind. Bat. 2 (1857) 375; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 85; Vidal Sinopsis Atlas (1883) 33, t. 69, f. A, Rev. Pl. Vasc. Filip. (1886) 190; Rolfe in Journ. Bot. 23 (1885) 214; Elm. Leaf. Philip. Bot. 2 (1909) 597; Dop in Lecomte Fl. Gén. Indo-Chine 4 (1914) 177.

Cyrtophyllum fragrans A. DC. Prodr. 9 (1845) 31.

Mindoro, Culion, Busuanga, Palawan, Balabac, *Merrill Phil. Pl. 1202, F. B. 4501 Curran, 8842 Merritt, 28898 Ponce*. On dry forested slopes, borders of grasslands, and thickets at low altitudes. Indo-China, Malay Peninsula, Sumatra, Java, Borneo.

Local names: Dólo (Tagb.); dúlo (Tagb.); susulin (Tag.); téka (Kuy.); úling (Tagb.); uring (Kuy.); úrung (Kuy.).

FAGRAEA CUERNOSENSIS Elm. Leaf. Philip. Bot. 2 (1909) 600.

Negros, Mindanao (Misamis), *Elmer 9915, B. S. 4688 Mearns & Hutchinson, F. B. 13641 Curran & Foxworthy*. In the mossy forest, altitude 1,300 to 1,800 m. Closely allied to *F. obovata* Wall. Endemic.

Local name: Maganónok (Sub.).

FAGRAEA CURRANII Merr. in Philip. Journ. Sci. 13 (1918) Bot. 50.

Luzon (Cagayan, Laguna), Polillo, Mindoro, *F. B. 8045, 17217 Curran, 26897 Mabesa, B. S. 10430 Robinson, 40972 Ramos*. In primary forests, at low altitudes, ascending to 300 m. Endemic.

FAGRAEA CUSPIDATA Blume Mus. Bot. Lugd.-Bat. 1 (1850) 170; Walp. Ann. 3 (1852) 76.

Fagraea crassipes Benth. in Journ. Linn. Soc. Bot. 1 (1859) 99; Miq. Fl. Ind. Bat. 2 (1859) 1080; Ceron Cat. Pl. Herb. Manila (1892) 119; Gibbs in Journ. Linn. Soc. Bot. 42 (1914) 111.

Balabac, (*Vidal 3318*). Probably in forests at low altitudes. Borneo, Moluccas, New Guinea.

Local name: Kakáo-ita (Sul.).

FAGRAEA GITINGENSIS Elm. Leaf. Philip. Bot. 3 (1910) 859.

Sibuyan, *Elmer 12224*. In forests, altitude about 300 m. Endemic.

FAGRAEA LONGIFLORA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 260; Elm. Leaf. Philip. Bot. 2 (1909) 597.

Fagraea macgregorii Merr. in Philip. Journ. Sci. 13 (1918) Bot. 51.

Luzon (Apayao, Kalinga, Ifugao, Rizal, Laguna, Tayabas), *F. B. 8026, 8028 Curran & Merritt, B. S. 28359 Félix, 19738 McGregor, 37597 Ramos & Edaña, Lohr 6507*. In damp primary forests at medium altitudes. Endemic.

Local name: Sapiag (Klg.).

FAGRAEA NEGROSENSIS Elm. Leaf. Philip. Bot. 2 (1909) 599.

Luzon (Zambales), Negros, Mindanao (Davao), *Elmer 9839, 11488, F. B. 17399 Curran, 8996 Merritt & Curran*. In the mossy forest, altitude 1,200 to 1,700 m. Endemic.

Local name: Buton (Bag.).

FAGRAEA NONOK Elm. Leaf. Philip. Bot. 3 (1910) 858.

Sibuyan, *Elmer 12285*. In thickets or forests, altitude about 150 m; *F. B. 34679 Ramos & Pascasio*, from Surigao, possibly represents the same species. Endemic.

Local name: Nónok (P. Bis.).

FAGRAEA OBOVATA Wall. in Roxb. Fl. Ind. 2 (1824) 33; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 83; F.-Vill. Novis. App. (1880) 136; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 116, 3 (1908) Bot. 427; Elm. Leaf. Philip. Bot. 2 (1909) 598, 3 (1910) 857.

Babuyan Islands and northern Luzon to Palawan and Mindanao, in most provinces and islands. In primary forests, from sea level to an altitude of 2,100 m; sometimes on cliffs, sometimes epiphytic. India to southern China and Malaya.

The seacoast form from Mindanao, *Copeland 688, F. B. 9335 Whitford & Hutchinson*, may represent *F. littoralis* Blume.

Local names: Bankalon (Bag.); busalsal (Sbl.); dólis (Bag.); koto-ñgogan (Mbo.); malatúnog (C. Bis.); mamagon (Bik.); panagang (Tagb.) pospusug (Ig.); pukut (Ig.).

FAGRAEA PLUMIERIAEFLORA A. DC. Prodr. 9 (1845) 29; Miq. Fl. Ind. Bat. 2 (1857) 375; Benth. in Journ. Linn. Soc. Bot. 1 (1857) 98; F.-Vill. Novis. App. (1880) 136; Vidal Phan. Cuming. Philip. (1885) 128, Rev. Pl. Vasc. Filip. (1886) 191; Elm. Leaf. Philip. Bot. 2 (1909) 598, 3 (1910) 857.

Luzon (Albay), Catanduanes, Leyte, Panay, Mindanao (Davao, Bukidnon, Lanao, Zamboanga), *Cuming 838, Merrill 8074, Elmer 11915, Wenzel 1214, 873, B. S. 15188, 30523 Ramos, 35728 Martelino & Edaña, 30688, 38645 Ramos & Edaña*. In damp primary forests at medium altitudes. Celebes.

Local names: Butun-ta-usá (Bag.); kalaynig (Buk.).

FAGRAEA RACEMOSA Jack in Roxb. Fl. Ind. 2 (1824) 35; Benth. in Journ. Linn. Soc. Bot. 1 (1857) 99; F.-Vill. Novis. App. (1880) 136; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 219; Merr. Sp. Blancoanae (1918) 306.

Kuhlia morindaefolia Blume Bijdr. (1826) 777.

Fagraea morindaefolia Blume in Rumphia 2 (1836) 32, t. 73, f. 2, t. 79; A. DC. Prodr. 9 (1845) 29; Vidal Phan. Cuming. Philip. (1885) 128, Rev. Pl. Vasc. Filip. (1886) 190; Koord. & Val. Bijdr. Boom. Java 9 (1903) 74; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 48; Elm. Leaf. Philip. Bot. 2 (1909) 596.

Fagraea volubilis Jack in Roxb. Fl. Ind. 2 (1824) 36; Vidal Sinopsis Atlas (1883) 33, t. 69, f. B.

Fagraea scholaris Blanco Fl. Filip. ed. 2 (1845) 93, ed. 3, 1 (1877) 171.

Fagraea congestiflora Elm. Leaf. Philip. Bot. 8 (1915) 2741.

Luzon (Bulacan, Rizal, Laguna, Tayabas, Camarines, Albay, Sorsogon), Mindoro, Palawan, Balabac, Polillo, Biliran, Samar, Sibuyan, Leyte, Panay, Negros, Cebu, Bohol, Mindanao, Basilan. In primary forests at low and medium altitudes, often common. Burma to Malaya.

Local names: Baagu (Bag.); bagontapai (Mbo.); bakau (Tag.); bogosalá (S. L. Bis.); bulobuáya (P. Bis.); himbubúya (P. Bis.); kabal (Tag.); kukodmon (Bik.); lambuáya (P. Bis.); libakan (Tag.); magusayak (Sul.); makatibuga (Sub.); malabuáya (P. Bis.); poñgabu (Mbo.); sinalas (Sub.); talob-alak (Tag.).

EXCLUDED SPECIES

FAGRAEA CORDIFOLIA Blume; F.-Vill. Novis. App. (1880) 136.

FAGRAEA LIGUSTRINA Blume; Vidal Rev. Pl. Vasc. Filip. (1886) 191.

The Philippine record is based on a specimen collected by Lobb and labeled "Luzon;" this undoubtedly came from Java, not from the Philippines.

8. BUDDLEIA Linnaeus

BUDDLEIA ASIATICA Lour. Fl. Cochinch. (1790) 72; Miq. Fl. Ind. Bat. 2 (1857) 363; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 82; F.-Vill. Novis. App. (1880) 136; Hook. f. in Curtis's Bot. Mag. III 33 (1877) t. 6323; Vidal Phan. Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 190; Koord. & Val. Bijdr. Boom. Java 9 (1903) 89; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 378, Fl. Manila (1912) 367, Sp. Blancoanae (1918) 306.

Buddleia virgata Blanco Fl. Filip. (1837) 57, ed. 2 (1845) 38, ed. 3, 1 (1877) 70, non Linn. f.

Buddleia neemda Ham. in Roxb. Fl. Ind. 1 (1820) 411; A. DC. Prodr. 10 (1846) 446; F.-Vill. Novis. App. (1880) 136; Vidal Sinopsis Atlas (1883) 33, t. 69, f. C.

Buddleia neemda Ham. var. *philippensis* Cham. & Schlecht. in Linnaea 2 (1827) 598.

Buddleia salicina Lam. Tabl. Encycl. 1 (1791?) 291; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1800) 105.

Northern Luzon to Palawan and Mindanao. In thickets, on recent slides in open places, etc.; chiefly at medium altitudes, sometimes at sea level, and ascending to 2,000 m. India to China and Malaya.

Local names: Alatin (Bag.); amuging (Ig.); anaiop (If.); doknam (Ting.); dumdumaui (If.); duñgalau (Ibn.); lagien-ti-subisub (Ilk.); la-gúndi-salasá (Bis.); malasambúng (Tag.); maligus (Bon.); salibug (Tagb.); sambóngkala (Tag.); taliknóno (Tag.); tugnang (Ilk.).

GENTIANACEAE

1. EXACUM Linnaeus

EXACUM CHIRONIOIDES Griseb. Gen. Sp. Gent. (1839) 109, DC. Prodr. 9 (1845) 45; Miq. Fl. Ind. Bat. 2 (1857) 556; F.-Vill. Novis. App. (1880) 136; Merr. Sp. Blancoanae (1918) 307.

Exacum tetrapterum Griseb. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1:50, DC. Prodr. 9 (1845) 561.

Exacum albens Blanco Fl. Filip. (1837) 58, ed. 2 (1845) 39, ed. 3, 1 (1877) 71, t. 202; Hallier f. in Beihefte Bot. Centralbl. 34² (1916) 42, non Linn.

Cobamba blancoi Azaola in Blanco Fl. Filip. ed. 2 (1845) 591, ed. 3, 2 (1878) 293.

Exacum tetragonum F.-Vill. Novis. App. (1880) 36; Vidal Phan. Cuming. Philip. (1885) 128, Rev. Pl. Vasc. Filip. (1886) 191, non Roxb.

Luzon (Cagayan, Ilocos Sur, Nueva Vizcaya, Pangasinan, Zambales, Rizal), Mindoro, Panay, Mindanao. In open wet grasslands, swamps, etc., at low and medium altitudes. Widely distributed in Malaya; considered by Hallier to be distinct from *E. tetragonum* Roxb.

Local names: Damon-kógon (Mang.); kanto-kanto (Tag.); lambu-lambu (Bag.); marapiña (Ilk.).

EXACUM PARVIFLORUM Merr. in Philip. Journ. Sci. 7 (1912) Bot. 96.

Luzon (Bontoc), *Vanoverbergh* 758. On open slopes, altitude about 1,200 m. Endemic.

EXCLUDED SPECIES

EXACUM SULCATUM Roxb.; F.-Vill. Novis. App. (1880) 137.

2. COTYLANThERA Blume

COTYLANThERA TENUIS Blume Bijdr. (1825) 707; Figdor in Ann. Jard. Bot. Buitenz. 14 (1897) 213, t. 24, 27; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 223.

Eophylon tenellum A. Gray in Journ. Linn. Soc. Bot. 11 (1871) 23.

Luzon (Bontoc, Bataan, Rizal, Laguna, Sorsogon), Palawan, Negros, Mindanao. In damp primary forests at low and medium altitudes, ascending to 1,700 m. Rare or at least inconspicuous. Java, Borneo.

3. ERYThRAEA Renealm

ERYThRAEA SPICATA (Linn.) Pers. Syn. 1 (1905) 283; A. DC. Prodr. 9 (1845) 60; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 427.

Gentiana spicata Linn. Sp. Pl. (1753) 333.

Batan Islands (Batan), *B. S.* 3142, 3144, 3231 *Mearns*. In open places at low altitudes. Mediterranean region; introduced into Formosa by the early Portuguese colonists, thence extending south to the Batan Islands.

4. HOPPEA Willdenow

HOPPEA DICHOTOMA Willd. in Ges. Nat. Fr. Neue Schrift. 3 (1801) 435; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 100; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 120.

Luzon (Ilocos Norte, Abra, Benguet, Pangasinan), *Loher 5045*, *B. S. 4922*, *7300*, *27430 Ramos*. In open places at low and medium altitudes, in Benguet ascending to 1,800 m; rare or local. India.

5. CANSCORA Lamarck

CANSCORA DIFFUSA (Vahl) R. Br. ex Wall. Cat. (1831) No. 4361; Griseb. in DC. Prodr. 9 (1845) 64; Miq. Fl. Ind. Bat. 2 (1857) 558; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 103; F.-Vill. Novis. App. (1880) 137; Vidal Phan. Cuming. Philip. (1885) 128, Rev. Pl. Vasc. Filip. (1886) 191; Merr. Fl. Manila (1912) 367, Sp. Blancoanae (1918) 307.

Gentiana diffusa Vahl Symb. 3 (1794) 47.

Exacum diffusum Willd. Sp. Pl. 1 (1797) 637.

Cobamba dichotoma Blanco Fl. Filip. (1837) 210, ed. 2 (1845) 355, ed. 3, 2 (1878) 293.

Luzon (Ilocos Norte, Apayao, Bontoc, Benguet, Nueva Vizcaya, Pangasinan, Zambales, Bulacan, Rizal, Cavite, Tayabas), Mindoro. On banks, cliffs, and in ravines along streams from sea level to an altitude of 1,500 m. Tropical Asia and Africa through Malaya to tropical Australia.

Local names: Kobamba (Tag.); malingal (Tag.).

EXCLUDED SPECIES

CANSCORA DECUSSATA R. & S.; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 105; F.-Vill. Novis. App. (1880) 137.

CANSCORA PERFOLIATA Lam.; F.-Vill. l. c.

6. MICROPHIUM C. B. Clarke

MICROPHIUM sp.

Palawan, *Elmer 12923*, as *Lysimachia* sp. nov. In forests at low altitudes. Endemic.

The only other known species of the genus occurs in the Malay Peninsula; the Palawan form is undescribed.

7. CRAWFURDIA Wallich

CRAWFURDIA LUZONIENSIS Vidal Rev. Pl. Vasc. Filip. (1886) 191.

Luzon (Lepanto, Bontoc, Benguet, Laguna, Tayabas), Mindanao (Bukidnon), *Merrill 4504*, *7511*, *Vanoverbergh 1496*, *2581*, *B. S. 31780 Santos*, *38511*, *38896 Ramos & Edaño*, *F. B. 15996 Bacani*. In the mossy forest and in very damp shaded ravines, altitude 1,100 to 2,400 m. Endemic.

8. GENTIANA Linnaeus

GENTIANA APOENSIS Merr. in Philip. Journ. Sci. 1 (1909) Suppl. 223.

Mindanao (Davao), *Copeland 1161*, *1432*, *De Vore & Hoover 371*. Occasional in turf at the summit of Mt. Apo, altitude about 2,800 m. Endemic.

Local name: Mañgidtasa (Bag.).

GENTIANA COPELANDII Elm. Leaf. Philip. Bot. 7 (1915) 2671.

Mindanao (Davao), *Elmer 11692*. In mosses at the summit of Mt. Calelan, altitude about 2,500 m. Endemic.

Local name: Setitliabod (Bag.).

GENTIANA DIVERSIFOLIA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 224.

Luzon (Benguet), *Merrill 4443*, *Williams 1546*. On damp rocky banks and among grasses, altitude 1,200 to 1,900 m. Endemic.

GENTIANA LUZONIENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 224, 5 (1910) Bot. 378.

Luzon (Benguet, Laguna, Tayabas), Negros, *Merrill 4558*, *6617bis*, *7026*, *Phil. Pl. 231*, *B. S. 31824 Santos*, *8406*, *8892 McGregor*, *4386 Mearns*. In open grasslands and on exposed ridges on the higher mountains, altitude 1,700 to 2,400 m. Endemic.

9. SWERTIA Linnaeus

SWERTIA DECURRENS C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 214; Merr. op. cit. 5 (1910) Bot. 378.

Luzon (Bontoc, Benguet), *Williams 1529*, *Vanoverbergh 1003*, *Clemens, B. S. 5424*, *5531 Ramos*, *38014*, *38037 Ramos & Edaño*. On open slopes, extending into the mossy forest, altitude 1,200 to 2,300 m. Endemic.

10. LIMNANTHEMUM S. G. Gmelin

LIMNANTHEMUM CRISTATUM (Roxb.) Griseb. Gen. Sp. Gent. (1839) 342; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 131; F.-Vill. Novis. App. (1880) 137; Vidal Rev. Pl. Vasc. Filip. (1886) 192.

Menyanthes cristata Roxb. Pl. Coromandel 2 (1798) 3, t. 105.

Vallarsia cristata Spreng. Syst. 1 (1817) 582; Wight in Hook. Bot. Miscel. 1 (1834) 65, t. 123.

Luzon (Ilocos Norte, Bontoc, Lepanto, Benguet, Rizal, Zambales, Laguna), *B. S. 7692*, *11958 Ramos*, *2599 Foxworthy*, *F. B. 19275 Curran*, *Elmer 6572*, *Merrill 4518*. In shallow lakes, quiet streams, and sometimes in rice paddies at low and medium altitudes; on Mt. Data ascending to 2,100 m altitude. India to southern China.

Local name: Lolokisen (Ilk.).

LIMNANTHEMUM INDICUM (Linn.) Griseb. Gen. Sp. Gent. (1839) 343; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 131; Miq. Fl. Ind. Bat. 2 (1857) 563; F.-Vill. Novis. App. (1880) 137; Merr. Sp. Blancoanae (1918) 307.

Menyanthes indica Linn. Sp. Pl. (1753) 145; Blanco Fl. Filip. (1837) 87, ed. 2 (1845) 63, ed. 3, 1 (1877) 118.

Villarsia indica Vent. Choix Pl. Cels. (1803) sub t. 9; Wight in Hook. Bot. Miscel. 3 (1833) 97, t. 30.

Luzon (Cagayan, Benguet, Laguna), Mindoro, Bohol, Mindanao, *Merrill 5110*, *B. S. 23040 McGregor*, *6689*, *11596 Robinson*, *2826 Mearns*, *F. B. 11607 Curran*, *5411 Merritt*. In shallow lakes and quiet streams at low and medium altitudes, ascending to 1,500 m. Tropical Africa and Asia through Malaya to Australia and Polynesia.

Local name: Butiñgubal (Mag.).

APOCYNACEAE

1. MELODINUS Forster

MELODINUS APOENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1459.

Mindanao (Davao), *Elmer 10793*. In forests, altitude about 1,100 m; closely allied to *M. cumingii* A. DC. Endemic.

Local name: Balou (Bag.).

MELODINUS CUMINGII A. DC. Prodr. 8 (1844) 330; Miq. Fl. Ind. Bat. 2 (1857) 397; F.-Vill. Novis. App. (1880) 128; Vidal Phan. Cuming. Philip. (1885) 125, Rev. Pl. Vasc. Filip. (1886) 182.

Luzon (Tayabas), Bohol, *Cuming 1831*, *Merrill 1957*, *B. S. 1267 McGregor, 26922 Edaño*. In forests at low altitudes. Endemic.

Local name: Tabogo (Tag.).

MELODINUS PHILIPPINENSIS A. DC. Prodr. 8 (1844) 330; Miq. Fl. Ind. Bat. 2 (1857) 397; F.-Vill. Novis. App. (1880) 128; Vidal Phan. Cuming. Philip. (1885) 125, Rev. Pl. Vasc. Filip. (1886) 182.

Mindoro, *Cuming 1574*. Probably from forests at low altitudes. Endemic.

2. ALLAMANDA Linnaeus

ALLAMANDA CATHARTICA Linn. Mant. 2 (1771) 214; A. DC. Prodr. 8 (1844) 318; Blanco Fl. Filip. ed. 2 (1845) 64, ed. 3, 1 (1877) 120, *t. 30*; Miq. Fl. Ind. Bat. 2 (1855) 389; F.-Vill. Novis. App. (1880) 128; Merr. Fl. Manila (1912) 372, Sp. Blancoanae (1918) 308.

Cultivated for ornamental purposes, occasionally semi-established in thickets near dwellings or settlements. Introduced from tropical America.

Local names: Campanilla (Sp.); kampanéro (Tag.); kompanária (Tag.).

ALLAMANDA HENDERSONII Bull. ex Dombr. Fl. Mag. 5 (1866) *t. 263*; Merr. Fl. Manila (1912) 372.

A comparatively recent introduction, cultivated for ornamental purposes, but nowhere spontaneous.

3. WILLUGHBEIA Roxburgh

WILLUGHBEIA LUZONIENSIS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 320.

Chilocarpus globosus Elm. Leaf. Philip. Bot. 4 (1912) 1454.

Luzon (Cagayan, Camarines, Sorsogon), Sibuyan, Catanduanes, Panay, *Elmer 12229, 15199, 15936, 14718*, *Merrill Phil. Pl. 1536*, *B. S. 13852, 30485, 23350 Ramos, 33558, 30881 Ramos & Edaño, 35608 Martelino & Edaño*. In primary forests at low and medium altitudes. Endemic.

WILLUGHBEIA PAUCIFLORA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 387.

Leyte, *Wenzel 100*. In forests at low altitudes. Endemic.

4. CHILOCARPUS Blume

CHILOCARPUS LEYTENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1453.

Leyte, *Elmer* 7359, *Wenzel* 315. In primary forests at low altitudes. Endemic.

5. LEPINIOPSIS Valetton

LEPINIOPSIS TERNATENSIS Valetton in Ann. Jard. Bot. Buitenz. 12 (1895) 252, t. 28; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 48.

Lepiniopsis philippinensis Elm. Leaf. Philip. Bot. 4 (1912) 1458.

Luzon (Camarines), Mindoro, Sibuyan, Cebu, Panay, Negros, Mindanao (Surigao, Agusan), *Elmer* 12378, *Ahern* 693, *F. B.* 6423 *Espinosa*, 12323 *Everett*, 22840 *Ponce*, 20738 *Rafael & Ponce*, *B. S.* 31393 *Ramos & Edaño*, 35339 *Martelino & Edaño*, 22066, 39813, 40833 *Ramos*, 1741 *McGregor*, 34347, 34872 *Ramos & Pascasio*. In forests at low and medium altitudes. Moluccas; a monotypic genus.

Local names: Kolinos (C. Bis.); kolinus (C. Bis.); kulanós (Bik.); kuyon-kúyon (P. Bis.); magpanias (C. Bis.).

6. PLUMIERA Tournefort

PLUMIERA ACUMINATA Ait. Hort. Kew. ed. 2, 2 (1811) 70; Merr. Interpret. Herb. Amb. (1917) 427, *Sp. Blancoanae* (1918) 308.

Plumiera acutifolia Poir. in Lam. Encycl. Suppl. 2 (1812) 667; Miq. Fl. Ind. Bat. 2 (1857) 426; F.-Vill. Novis. App. (1880) 129; Merr. Fl. Manila (1912) 369.

Plumiera alba Blanco Fl. Filip. (1837) 111, ed. 2 (1845) 80, ed. 3, 1 (1877) 148, t. 39, non Linn.

Generally planted for ornamental purposes, but nowhere established. Introduced from Mexico by the Spaniards, now pantropic in cultivation.

Local names: Kachúchi (C. Bis.); kalachúche (Tag., Bik.); kalasúsi (Tag.); kalatsútsi (Tag.); kalanúche (Ilk.); kalasási (Tag.); kalonóche (Ilk.); karachúcha (Tag.); karatúche (Tag.); all corruptions of its Aztec name.

7. ALSTONIA R. Brown

ALSTONIA ANGUSTIFOLIA Wall. Cat. (1829) No. 1650, *nomen nudum*; A. DC. Prodr. 8 (1844) 409; King & Gamble in Journ. As. Soc. Bengal 74² (1907) 440.

Mindanao (Lanao, Davao), *Elmer* 10840, *Clemens* 696. In forests at medium altitudes. Malay Peninsula, Borneo.

The Philippine form is very close to the var. *macrophylla* King & Gamble and should be compared with *A. villosa* Blume var. *glabra* Koord. & Val.

ALSTONIA ANGUSTILOBA Miq. Fl. Ind. Bat. 2 (1857) 438; Koord. & Val. in Meded. Lands. Plantent. 11 (1894) 120; King & Gamble in Journ. As. Soc. Bengal 74² (1907) 438.

Alstonia iwahigensis Elm. Leaf. Philip. Bot. 4 (1912) 1447.

Palawan, *Elmer* 13167, *Merrill* 748. In primary forests up to 600 m altitude. Malay Peninsula, Java, Borneo.

ALSTONIA MACROPHYLLA Wall. Cat. (1829) No. 1648, *nomen nudum*;
A. DC. Prodr. 8 (1844) 409; Miq. Fl. Ind. Bat. 2 (1855) 438;
F.-Vill. Novis. App. (1880) 129; Vidal Sinopsis Atlas (1883) 32,
t. 66, f. A, Phan. Cuming. Philip. (1885) 125, Rev. Pl. Vasc. Filip.
(1886) 183; Merr. Sp. Blancoanae (1918) 308.

Echites trifida Blanco Fl. Filip. (1837) 109, ed. 2 (1845) 79, ed. 3,
1 (1877) 146, *t. 379*; A. DC. Prodr. 8 (1844) 478; Miq. Fl. Ind.
Bat. 2 (1857) 439, non Jacq.

Alstonia batino Blanco op. cit. ed. 2 (1845) 589, ed. 3, 1 (1877) 163.

Northern Luzon (Ilocos Norte) to Mindanao and Palawan, in most or
all islands and provinces. In open primary and in secondary forests and
thickets at low and medium altitudes; common. Malay Peninsula, Bor-
neo, New Guinea.

Var. **MOLLIS** var. nov.

A typo differt subtus foliis dense molliterque pubescens.

Luzon (Cagayan, Isabela, Rizal, Batangas, Tayabas, Camarines), Min-
doro, Guimaras, Panay, *F. B. 17790, 17128* (type) *Curran, 17903 Barros,*
17920 Bernardo, 7149 Merritt, B. S. 13816 Ramos. In secondary forests
and thickets at low altitudes. The vegetative characters are very similar
to those of *A. villosa* Blume, but the corolla is glabrous externally.

Local names: Barakir (Bag.); basikálang (Ting., Ibn.); basikárang
(Ilk.); batikalág (Pang.); batíno (Pang., Tag., Bik.); busisi (Ibn.); da-
lakan (Ilk.); itang-itang (P. Bis.); koanan (P. Bis.); kuyau-kuyau
(Bik.); kuyauyáu (Bik.); paṅgalanutien (Ilk.); paṅgalisoklóen (Pang.);
paṅgalunádsien (Ilk.); paṅgoláksien (Ibn.); sulusilhigan (Tagb.); taṅgi-
tang (P. Bis.); tulíṅgan (Sul.).

ALSTONIA OBLONGIFOLIA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 65.

Palawan, *F. B. 4495 Curran*. In old clearings at low altitudes. En-
demic.

ALSTONIA PARVIFOLIA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906)
59, Philip. Journ. Sci. 1 (1906) Suppl. 116.

Luzon (Bataan), *F. B. 2209 Meyer, 2111 Borden, Elmer 6876, Whitford*
1164. On rocky forested slopes and exposed ridges on Mt. Mariveles, al-
titude 800 to 1,000 m. Endemic.

ALSTONIA PAUCINERVIA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 224.

Luzon (Camarines), *F. B. 18726 Darling*. In forests at low altitudes;
perhaps but a form of *A. macrophylla* Wall. Endemic.

ALSTONIA SCHOLARIS (Linn.) R. Br. in Mem. Wern. Soc. 1 (1809)
75; A. DC. Prodr. 8 (1844) 408; Miq. Fl. Ind. Bat. 2 (1855) 436;
Hook. f. Fl. Brit. Ind. 3 (1882) 642; F.-Vill. Novis. App. (1880)
129; Vidal Phan. Cuming. Philip. (1885) 126, Rev. Pl. Vasc.
Filip. (1886) 183; Koord. & Val. Bijdr. Boom. Java 1 (1894)
117; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 116, Fl. Manila
(1912) 372, Sp. Blancoanae (1918) 308.

Echites scholaris Linn. Mant. 1 (1767) 55; Blanco Fl. Filip. (1837) 107, ed. 2 (1845) 77, ed. 3, 1 (1877) 144, *t.* 113.

Nerium tinctorium Perr. in Mém. Soc. Linn. Paris 3 (1824) 132.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces. In primary and secondary forests at low and medium altitudes. Tropical Asia and Africa through Malaya to tropical Australia.

Local names: Alipáuen (Ilk.); andaráyan (Ibn.); bitá (P. Bis.); dali-páuen (Ilk.); dirita (Ilk.); ditá (Tag., Bis.); ditáa (Tag., Bik., Sul.); dilupáon (Ibn.); laya (Ilk.); lipáuen (Ilk.); oplai (Ibn.); pasuit (Pang.); polai (Pang.); tanitan (Bis.); tañgitang (Bis.).

EXCLUDED SPECIES

ALSTONIA SERICEA Blume; F.-Vill. Novis. App. (1880) 130.

ALSTONIA SPECTABILIS R. Br.; F.-Vill. op. cit. 129.

8. PARALSTONIA Baillon

PARALSTONIA CLUSIACEA Baill. in Bull. Soc. Linn. Paris 1 (1888) 750; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 117.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Bataan, Rizal, Batangas, Laguna, Tayabas, Camarines), Mindoro, Palawan, Samar, Masbate, Negros, Mindanao (Surigao). In primary forests at low and medium altitudes, often common. Bonin Islands. A monotypic genus.

Local names: Basikaláng (Ilk.); batikulíng (Tag.); kuyauiyau (P. Bis.); malabatino (Tag.); maladitá (Tag.); tangitang (P. Bis.).

9. LOCHNERA Reichenbach

LOCHNERA ROSEA (Linn.) Reichb. Conspect. (1828) 134; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 428, Fl. Manila (1912) 370, Sp. Blancoanae (1918) 309.

Vinca rosea Linn. Syst. ed. 10 (1759) 944; Blanco Fl. Filip. (1837) 116, ed. 2 (1845) 84, ed. 3, 1 (1877) 154, *t.* 42; A. DC. Prodr. 8 (1844) 382; Miq. Fl. Ind. Bat. 2 (1857) 425; F.-Vill. Novis. App. (1880) 129; Vidal Phan. Cuming. Philip. (1885) 125, Rev. Pl. Vasc. Filip. (1886) 183.

Ammocallis rosea Small Fl. S. E. United States (1903) 936.

A native of tropical America, introduced for ornamental purposes and now thoroughly established in many parts of the Philippines, often very abundant along sandy seashores. Now pantropic, cultivated and naturalized.

Local names: Amnias (Tag.); átai-biá (Tag.); chichiríca (Sp.); kantotan (Tag.); lubitos (Iv.); San Pedro (Sp.); sirsiríka (Bik.); sitchiríka (Tag.).

10. TABERNAEMONTANA Plumier

TABERNAEMONTANA BIFLORA Elm. Leaf. Philip. Bot. 4 (1912) 1463.

Mindanao (Davao), *Elmer* 10657. In forested ravines, altitude about 900 m. Endemic.

Local name: Salibótbót (Bag.).

TABERNAEMONTANA CAUDATA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 316.

Luzon (Ilocos Sur, Benguet, Zambales, Bataan), *F. B.* 14025 *Merritt & Darling*, *B. S.* 4801 *Ramos*, *Williams* 1159, 719, *Loher* 6496. In thickets and forests, altitude 350 to 1,500 m. Endemic.

Local name: Pandakáking-kampúpot (Sbl.).

TABERNAEMONTANA CORDATA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 337.

Mindanao (Agusan), *Weber* 1125, *Piper* 287, 345, *Elmer* 13574. In thickets, old clearings, etc., at low altitudes. Endemic.

Local name: Alibótbót (Mbo.).

TABERNAEMONTANA DIVARICATA (Linn.) R. Br. ex R. & S. Syst. 4 (1819) 427; Merr. Fl. Manila (1912) 371, Interpret. Herb. Amb. (1917) 429.

Nerium divaricatum Linn. Sp. Pl. (1753) 209.

Tabernaemontana coronaria Willd. Enum. Hort. Berol. (1809) 275; F.-Vill. Novis. App. (1880) 130.

Occasionally cultivated for ornamental purposes, the double-flowered form, but nowhere spontaneous. A native of tropical Asia, now pantropic in cultivation.

Local name: Rosa de hielo (Sp.).

TABERNAEMONTANA ECARINATA Merr. in Philip. Journ. Sci. 14 (1919) 450.

Luzon (Cagayan, Ilocos Norte), *B. S.* 13934, 33022, 33082 *Ramos*. In forests along streams at low altitudes. Endemic.

TABERNAEMONTANA HEXAGONA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 66.

Panay, Leyte, Negros, *B. S.* 21241 *Escritor*, 32532 *McGregor*, 31242, 31510 *Ramos & Edaña*. In forests at low altitudes. Endemic.

TABERNAEMONTANA LINEARIFOLIA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 317.

Luzon (Lepanto, Bontoc), *F. B.* 10945 *Curran*, *Vanoverbergh* 433, 3929. On slopes in the pine region, altitude 1,400 to 1,700 m. Endemic.

Local name: Pasik (Bon.).

TABERNAEMONTANA MEGACARPA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 318.

Mindanao (Misamis, Lanao, Zamboanga), Basilan, *Clemens*, *Merrill* 8368, *Williams* 2179, *F. B.* 7481 *Mearns & Hutchinson*, 24561 *Tecson*, 3964 *Hutchinson*, 18852 *Miranda*, *B. S.* 15491 *Reillo*. In forests at low and medium altitudes. Endemic.

Local names: Kalipsa (Sub.); tapadak (Sul.); taparak (Yak.).

TABERNAEMONTANA MINDANAENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 67.

Mindanao (Cotabato), *F. B.* 14930 *Tarrosa & Almagro*, *B. S.* 11653 *Robinson*. In thickets and secondary forests at low altitudes. Endemic.

Local name: Pandakákeg (Mag.).

TABERNAEMONTANA MINDORENSIS Merr. in Philip. Journ. Sci. 20 (1922) 434.

Mindoro, *B. S.* 39577, 39576 *Ramos*. On forested slopes, altitude 500 m. Endemic.

TABERNAEMONTANA MUCRONATA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 318; C. B. Rob. op. cit. 6 (1911) Bot. 219.

Tabernaemontana congestiflora Elm. Leaf. Philip. Bot. 4 (1912) 1464.

Luzon (Cagayan, Laguna, Tayabas, Camarines, Sorsogon), Polillo, Sibuyan, Alabat, Samar, Biliran, Leyte, Guimaras, Mindanao (Surigao, Zamboanga), Basilan, Jolo, *B. S.* 6816, 6974 *Robinson*, 33544, 33659 *Ramos & Edaño*, 34618, 34529, 34566 *Ramos & Pascasio*, 24499 *Ramos*, 18543, 18810 *McGregor*, *F. B.* 11697, 11575 *Whitford*, 304 *Gammill*, *Baker* 218, 257, 2682, *Elmer* 12564, 15402, 15863, 16015, 18155, *Merrill* 10488, 10474, *Warburg* 14332. In damp primary forests at low and medium altitudes. Celebes, *Hose* 772!

Local names: Alibútbut (P. Bis.); pandakáki (Tag., S. L. Bis.); sagínga-busau (Mag.); tabug (Sul.).

TABERNAEMONTANA OLIGANTHA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 68.

Luzon (Tayabas, east coast), Samar, *Merrill Phil. Pl.* 1621, *B. S.* 28719 *Ramos & Edaño*. In primary forests at low altitudes. Endemic.

TABERNAEMONTANA PANDACAQUI Poir. in Lam. Encycl. 7 (1806) 529; A. DC. Prodr. 8 (1844) 372; Miq. Fl. Ind. Bat. 2 (1857) 419; F.-Vill. Novis. App. (1880) 130; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 117, 3 (1908) Bot. 428, Fl. Manila (1912) 371, Sp. Blancoanae (1918) 309.

Tabernaemontana laurifolia Blanco Fl. Filip. (1837) 114, ed. 2 (1845) 82, ed. 3, 1 (1877) 150, t. 41, non Linn.

Pandacaqui Sinn. Voy. Nouv. Guin. (1776) 49, t. 19.

Tabernaemontana semperflorens Perr. in Mém. Soc. Linn. Paris 3 (1824) 147.

Tabernaemontana cumingiana A. DC. Prodr. 8 (1844) 373; Miq. Fl. Ind. Bat. 2 (1857) 419; Vidal Phan. Cuming. Philip. (1885) 126, Rev. Pl. Vasc. Filip. (1886) 184; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 428.

? *Tabernaemontana lurida* Van Huerck & Muell.-Arg. Obs. Bot. (1870) 172.

Babuyan Islands and Luzon to Mindanao, in most islands and provinces, incl. *Elmer* 17539 as *T. bicolor* Elm. Often very common in thickets at low altitudes and represented by more than 100 collections. Formosa, Celebes.

The type of *T. pandacaqui* Poir. was from the Philippines, not from New Guinea.

Local names: Agtimaloi (Buk.); alibótbót (P. Bis.); alibútbut (Pamp., Bis., Bik.); busbusilak (Ilk.); halibútbut (Bik.); kápúpot (Tag.); kudibétbet (Ig.); kukabulau-bantai (Ibn.); kuribétbet (Pang., Ilk.); pandakáki (Tag., Bis., Pamp.); pandakáking-itím (Tag.); pandakáki-putí (Bik.); pandáya (Bik.); sákang-manúk (Bik.); salibúkbuk (P. Bis.); salimbabaya (C. Bis.); talanísog (Bik.); toár (Bik.); tunkal (P. Bis.).

TABERNAEMONTANA PLUMERIAEFOLIA (Elm.) comb. nov.

Voacanga plumeriaefolia Elm. Leaf. Philip. Bot. 1 (1908) 333; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 219.

Luzon (Tayabas, Laguna, Camarines, Sorsogon), Polillo, *Elmer* 7502, 7754, *B. S.* 33826 Ramos & Edaña, 10395 McGregor, 23587 Ramos. In forests at low and medium altitudes. Endemic.

Local name: Bayag-kambíng (Tag.).

TABERNAEMONTANA POLYGAMA Blanco Fl. Filip. ed. 2 (1845) 82, ed. 3, 1 (1877) 151; F.-Vill. Novis. App. (1880) 130; Merr. Sp. Blancoanae (1918) 309.

Tabernaemontana puberula Merr. in Philip. Journ. Sci. 4 (1909) Bot. 319, Fl. Manila (1912) 371.

Luzon (Rizal, Laguna, Batangas), *Merrill* 2725, 2746, *Sp. Blancoanae* 34, 243, *B. S.* 1440, 22389 Ramos, 22851 McGregor. In dry thickets at low altitudes. Endemic.

Local names: Kampúpót (Tag.); pandakáki (Tag.).

TABERNAEMONTANA SUBGLOBOSA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 242, Fl. Manila (1912) 371.

Tabernaemontana globosa Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 283, non Blanco.

Tabernaemontana sphaerocarpa F.-Vill. Novis. App. (1880) 130; Merr. in Philip Bureau Forestry Bull. 1 (1903) 49, non Blume.

Batan and Babuyan Islands, Luzon (Ilocos Norte to Batangas), Mindoro, Palawan, Masbate, Panay. In thickets, secondary and primary forests at low altitudes, often common. Endemic.

Local names: Alibútbut (P. Bis.); bayag-kambíng (Tag.); iris (Mang.); kuribétbet (Ilk.); kuribétbet-ñg-dakel (Ilk.); pandakáki (Tag., Pamp.).

DOUBTFUL SPECIES

TABERNAEMONTANA ARBORESCENS Perr. in Mém. Soc. Linn. Paris 3 (1824) 148 *nomen nudum*; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 306.

TABERNAEMONTANA ORIENTALIS R. Br.; Usteri Beitr. Ken. Philip. Veg. (1905) 121.

I suspect that Usteri's specimen will prove to be *Tabernaemontana pandacaqui* Poir.

11. **VOACANGA** Thouars

VOACANGA GLOBOSA (Blanco) Merr. in Philip. Journ. Sci. 4 (1909) Bot. 319, Sp. Blancoanae (1918) 309.

Tabernaemontana globosa Blanco Fl. Filip. (1837) 116, ed. 2 (1845) 83, ed. 3, 1 (1877) 153; A. DC. Prodr. 8 (1844) 374; Miq. Fl. Ind. Bat. 2 (1857) 424.

Voacanga cumingiana Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 313; Vidal Phan. Cuming. Philip. (1885) 126, Rev. Pl. Vasc. Filip. (1886) 184; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 117.

Orchipeda foetida F.-Vill. Novis. App. (1880) 130; Vidal Sinopsis Atlas (1883) 22, t. 66, f. D, non Blume.

Luzon (Cagayan to Sorsogon), Mindoro, Polillo, Samar, Biliran, Masbate, Leyte, Panay, Negros, Cebu, Dinagat, Mindanao. Common in secondary and primary forests at low altitudes. Endemic.

Local names: Alibútbut-ñga-bai (P. Bis.); bayag-kambíng (Tag.); bayag-usá (Tag., Bik.); galofag (Gad.); gañga (Neg.); itlog-usá (Tag., Bik.); lapit-usá (Bik.); litá (C. Bis.); makabúnga (Bik.); pandakáki kalabáu (Tag.); pantog-sa-usá (Bis.); parip-usá (Bik.); talanísog (P. Bis.).

VOACANGA MEGACARPA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 336.

Luzon (Tayabas, Camarines, Sorsogon), *B. S.* 12324 Foxworthy, 10668 McGregor, *F. B.* 14256 Aguilar, Whitford 829, Elmer 15028 as *V. irosinensis* Elm. In secondary forests at low altitudes. Endemic.

EXCLUDED SPECIES

ORCHIPEDA GRANDIFOLIA Miq.; F.-Vill. Novis. App. (1880) 130.

12. ALYXIA R. Brown

ALYXIA BLANCOI Merr. in Philip. Journ. Sci. 7 (1912) Bot. 330, Sp. Blancoanae (1918) 310.

Brabejum lucidum Blanco Fl. Filip. ed. 2 (1845) 40; ed. 3, 1 (1877) 74, non *Alyxia lucida* Wall.

Cebu, *B. S.* 11118 Ramos, Sanchez. In thickets at low altitudes. Endemic.

Local name: Layo (C. Bis.).

ALYXIA CONCATENATA (Blanco) Merr. Sp. Blancoanae (1918) 310.

Brabejum concatenatum Blanco Fl. Filip. ed. 2 (1845) 40; ed. 3, 1 (1877) 73.

Alyxia monilifera Vidal Rev. Pl. Vasc. Filip. (1886) 182; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 117, 2 (1907) Bot. 299.

Alyxia stellata F.-Vill. Novis. App. (1880) 129; Vidal Sinopsis Atlas (1883) 32, t. 67, f. B, non R. & S.

Gynopogon monilifera Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 46.

Luzon (Ilocos Norte to Sorsogon, in most provinces), Mindoro, Palawan, Panay, Leyte, Samar, Cebu, Camiguin de Misamis, Mindanao, incl. Elmer 15827 as *A. quadrata* Elm. Chiefly on ridges in the mossy forest, altitude 700 to 2,400 m; represented by very numerous collections. Endemic.

Local names: Dalagit-balágon (C. Bis.); daskil (Ig.); ihoihod (Ig.); pararan (Bag.); uaka (Ig.); upong-úpong-balagon (S. L. Bis.).

ALYXIA CONFERTIFLORA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 64.

Luzon (Laguna), Basilan, *B. S.* 16143 Reillo, *F. B.* 26775 Mabesa. In primary forests at low altitudes. Endemic.

ALYXIA GLABRA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 53.

Luzon (Tayabas, east coast), *B. S.* 29207, 28967 Ramos & Edaña. In primary forests along streams at low or medium altitudes. Endemic.

ALYXIA LANCEOLATA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 53.

Luzon (Bulacan, Tayabas), *B. S.* 29209, 28627, 34193 *Ramos & Edaño*. In damp primary forests at low or medium altitudes. Endemic.

ALYXIA LAXIFLORA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 54.

Luzon (Apayao), *B. S.* 28371 *Fénix*. In the mossy forest on Mt. Sulu, probably at or above 1,000 m altitude. Endemic.

ALYXIA LUCIDA Wall. in Roxb. Fl. Ind. 2 (1824) 540; Hook. f. Fl. Brit. Ind. 3 (1882) 635; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 121.

Alyxia quinata Miq. Fl. Ind. Bat. 2 (1857) 407.

Culion, *Merrill* 614, *B. S.* 41332 *Ramos*. In dry forests at low altitudes. Malay Peninsula, Sumatra, Borneo.

ALYXIA LUZONIENSIS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 313.

Luzon (Cagayan, Ilocos Norte, Bontoc, Zambales, Bulacan, Tayabas), *B. S.* 5107, 7007, 4743, 13819, 32808, 32698, 33317, 27282, 27207 *Ramos*, 25445 *Yates*, *F. B.* 13945, 13977, 13988 *Merritt & Darling*. In thickets and forests chiefly at medium altitudes, ascending to 1,600 m. Endemic.

Local names: Kayaskas (Ilk.); maraséda (Ilk.); oaka (Bon.).

ALYXIA MONTICOLA C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 356.

Luzon (Tayabas), Mindanao (Butuan), *B. S.* 9359 *Robinson*, 20788 *Escritor*, 24942 *Fénix*. In the mossy forest, altitude 800 to 1,000 m. Endemic.

ALYXIA OBOVATIFOLIA Merr. in Philip. Journ. Sci. 17 (1920) 306.

Mindanao (Surigao), *B. S.* 34492 *Ramos & Pascasio*. In thickets and forests along streams at low altitudes. Endemic.

ALYXIA PARVIFOLIA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 313.

Gynopogon parvifolia Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 46.

Luzon (Lepanto, Benguet), *Elmer* 5800, 8599, *Merrill Phil. Pl.* 846, *Williams* 1339, *B. S.* 31944 *Santos*, 5015, 5468 *Ramos*, 8339 *McGregor*, 16577 *Darling*, 8083 *Curran & Merritt*. In the mossy forest on the higher mountains, altitude 1,700 to 2,400 m. Endemic.

Local names: Litaan (Ig.); sisili (Ig.).

ALYXIA RETUSA Merr. in Philip. Journ. Sci. 14 (1919) 448.

Luzon (Ilocos Norte), *B. S.* 33330 *Ramos*. On forested slopes, altitude about 1,000 m. Endemic.

ALYXIA REVOLUTA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 52.

Luzon (Tayabas, Nueva Ecija), *B. S.* 25515 *Yates*, 28582, 26444 *Ramos & Edaño*. In the mossy forest, altitude about 800 m. Endemic.

Local name: Harupañgot (Neg.).

ALYXIA SIBUYANENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1448.

Sibuyan, Samar, *Elmer* 12137a, *B. S.* 24342 *Ramos*. In forests at low and medium altitudes. Endemic.

Local names: Hapinla (P. Bis.); maladalaket (S. L. Bis.).

ALYXIA STENOPHYLLA Merr. in Philip. Journ. Sci. 17 (1920) 305.

Panay, *B. S. 35574 Martelino & Edaño*. In thickets and forests, altitude about 650 m. Endemic.

DOUBTFUL AND EXCLUDED SPECIES

ALYXIA LAURINA Gaudich.; F.-Vill. Novis. App. (1880) 129.

ALYXIA ODORATA Wall.; F.-Vill. l. c.

ALYXIA TORRESIANA Gaudich.; F.-Vill. l. c.

BRABEJUM PINNATUM Blanco Fl. Filip. ed. 2 (1845) 40, 3, 1 (1877) 74; Merr. Sp. Blancoanae (1918) 310.

This is not recognizable from Blanco's description alone; it may belong in some genus other than *Alyxia*.

13. RAUWOLFIA Plumier

RAUWOLFIA AMSONIAEFOLIA A. DC. Prodr. 8 (1844) 338; F.-Vill. Novis. App. (1880) 128; Vidal Phan. Cuming. Philip. (1885) 125, Rev. Pl. Vasc. Filip. (1886) 182; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 49.

Cyrtosiphonia amsoniaefolia Miq. Fl. Ind. Bat. 2 (1857) 402.

Luzon (Cagayan, Ilocos Norte, Isabel, Pangasinan, Nueva Ecija, Batangas, Camarines), Mindoro, Lubang, Masbate, Mindanao (Bukidnon), *Merrill 966, Cuming 1133, 1249, Ahern 100, 849, Warburg 11522, B. S. 7415, 8108, 4917, 4959, 22453, 38424, 39678 Ramos, 21387 Escritor, F. B. 16505 Bacani, 22111 Alvarez, 10471 Curran, 9792, 9855 Merritt, 992 Clark, 26526 Rola*. In thickets and secondary forests at low and medium altitudes. Timor Laut, Kei, and Tenimber Islands.

Local names: Andaráyan (Ibn.); banogan (P. Bis.); batikoking (Buk.); maladitá (Bik., Buk.); mara-andaráyan (Ibn.); sibakóng (Tag.).

RAUWOLFIA MEMBRANACEA Merr. in Philip. Journ. Sci. 14 (1919) 449.

Luzon (Ilocos Norte), *B. S. 33214 Ramos*. On dry forested slopes, altitude about 700 m. Endemic.

RAUWOLFIA SAMARENSIS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 316.

Rauwolfia palawanensis Elm. Leaf. Philip. Bot. 4 (1912) 1462.

Luzon (Sorsogon), Palawan, Samar, Panay, Mindanao (Agusan, Davao, Zamboanga), *Merrill 5233, 8118, Elmer 12591, 15582, 15363, 13921, 13302, B. S. 23586, 23302 Ramos, 30985 Ramos & Edaño, 16412 Reillo*. In secondary and primary forests at low altitudes. Endemic.

Local names: Bitak-bitak (Bag.); butbutá (Tagb.); kolanós (Bik.); manatad (Sul.).

EXCLUDED SPECIES

RAUWOLFIA SUMATRANA Jack; F.-Vill. Novis. App. (1880) 128.

14. OCHROSIA Jussieu

OCHROSIA APOENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1461.

Luzon (Sorsogon), Mindanao (Davao), *Elmer 10478, 14967, B. S. 23605 Ramos*. In dense primary forests, altitude about 1,200 m. Endemic.

Local name: Magsañgod (Bag.).

OCHROSIA LITTORALIS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 315.

Babuyan Islands (Dalupiri), Luzon (Cagayan, Ilocos Norte, Batangas), Mindanao (Cotabato), Sulu Archipelago (Sibutu), *F. B.* 7754 *Curran & Merritt*, 16964 *Curran*, 14898 *Tarrosa*, 27348 *Reyes*, *B. S.* 10627 *McGregor*, 27208 *Ramos*. In thickets and forests along the seashore. Endemic.

Local names: Dins (Mag.); labusei (Sul.); pakoidan (Neg.).

OCHROSIA OPPOSITIFOLIA (Lam.) K. Schum. in Engl. & Prantl Nat. Pflanzenfam. 4² (1895) 156; Merr. Interpret. Herb. Amb. (1917) 431.

Cerbera oppositifolia Lam. Encycl. 1 (1783) 62.

Calpicarpum lamarckii Don Gen. Syst. 4 (1838) 100.

Ochrosia salubris Blume Mus. Bot. Lugd.-Bat. 1 (1850) 158.

Bleekeria salubris Hassk. in Nat. Tijdschr. Nederl. Ind. 10 (1856) 41.

Lactaria salubris Raf. Sylva Tellur. (1838) 162.

Mindanao (Zamboanga), Basilan, *F. B.* 24682 *Tecson*, 20806 *Ferraris & Stadtmiller*, *B. S.* 16284 *Reillo*. In forests along the seashore. Ceylon, Andaman Islands, through Malaya to the Marianne Islands.

Local name: Ginlin (Sul.).

EXCLUDED SPECIES

OCHROSIA MARIANNENSIS A. DC.; F.-Vill. Novis. App. (1880) 129.

15. KOPSIA Blume

KOPSIA LAXINERVIA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 55.

Luzon (Apayao), *B. S.* 28232 *Fénix*. In thickets along streams at low or medium altitudes. Endemic.

KOPSIA GRANDIFLORA Merr. in Philip. Journ. Sci. 20 (1922) 436.

Luzon (Camarines), *B. S.* 33691 *Ramos & Edaño*. In damp forests along streams at low altitudes. Endemic.

KOPSIA LONGIFLORA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 47, Philip. Journ. Sci. 1 (1906) Suppl. 117.

Luzon (Cagayan, Ilocos Norte, Bataan, Tayabas, Camarines, Sorsogon), Romblon, Mindanao (Bukidnon, Lanao), *F. B.* 611, 1802 *Borden*, 5453, 5764, 17226 *Curran*, 12971, 18507 *Alvarez*, 1448 *Ahern's collector*, 26550 *Rola*, *B. S.* 25509, 25397 *Yates*, 31539 *Ramos & Edaño*, 1892 *Foxworthy*, *Whitford* 1207, *Ahern* 820, *Elmer* 16898. In primary forests at low and medium altitudes. Endemic.

Local names: Anatau (Tag.); libatbat (P. Bis.); lipatat-gúbat (Bik., Tag.); pandakáking-laláki (Tag.).

16. CERBERA Linnaeus

CERBERA MANGHAS Linn. Sp. Pl. (1753) 208; Blanco Fl. Filip. (1837) 125, ed. 2 (1845) 89, ed. 3, 1 (1877) 161; Merr. Interpret. Herb. Amb. (1917) 432, Sp. Blancoanae (1918) 311.

Cerbera odollam Gaertn. Fruct. 2 (1791) 193, t. 124; A. DC. Prodr. 8 (1844) 353; Miq. Fl. Ind. Bat. 2 (1857) 413; Hook. f. Fl. Brit. Ind. 3 (1882) 638; F.-Vill. Novis. App. (1880) 129; Vidal Sinopsis

Atlas (1883) 32, *t. 66, f. C*; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 117, 3 (1908) Bot. 428, Fl. Manila (1912) 369.

Cerbera lactaria Ham. in DC. Prodr. 8 (1844) 353; F.-Vill. Novis.

App. (1880) 129; Val. in Ann. Jard. Bot. Buitenz. 12 (1895) 245.

Elcana seminuda Blanco Fl. Filip. ed. 2 (1845) 584, ed. 3, 3 (1879) 267.

Common along the seashore throughout the Philippines. Tropical Asia through Malaya to tropical Australia and Polynesia.

Local names: Arbon (Tagb.); baraibai (Tag.); batáno (Ilk.); buta-butá (Tag.); butó-butó (C. Bis.); ditá (Sul.); duñgas (Mag.); kaliptan (Ilg.); lipáta (Tagb.); lipátag (P. Bis.); magkanai (Bik.); maraibai (Tag.); marabai (Tag.); panabulon (P. Bis.); toktok-kálaw (Tag.); tabau-tabau (Ilk.).

17. THEVETIA Linnaeus

THEVETIA PERUVIANA (Pers.) Merr. in Philip. Journ. Sci. 9 (1914) Bot. 130, Sp. Blancoanae (1918) 311.

Cerbera thevetia Linn. Sp. Pl. (1753) 209; Blanco Fl. Filip. (1837) 125, ed. 2 (1845) 89, ed. 3, 1 (1877) 162, *t. 45*.

Cerbera peruviana Pers. Syn. 1 (1805) 267.

Thevetia nereifolia Juss. ex Steud. Nomencl. ed. 2, 2 (1841) 680;

Miq. Fl. Ind. Bat. 2 (1857) 406; F.-Vill. Novis. App. (1880) 129;

Merr. Fl. Manila (1912) 370.

Widely scattered in cultivation as an ornamental plant in the larger towns of the Archipelago. Introduced from tropical America, now pan-tropic.

18. PARAMERIA Benth

PARAMERIA BARBATA (Blume) K. Schum. in Engl. & Prantl Nat. Pflanzenfam. 4² (1895) 162; Merr. Interpret. Herb. Amb. (1917) 432, Sp. Blancoanae (1918) 312.

Parsonsia barbata Blume Bijdr. (1826) 1042.

Ecdysanthera barbata Miq. Fl. Ind. Bat. 2 (1857) 451.

Ecdysanthera glandulifera A. DC. Prodr. 8 (1844) 443; Miq. Fl. Ind. Bat. 2 (1857) 452.

Echites torosa Llanos Frag. Pl. Filip. (1851) 59; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 42, non Jacq.

Parameria vulneraria Radlk. in Stiz. Math.-Phys. Akad. Muench. 14 (1884) 519; Rolfe in Journ. Bot. 23 (1885) 214.

Parameria philippinensis Radlk. in Sitz. Math.-Phys. Akad. Muench. 14 (1884) 518; Rolfe in Journ. Bot. 23 (1885) 214; Vidal Phan. Cuming. Philip. (1885) 126, Rev. Pl. Vasc. Filip. (1886) 185; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 117.

Parameria glandulifera Benth. ex Kurz Forest Fl. Brit. Burm. 2 (1877) 189; Hook. f. Fl. Brit. Ind. 3 (1882) 660; F.-Vill. Novis. App. (1880) 131; Vidal Sinopsis Atlas (1883) 33, *t. 67, f. D*.

Parameria glandulifera Benth. var. *philippinensis* Stapf in Trans. Linn. Soc. Bot. 4 (1894) 207.

Luzon (Ilocos Norte, Union, Bontoc, Benguet, Nueva Vizcaya, Zambales, Bulacan, Pampanga, Bataan, Rizal), Mindoro, Busuanga, Palawan, Panay, Cebu. In thickets and open forests at low and medium altitudes; common. Sumatra, Java, and Borneo to the Moluccas.

I have a fragment of Rothdaucher's specimen on which *Parameria vulneraria* Radlk. was based; it is not distinct from *P. philippinensis* Radlk. = *P. barbata* K. Schum.

Local names: Bulau-bulau (P. Bis.); dugtong-áhas (Tag.); gamot-sambáli (Tag.); ikdig-ñga-purau (Ilk.); inggiu-na-putí (Tag.); itiban (Tag.); karkarsang (Ig.); kuni-na-putí (Tag.); lumpiit (Ilk.); lupiit (Ilk.); ogoi (Ig.); parugtong-áhas (Tag.); pataan (Ilk.); patian (Ilk.); pulang-pulang (Ilk.); sada (Ig.); sadak (Ilk.); sagid (Bis.); sagit (Tag.); tagolaúai (Tag.); taguk-táguk (Bis.); tagulaúai (P. Bis.); yakdig (Ilk.).

EXCLUDED SPECIES

PARAMERIA PEDUNCULOSA Miq.; F.-Vill. Novis. App. (1880) 131.

19. MICRECHITES Miquel

MICRECHITES SCHRIECKII (Van Huerck & Muell.-Arg.) Rolfe in Journ. Bot. 23 (1885) 214; Vidal Phan. Cuming. Philip. (1885) 126; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 334.

Ecdysanthera schrieckii Van Huerck & Muell.-Arg. Obs. Bot. (1870) 191.

Trachelospermum philippinense Elm. Leaf. Philip. Bot. 2 (1908) 488.

Luzon (Laguna, Tayabas, Camarines, Sorsogon), Leyte, Negros, Camiguin de Misamis, Mindanao (Zamboanga, Davao), Basilan, Cuming 910, Elmer 9135, 11892, 17520, 15119, Merrill Phil. Pl. 1531, Ahern 300, F. B. 24910 Mabesa, 4250 Everett, 12360 Hutchinson, B. S. 26661 Brown, 14606 Ramos, 15477, 16164 Reillo. In primary forests at low and medium altitudes. Endemic.

Local names: Bayakto (Bik.); kabansal (Bag.); litak (Bik.).

20. URCEOLA Roxburgh

URCEOLA IMBERBIS (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 68.

Carruthersia imberbis Elm. Leaf. Philip. Bot. 2 (1909) 588.

Luzon (Tayabas, Laguna), Elmer 9239, B. S. 22831 McGregor, 12057 Ramos, F. B. 28360 Mabesa. In forests, altitude 100 to 500 m. Endemic.

Local name: Hinggiu-kalabáu (Tag.).

URCEOLA LAEVIS (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 69.

Carruthersia laevis Elm. Leaf. Philip. Bot. 4 (1912) 1449.

Palawan, Elmer 12837. In forests along streams, altitude about 450 m. Endemic.

URCEOLA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 69.

Luzon (Camarines, Sorsogon), Mindoro, Leyte, Bucas Grande, Mindanao (Surigao, Lanao), Clemens 1098, Piper 219, 512, 545, Wenzel 689, 1167, Elmer 16608, B. S. 34760, 35144 Ramos & Pascasio, 40957 Ramos. In forests at low and medium altitudes, ascending to 700 m; perhaps better reduced to *U. imberbis* (Elm.) Merr. Endemic.

Local name: Dugtong-áhas (Tag.).

21. ANODENDRON A. de Candolle

ANODENDRON AXILLARE Merr. in Philip. Journ. Sci. 7 (1912) 331.

Negros, *F. B. 13572 Meyer & Foxworthy*. In forests at low or medium altitudes; perhaps not really a representative of this genus. Endemic.

ANODENDRON LOHERI Merr. in Philip. Journ. Sci. 7 (1912) Bot. 332.

Luzon (Zambales, Bulacan, Bataan, Rizal), Catanduanes, Samar, *Loher 6494, B. S. 34096 Ramos & Edaño, 30316, 24211 Ramos, F. B. 2607 Meyer, 6256 Curran, 2452 Ahern's collector*. In primary forests at medium altitudes. Endemic.

ANODENDRON MANUBRIATUM (Wall.) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 333.

Echites manubriata Wall. Cat. (1829) No. 1663, *nomen nudum*.

Echites paniculata Roxb. Fl. Ind. ed. 2, 2 (1832) 17, non Poir.

Anodendron paniculatum A. DC. Prodr. 8 (1844) 444; Rolfe in Journ.

Bot. 23 (1885) 214; Vidal Phan. Cuming. Philip. (1885) 126, Rev.

Pl. Vasc. Filip. (1886) 187; Merr. in Philip. Journ. Sci. 1 (1906)

Suppl. 117.

Luzon (Ilocos Sur, Union, Sorsogon), Palawan, Mindanao (Zamboanga), *Merrill 9625, Loher 6482, Elmer 17362 as Parsonsia bulusanensis Elm., B. S. 352 Bermejos, 37273, 37354 Ramos & Edaño*. In thickets and forests at low altitudes. India through Malaya to Timor.

Local name: Malamalaumau (S. L. Bis.).

22. TRACHELOSPERMUM Lemaire

TRACHELOSPERMUM VANOVERBERGHII Merr. in Philip. Journ. Sci. 7 (1912) Bot. 96.

Luzon (Bontoc, Benguet, Pampanga, Rizal), *Vanoverbergh 432, 1230, Williams 1160, Loher 3880, B. S. 14084 Robinson, 29692 Ramos & Edaño, F. B. 20429 Sandkuhl*. In thickets and in forested ravines, altitude 800 to 1,600 m. Endemic.

23. RHYNCHODIA Benth

RHYNCHODIA RHYNCHOSPERMA (Wall.) K. Schum. in Engl. & Prantl Nat. Pflanzenfam. 4² (1895) 173.

Echites rhynchosperma Wall. Pl. As. Rar. 1 (1830) 43, t. 49.

Rhynchospermum wallichii A. DC. Prodr. 8 (1844) 431.

Rhynchospermum ellipticum A. DC. l. c.

Rhynchodia wallichii Benth. ex Hook. f. Fl. Brit. Ind. 3 (1882) 667.

Chonemorpha elastica Merr. in Philip. Journ. Sci. 4 (1910) Bot. 314.

Luzon (Cagayan, Apayao, Benguet, Cavite), Mindanao (Davao, Zamboanga, Cotabato), Basilan, *Adduru 261, Merrill 9745, B. S. 28248 Fénix, 22576 Ramos & Deroy, F. B. 12351 Hutchinson*. In forests and thickets at low and medium altitudes, ascending in Benguet to 1,500 m. India to the Malay Peninsula, Indo-China, and Hainan.

Local name: Lisid (Ilk.).

25. AGANOSMA G. Don

AGANOSMA ACUMINATA (Roxb.) G. Don Gen. Syst. 4 (1837) 77; A. DC. Prodr. 8 (1844) 434; Miq. Fl. Ind. Bat. 2 (1855) 447; Merr. Fl. Manila (1912) 374, Sp. Blancoanae (1918) 312.

Echites acuminata Roxb. Fl. Ind. ed. 2, 2 (1832) 15.

Echites marginata Roxb. l. c.

Aganosma marginata G. Don l. c.; Vidal Phan. Cuming. Philip. (1885) 126, Rev. Pl. Vasc. Filip. (1886) 186; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 118, 2 (1907) Bot. 434.

Echites repens Blanco Fl. Filip. (1837) 109, non Jacq.

Echites procumbens Blanco op. cit. ed. 2 (1845) 78, ed. 3, 1 (1877) 145, t. 428.

Ichnocarpus acuminatus F.-Vill. Novis. App. (1880) 131.

Holarrhena macrocarpa F.-Vill. l. c. 130, non Hassk.

Holarrhena procumbens Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 59.

Ichnocarpus macrocarpus F.-Vill. Novis. App. (1880) 131.

Luzon (Cagayan, Isabela, Ilocos Sur, Union, Pangasinan, Zambales, Bataan, Rizal, Cavite), Mindoro, Palawan, *Cuming 1121, Merrill Sp. Blancoanae 372, Phil. Pl. 987, Elmer 12910, B. S. 8112, 39699 Ramos, 17986 Otanes, 19210 Reillo, 22521 Ramos & Deroy*. In thickets and secondary forests at low altitudes. India to the Malay Peninsula, Java, and Celebes.

Local names: Hinggi (Tag.); gingging (Tag.); lanut-ñg-luñgugan (Ilk.); peai (Bon.); sandak-a-purau (Ilk.); sandak-ñg-nañgisit (Ilk.).

AGANOSMA VELUTINA A. DC. Prodr. 8 (1844) 434; Miq. Fl. Ind. Bat. 2 (1855) 447; Vidal Phan. Cuming. Philip. (1885) 126.

Ichnocarpus velutinus F.-Vill. Novis. App. (1880) 131.

Luzon (Bontoc, Nueva Vizcaya, Zambales, Bataan, Rizal), Ticao, Negros, Mindanao (Davao), *Cuming 1803, Williams 81, Elmer 10998, Whitford 398, Merrill 1844, 3299, F. B. 457 Ahern's collector, 6966 Curran, 1082 Clark, B. S. 11224 McGregor*. In thickets and secondary forests at low and medium altitudes; scarcely more than a pubescent form of the preceding species. Endemic.

Local names: Dañgalis (Bag.); gingging (Tag.).

26. KIBATALIA G. Don

(*Kickxia* Blume, non Dumortier)

KIBATALIA BLANCOI (Rolfe) Merr. in Philip. Journ. Sci. 17 (1920) 309.

Kickxia blancoi Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 313; Stapf in Kew Bull. (1905) 52; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 66.

Kickxia arborea F.-Vill. Novis. App. (1880) 132; Naves in Blanco Fl. Filip. ed. 2 (1877-83) t. 428bis; Vidal Sinopsis Atlas (1883) 33, t. 67, f. G, non Blume.

Kickxia merrittii Merr. in Philip. Journ. Sci. 4 (1909) Bot. 315.

Kickxia macgregori Elm. Leaf. Philip. Bot. 4 (1912) 1457.

Luzon (Cagayan, Ilocos Sur, Batangas, Laguna), Catanduanes, Mindoro, Sibuyan, Guimaras, Negros, Leyte, *F. B. 11488 Merritt, 25465 Paraiso, 25863 Adduru, 26678 Peñas, 25726 Mabesa, 21545 Tamesis, 28110 Mabbayag,*

862 *Gammill*, *Wenzel* 330, *Elmer* 11373, *Warburg* 13775, *B. S.* 39812 *Ramos*. In secondary and primary forests at low and medium altitudes. Endemic.

Local names: Ayéte (Mang.); kagpaáyan (Ilk.); lanéti (P. Bis.); laníting-gúbat (Tag.); pasnit (Ilk.).

KIBATALIA OBLONGIFOLIA Merr. in Philip. Journ. Sci. 17 (1920) 307.

Mindanao (Davao), *F. B.* 27534 *Mabesa*. In forests at low altitudes. Endemic.

Local name: Klangnita (Tagk.).

KIBATALIA STENOPETALA Merr. in Philip. Journ. Sci. 17 (1920) 308.

Mindanao (Surigao), *B. S.* 34691 *Ramos & Pascasio*. In forests along streams at low altitudes. Endemic.

27. CARRUTHERSIA Seeman

CARRUTHERSIA MACGREGORII Merr. in Philip. Journ. Sci. 3 (1908) Bot. 261.

Ellertonia macgregorii Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 59.

Carruthersia kindleyi Elm. Leaf. Philip. Bot. 4 (1912) 1452.

Luzon (Tayabas, Sorsogon), Mindoro, Sibuyan, Panay, Samar, Mindanao (Lanao), *McGregor* 285, *Elmer* 7833, 12384, 15661, *Clemens* 756, *Warburg* 12969, *B. S.* 24913 *Edaño*, 17432, 39377, 39406 *Ramos*, 30701, 31112, 31321 *Ramos & Edaño*. In damp secondary and primary forests at low and medium altitudes. Endemic.

Local name: Botai (P. Bis.).

CARRUTHERSIA PILOSA (A. DC.) F.-Vill. Novis. App. (1880) 137; Rolfe in Journ. Bot. 21 (1883) 201; Vidal Phan. Cuming. Philip. (1885) 126, Rev. Pl. Vasc. Filip. (1886) 187; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 118.

Kopsia pilosa A. DC. Prodr. 8 (1844) 352; Miq. Fl. Ind. Bat. 2 (1855) 411.

Carruthersia hirsuta Elm. Leaf. Philip. Bot. 2 (1909) 587.

Luzon (Benguet, Zambales, Bataan, Laguna), Cebu, *Cuming* 1783, *Elmer* 8899, *Merrill* 9771, *F. B.* 3117 *Meyer*, 6908 *Curran*. In thickets and primary forests at medium altitudes, ascending to 1,500 m. Endemic.

28. CHONEMORPHA G. Don

CHONEMORPHA BLANCOI Merr. Sp. Blancoanae (1918) 312.

Tabernaemontana elliptica Blanco Fl. Filip. (1837) 115, ed. 2 (1845) 83, ed. 3, 1 (1877) 152; A. DC. Prodr. 8 (1844) 376; F.-Vill. Novis. App. (1880) 132, non Thunb.

Chonemorpha elliptica Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 121.

Chonemorpha macrophylla Vidal Cat. Pl. Prov. Manila (1880) 36; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 59, 29 (1905) 45, non G. Don.

Luzon (Rizal, Laguna, Batangas), Palawan, 15174 *Reillo*, *B. S.* 1065, 24085, 12528, 4617 *Ramos*, *F. B.* 1141 *Ahern's collector*, *Merrill* 2704, 9249, *Sp. Blancoanae* 482. In primary forests at low altitudes. Endemic.

29. ICHNOCARPUS R. Brown

ICHNOCARPUS VOLUBILIS (Lour.) Merr. in Philip. Journ. Sci. 21 (1922) 506.

Gardenia volubilis Lour. Fl. Cochinch. (1790) 506.

Ichnocarpus ovatifolius A. DC. Prodr. 8 (1844) 435; Miq. Fl. Ind. Bat. 2 (1857) 449; Vidal Phan. Cuming. Philip. (1885) 126, Rev. Pl. Vasc. Filip. (1886) 186; F.-Vill. Novis. App. (1880) 131; Hook. f. Fl. Brit. Ind. 3 (1882) 670; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 118, 7 (1912) Bot. 333, Fl. Manila (1912) 375, Sp. Blancoanae (1918) 313.

Echites caudata Blanco Fl. Filip. (1837) 106, ed. 2 (1845) 77, ed. 3, 1 (1877) 143, t. 97, non Linn.

Ichnocarpus frutescens A. DC. Prodr. 8 (1844) 435, quoad Philip.; F.-Vill. Novis. App. (1880) 131; Vidal Sinopsis Atlas (1883) 33, t. 67, f. E, non R. Br.

Ichnocarpus navesii Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 313.

Carruthersia daronensis Elm. Leaf. Philip. Bot. 4 (1912) 1450.

Batan Islands and northern Luzon to Palawan and Mindanao, in most or all islands and provinces, incl. *Elmer 17716* as *Toxocarpus makilingensis* Elm. Often common. In thickets and secondary forests at low and medium altitudes. India through Malaya to the Moluccas and Celebes.

Echites affinis R. & S., placed here by Hooker f. as a synonym, ex type in Roth's herbarium, is remote from this species.

Local names: Hinggiu (Tag.); hinggi (Tag.); hipgi (Bis.); ikdag (Ig.); kari (Bag., Mbo.); sadak (Ilk.); sigid (C. Bis.); uakak (Ibn.).

30. NERIUM Linnaeus

NERIUM INDICUM Mill. Gard. Dict. ed. 8 (1768) No. 2; Merr. Fl. Manila (1912) 373, Sp. Blancoanae (1918) 313.

Nerium oleander Blanco Fl. Filip. (1837) 104, ed. 2 (1845) 75, ed. 3, 1 (1877) 140, t. 47, non Linn.

Nerium odorum Soland. in Ait. Hort. Kew. 1 (1789) 297; Miq. Fl. Ind. Bat. 2 (1857) 443; Ceron Cat. Pl. Herb. Manila (1892) 115; F.-Vill. Novis. App. (1880) 131.

Throughout the Philippines in cultivation, but nowhere established. Apparently introduced by the Spaniards and usually known by its Spanish name, adélfa. A native of subtropical or tropical Asia, now pantropic; not satisfactorily distinguished from the oleander, *N. oleander* Linn.

Local names: Adélfa (Sp.); baladre (Tag.).

31. STROPHANTHUS de Candolle

STROPHANTHUS CUMINGII A. DC. Prodr. 8 (1844) 418; Miq. Fl. Ind. Bat. 2 (1857) 442; F.-Vill. Novis. App. (1880) 131; Vidal Phan. Cuming. Philip. (1885) 126; Merr. Fl. Manila (1912) 374; Franch. Nouv. Ann. Mus. Paris III 5 (1893) 269 (*cumingii*).

Strophanthus dichotomus DC. var. *luzoniensis* Vidal Sinopsis Atlas (1883) 33, t. 67, f. C.

Strophanthus erectus Merr. in Philip. Journ. Sci. 3 (1908) Bot. 261.

Luzon (Cagayan, Abra, Ilocos Norte, Union, Batangas, Rizal, Cavite, Bataan, Laguna, Sorsogon), Palawan, Leyte, Negros, Mindanao (Davao), *Merrill 695, 5176, 9570, Elmer 13081, 15637, Loher 6522, F. B. 26172 Alejandro, 21544 Tamesis, B. S. 28102 Fénix, 896 Foxworthy, 22589 Ramos & Deroy, 20521 Ramos*. In thickets and forests at low and medium altitudes. Endemic, but closely allied to the Indian *S. wallichii* C. DC.

Local names: Abúhab-báging (Tag.); lánot (Ilk.); lasíu (Ibn.); sara-sara (Ilk.).

EXCLUDED SPECIES

STROPHANTHUS LONGICAUDATUS Wight; F.-Vill. Novis. App. (1880) 131.

32. *WRIGHTIA* R. Brown

WRIGHTIA CALYCINA A. DC. Prodr. 8 (1844) 406; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 121.

Palawan, Masbate, Biliran, Leyte, Panay, Guimaras, Negros, Cebu, Mindanao (Lanao, Davao), *Merrill 3049, 3082, 9426, Phil. Pl. 1183, Clemens 1060, B. S. 18579 McGregor, F. B. 228 Gammill, 23404 Contreras, 27331 Lopez & Reyes*. In thickets and forests at low altitudes. Timor.

Local names: Batuan (S. L. Bis.); laníti (Tag., Bis., Mbo., Sul.); tagkan (Tagk.).

WRIGHTIA CANDOLLEI Vidal Phan. Cuming. Philip. (1885) 186, Rev. Pl. Vasc. Filip. (1886) 185.

Wrightia pubescens A. DC. Prodr. 8 (1844) 405 p. p., quoad *Cuming 1453*; F.-Vill. Novis. App. (1880) 131.

Luzon (Benguet, Zambales, Pangasinan, Nueva Ecija, Rizal, Laguna) Mindoro, *Cuming 1453, Elmer 6348, Merrill 2791, B. S. 8284 Ramos, 6757 Robinson, F. B. 6987, 6985, 8442, 8448 Curran, 8387 Curran & Merritt, 24139 Tongol, 1116, 3155 Ahern's collector*. In secondary and primary forests at low altitudes. Endemic.

Local names: Laníti (Tag., Sbl.); laníti-pulá (Tag.); lanúti (Ilk.).

WRIGHTIA HANLEYI Elm. Leaf. Philip. Bot. 4 (1912) 1465.

Palawan, *Elmer 12873, Merrill 9373, B. S. 849 Foxworthy*. In clearings, thickets, and open forests at low altitudes. Endemic.

WRIGHTIA LANITI (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 59, Philip. Journ. Sci. 1 (1906) Suppl. 118, Fl. Manila (1912) 373, Sp. Blancoanae (1918) 313.

Anasser laniti Blanco Fl. Filip. (1837) 112, ed. 2 (1845) 81, ed. 3, 1 (1877) 149, t. 40.

Wrightia ovata A. DC. Prodr. 8 (1844) 405; Miq. Fl. Ind. Bat. 2 (1857) 432; F.-Vill. Novis. App. (1880) 130; Vidal Sinopsis Atlas (1883) 32, t. 67, f. A, Rev. Pl. Vasc. Filip. (1886) 185, Phan. Cuming. Philip. (1885) 126.

Luzon (Cagayan to Laguna), Mindoro, Culion, Palawan, Negros, Mindanao (Zamboanga). Common in thickets and secondary forests at low altitudes. Southern China.

Material from southern China referred to *W. pubescens* R. Br. seems to belong here; I do not think it or the Philippine form can be referred to Brown's species. To be compared with *W. javanica* A. DC.

Local names: Anotong (Tag., Sbl.); bulak-na-talon (Klg.); lamísi (Ibn.); laníti (Tag., Sbl., Tagb., P. Bis.); laníting-putí (Tag.); lanúsi (Ibn.); lanúti (Ilk.).

EXCLUDED SPECIES

WRIGHTIA COCCINEA Sims; F.Vill. Novis. App. (1880) 131.

WRIGHTIA JAVANICA A. DC.; F.-Vill. l. c.

WRIGHTIA TOMENTOSA R. & S.; F.-Vill. op. cit. 130.

WRIGHTIA TINCTORIA R. Br.; Ceron Cat. Pl. Herb. Manila (1892) 115.

This reference was based on *Vidal 3247* from Manila, which I have not seen. The species does not occur in Manila now, cultivated or otherwise.

33. PARSONSIA R. Brown

PARSONSIA APOENSIS (Elm.) Merr. in Philip. Journ. Sci. 9 (1914) Bot. 384.

Aganosma apoensis Elm. Leaf. Philip. Bot. 4 (1912) 1446.

Catanduanes, Leyte, Mindanao (Agusan, Davao), *Elmer 11719, 10540, 13836*, as *P. urdanetensis* Elm., *Wenzel 722, 1170, B. S. 30273, 30465 Ramos*. In forests at low and medium altitudes, ascending to 1,300 m. Endemic.

Local names: Toling (Bag.); tototot (Bag.).

PARSONSIA CONFUSA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 118, 2 (1907) Bot. 435, 3 (1908) Bot. 428, Sp. Blancoanae (1918) 313.

Echites spiralis Blanco Fl. Filip. (1837) 110, ed. 2 (1845) 79, ed. 3, 1 (1877) 146, t. 310, non *Parsonsia spiralis* Wall.

Parsonsia rheedii F.-Vill. Novis. App. (1880) 130; Vidal Rev. Pl. Vasc. Filip. (1886) 184; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 59, non *Heligme rheedii* Wight.

Parsonsia spiralis Vidal Sinopsis Atlas (1883) 32, t. 66, f. E, non Wall.

Parsonsia magnifolia Elm. Leaf. Philip. Bot. 8 (1919) 3071.

Luzon (Ilocos Norte, Nueva Ecija, Zambales, Bataan, Rizal), *Cuming 1065, Merrill 2564, 3144, Sp. Blancoanae 1014, Whitford 1216, B. S. 27374, 27549 Ramos, 29673, 26358 Ramos & Edaño, F. B. 1784 Borden*. In thickets and secondary forests at low altitudes. Endemic.

Local names: Balanok (Tag.); marampupuyat (Ilk.); patulos (Neg.).

PARSONSIA CUMINGIANA A. DC. Prodr. 8 (1844) 402; Miq. Fl. Ind. Bat. 2 (1857) 428; F.-Vill. Novis. App. (1880) 130; Vidal Phan.

Cuming. Philip. (1885) 126; Merr. Fl. Manila (1912) 374.

Batan and Babuyan Islands, Luzon (Cagayan, Ilocos Norte, Isabela, Bataan, Rizal, Tayabas, Sorsogon), Catanduanes, Mindoro, Panay, Sibuyan, Dinagat, Bucas, *Cuming 1490, Williams 243, Merrill 7117, 5263, Elmer 15707* as *P. aterinervia* Elm., *Elmer 12446, B. S. 3626 Fénix, 10653, 10593 McGregor, 30156, 23517, 7398, 32949, 27123 Ramos, 21182 Escritor, 27135, 31482 Ramos & Edaño*. In thickets and forests at low altitudes, often along the seashore. Borneo; probably also in Formosa, det. as *P. spiralis* Wall.

Local names: Devas (Iv.); kapuk-kapuk (Sul.); lagaili (P. Bis.).

PARSONSIA OBLANCIFOLIA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 335.

Luzon (Zambales), *B. S. 4723 Ramos*. In thickets or forests at low or medium altitudes. Endemic.

PARSONSIA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 17 (1920) 310.

Mindanao (Surigao), *B. S. 34585 Ramos & Pascasio*. In thickets or forests along streams at low altitudes. Endemic.

34. **VALLARIS** Burman f.

VALLARIS DARONENSIS (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 70.

Holarrhena daronensis Elm. Leaf. Philip. Bot. 4 (1912) 1455.

Mindanao (Davao, Misamis, Lanao), *Elmer 11912, Clemens, Quadras*. In forests, altitude up to 700 m. Endemic.

Local names: Pamakoton (Sul.); tagkan (Bag.).

VALLARIS GITINGENSIS (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 70.

Kickxia gitingensis Elm. Leaf. Philip. Bot. 4 (March, 1912) 1455.

Vallaris angustifolia Merr. in Philip. Journ. Sci. 7 (November, 1912) Bot. 335.

Luzon (Tayabas, Laguna, Camarines, Sorsogon), Sibuyan, Leyte, *B. S. 19537, 23431 Ramos, 33513 Ramos & Edaño, F. B. 25565 Duldulao, 20715, 24755 Manuel, 22503 Mariano, 27241 Palma, 10507, 10577 Curran, Wenzel 652, 678, Elmer 12203, 15275, 15391, 15910, 16901*. In forests at low and medium altitudes. Endemic.

Local names: Laníti (Tag., Bik.); laníting-gúbat (Tag.).

EXCLUDED GENERA

BEAUMONTIA GRANDIFLORA Wall.; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 132; F.-Vill. Novis. App. (1880) 132.

OPHIOXYLON OCHROSIA Pers.; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 101.

ASCLEPIADACEAE

1. **FINLAYSONIA** Wallich

FINLAYSONIA OBOVATA Wall. Pl. As. Rar. 2 (1831) 48, *t. 162*; Decne. in DC. Prodr. 8 (1844) 494; F.-Vill. Novis. App. (1880) 132; Merr. in Interpret. Herb. Amb. (1917) 434, Sp. Blancoanae (1918) 314.

Tabernaemontana cirrhosa Blanco Fl. Filip. (1837) 115, ed. 2 (1845) 83, ed. 3, 1 (1877) 152; A. DC. Prodr. 8 (1844) 377.

Luzon (Zambales, Tayabas), Leyte, Panay, *Wenzel 1634, B. S. 31503 Ramos & Edaño, 32278 McGregor*. In thickets along the seashore in swampy places, often in the mangrove along tidal streams. India through Malaya to the Moluccas.

2. GYMNANTHERA R. Brown

GYMNANTHERA PEDUNCULATA (Miq.) F.-Vill. Novis. App. (1880) 132, excl. syn. Llanos.

Dicerolepis pedunculata Miq. Fl. Ind. Bat. 2 (1857) 466.

Mindanao (Davao), *F. B. 27615 De Mesa, Elmer 11981*. In thickets back of the mangrove swamps. Flores.

Local names: Manarik (Bag.); sagari (Bag.).

3. STREPTOCAULON Wight and Arnott

STREPTOCAULON BAUMII Decne. in DC. Prodr. 8 (1844) 496; Miq. Fl. Ind. Bat. 2 (1857) 470; F.-Vill. Novis. App. (1880) 132; Vidal Sinopsis Atlas (1883) 33, t. 68, f. F, Rev. Pl. Vasc. Filip. (1886) 187, Phan. Cuming. Philip. (1885) 126; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 118, Fl. Manila (1912) 377, Sp. Blancoanae (1918) 314.

Streptocaulon obtusum Turcz. in Bull. Soc. Nat. Mosc. 21¹ (1848) 252; Walp. Ann. 3 (1852) 47; Miq. Fl. Ind. Bat. 2 (1857) 470; F.-Vill. Novis. App. (1880) 132.

Periploca calumpitensis Llanos Frag. Pl. Filip. (1851) 62; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 47, t. 138.

Luzon (Amburayan, Nueva Vizcaya, Union, Pangasinan, Tayabas, Bulacan, Bataan, Rizal, Albay), Mindero. Common in thickets and secondary forests at low altitudes. Endemic.

Local names: Hinggiu-kalabáu (Tag.); hinggiu-na-putí (Tag.); marapius (Ilk.); sibot-sibótan (Tag.); suling (Pang.).

STREPTOCAULON CUMINGII (Turcz.) F.-Vill. Novis. App. (1880) 132; Vidal Phan. Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 187; Schltr. in Perk. Frag. Fl. Philip. (1904) 119.

Triplolepis cumingii Turcz. in Bull. Soc. Nat. Mosc. 21¹ (1848) 251, Flora 31 (1848) 705; Walp. Ann. 3 (1852) 48; Miq. Fl. Ind. Bat. 2 (1857) 468.

Anodendron corymbosum Elm. Leaf. Philip. Bot. 2 (1908) 512.

Luzon (Ilocos Norte, Benguet, Pangasinan, Zambales, Rizal, Laguna), Cebu, *Cuming 1024, Elmer 8468, Loher 6547*, excl. fruct., *B. S. 11052, 27451, 27486, 27608 Ramos, F. B. 25704 Foxworthy*. In thickets and forests at low and medium altitudes. Endemic.

Local names: Hinggiu-kalabáu (Tag.); udog (Ig.).

4. CRYPTOSTEGIA R. Brown

CRYPTOSTEGIA GRANDIFLORA (Roxb.) R. Br. in Bot. Reg. (1819) t. 435; Decne. in DC. Prodr. 8 (1844) 492; Hook. f. Fl. Brit. Ind. 4 (1883) 6; Merr. Fl. Manila (1912) 376.

Nerium grandiflorum Roxb. Hort. Beng. (1814) 19, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 100.

A comparatively recent introduction, occasionally planted for ornamental purposes but showing little tendency to persist. A native of India, now pantropic.

5. ASCLEPIAS Linnaeus

ASCLEPIAS CURASSAVICA Linn. Sp. Pl. (1753) 215; Decne. in DC. Prodr. 8 (1844) 566; Miq. Fl. Ind. Bat. 2 (1857) 485; F.-Vill. Novis. App. (1880) 133; Hook. f. Fl. Brit. Ind. 4 (1883) 18; Vidal Phan. Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 188; Perk. Frag. Fl. Philip. (1904) 120; Merr. Fl. Manila (1912) 377, Sp. Blancoanae (1918) 314.

Asclepias syriaca Blanco Fl. Filip. (1837) 204, ed. 2 (1845) 144, ed. 3, 1 (1877) 261, *t.* 71, non Linn.

Throughout the Philippines in the settled areas, in open waste places in and about settlements, ascending to at least 1,500 m. A pantropic weed of American origin.

Local names: Anibung (Bon.); baliwig (If.); bubúyan (Tag.); bulak-bulákan (Tag.); bulak-damó (Tag.); bulak-kastíla (Tag.); bukitkit (Tag.); kapös de francia (Pang.); koronítas (Bik.); daldal (Iv.); kala-láuan (Tag.); kambang-datu (Sub.); kamantíging ligáu (Tag.); kapol-kapol (Tag.); ligurias (P. Bis.); pasanglai (Bon.); punganen (Iv.); sabsabrong (Ilk.).

6. CALOTROPIS R. Brown

CALOTROPIS GIGANTEA (Linn.) Dryand. in Ait. Hort. Kew. ed. 2, 2 (1811) 78; Decne. in DC. Prodr. 8 (1844) 535; F.-Vill. Novis. App. (1880) 133; Vidal Sinopsis Atlas (1883) 33, *t.* 68, *f.* A, Rev. Pl. Vasc. Filip. (1886) 188; Merr. Sp. Blancoanae (1918) 315.

Asclepias gigantea Linn. Sp. Pl. (1753) 214; Blanco Fl. Filip. (1837) 207, ed. 2 (1845) 146, ed. 3, 1 (1877) 262, *t.* 258.

Occasional in hedges, etc., about dwellings, usually or (?) always planted. Introduced from tropical Asia, now pantropic in cultivation.

Local name: Kapal-kapal (Tag.).

7. CYNANCHUM Linnaeus

CYNANCHUM LOHERI Schltr. in Perk. Frag. Fl. Philip. (1904) 120.

Luzon (Bontoc, Pampanga, Bulacan, Rizal, Laguna), Culion, Mindanao (Zamboanga), *Merrill 532, Vanoverbergh 976, B. S. 1990 Foxworthy, 34061, 36924, 37425 Ramos & Edaño, 1785, 22471 Ramos, 12368 McGregor*. In thickets at low and medium altitudes, ascending to 1,200 m. Endemic.

CYNANCHUM LUZONICUM Schltr. in Fedde Repert. 13 (1915) 538.

Luzon (Ilocos Norte, Benguet, Zambales, Bulacan), Panay, *Merrill 7702, B. S. 5060, 33075 Ramos, 34106 Ramos & Edaño, 35671 Martelino & Edaño*. In thickets at low and medium altitudes. Endemic.

CYNANCHUM PHYSOCARPUM Schltr. in Perk. Frag. Fl. Philip. (1904) 121.

Cynanchum schlechterianum Warb. in Perk. l. c.; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 220.

Luzon (Laguna, Tayabas, Camarines), Catanduanes, *Warburg 13003, 13766* in herb. Berol., *B. S. 30388, 22148, 20570 Ramos, 29061 Ramos & Edaño*. In thickets and forests at low altitudes. Endemic.

CYNANCHUM SULUENSE Schltr. in Fedde Repert. 13 (1915) 539.

Sulu, *Merrill* 5401. In thickets along the seashore; very similar to *C. physocarpum* Schltr. Endemic.

8. ISCHNOSTEMMA Gamble

ISCHNOSTEMMA CARNOSUM (R. Br.) Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 121; Merr. Fl. Manila (1912) 378.

Oxystelma carnosum R. Br. Prodr. (1810) 462.

Cynanchum carnosum Schltr. in Perk. Frag. Fl. Philip. (1904) 120.

Ischnostemma selangoricum King & Gamble in Journ. As. Soc. Beng. 74² (1907) 532.

Luzon (Union, Bataan, Rizal), Mindanao (Davao), Basilan, *Merrill* Phil. Pl. 250, *Lete* 186, *Elmer* 12023, *Chamisso* in hb. Berol., *Loher* 4039, 4040, *Williams* 387. In thickets near the seashore. Malay Peninsula, Java, tropical Australia.

Local name: Salaki-ti-kalapina (Ilk.).

9. SARCOSTEMMA R. Brown

SARCOSTEMMA BRUNONIANUM W. & A. in Wight Contrib. Bot. Ind. (1834) 59; Decne. in DC. Prodr. 8 (1844) 538; Hook. f. Fl. Brit. Ind. 4 (1883) 27; Vidal Sinopsis Atlas (1883) 33, t. 68, f. H; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 379, Sp. Blancoanae (1918) 315.

Cynanchum viminale Blanco Fl. Filip. (1837) 203, ed. 2 (1845) 143, ed. 3, 1 (1877) 257, non Linn.

Sarcostemma viminale F.-Vill. Novis. App. (1880) 133, non R. Br.

? *Sarcostemma brevistigmum* Vidal Phan. Cuming. Philip. (1885) 127, non W. & A.

Luzon (Benguet, Bataan, Tayabas, Batangas), *Merrill* Sp. Blancoanae 1004, *Elmer* 5991, B. S. 26967 *Edaño*, F. B. 5434 *Curran*. In thickets, from sea level to an altitude of 1,200 m. India.

Local name: Sampai (Tag.).

10. SECAMONE R. Brown

SECAMONE ATTENUATA Decne. in DC. Prodr. 8 (1844) 501; Miq. Fl. Ind. Bat. 2 (1857) 472; Vidal Phan. Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 187; F.-Vill. Novis. App. (1880) 133.

Luzon (Ilocos Norte, Bontoc, Batangas), Mindoro, Romblon, Mindanao (Zamboanga), *Cuming* 1536, B. S. 32895, 27617, 7628, 22347 *Ramos*. In thickets at low and medium altitudes, ascending to 1,000 m. Endemic.

SECAMONE MULTIFLORA Decne. in DC. Prodr. 8 (1844) 501; Miq. Fl. Ind. Bat. 2 (1857) 472; Vidal Phan. Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 187; F.-Vill. Novis. App. (1880) 133.

Luzon (Cagayan, Isabela, Bontoc, Benguet, Nueva Ecija, Nueva Vizcaya), *Cuming* 1284, *Elmer* 6398, *Warburg* 11525, B. S. 14175 *McGregor*, 8102 *Ramos*, 37956 *Ramos* & *Edaño*. In thickets at low or medium altitudes. Endemic.

SECAMONE RECTINERVIS Schltr. in Fedde Repert. 13 (1915) 537.

Luzon (Benguet, Laguna, Rizal, Sorsogon), Mindanao (Lanao), *Clemens* 988, *Elmer* 16964, *B. S.* 20540 *Ramos*, 12582 *Fénix*, 29273 *Ramos & Edaño*. In primary forests at low and medium altitudes. Endemic.

Local names: Ikdig (Ig.); sadak (Ilk.).

SECAMONE SYRINGIFOLIA Schltr. in Fedde Repert. 13 (1915) 538.

Luzon (Laguna), Mindoro, Samar, *Whitford* 1399, *B. S.* 17658 *Ramos*, *F. B.* 28473 *Salvosa*. In damp primary forests at low altitudes. Endemic.

11. TOXOCARPUS Wight and Arnott

TOXOCARPUS GLAUCUS Decne. in DC. Prodr. 8 (1844) 505; Miq. Fl. Ind.

Bat. 2 (1857) 476; F.-Vill. Novis. App. (1880) 133; Vidal Phan.

Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 187.

Luzon (Ilocos Norte, Tayabas), Mindoro, *Cuming* 1571, *B. S.* 20760a *Escritor*, *F. B.* 19043 *Darling*. In thickets or forests at low altitudes. Endemic.

TOXOCARPUS GRACILIS Decne. in DC. Prodr. 8 (1844) 506; Miq. Fl. Ind.

Bat. 2 (1857) 476; F.-Vill. Novis. App. (1880) 133; Vidal Phan.

Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 188.

Mindoro, *Cuming* 1559. Probably not distinct from the preceding species, the type of which also came from Mindoro. Endemic.

TOXOCARPUS LOHERI Schltr. in Perk. Frag. Fl. Philip. (1904) 122.

Luzon (Abra, Rizal, Laguna), *Loher* 4032, *Quisumbing* 867, *Merrill Phil. Pl.* 1014, *B. S.* 7196 *Ramos*. In forests at low or medium altitudes. Endemic.

TOXOCARPUS MERRILLII Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 295.

Luzon (Rizal, Laguna), Leyte, *Merrill* 2810, *Elmer* 18296, *Wenzel* 313, 413. In secondary forests at low altitudes. Endemic.

TOXOCARPUS RUBRICAULIS Elm. Leaf. Philip. Bot. 8 (1919) 3075.

Luzon (Laguna), *Elmer* 18297, *Gates* 6414, *B. S.* 14966 *Ramos*, *F. B.* 21348 *Foxworthy & Catalan*, 24074 *Mabesa*. In secondary forests at low altitudes. Endemic.

12. BRACHYSTELMA R. Brown

BRACHYSTELMA MERRILLII Schltr. in Fedde Repert. 13 (1915) 566.

Luzon (Nueva Vizcaya), Culion, Semirara, *Merrill* 680, *B. S.* 11156 *McGregor*. In dry open grasslands at low altitudes; very rare or local. Endemic.

13. CEROPEGIA Linnaeus

CEROPEGIA CUMINGIANA Decne. Prodr. 8 (1844) 643, Curtis's Bot.

Mag. III 4 (1848) *t.* 4349, III 15 (1859) *t.* 5148; Van Houtte Fl.

des Serres 4: *t.* 315; Miq. Fl. Ind. Bat. 2 (1857) 528; F.-Vill.

Novis. App. (1880) 135; Vidal Phan. Cuming. Philip. (1885) 127,

Rev. Pl. Vasc. Filip. (1886) 189; Naves in Blanco Fl. Filip. ed.

3 (1877-83) *t.* 313; Merr. in Philip. Journ. Sci. 1 (1906) Suppl.

118.

Luzon (Ilocos Norte, Bataan, Rizal, Laguna, Sorsogon), Mindanao (Agusan), *Loher* 6516, *Elmer* 13344, 18407, 15139, *B. S.* 27206, 22261 *Ramos*, 12379 *McGregor*, *F. B.* 2221 *Meyer*, 2066 *Borden*, 1854 *Ahern's collector*. In secondary forests at low and medium altitudes. Tropical Australia.

CEROPEGIA MERRILLII Schltr. in Fedde Repert. 13 (1915) 565.

Luzon (Bontoc, Benguet), *Merrill* 4863, *Williams* 941, *Vanoverbergh* 640. In thickets, ravines, etc., altitude 1,100 to 1,400 m. Endemic.

14. GYMNEMA R. Brown

GYMNEMA CALYGINUM Schltr. in Fedde Repert. 13 (1915) 540.

Luzon (Bontoc), *Vanoverbergh* 1214. In thickets or forests, altitude about 1,650 m. Endemic.

GYMNEMA CUMINGII Schltr. in Fedde Repert. 13 (1915) 541.

Luzon (Albay, Sorsogon), *Cuming* 939, *Elmer* 17288 as *G. lignosum* Elm. Probably in thickets or forests at low altitudes. Endemic.

GYMNEMA MARIAE Schltr. in Fedde Repert. 13 (1915) 540.

Mindanao (Lanao), *Clemens* 757. In forests, altitude about 650 m. Endemic.

GYMNEMA PACHYGLOSSUM Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 295; Merr. op. cit. 3 (1908) Bot. 428.

Luzon (Ilocos Norte, Bataan, Rizal, Laguna, Tayabas, Batangas), Mindoro, Palawan, Cagayan Sulu, *Merrill* 3291, 1239, 3346, 5306, 11527, *B. S.* 27570, 22462, 13678 *Ramos*, 20760 *Escritor*, *F. B.* 3544 *Curran*, 2019 *Borden*, 1898 *Ahern's collector*, 28785 *Pascual*. In thickets and secondary forests at low altitudes, often along the seashore. Endemic.

Local name: Tagulabas (Tag.).

GYMNEMA PIPERI Schltr. in Fedde Repert. 13 (1915) 539.

Mindanao (Davao), *Piper* 485. In thickets or forests at low altitudes. Endemic.

GYMNEMA SCHLECHTERIANUM Warb. in Perk. Frag. Fl. Philip. (1904) 123.

Luzon (Rizal, Tayabas), *B. S.* 966 *Ramos*, *Merrill* 5037, *Warburg* 13001. In thickets at low altitudes. Endemic.

GYMNEMA TINGENS (Roxb.) Spreng. Syst. 1 (1825) 844; W. & A. Contrib. Bot. Ind. (1834) 45; Hook. f. Fl. Brit. Ind. 4 (1883) 31; F.-Vill. Novis. App. (1880) 133; Vidal Phan. Cuming. Philip. (1886) 188; Schltr. in Perk. Frag. Fl. Philip. (1904) 124; Merr. Fl. Manila (1912) 378, Sp. Blancoanae (1918) 315.

Asclepias tingens Roxb. Hort. Beng. (1814) 21, *nomen nudum*, Pl. Coromandel 3 (1819) 34, t. 239, Fl. Ind. ed. 2, 2 (1832) 53.

Asclepias daemia Blanco Fl. Filip. (1837) 208, ed. 2 (1845) 146, ed. 3, 1 (1877) 263, t. 402.

Bidaria inodora Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 402, non Decne.

Bidaria tingens Decne. in DC. Prodr. 8 (1844) 623.

Luzon (Union, Benguet, Bataan, Rizal, Cavite, Laguna), Palawan, Mindanao (Bukidnon); *Merrill 3900, 9563, Phil. Pl. 323, Sp. Blancoanae 150, Elmer 17906, F. B. 24882 Mabesa, B. S. 38824 Ramos & Edaño*. In thickets and secondary forests at low altitudes. India to Burma and the Malay Peninsula.

Local name: Kalalaki-ti-dugep (Ilk.).

GYMNEMA UNCARIOIDES Schltr. in Fedde Repert. 13 (1915) 541.

Luzon (Nueva Vizcaya), *B. S. 8218 Ramos*. In forests at low or medium altitudes. Endemic.

EXCLUDED SPECIES

GYMNEMA INODORUM Decne; F.-Vill. Novis. App. (1880) 133.

GYMNEMA SYRINGAEFOLIUM Benth.; F.-Vill. l. c.

15. SARCOLOBUS R. Brown

SARCOLOBUS PEREGRINUS (Blanco) Schltr. in Fedde Repert. 13 (1915) 564; Merr. Sp. Blancoanae (1918) 315.

Asclepias peregrina Blanco Fl. Filip. (1837) 207, ed. 2 (1845) 146, ed. 3, 1 (1877) 262.

Sarcolobus carinatus F.-Vill. Novis. App. (1880) 133, non Wall.

Luzon (Bataan, Tayabas), Palawan, Leyte, Mindanao, *Merrill 5445, 8626, Sp. Blancoanae 1016, Wenzel 1684, B. S. 11723 Robinson, 20765 Escritor, 15590 Fénix, F. B. 6301, 5933 Curran*. In forests along tidal streams at the edge of the mangrove. Endemic.

16. DORYSTEPHANIA Warburg

DORYSTEPHANIA LUZONENSIS Warb. in Perk. Frag. Fl. Philip. (1904) 123.

Pentstemon stauntonii F.-Vill. Novis. App. (1880) 133; Vidal Sinopsis Atlas (1883) 33, t. 68, f. C, non Decne.

Luzon (Rizal, Bataan, Tayabas), *B. S. 19203 Reillo, 26859 Guerrero, F. B. 3285 Ahern's collector, Merrill 2662, Loher 4046, Whitford 761, Warburg 13536, 13768*. In crevices of ledges in stream beds near water, at low altitudes. A monotypic endemic genus.

Local name: Romérong-galá (Tag.).

17. TYLOPHORA R. Brown

TYLOPHORA ANGUSTIFOLIA Schltr. in Perk. Frag. Fl. Philip. (1904) 124.

Luzon (Lepanto, Rizal), *B. S. 7043 Ramos*. In thickets at low and medium altitudes. Endemic.

TYLOPHORA BREVIPES (Turcz.) F.-Vill. Novis. App. (1880) 134; Vidal Phan. Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 188.

Amblyoglossum brevipes Turcz. in Bull. Soc. Nat. Mosc. 25² (1852) 311.

Luzon (Cagayan, Ilocos Norte, Zambales), Mindoro, *Cuming 1431, F. B. 16615, 11613, 16754, 11596 Curran, B. S. 27300 Ramos, 26727 Fénix*. In thickets at low altitudes. Endemic.

Local name: Sarungkár (Ilk.).

TYLOPHORA CLEMENSIAE Schltr. in Fedde Repert. 13 (1915) 562.

Luzon (Laguna, Sorsogon), Catanduanes, Mindanao (Lanao), *Clemens* 529, *Elmer* 17192 as *T. floribunda* Elm., *Baker* 4472, *B. S.* 30492 *Ramos*. In thickets at low and medium altitudes. Endemic.

TYLOPHORA ELMERI Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 296.

Luzon (Benguet Bontoc), *Elmer* 5980, *B. S.* 37923 *Ramos & Edaño*. In thickets, altitude about 1,300 m. Endemic.

Local name: Kodis (Ig.).

TYLOPHORA EXILIS Schltr. in Perk. Frag. Fl. Philip. (1904) 125.

Luzon (Bataan), *Warburg* 13551, 13552. Probably the same as *T. perrottetii* Decne. Endemic.

TYLOPHORA GLAUCIRAMEA Schltr. in Fedde Repert. 13 (1915) 562.

Luzon (Tayabas), Banton, Romblon, Semirara, Catanduanes, Panay, Palawan, *Merrill* 4165, 4154, 9754, 9613, *Baker* 3580, *B. S.* 32251 *McGregor*, 30176 *Ramos*. In thickets along the seashore. Endemic.

TYLOPHORA HYBOSTEMMA Warb. in Perk. Frag. Fl. Philip. (1904) 125.

Luzon (Zambales), *Warburg* 13770. Very near *T. brevipes* F.-Vill. Endemic.

TYLOPHORA JOLOENSIS Schltr. in Perk. Frag. Fl. Philip. (1904) 126.

Sulu Archipelago (Jolo), *Warburg* 14956 in herb. Berol. Probably in thickets at low altitudes. Endemic.

TYLOPHORA LUZONICA Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 296.

Luzon (Cagayan, Benguet), *Warburg* 11724, *Elmer* 5585, *B. S.* 5717 *Ramos*, *F. B.* 16093 *Curran*, *Zschokke*, & *Merritt*. In thickets, ascending to an altitude of 1,200 m. Endemic.

TYLOPHORA PERROTTETIANA Decne. in DC. Prodr. 8 (1844) 609; Miq. Fl. Ind. Bat. 2 (1857) 488; F.-Vill. Novis. App. (1880) 134; Vidal Phan. Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 188; Merr. Sp. Blancoanae (1918) 316.

Secamone macrostachya Turcz. in Bull. Soc. Nat. Mosc. 21¹ (1848) 252; Miq. Fl. Ind. Bat. 2 (1857) 474; Walp. Ann. 3 (1852) 48.

Cynanchum tenellum Blanco Fl. Filip. (1837) 204, ed. 2 (1845) 143, ed. 3, 1 (1877) 258, non Linn. f.

Oxystelma bifida Llanos Frag. Pl. Filip. (1851) 64; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 48.

Tylophora bifida F.-Vill. Novis. App. (1880) 134.

Tylophora merrillii Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 297; Merr. Fl. Manila (1912) 379.

Tylophora rizalensis Schltr. in Fedde Repert. 13 (1915) 563.

Luzon (Cagayan, Ilocos Norte, Bontoc, Union, Benguet, Pangasinan, Nueva Vizcaya, Nueva Ecija, Rizal, Laguna), *Merrill* 3648, *Sp. Blancoanae* 192, *B. S.* 19175 *Reillo*, *Elmer* 8933, *Cuming* 514, *B. S.* 12532, 27371 *Ramos*,

17943, 17815 *Otanes*, 27874 *McGregor*, *F. B.* 26445 *Catalan*, 16502 *Bacani*. In thickets at low altitudes. Endemic.

Local names: Kulañgan (Ilk.); maraípos-ti-bakis (Ilk.).

TYLOPHORA RAMOSII Schltr. in Fedde Repert. 13 (1915) 563.

Luzon (Ilocos Norte, Bontoc), *B. S.* 7700 *Ramos*, *Vanoverbergh* 1150. In forests up to 1,100 m altitude. Endemic.

Local name: Banot (Ilk.).

TYLOPHORA SETOSA Schltr. in Fedde Repert. 13 (1915) 563.

Mindanao (Davao), *Elmer* 11962. In thickets or forests. Endemic.

Local name: Lambad (Bag.).

TYLOPHORA TONSA Schltr. in Fedde Repert. 13 (1915) 564.

Lumbucan (Sulu Sea), *Merrill* 7187. In thickets back of the sandy beach; to be compared with *T. glauciramea* Schltr. Endemic.

TYLOPHORA WHITFORDII Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 297.

Luzon (Tayabas), *Whitford* 898. In nipa formation along tidal streams. Distinct from *T. perrottetiana* Decne. ? Endemic.

DOUBTFUL AND EXCLUDED SPECIES

TYLOPHORA ASTHMATICA W. & A.; F.-Vill. Novis. App. (1880) 134.

TYLOPHORA CISSOIDES Blume; F.-Vill. Novis. App. (1880) 134; Vidal Rev. Pl. Vasc. Filip. (1886) 188.

Vidal's record is based on his No. 1602 from Bulacan Province, Luzon, which I failed to find in the Kew Herbarium.

TYLOPHORA TENUIS Blume; F.-Vill. Novis. App. (1880) 134.

18. DISCHIDIA R. Brown

DISCHIDIA BRACHYSTELE Schltr. in Fedde Repert. 13 (1915) 555.

Luzon (Bataan, Rizal), *Merrill*, *B. S.* 124 *Foxworthy*. In forests at medium altitudes. Endemic.

DISCHIDIA CLEMENSIAE Schltr. in Fedde Repert. 13 (1915) 556.

Mindanao (Lanao), *Clemens* 362. In thickets or forests, altitude about 600 m. Endemic.

DISCHIDIA COPELANDII Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 298.

Luzon (Laguna, Sorsogon), Mindanao (Agusan, Zamboanga, Davao), *Copeland* 512, *Merrill* 8243, *Elmer* 13533, 15798 as *D. glaucescens* Elm., 16974, 10481 as *D. pubicaulis* Schltr., *F. B.* 5173 *Hutchinson*, *B. S.* 12013, 15105 *Ramos*. In thickets and forests at low altitudes. Endemic.

DISCHIDIA ELMERI Schltr. in Fedde Repert. 13 (1915) 556.

Mindanao (Davao), *Elmer* 10759, 11221. In thickets or forests. Endemic.

Local names: Tambiayo (Bag.); tañgob (Bag.).

DISCHIDIA GIBBIFERA Schltr. in Fedde Repert. 13 (1915) 555.

Luzon (Laguna), *B. S.* 12011 Ramos. In forests at low or medium altitudes. Endemic.

DISCHIDIA HIRSUTA (Blume) Decne. in DC. Prodr. 8 (1844) 632; Usteri Beitr. Ken. Philip. Veg. (1905) 121; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 220.

Leptostemma hirsutum Blume Bijdr. (1826) 1058.

Luzon (Nueva Vizcaya, Laguna, Tayabas, Sorsogon), Polillo, Samar, Leyte, Masbate, Panay, Mindanao (Zamboanga), *Merrill* 3394, *Elmer* 7260, 15799, *B. S.* 26899 *Edaño*, 28528, 31019, 36763 Ramos & *Edaño*, 21973, 20589, 20413, 15129, 24245 Ramos. In forests at low altitude, sometimes in mangrove swamps. Burma to the Malay Peninsula and Archipelago.

DISCHIDIA JOLOENSIS Schltr. in Fedde Repert. 13 (1915) 557.

Sulu Archipelago (Jolo), *Merrill* 5327. In thickets, altitude about 550 m. Endemic.

DISCHIDIA LANCIFOLIA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 330.

Luzon (Sorsogon), Catanduanes, Mindanao (Bukidnon), *B. S.* 30374 Ramos, 38931 Ramos & *Edaño*, *Elmer* 15848, 16994 as *D. miniata* Elm. On trees in damp forests at low altitudes. Endemic.

DISCHIDIA MERRILLII Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 299.

Luzon (Abra, Bontoc, Pampanga, Bataan, Rizal, Camarines), Mindoro, Mindanao (Misamis), *Merrill* 3904, 5651, *B. S.* 27105, 22248 Ramos. Chiefly in the mossy forest, altitude 800 to 1,800 m. Endemic.

Local name: Karandat (Bag.).

DISCHIDIA OIANTHA Schltr. in Perk. Frag. Fl. Philip. (1904) 127; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 220.

Babuyan Islands (Camiguin), Luzon (Cagayan, Ifugao, Apayao, Benguet, Nueva Vizcaya, Rizal, Batangas, Laguna), Mindoro, Samar, Mindanao (Zamboanga), *Elmer* 6336, 15797, 17226 as *D. irosinensis* Elm., *Merrill* 5652, 8320, *B. S.* 3978, 28221 *Fénix*, 19986, 11287 *McGregor*, 3481, 1165, 12010, 13518, 22460, 24207 Ramos. In thickets and forests at low and medium altitudes, often along the seashore. Endemic.

DISCHIDIA PLATYPHYLLA Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 300; C. B. Rob. op. cit. 6 (1911) Bot. 220.

Babuyan Islands (Camiguin), Luzon (Laguna), Polillo, Leyte, Mindanao (Surigao, Davao, Zamboanga), Sulu, *Copeland* 338, *Merrill* 8319, *Elmer* 7143, *B. S.* 3934 *Fénix*, 15044 Ramos, 10337 *McGregor*. On trees at low altitudes, often along the seashore. Endemic.

Local name: Ubag-ubag (Sul.).

DISCHIDIA PURPUREA Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 39, Philip. Journ. Sci. 1 (1906) Suppl. 118.

Luzon (Cagayan, Apayao, Pangasinan, Bataan, Laguna, Tayabas, Camarines, Samar, Leyte, Mindanao (Surigao), *Merrill* 3735, *Warburg* 12999, *B. S.* 7938, 12012, 13526, 22177, 24208, 15207 Ramos. In trees in forests at medium altitudes, ascending to 1,200 m. Endemic.

Local names: Kalipkip (Tag.); talokop (S. L. Bis.).

DISCHIDIA QUINQUANGULARIS Schltr. in Fedde Repert. 13 (1915) 557.

Mindanao (Davao), *Copeland* 555. In thickets or forests. Endemic.

DISCHIDIA ROSEA Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 300.

Luzon (Benguet, Ifugao), *Elmer* 5838, *Sandkuhl* 281, *B. S.* 19834 *McGregor*. In forested ravines, altitude at and above 1,300 m; perhaps best reduced to *D. merrillii* Schltr. Endemic.

DISCHIDIA RUSCIFOLIA Decne. ex Becc. Malesia 2 (1886) 272.

Hoya ruscifolia Decne. in DC. Prodr. 8 (1844) 639; Miq. Fl. Ind.

Bat. 2 (1857) 524; F.-Vill. Novis. App. (1880) 135.

Dischidia myrtillus Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 299; Merr. op. cit. 3 (1908) Bot. 428.

Luzon (Cagayan, Ilocos Norte, Abra, Benguet, Pangasinan, Zambales, Pampanga, Rizal, Laguna, Tayabas), Mindanao, *Merrill* 7693, 3838, 8157, *Elmer* 6256, 14079, *F. B.* 5146, 16732 *Curran*, 15903 *Bacani*, *B. S.* 22436, 32931, 27062, 971 *Ramos*. In the mossy forest and on cliffs in damp primary forests, altitude 300 to 1,600 m. Endemic.

Local name: Kabkab (P. Bis.).

DISCHIDIA SACCATA Warb. in Perk. Frag. Fl. Philip. (1904) 127.

Mindanao (Zamboanga, Davao), *Warburg* 14384 in herb. Berol., *Merrill* 8318. Epiphytic in mangrove swamps. Endemic.

DISCHIDIA TONSA Schltr. in Fedde Repert. 13 (1915) 558.

Busuanga, Palawan, Panay, *Merrill* 7200, *Piper* 381, *B. S.* 15603 *Fénix*. In forests near the seashore. Endemic.

DISCHIDIA VIDALII Becc. Malesia 2 (1886) 272, in nota.

Dischidia pectenoides Pearson in Journ. Linn. Soc. Bot. 35 (1902) 377; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 118, Fl. Manila (1912) 381.

Dischidia lanceolata F.-Vill. Novis. App. (1880) 135; Vidal Sinopsis Atlas (1883) 33, t. 68, f. E, non Decne.

Luzon (Bataan, Rizal, Laguna), *Williams* 252, *Merrill* 2566, *F. B.* 20050 *Topacio*, 2735 *Borden*, *B. S.* 15172 *Reillo*, 2076 *Ramos*. Epiphytic on dead or dying bamboo (*Schizostachyum*) at low altitudes. Endemic.

Local names: Dapo-sa-bóho (Tag.); lobo-lóbo (Tag.).

EXCLUDED SPECIES

DISCHIDIA BENGHALENSIS Colebr.; F.-Vill. Novis. App. (1880) 135.

DISCHIDIA BORNEENSIS Becc.; Usteri Beitr. Ken. Philip. Veg. (1905) 121.

DISCHIDIA COLLYRIS Wall.; F.-Vill. l. c.

DISCHIDIA NUMMULARIA R. Br.; F.-Vill. l. c.

DISCHIDIA ORBICULARIS Decne.; F.-Vill. l. c.

DISCHIDIA OVATA Benth.; F.-Vill. l. c.

19. DISCHIDIOPSIS Schlechter

DISCHIDIOPSIS CARINATA Schltr. in Fedde Repert. 13 (1915) 558.

Mindanao (Surigao), *Bolster* 227. In thickets or forests at low altitudes. Endemic.

DISCHIDIOPSIS COPELANDII Schltr. in Fedde Repert. 13 (1915) 559, in nota.

Conchophyllum copelandii Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 298.

Mindanao (Davao), *Copeland* 338, 337, 340, *Williams* 2715. In thickets or forests at low altitudes. Endemic.

DISCHIDIOPSIS IMBERBIS Schltr. in Fedde Repert. 13 (1915) 559.

Luzon (Cagayan), *B. S.* 10728 *McGregor*. In thickets or forests at low altitudes. Endemic.

DISCHIDIOPSIS INCRASSATA Schltr. in Fedde Repert. 13 (1915) 559.

Luzon (Sorsogon), Basilan, *B. S.* 9987 *Robinson*, *Elmer* 16853. In thickets along streams at low altitudes. Endemic.

DISCHIDIOPSIS LUZONICA Schltr. in Fedde Repert. 13 (1915) 560.

Dischidiopsis ramosii Schltr. op. cit. 561.

Luzon (Cagayan, Pangasinan, Laguna, Cavite), *B. S.* 9860, 6091, 6009 *Robinson*, 12032, 20412 *Ramos*, 27870 *McGregor*, 30009 *Fénix*, *Merrill* 7480, 10624. Epiphytic in forests at low and medium altitudes, sometimes on trunks of coconut palms. Endemic.

DISCHIDIOPSIS MARIAE Schltr. in Fedde Repert. 13 (1915) 560.

Mindanao (Lanao), *Clemens* s. n. In thickets or forests, altitude about 600 m. Endemic.

DISCHIDIOPSIS PARASITICA (Blanco) Merr. Sp. Blancoanae (1918) 317.

Marsdenia parasitica Blanco Fl. Filip. (1837) 120 (*parasita*), ed. 2 (1845) 86, ed. 3, 1 (1877) 156.

Dischidiopsis philippinensis Schltr. in Perk. Frag. Fl. Philip. (1904) 128; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee Nachtr. (1905) 355; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 119.

Conchophyllum merrillii Schltr. ex Merr. Fl. Manila (1912) 380.

Luzon (Rizal, Bataan, Laguna), Lubang, *Merrill* 972, 7441, 3809, *Sp. Blancoanae* 693, *Phil. Pl.* 1009, *Elmer* 18455, *B. S.* 15170 *Reillo*. Epiphytic in thickets and forests at low altitudes. Endemic.

20. CENTROSTEMMA Decaisne

CENTROSTEMMA MULTIFLORUM (Blume) Decne. in Ann. Sci. Nat. II 9 (1838) 272, DC. Prodr. 8 (1844) 634; Merr. Sp. Blancoanae (1918) 317.

Hoya multiflora Blume Cat. Gew. Buitenz. (1823) 49; F.-Vill. Novis. App. (1880) 135; Vidal Sinopsis Atlas (1883) 33, t. 68, f. G, Phan. Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 189; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 119.

Asclepias carnososa Blanco Fl. Filip. (1837) 208, ed. 2 (1845) 147, ed. 3, 1 (1877) 263, t. 402bis.

Centrostemma lindleyanum Decne. in DC. Prodr. 8 (1844) 634; Miq. Fl. Ind. Bat. 2 (1857) 515.

Hoya coriacea Lindl. Bot. Reg. 25 (1839) t. 18, non Blume.

Cyrtoceras reflexum Benn. Pl. Jav. Rar. (1838) 90, t. 21; Lindl. Bot. Reg. 26 (1840) Misc. 7.

Cyrtoceras lindleyanum Miq. Fl. Ind. Bat. 2 (1857) 515.

Hoya lindleyana F.-Vill. Novis. App. (1880) 135.

Babuyan Islands, Luzon (most or all provinces), Polillo, Mindoro, Masbate, Tablas, Samar, Panay, Siargao, Dinagat, Mindanao. Epiphytic or pseudoepiphytic on trees in primary forests at low and medium altitudes. Burma, Malay Peninsula, Sumatra, Java, and Borneo.

Local names: Dapong-baba (Tag.); kapal (Tag.); kulili (Tag.); ma-ñgagau (C. Bis.); tigbud (C. Bis.).

21. CONCHOPHYLLUM Blume

CONCHOPHYLLUM ELMERI Schltr. in Fedde Repert. 13 (1915) 561.

Mindanao (Davao), *Copeland* 1270, *Elmer* 10670. In thickets or forests. Endemic.

Local name: Salibútbut (Bag.).

22. HOYA R. Brown

HOYA BENGUETENSIS Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 301; Merr. op. cit. 3 (1908) Bot. 429.

Luzon (Benguet), *Elmer* 5979, *B. S.* 2854 *Mearns*, 21290 *Sandkuhl*. In thickets or forests, altitude 1,200 to 1,600 m. Endemic.

Local name: Umum (Ig.).

HOYA BILOBATA Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 301.

Luzon (Laguna), Mindanao (Zamboanga, Davao), *Copeland* 420, *B. S.* 10046, 15106, 16650 *Ramos*, *F. B.* 4824 *Hutchinson*. On trees at low altitudes. Endemic.

HOYA BORDENII Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 302.

Luzon (Benguet, Pangasinan, Bulacan, Bataan, Cavite, Tayabas, Sorsogon), *F. B.* 1213 *Borden*, *B. S.* 29900 *Fénix*, 34132 *Ramos & Edaño*, 22557 *Ramos & Deroy*, *Elmer* 15829, 16165. On trees in primary forests at low and medium altitudes. Endemic.

HOYA CAMPHORIFOLIA Warb. in Perk. Frag. Fl. Philip. (1904) 129.

Luzon (Benguet, Tayabas, Sorsogon), Mindoro, *McGregor* 334, *B. S.* 14082 *Robinson*, *B. S.* 29092 *Ramos & Edaño*, *Elmer* 15803, 15244. In forests at low and medium altitudes, ascending to 1,200 m. Endemic.

HOYA CARDIOPHYLLA Merr. in Philip. Journ. Sci. 17 (1920) 310.

Dinagat, *B. S.* 25160 *Ramos & Pascasio*. On trees at low altitudes. Endemic.

HOYA CUMINGIANA Decne. in DC. Prodr. 8 (1844) 636; Miq. Fl. Ind.

Bat. 2 (1857) 517; F.-Vill. Novis. App. (1880) 135; Vidal Phan. Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 189; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 119, 5 (1910) Bot. 379.

Luzon (Benguet, Bontoc, Bataan, Rizal, Camarines), Mindoro, Ticao, Palawan, *Cuming* 1480, *Merrill* 6352, 9435, 11562, *Elmer* 6419, *Whitford*

311, *B. S.* 26221, 3256, 22214 *Ramos*, 8803 *McGregor*. Chiefly on limestone cliffs and boulders in open places from sea level to an altitude of 1,600 m. Endemic.

Local names: Alisip (Ig.); barobagól (Bik.); laklakipan (Bon.); pil-pilak (Bon.); pիրpirak (Ilk.); puki (Bon.).

HOYA DARWINII Loher in *Gard. Chron.* III 47 (1910) 66, *Fedde Repert.* 11 (1912) 96.

Luzon (Rizal, Tayabas), Panay, *Whitford* 790, *B. S.* 35522 *Ramos & Edaño*. In forests at low or medium altitudes. Endemic.

Local name: Kalitkit (Tag.).

HOYA FISCHERIANA Warb. in *Perk. Frag. Fl. Philip.* (1904) 129.

Luzon (Isabela, Ilocos Norte), Mindoro, Biliran, Dinagat, Mindanao (Surigao, Davao), *Copeland* 421, *McGregor* 333, *B. S.* 32906, 32905 *Ramos*, 18529 *McGregor*, 35256, 34526 *Ramos & Pascasio*. On trees at low altitudes. Endemic.

HOYA GRACILIS Schltr. in *Engl. Bot. Jahrb.* 50 (1908) Beibl. 92: 14.

Luzon (Sorsogon), Mindoro, Panay, *Merrill* 5653, 5673, *B. S.* 32378 *McGregor*, 15703 *Fénix*, *F. B.* 6874 *Merritt*, *Elmer* 16719 as *H. obscura* Elm. In primary forests on ridges extending into the mossy forest, altitude about 1,000 m. Celebes.

Local name: Aputulibung (Bag.).

HOYA IMBRICATA Decne. in *DC. Prodr.* 8 (1844) 637, *Deless. Ic.* 5 (1846) 37, *t.* 90; *Miq. Fl. Ind. Bat.* 2 (1857) 520; *F.-Vill. Novis. App.* (1880) 135; Schltr. in *Perk. Frag. Fl. Philip.* (1904) 130; *Koord. in Bull. Jard. Bot. Buitenz.* III 2 (1920) 247.

Collyris major Naves in *Blanco Fl. Filip.* ed. 3 (1877-83) *t.* 212, non Vahl.

Luzon (Bontoc, Rizal, Laguna), Busuanga, *Merrill* 2363, *Vanoverbergh* 2161, *B. S.* 41265 *Ramos*. On tree trunks at low and medium altitudes.

Var. **BASICORDATA** *Koord. in Philip. Journ. Sci.* 15 (1919) 264, *t.* 2, 3.

Luzon (Sorsogon), Biliran, Samar, Mindanao (Davao), *B. S.* 18893 *McGregor*, 24910 *Edaño*, *Elmer* 15802, *Copeland* 399, *Warburg* 14388. On trees at low altitudes. Endemic.

HOYA INCRASSATA Warb. in *Perk. Frag. Fl. Philip.* (1904) 130; *C. B. Rob. in Philip. Journ. Sci.* 6 (1911) Bot. 220.

Luzon (Rizal, Laguna, Tayabas, Sorsogon), Polillo, Mindoro, Busuanga, Panay, Camiguin de Misamis, Mindanao (Surigao, Agusan), *Merrill* 4082, *Weber* 1003, *Bolster* 393, *Elmer* 14440, 16718 as *H. crassicaulis* Elm., *B. S.* 3257, 14730, 41223 *Ramos*, 10431, 10336, 22822, 29232, 32384 *McGregor*. On trees at low altitudes. Endemic.

HOYA MCGREGORII Schltr. in *Philip. Journ. Sci.* 1 (1906) Suppl. 302.

Mindoro, *McGregor* 191. On trees at low altitudes. Endemic.

HOYA MELIFLUA (Blanco) *Merr. Sp. Blancoanae* (1918) 318.

Stapelia meliflua Blanco *Fl. Filip.* (1837) 202, ed. 2 (1845) 142, ed. 3, 1 (1877) 256.

Hoya carnosa Blanco op. cit. ed. 2 (1845) 142, ed. 3, 1 (1877) 257; *F.-Vill. Novis. App.* (1880) 135, non R. Br.

Hoya parasitica F.-Vill. Novis. App. (1880) 135, non Wall.

Hoya diversifolia F.-Vill. l. c., non Blume.

Hoya luzonica Schltr. in Perk. Frag. Fl. Philip. (1904) 130; Merr. Fl. Manila (1912) 380.

Luzon (Apayao, Union, Rizal, Bataan, Laguna), Mindoro, Palawan, Negros, Leyte, Panay, *Merrill 2565, 7550, 9385, 11561, Elmer 7262, 17782, F. B. 13702 Curran, 20215 Villamil, B. S. 22842 McGregor*. On trees at low altitudes. Endemic.

Local name: Amutung (Ilk.).

HOYA MERRILLII Schltr. in Perk. Frag. Fl. Philip. (1904) 131; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 220.

Luzon (Nueva Vizcaya, Tayabas, Cavite, Camarines), Mindoro, Panay, Mindanao (Davao), *Merrill 2218, 3365, Copeland 627, B. S. 22547 Ramos & Deroy, 954 Mangubat, 31508, 31504 Ramos & Edaño*. On trees at low altitudes. Endemic.

Local name: Sablak (Tag.).

HOYA MINDORENSIS Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 303.

Mindoro, *McGregor 332*. On trees at low altitudes. Endemic.

HOYA ODORATA Schltr. in Philip. Journ. Sci. 1 (1906) Suppl. 303; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 429.

Batan Islands, Luzon (Ifugao, Bataan, Laguna, Sorsogon), Camiguin de Misamis, *Merrill 3202, 8610, Elmer 17121, 18041, B. S. 26670 Brown, 17093 Robinson, 23683, 23656 Ramos*. In the mossy forest on ridges, altitude 1,200 to 2,000 m. Endemic.

HOYA PENTAPHLEBIA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 330.

Samar, Biliran, Mindanao (Surigao), *B. S. 17411 Ramos, 18831 McGregor, 34445 Ramos & Pascasio*. In forests at low altitudes. Endemic.

HOYA PSEUDOMAXIMA Koord. in Philip. Journ. Sci. 15 (1919) 265, t. 4, Bull. Jard. Bot. Buitenz. III 2 (1920) 247.

Luzon (Rizal, Camarines), *B. S. 970, 22089 Ramos*. On trees at low and medium altitudes. Endemic.

HOYA PUBICALYX Merr. in Philip. Journ. Sci. 13 (1918) Bot. 331.

Luzon (Tayabas, east coast), *B. S. 19484 Ramos*. In forests near the sea. Endemic.

HOYA QUINQUENERVIA Warb. in Perk. Frag. Fl. Philip. (1904) 132.

Luzon (Isabela, Sorsogon), *Warburg 11956* in herb. Berol., *Elmer 15804*. In forests at low or medium altitudes. Endemic.

HOYA RETICULATA Merr. in Philip. Journ. Sci. 17 (1920) 331.

Mindoro, Mindanao (Surigao), *B. S. 34530 Ramos & Pascasio, 39507 Ramos*. In swampy thickets at low altitudes. Endemic.

EXCLUDED SPECIES

HOYA CARNOSA R. Br.; F.-Vill. Novis. App. (1880) 135.

HOYA DIVERSIFOLIA Blume; Schltr. in Perk. Frag. Fl. Philip. (1904) 129.

The record is based on a sterile specimen, the identification being made with expressed doubt.

HOYA OBOVATA Wall.; F.-Vill. l. c.

HOYA PENDULA W. & A.; F.-Vill. l. c.

HOYA REFLEXA Benth. & Hook. f.; Vidal Cat. Pl. Prov. Manila (1880) 37.

23. MARSDENIA R. Brown

MARSDENIA PERGULARIFORMIS Schltr. in Perk. Frag. Fl. Philip. (1904) 132.

Luzon (Tayabas), *Warburg 13002* in herb. Berol. Probably from thickets at low altitudes. Endemic.

MARSDENIA PHILIPPINENSIS Schltr. in Perk. Frag. Fl. Philip. (1904) 133; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 119.

Luzon (Pangasinan, Bataan, Rizal, Laguna), *Merrill 3315*, *Williams 195*, *B. S. 17891 Otanes*, *13695*, *22691 Ramos*, *29486 Ramos & Edaño*. In thickets and forests at low altitudes. Endemic.

MARSDENIA TINCTORIA R. Br. in Mem. Wern. Soc. 1 (1809) 30; Decne in DC. Prodr. 8 (1844) 615; Hook. f. Fl. Brit. Ind. 4 (1883) 34; F.-Vill. Novis. App. (1880) 134; Vidal Rev. Pl. Vasc. Filip. (1886) 188; Merr. Sp. Blancoanae (1918) 318.

Asclepias tinctoria Roxb. Hort. Beng. (1814) 20, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 43.

Marsdenia akkar Blanco Fl. Filip. (1837) 118, ed. 2 (1845) 85, ed. 3, 1 (1877) 155.

Marsdenia tagudina Blanco op. cit. 121, ed. 2, 86, ed. 3, 1 (1877) 157; F.-Vill. Novis. App. (1880) 134.

Pergularia tinctoria Spreng. Syst. 1 (1825) 844.

Luzon (Ilocos Norte, Abra, Bontoc, Benguet, Nueva Vizcaya, Rizal, Laguna, Tayabas, Sorsogon), Mindoro, Leyte, Panay, Mindanao, Basilan, *B. S. 33032*, *7253 Ramos*, *31190 Ramos & Edaño*, *15453 Reillo*, *11332*, *20062 McGregor*, *F. B. 26410 Bawan*, *Loher 6166*, *Merrill Sp. Blancoanae 977*, *Elmer 16993*. In secondary and primary forests at low and medium altitudes. India to southern China and Malaya.

Local names: Arin̄git (Bik.); lamus (Bag.); payaṅgit (Tag.); tayom-táyom (Ilk.).

MARSDENIA WARBURGII Schltr. in Perk. Frag. Fl. Philip. (1904) 133.

Mindanao (Cotabato), *Warburg 15026*, *Reinking*. In thickets at low altitudes. Endemic.

24. DREGA E. Meyer

DREGA VOLUBILIS (Linn. f.) Benth. ex Hook. f. Fl. Brit. Ind. 4 (1883) 46.

Asclepias volubilis Linn. f. Suppl. (1781) 170.

Hoya viridiflora R. Br. in Mem. Wern. Soc. 1 (1809) 27; Decne. in DC. Prodr. 8 (1844) 639.

Dregea viridiflora F.-Vill. Novis. App. (1880) 134; Schltr. in Perk. Frag. Fl. Philip. (1904) 134.

Babuyan Islands (Camiguin), Lubang, Luzon (Rizal, Bontoc, Batangas), Panay, *Merrill 959*, *B. S. 4097 Fénix*, *31337*, *37861 Ramos & Edaño*, *22646 Ramos & Deroy*. In thickets at low altitudes. India to Java.

25. **HETEROSTEMMA** Wight and Arnott

HETEROSTEMMA ANGUSTILOBUM Schltr. in Fedde Repert. 13 (1915) 565.

Mindanao (Davao), *Elmer 10814*. In thickets or forests. Endemic.
Local name: Totatot (Bag.).

HETEROSTEMMA CUSPIDATUM Decne. in DC. Prodr. 8 (1844) 630; Miq. Fl. Ind. Bat. 2 (1857) 505; F.-Vill. Novis. App. (1880) 134; Vidal Phan. Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 189; Merr. Sp. Blancoanae (1918) 319.

Stapelia quadrangula Blanco Fl. Filip. (1837) 202, ed. 2 (1845) 142, ed. 3, 1 (1877) 255, non Forsk.

? *Heterostemma manilense* Schauer in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 363; F.-Vill. Novis. App. (1880) 134.

Luzon (Rizal, Laguna, Cavite, Batangas), Busuanga, *Cuming 1449*, *Merrill Sp. Blancoanae 807*, *Baker 154*, *B. S. 13535*, *41232 Ramos*. In secondary forests and thickets at low altitudes. Endemic.

Local names: Biniguásan (Tag.); buyok-buyok (Tag.).

HETEROSTEMMA HERBERTII Elm. Leaf. Philip. Bot. 8 (1919) 3074.

Luzon (Laguna), *Elmer 17661*, *18247*. In primary forests, altitude about 450 m. Endemic.

26. **TELOSMA** Coville

(*Pergularia* auct., non Linnaeus)

TELOSMA ANGUSTILOBA (Warb.) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 243.

Pergularia angustiloba Warb. in Perk. Frag. Fl. Philip. (1904) 134.

Pergularia accedens Decne. in DC. Prodr. 8 (1844) 619, quoad *Cuming 1334*; F.-Vill. Novis. App. (1880) 134; Vidal Phan. Cuming. Philip. (1885) 127, Rev. Pl. Vasc. Filip. (1886) 189.

Luzon (Cagayan), (*Cuming 1334*). Probably from thickets at low altitudes and scarcely distinguishable from *T. procumbens* Merr. Endemic.

TELOSMA CORDATA (Burm. f.) Merr. in Philip. Journ. Sci. 19 (1921) 372.

Asclepias cordata Burm. f. Fl. Ind. (1768) 72, t. 27, f. 2.

Cynanchum odoratissimum Lour. Fl. Cochinch. (1790) 166.

Pergularia odoratissima Sm. Ic. Pict. (1790-93) t. 16; Decne. in DC. Prodr. 8 (1844) 618; F.-Vill. Novis. App. (1880) 134.

Pergularia minor Andr. Bot. Rep. t. 184, Bot. Mag. t. 755; F.-Vill. Novis. App. (1880) 134.

Telosma odoratissima Coville in Contr. U. S. Nat. Herb. 9 (1905) 384; Merr. Fl. Manila (1912) 379.

Cultivated in the larger towns here and there for its fragrant flowers, but nowhere spontaneous; introduced from tropical Asia.

Local names: Mil leguas (Sp.); miniguas (Bik.).

TELOSMA PARVIFLORA Merr. in Philip. Journ. Sci. 17 (1920) 312.

Luzon (Tayabas), Siargao, *B. S. 35011 Ramos & Pascasio*, *Elmer 9101*. In forests at low altitudes. Endemic.

- TELOSMA PROCUMBENS** (Blanco) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 243, Fl. Manila (1912) 379, Sp. Blancoanae (1918) 319.
Pergularia procumbens Blanco Fl. Filip. (1837) 201; Deene. in DC. Prodr. 8 (1844) 619; F.-Vill. Novis. App. (1880) 134.
Cynanchum hirtum Blanco op. cit. 203, ed. 2 (1845) 143, ed. 3, 1 (1877) 258, non Linn.
Pergularia glandulosa Blanco op. cit. 201, ed. 2, 141, ed. 3, 1: 254.
Pergularia glabra Blanco op. cit. ed. 2, 141, ed. 3, 1: 254, t. 397.
Pergularia filipes Schltr. in Perk. Frag. Fl. Philip. (1904) 135, Philip. Journ. Sci. 3 (1908) Bot. 429.

Luzon (Ilocos Norte to Sorsogon), Mindoro, Cuyo, Biliran, Leyte, Negros, Mindanao, Basilan. In thickets and secondary forests at low altitudes, represented by numerous collections. Endemic.

Local names: Dugep (Ilk.); dukep (Ilk.); kapuk-kapuk (Sul.); laknit (Bag.); latok (Tag.).

27. COSMOSTIGMA Wight

- COSMOSTIGMA PHILIPPINENSE** Schltr. in Fedde Repert. 13 (1915) 542.

Luzon (Rizal), *B. S. 1072 Ramos*. In thickets or forests at medium altitudes. Endemic.

28. CLEMENSIELLA Schlechter

(*Clemensia* Schlechter non Merrill)

- CLEMENSIELLA MARIAE** Schltr. in Fedde Repert. 13 (1915) 566.

Clemensia mariae Schltr. op. cit. 543.

Luzon (Laguna, Sorsogon), Catanduanes, Leyte, Mindanao (Lanao), *Clemens 345, 512, Baker 3262, 3713, Elmer 16374, 16801 as C. dischidioides* Elm., *B. S. 15307, 16592, 30388 Ramos*. In forests at medium altitudes. A monotypic endemic genus.

29. DOLICHOSTEGIA Schlechter

- DOLICHOSTEGIA BOHOLENSIS** Schltr. in Fedde Repert. 13 (1915) 554.

Bohol, *B. S. 1693 McGregor*. On cliffs near the sea. A monotypic endemic genus.

30. PETALONEMA Schlechter

- PETALONEMA MERRILLII** Schltr. in Fedde Repert. 13 (1915) 544.

Luzon (Bontoc, Benguet), *Merrill 7788, Phil. Pl. 1793, Williams 1075, Vanoverbergh 1172, B. S. 14013 Robinson, 37957 Ramos & Edaño*. In thickets about limestone cliffs, altitude 1,200 to 1,600 m. A monotypic endemic genus.

DOUBTFUL AND EXCLUDED SPECIES

- CRYPTOLEPIS ELEGANS** Wall.; Usteri Beitr. Ken. Philip. Veg. (1905) 121.

Usteri's specimen was probably misidentified.

- HEMIDESMUS INDICUS** R. Br.; F.-Vill. Novis. App. (1880) 132.

- OXYSTELMA ESCULENTUM** R. Br.; Schauer in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 363.

This record was based on a specimen collected by Meyen in or near Manila, perhaps from a cultivated plant; there is no evidence that it occurs in the Archipelago to-day.

STEPHANOTIS MUCRONATA (Blanco) Merr. Sp. Blancoanae (1918) 316.

Apocynum mucronatum Blanco Fl. Filip. (1837) 825, ed. 2 (1845) 143, ed. 3, 1 (1877) 259.

Stephanotis chinensis Champ. ex Benth. in Hook. Journ. Bot. Kew Miscel. 5 (1853) 53.

Blanco's description was based on specimens grown from Chinese seeds; the species apparently no longer occurs in the Philippines, cultivated or otherwise.

VINCETOXICUM sp.; Ceron Cat. Pl. Herb. Manila (1912) 117; Usteri Beitr. Ken. Philip. Veg. (1905) 121.

Ceron's record is based on *Vidal 3281, 3311, 3303*, from Luzon; I suspect that the generic identification is wrong.

CYLIXYLON HETEROPHYLLUM Llanos Frag. Pl. Filip. (1851) 59; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 42; Merr. Sp. Blancoanae (1918) 320.

I have been unable definitely to place this genus and species as described by Llanos from his very imperfect description; the type is not extant. It can scarcely be *Gymnanthera pedunculata* (Miq.) F.-Vill. where F.-Villar placed it.

CONVOLVULACEAE

1. **DICHONDRA** Forster

DICHONDRA REPENS Forst. Char. Gen. (1776) 39, t. 20; Choisy in DC. Prodr. 9 (1845) 451; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 225.

Siphthoria evolvulacea Linn. f. Suppl. (1781) 288.

Dichondra evolvulacea Britton in Mem. Torr. Bot. Club 5 (1894) 268.

Luzon (Bontoc), *Vanoverbergh 19*. On dry slopes, altitude about 1,300 m; very rare or local in the Philippines. Pantropic.

Local names: Lutlutud (Bon.); napalapayag (Ilk.).

2. **EVOLVULUS** Linnaeus

EVOLVULUS ALSINOIDES Linn. Sp. Pl. ed. 2 (1762) 392; Choisy in DC. Prodr. 9 (1845) 447; F.-Vill. Novis. App. (1880) 142; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 220; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 197; Merr. Fl. Manila (1912) 382, Sp. Blancoanae (1918) 320.

Evolvulus linifolius Linn. Sp. Pl. ed. 2 (1762) 392; Blanco Fl. Filip. (1837) 221, ed. 2 (1845) 156, ed. 3, 1 (1877) 279.

Northern Luzon to Mindanao. In open dry grasslands at low and medium altitudes, locally abundant; variable. Pantropic.

3. **BONAMIA** Thouars

BONAMIA SEMIDIGYNA (Roxb.) Hallier f. in Engl. Bot. Jahrb. 16 (1892) 528, Bull. Herb. Boiss. 5 (1897) 814.

Convolvulus semidigynus Roxb. Fl. Ind. 2 (1824) 47.

Breweria cordata Blume Bijdr. (1825) 722.

Breweria roxburghii Choisy Conv. Or. (1834) 111, DC. Prodr. 9 (1845) 438.

Culion, *Merrill 538, 618*. In thickets at low altitudes. Tropical Asia, Mascarene Islands, and Malaya.

4. **PORANIA** Burman f.

PORANIA VOLUBILIS Burm. f. Fl. Ind. (1768) 51, t. 21, f. 1; Choisy in DC. Prodr. 9 (1845) 436; Blanco Fl. Filip. (1837) 88, ed. 2 (1845) 64, ed. 3, 1 (1877) 119; Miq. Fl. Ind. Bat. 2 (1857) 625; F.-Vill. Novis. App. (1880) 143; Vidal Rev. Pl. Vasc. Filip. (1886) 197; Merr. Sp. Blancoanae (1918) 320.

Luzon (Abra, Bontoc, Benguet, Union, Pangasinan, Laguna), *B. S.* 7246, 5339 Ramos, 12952 *Fénix*, Merrill Sp. Blancoanae 839, Vidal 1165, Baker 506, *Lete* 223. In thickets at low and medium altitudes. Indo-China and Malaya.

Local names: Kalabonog (Ilk.); kamuras (Ilk.).

5. **ERYCIBE** Roxburgh

ERYCIBE DUBIA Elm. Leaf. Philip. Bot. 2 (1909) 589.

Erycibe paniculata F.-Vill. Novis. App. (1880) 139; Vidal Sinopsis Atlas (1883) 24, t. 71, f. A, Rev. Pl. Vasc. Filip. (1886) 195, non Roxb.

Luzon (Pangasinan, Ilocos Norte, Zambales, Bataan, Rizal, Laguna), Mindoro, Negros, *Elmer* 10342, 17989, Merrill 2228, *Dec. Philip. Forest. Fl.* 97, *Loher* 4174, *B. S.* 17786 *Otanes*, *F. B.* 1100 *Ahern's collector*, 19966 *Villamil*, 22698 *Gangan*. In forests at low and medium altitudes. Endemic.

Local names: Balisaog (Tag.); malutai (Tag.); saladai (Bis.).

ERYCIBE GRIFFITHII C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1833) 182; Hallier f. in Bull. Herb. Boiss. 5 (1897) 738.

Erycibe micrantha Hallier f. in Engl. Bot. Jahrb. 16 (1893) 524, *nomen nudum*.

Erycibe lateriflora Elm. Leaf. Philip. Bot. 5 (1913) 1767.

Palawan, Leyte, *Cuming* 1743, *Elmer* 12750. In forests at low altitudes. Burma, Malay Peninsula, Sumatra, Moluccas.

ERYCIBE PRINCEI Wall. Cat. (1829) No. 1335, *nomen nudum*; Choisy in DC. Prodr. 9 (1845) 464; Prain in Journ. As. Soc. Beng. 74² (1905) 290.

Leyte, *Elmer* 7355, distributed as a *Saurauia*. Malay Peninsula, Bangka, Sumatra, Borneo.

ERYCIBE RHEEDII Blume Bijdr. (1826) 1047; Valetton in Meded. Dept. Landbouw 13 (1914) 33.

Erycibe hallieriana Elm. Leaf. Philip. Bot. 7 (1915) 2601.

Erycibe pararan Elm. op. cit. 2603.

Erycibe copelandii Elm. op. cit. 8 (1919) 3077.

Luzon (Apayao, Union, Laguna, Tayabas), Palawan, Masbate, Leyte, Panay, Mindanao (Davao, Cotabato), *Elmer* 11270, 10918, 18001, Baker 3251, Merrill 9583, *Wenzel* 1100, 1171, *B. S.* 28125 *Fénix*, 31227 Ramos & *Edaño*, *F. B.* 26910 *Mabesa*, 1709 *Clark*, 11804 *Whitford*, 22064 *Villamil*. In forests at low and medium altitudes. Sumatra, Java.

Local names: Paráran (Bag.); salibútbut (Bag.).

ERYCIBE SARGENTII Merr. in Philip. Journ. Sci. 13 (1918) Bot. 56.

Luzon (Cagayan, Pangasinan, Zambales, Bataan), Panay, *Cuming 1071, Williams 593, 798, Adduru 18, B. S. 17696 Otanes, 31024 Ramos & Edaño, 26735 Mabesa & Sulit*. On forested slopes at low altitudes. Endemic.

ERYCIBE TERMINALIFLORA Elm. Leaf. Philip. Bot. 5 (1913) 1768.

Palawan, *Elmer 13221*. In forests along streams at low altitudes. Endemic.

6. JACQUEMONTIA Choisy

JACQUEMONTIA PANICULATA (Burm. f.) Hallier f. in Engl. Bot. Jahrb. 18 (1894) 95; Merr. Sp. Blancoanae (1918) 326.

Ipomoea paniculata Burm. f. Fl. Ind. (1768) 50, t. 21, f. 3.

Convolvulus parviflorus Vahl Symb. 3 (1794) 29; Choisy in DC. Prodr. 9 (1845) 413; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 220; Vidal Phan. Cuming. Philip. (1885) 129, Rev. Pl. Vasc. Filip. (1886) 197.

Convolvulus valerianoides Blanco Fl. Filip. (1837) 90.

Convolvulus boerhavioides Blanco op. cit. ed. 2 (1845) 67, ed. 3, 1 (1877) 125.

Breweria valerianoides F.-Vill. Novis. App. (1880) 143.

Luzon (Ilocos Norte, Lepanto, Bontoc, Union, Bulacan, Rizal, Laguna, Batangas), Culion, Palawan, Mindanao (Zamboanga), Basilan. In thickets at low and medium altitudes. Tropical Africa and Asia through Malaya to tropical Australia.

Local name: Hímag (P. Bis.).

EXCLUDED SPECIES

CONVOLVULUS SPHAEROSTIGMA Cav. Ic. 5 (1799) 54, t. 481.

"Habitat in Mindanao . . . et . . . in Regni Mexicani." Choisy is apparently correct in reducing this to the tropical American *Jacquemontia hirsuta* Choisy; the Mindanao record was based either on an erroneously localized specimen (Malaspina Expedition) or on an erroneously identified one.

7. ANISEIA Choisy

ANISEIA MARTINICENSIS (Jacq.) Choisy Conv. Rar. (1838) 144, DC. Prodr. 9 (1845) 430; Hallier f. in Engl. Bot. Jahrb. 18 (1895) 96, Bull. Herb. Boiss. 5 (1897) 382; Prain in Journ. As. Soc. Beng. 74² (1905) 301.

Convolvulus martinicensis Jacq. Select. Stirp. Am. (1763) 20, t. 17.

Convolvulus uniflorus Lam. Encycl. 3 (1791) 544.

Ipomoea uniflora R. & S. Syst. 4 (1819) 247; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 201; F.-Vill. Novis. App. (1880) 140.

Palawan, *Merrill 9458, Vidal 3356*. Among grasses in fresh-water swamps at low altitudes; very rare or local in the Philippines. Pantropic.

8. HEWITTIA Wight and Arnott

HEWITTIA SUBLOBATA (Linn. f.) O. Kuntze Rev. Gen. Pl. (1891) 441; Merr. Fl. Manila (1912) 382, Sp. Blancoanae (1918) 326.

Convolvulus sublobatus Linn. f. Suppl. (1781) 135.

Convolvulus bicolor Vahl Symb. 3 (1794) 25.

Shutereaia bicolor Choisy Conv. Or. (1834) 104, DC. Prodr. 9 (1845) 435.

Hewittia bicolor Wight and Arn. in Madr. Journ. Sci. 5 (1837) 22; Wight Ic. 3 (1843) 45, t. 835 (misprint *Heivetia*); Miq. Fl. Ind. Bat. 2 (1857) 620; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 216; F.-Vill. Novis. App. (1880) 142; Vidal Rev. Pl. Vasc. Filip. (1886) 197; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 120.

Convolvulus hederaceus Blanco Fl. Filip. (1837) 90, ed. 2 (1845) 66, ed. 3, 1 (1877) 124, non Linn.

Shutereaia sublobata House in Bull. Torr. Bot. Club 33 (1906) 318.

Throughout the Philippines in open grasslands and waste places, at low and medium altitudes, often common. Tropical Africa and Asia through Malaya to Polynesia.

Local names: Banaíyan (P. Bis.); dinukdukto (Ig.); palupasagig (P. Bis.); panggi-panggi (Sul.).

9. MERREMIA Dennstaedt

MERREMIA DISTILLATORIA (Blanco) Merr. Sp. Blancoanae (1918) 325.

Convolvulus distillatorius Blanco Fl. Filip. (1837) 95, ed. 2 (1845) 70, ed. 3, 1 (1877) 130; Choisy in DC. Prodr. 9 (1845) 416.

Merremia similis Elm. Leaf. Philip. Bot. 1 (1908) 335.

Luzon (Laguna, Tayabas, Sorsogon, Albay), Leyte, Panay, Sibuyan, Negros, Mindanao (Surigao, Misamis), *Elmer 7341, 15602, 12061, Merrill Sp. Blancoanae 738, Phil. Pl. 1971, Wenzel 1675, B. S. 13292 Ramos, 31391 Ramos & Edaño, 7342 Celestino, 34758 Ramos & Pascasio, F. B. 8875 Curran*. In thickets and secondary forests at low and medium altitudes. Endemic.

Local name: Bulakán (P. Bis.).

MERREMIA EMARGINATA (Burm. f.) Hallier f. in Engl. Bot. Jahrb. 16 (1892) 552; Merr. Sp. Blancoanae (1918) 324.

Evolvulus emarginatus Burm. f. Fl. Ind. (1768) 77, t. 30, f. 1.

Convolvulus reniformis Roxb. Fl. Ind. 2 (1824) 67; Blanco Fl. Filip. (1837) 91, ed. 2 (1845) 67, ed. 3, 1 (1877) 126.

Lepistemon reniformis Hassk. Pl. Jav. Rar. (1848) 542; Miq. Fl. Ind. Bat. 2 (1857) 629; F.-Vill. Novis. App. (1880) 142.

Ipomoea reniformis Choisy Conv. Or. (1834) 64, DC. Prodr. 9 (1845) 351; Rolfe in Journ. Bot. 23 (1885) 214; Vidal Rev. Pl. Vasc. Filip. (1886) 196.

Luzon (Rizal, Bataan), *B. S. 9619, 18275 Robinson, Merrill 3671, Sp. Blancoanae 357*. In dry open grasslands and waste places at low altitudes. Tropical Africa, Asia, and Malaya.

Local name: Kupit-kupit (Ilk.).

MERREMIA GEMELLA (Burm. f.) Hallier f. in Engl. Bot. Jahrb. 16 (1892) 552; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 120, Fl. Manila (1912) 389.

Convolvulus gemellus Burm. f. Fl. Ind. (1768) 46, t. 21, f. 1.

Ipomoea gemella Roth Nov. Pl. Sp. (1821) 110; Choisy in DC. Prodr. 9 (1845) 380; Miq. Fl. Ind. Bat. 2 (1857) 616; F.-Vill. Novis. App. (1880) 142.

Ipomoea chryseides Ker in Bot. Reg. t. 270; F.-Vill. Novis. App. (1880) 142; Vidal Phan. Cuming. Philip. (1885) 129, Rev. Pl. Vasc. Filip. (1886) 196; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 206.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Abra, Union, Nueva Vizcaya, Pangasinan, Bataan, Rizal, Laguna), Mindoro, Mindanao (Lanao, Cotabato). Common in thickets at low altitudes. Tropical Africa and Asia through Malaya to tropical Australia.

Local names: Bangbañgau (Ilk.); kamokamotihan (Pang.); marakamóte (Ilk.); talanuk (Tag.).

MERREMIA HASTATA (Desr.) Hallier f. in Engl. Bot. Jahrb. 16 (1892) 552; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 120, Fl. Manila (1912) 388.

Convolvulus hastatus Desr. in Lam. Encycl. 3 (1791) 547.

Convolvulus filicaulis Vahl Symb. 3 (1794) 24.

Ipomoea filicaulis Blume Bijdr. (1826) 721; Miq. Fl. Ind. Bat. 2 (1857) 603; Vidal Phan. Cuming. Philip. (1885) 129.

Ipomoea angustifolia C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 205; F.-Vill. Novis. App. (1880) 142; Vidal Rev. Pl. Vasc. Filip. (1886) 196, non Jacq.

Throughout the Philippines in open grasslands at low altitudes, usually common. Tropical Africa and Asia through Malaya to tropical Australia.

Local names: Karadkad (Ig.); maragta (Tag.); sigid (P. Bis.); talanuk (Tag.); tatalon (Mbo.).

MERREMIA HEDERACEA (Burm. f.) Hallier f. in Engl. Bot. Jahrb. 18 (1894) 168; Merr. Fl. Manila (1912) 388.

Evolvulus hederaceus Burm. f. Fl. Ind. (1768) 77, t. 30, f. 2.

Merremia convolvulacea Dennst. Schl. Hort. Malabar. (1818) 39.

Ipomoea polyantha Miq. Fl. Ind. Bat. 2 (1857) 613; Usteri Beitr. Ken. Philip. Veg. (1905) 122.

Luzon (Union, Pampanga, Rizal, Laguna), Masbate, Mindanao (Zamboanga), Merrill 3398, 1440, Phil. Pl. 1988, Cuming 617, B. S. 24088 Ramos, 37451 Ramos & Edaño. In thickets and in open grasslands at low altitudes. India to Java.

MERREMIA HIRTA (Linn.) Merr. in Philip. Journ. Sci. 7 (1912) 244, Fl. Manila (1912) 388, Sp. Blancoanae (1918) 324.

Convolvulus hirtus Linn. Sp. Pl. (1753) 159; Hallier f. in Meded. Rijks Herb. 1 (1910) 21.

Convolvulus caespitosus Roxb. Hort. Beng. (1814) 14, *nomen nudum*, Fl. Ind. 2 (1824) 70.

Ipomoea linifolia Blume Bijdr. (1825) 721; Miq. Fl. Ind. Bat. 2 (1857) 604; Ceron Cat. Pl. Herb. Manila (1892) 123.

Skinnera caespitosa Choisy Conv. Or. (1834) 105, t. 6, DC. Prodr. 9 (1845) 435.

Ipomoea philippinensis Choisy in Mém. Soc. Phys. Hist. Nat. Genève 6 (1833) 475, DC. Prodr. 9 (1845) 367; Miq. Fl. Ind. Bat. 2 (1857) 611; F.-Vill. Novis. App. (1880) 141.

Ipomoea hepaticifolia Blanco Fl. Filip. ed. 2 (1845) 72, ed. 3, 1 (1877) 134.

Merremia caespitosa Hallier f. in Engl. Bot. Jahrb. 16 (1892) 552.

Luzon (Cagayan, Lepanto, Pangasinan, Tarlac, Bulacan, Rizal), Culion, Guimaras, Cebu, Mindanao (Lanao, Davao), *Merrill* 3615, 475, *Sp. Blancoanae* 679, *Phil. Pl.* 762, *F. B.* 16490 *Bacani*, *B. S.* 11041, 14578 *Ramos*, 17820 *Otanes*. In open grasslands at low altitudes. India, through Malaya to tropical Australia.

MERREMIA PELTATA (Linn.) Merr. Interpret. Herb. Amb. (1917) 441.

Convolvulus peltatus Linn. Sp. Pl. (1753) 1194.

Ipomoea nymphaeifolia Blume Bijdr. (1825) 719.

Chironia capsularis Blanco Fl. Filip. (1837) 102.

Chironia lanosanthera Blanco op. cit. ed. 2 (1845) 71, ed. 3, 1 (1877) 132, t. 261, f. 1.

Ipomoea peltata Choisy in Mém. Soc. Phys. Genève 6 (1833) 452; F.-Vill. Novis. App. (1880) 140; Vidal Sinopsis Atlas (1883) 34, t. 71, f. C; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 50.

Merremia nymphaeifolia Hallier f. in Verslag Buitenzorg (1895) 127; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 430, *Sp. Blancoanae* (1918) 325.

Babuyan Islands (Camiguin), Luzon (Laguna, Tayabas, Camarines, Sorsogon), Mindoro, Palawan, Balabac, Samar, Leyte, Panay, Camiguin de Misamis, Mindanao. Often common in secondary forests at low and medium altitudes. Southeastern Asia to tropical Australia and Polynesia.

The Philippine form has uniformly yellow flowers, typical *Merremia nymphaeifolia* Hallier f., but it cannot be distinguished from the Moluccan white-flowered form, typical *M. peltata* (Linn.) Merr. as represented by *Robinson Pl. Rumph. Amb.* 401 from Amboina.

Local names: Budakín (Bag.); bulakán (Tag., Bis.); bulak-bulakán (Bik.); burákan (S. L. Bis., Bik., Sul.); tampinita (Sub.).

MERREMIA UMBELLATA (Linn.) Hallier f. in Engl. Bot. Jahrb. 16 (1892) 552; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 120, Fl. Manila (1912) 389 (incl. var. *occidentalis* Hallier f. et *orientalis* Hallier f.).

Convolvulus umbellatus Linn. Sp. Pl. (1753) 155.

Ipomoea cymosa R. & S. Syst. 4 (1819) 241; Miq. Fl. Ind. Bat. 2 (1857) 613; F.-Vill. Novis. App. (1880) 141; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 211; Vidal Rev. Pl. Vasc. Filip. (1886) 197.

Throughout the Philippines in thickets at low and medium altitudes, usually common (var. *orientalis* Hallier f.). The var. *occidentalis* Hallier f. with yellow flowers is represented by *Merrill* 7403. Pantropic.

Local names: Bangbañgau (Ilk.); kalamitmit (Tagb.); kamokamotíhan (Pamp., Tag.); malakamóte (Pamp.); tukod-tukod (P. Bis.).

MERREMIA VITIFOLIA (Burm. f.) Hallier f. in Engl. Bot. Jahrb. 16 (1892) 552; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 122.

Convolvulus vitifolius Burm. f. Fl. Ind. (1768) 45, t. 18, f. 1.

Ipomoea vitifolia Sweet Hort. Brit. ed. 2 (1830) 372; Miq. Fl. Ind. Bat. 2 (1857) 607; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 213.

Ipomoea sepiaria F.-Vill. Novis. App. (1880) 141; Usteri Beitr. Ken. Philip. Veg. (1905) 122 (prob.), non Koenig.

Luzon (Laguna), Palawan, Balabac, Negros, Merrill 6300, 733, 9185, Phil. Pl. 206, Elmer 12880, Loher 6580, F. B. 26753 Mabesa, 25717 Foxworthy, B. S. 22467 Ramos. In open grasslands, deserted clearings, and thickets at low altitudes. Southeastern Asia and Malaya.

Local name: Kalalakmit (Sul.).

10. OPERCULINA S. Manso

OPERCULINA BUFALINA (Lour.) Hallier f. in Meded. Rijks Herb. 1 (1910) 26.

Convolvulus bufalinus Lour. Fl. Cochinch. (1790) 109.

Ipomoea bufalina Choisy in Mém. Soc. Phys. Hist. Nat. Genève 6 (1883) 452, DC. Prodr. 9 (1845) 360.

Ipomoea riedeliana Oliv. in Hook. Ic. III 15 (1883) t. 1424.

Merremia riedeliana Hallier f. in Engl. Bot. Jahrb. 18 (1894) 552.

Merremia bufalina Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 122.

Luzon (Ilocos Norte, Union, Bataan, Rizal), Merrill 5040, Phil. Pl. 2078, Elmer 5622, B. S. 22470, 27596 Ramos, 9658 Robinson, F. B. 6294 Curran. In thickets and secondary forests at low altitudes. Indo-China and Malaya.

Local name: Bulakán-dápat (Tag.).

OPERCULINA TUBEROSA (Linn.) Meissn. in Mart. Fl. Bras. 7: 212; Merr. Fl. Manila (1912) 385.

Ipomoea tuberosa Linn. Sp. Pl. (1753) 160; Choisy in DC. Monog. Phan. 9 (1845) 362 (excl. syn. Blanco).

Occasionally cultivated. Introduced from tropical America.

OPERCULINA TURPETHUM (Linn.) S. Manso Enum. Subst. Braz. (1836) 16; Merr. Fl. Manila (1912) 385, Interpret. Herb. Amb. (1917) 442, Sp. Blancoanae (1918) 325.

Convolvulus turpethum Linn. Sp. Pl. (1753) 155; Wight in Hook. Bot. Miscel. 3 (1833) t. 38.

Ipomoea turpethum R. Br. Prodr. (1810) 485; Miq. Fl. Ind. Bat. 2 (1857) 606; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 212; F.-Vill. Novis. App. (1880) 141; Vidal Phan. Cuming. Philip. (1885) 129, Rev. Pl. Vasc. Filip. (1886) 196.

Convolvulus maximus Blanco Fl. Filip. (1837) 91, ed. 2 (1845) 67, ed. 3, 1 (1877) 127, non Linn. f.

Ipomoea reptans Llanos Frag. Pl. Filip. (1851) 55; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 39, non Poir.

Ipomoea ventricosa Llanos op. cit. 56; F.-Vill. & Llanos op. cit. 40, non G. Don.

Batan Islands, Luzon (Ilocos Norte, Bontoc, Lepanto, Union, Rizal, Laguna, Batangas), Balabac, Culion, Palawan, Cebu, Ticao, Mindanao. Common in waste places, thickets, etc., at low and medium altitudes. Pantropic.

Local names: Bangbañgau (Ilk.); burákan (S. L. Bis.); kamokamotíhan (Tag.); laplapsut (Ilk.).

11. LEPISTEMON Blume

LEPISTEMON OBSCURUM (Blanco) comb. nov.

Polemonium obscurum Blanco Fl. Filip. (1837) 103, ed. 2 (1845) 75, ed. 3, 1 (1877) 139.

Lepistemon flavescens F.-Vill. Novis. App. (1880) 142, non Blume.

Lepistemon binectariferum Merr. Fl. Manila (1912) 383, Sp. Blancoanae (1918) 321, non O. Kuntze.

Lepistemon trichocarpum Gagnep. in Not. Syst. 3 (1915) 152.

Luzon (Bontoc, Benguet, Union, Nueva Vizcaya, Bulacan, Bataan, Rizal, Laguna), Mindanao (Lanao, Cotabato). In thickets at low and medium altitudes, often common. Celebes.

Local names: Baai (Bon.); bangbaṅgau-ṅg-buduan (Ilk.); pisu (Ig.).

12. IPOMOEA Linnaeus

IPOMOEA BATATAS (Linn.) Poir. in Lam. Encycl. 6 (1804) 14; F.-Vill. Novis. App. (1880) 140; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 119, 5 (1910) Bot. 379, Fl. Manila (1912) 392, Sp. Blancoanae (1918) 323.

Convolvulus batatas Linn. Sp. Pl. (1753) 154; Blanco Fl. Filip. (1837) 93, ed. 2 (1845) 68, 3, 1 (1877) 129.

Batatas edulis Choisy Conv. Or. (1834) 53, DC. Prodr. 9 (1845) 338.

Cultivated throughout the Philippines. Introduced by the Spaniards from Mexico in the early colonial period, now cultivated in all warm countries. The sweet potato.

Local names: Kamóte (all dialects, of Aztec origin); lapni (If.); panggi-bagun (Sul.); tigsí (Bis.); tugi (Bon.).

IPOMOEA CAIRICA (Linn.) Sweet Hort. Brit. (1827) 287; Merr. Fl. Manila (1912) 391.

Convolvulus cairicus Linn. Syst. ed. 10 (1759) 922.

Ipomoea palmata Forsk. Fl. Aeg.-Arab. (1775) 43; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 214; F.-Vill. Novis. App. (1880) 142; Usteri Beitr. Ken. Philip. Veg. (1905) 122.

Convolvulus paniculatus Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 32, non Blanco.

Widely distributed in cultivation, occurring also in waste places and thickets near dwellings. A native of tropical Asia and Africa, now widely cultivated in tropical countries.

Local name: Aurora (Sp.).

IPOMOEA DIGITATA Linn. Syst. ed. 10 (1759) 924; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 202; Vidal Phan. Cuming. Philip. (1885) 129, Rev. Pl. Vasc. Filip. (1886) 196; Merr. Fl. Manila (1912) 391.

Convolvulus paniculatus Linn. Sp. Pl. (1753) 156; Blanco Fl. Filip. (1837) 96, ed. 2 (1845) 70, ed. 3, 1 (1877) 131, t. 81, non *Ipomoea paniculata* Burm. f.

Ipomoea paniculata R. Br. Prodr. (1810) 486; F.-Vill. Novis. App. (1880) 142; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 119, Sp. Blancoanae (1918) 323, non Burm. f.

Batatas paniculatus Choisy Conv. Or. (1834) 54, t. 1, f. 2, DC. Prodr. 9 (1845) 339.

Ipomoea tuberosa Choisy in DC. Prodr. 9 (1845) 362, quoad syn. Blanco.

Luzon (Union, Bulacan, Bataan, Rizal), Culion, Coron, Mindanao, *Merrill* 3288, 7129, *Sp. Blancoanae* 392, *F. B.* 2020 *Borden*, 1371 *Ahern's collector*, *B. S.* 12149 *Ramos*, 21654 *Escritor*. In thickets along the seashore and along streams at low altitudes. Pantropic.

Local names: Bulakán (Tag.); kamkamóte (Ilk.).

IPOMOEA DIVERSIFOLIA R. Br. Prodr. (1810) 487; Benth. Fl. Austral. 4 (1869) 416; Merr. in Philip. Journ. Sci. 13 (1918) 57.

Luzon (Ilocos Norte), *B. S.* 27589, 32703 *Ramos*. In dry open places at low altitudes. Northeastern Australia.

IPOMOEA FRAGRANS Bojer ex Choisy in DC. Prodr. 9 (1845) 393.

Pharbitis fragrans Bojer Hort. Maurit. (1837) 227; Choisy in DC. Prodr. 9 (1845) 341.

Ipomoea baclei Choisy in Mém. Soc. Phys. Genève 8 (1838) 60.

Ipomoea lilacina Blume Bijdr. (1826) 716, non Schlecht.

Luzon (Laguna), Mindanao (Lanao, Cotabato), *B. S.* 22419 *Gates & Otanes*, *Clemens* 195, *Wester*. In thickets in and bordering fresh-water swamps. Tropical Africa to Malaya.

IPOMOEA GRACILIS R. Br. Prodr. (1910) 484; House in Ann. N. Y. Acad. Sci. 18 (1908) 284; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 429, Interpret. Herb. Amb. (1917) 445.

Convolvulus denticulatus Desr. in Lam. Encycl. 3 (1791) 540, non *Ipomoea denticulata* R. Br.

Ipomoea littoralis Blume Bijdr. (1825) 713; Miq. Fl. Ind. Bat. 2 (1857) 603.

Ipomoea denticulata Choisy in Mém. Soc. Phys. Hist. Nat. Genève 6 (1833) 447; F.-Vill. Novis. App. (1880) 142; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 50, non R. Br.

Throughout the Philippines on sandy beaches and in thickets along the seashore. Tropical Asia to the Seychelles, through Malaya to tropical Australia and Polynesia.

According to Druce, Bot. Exch. Club (1914) this is *Ipomoea medium* (Linn.) Druce [*Convolvulus medium* Linn. Sp. Pl. (1753) 156], but Linnaeus's description does not at all apply.

Local names: Bulakán (Tag.); ditadit (Iv.); koskusipa (Ilk.); malakamóte (Ibn.); panggi-panggi (Sul.).

IPOMOEA HEDERACEA (Linn.) Jacq. Ic. Pl. Rar. 1 (1781) t. 36, Collect, 1 (1786) 124; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 199; F.-Vill. Novis. App. (1880) 140.

Convolvulus hederaceus Linn. Sp. Pl. (1753) 154.

Convolvulus nil Linn. Sp. Pl. ed. 2 (1762) 219; Blanco Fl. Filip. (1837) 92, ed. 2 (1845) 68, ed. 3, 1 (1877) 128, t. 66.

Ipomoea nil Roth Catalect. 1 (1797) 36; Merr. Fl. Manila (1912) 390, *Sp. Blancoanae* (1918) 322.

Pharbitis hederacea Choisy in Mém. Soc. Phys. Hist. Nat. Genève 6 (1833) 440, DC. Prodr. 9 (1845) 344.

Luzon (Abra, Lepanto, Bontoc, Rizal). In thickets and waste places at low and medium altitudes. A native of tropical America, now pantropic.

Local names: Bulakán (Tag.); kamokamotíhan (Tag.).

IPOMOEA HISPIDA (Vahl) R. & S. Syst. 4 (1819) 238; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 122.

Convolvulus hispidus Vahl Symb. 3 (1794) 29.

Ipomoea eriocarpa R. Br. Prodr. (1810) 484; Choisy in DC. Prodr. 9 (1845) 369; Benth. Fl. Austral. 4 (1869) 426; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 204.

Luzon (Ilocos Norte, Bontoc, Benguet, Pangasinan), *B. S.* 27542, 4885 Ramos, Merrill 4270, Vanoverbergh 938. In open grasslands and on and about talus slopes and ledges, ascending to 1,200 m. Tropical Asia to tropical Australia.

IPOMOEA INDICA (Burm.) Merr. Interpret. Herb. Amb. (1917) 445.

Convolvulus indicus Burm. Index Univ. Herb. Amb. (1755) 6.

Ipomoea congesta R. Br. Prodr. (1810) 485; Choisy in DC. Prodr. 9 (1845) 369; Benth. Fl. Austral. 4 (1869) 417.

Babuyan Islands, Luzon (Cagayan, Ilocos Norte, Bontoc), Negros, Palmas, Jolo, Merrill 5352, *B. S.* 10654 McGregor, 27264 Ramos, *F. B.* 16669, 16670 Bacani, 16622 Curran. In thickets at low and medium altitudes. Formosa to the Moluccas tropical Australia and Polynesia.

Local name: Bulakan pulá (Sul.).

IPOMOEA INVOLUCRATA Beauv. Fl. Oware Benin 2 (1807) 52, *t.* 89; Merr. & Rolfe in Philip. Sci. 3 (1908) Bot. 122.

Ipomoea pileata Roxb. Fl. Ind. 2 (1824) 94, ed. 2, 1 (1832) 504; Choisy in DC. Prodr. 9 (1845) 365; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 203.

Culion, Merrill 542. In dry open places at low altitudes. Tropical Africa and Asia.

IPOMOEA OBSCURA (Linn.) Ker in Bot. Reg. *t.* 239; Choisy in DC. Prodr. 9 (1845) 370; Miq. Fl. Ind. Bat. 2 (1856) 611; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 207; F.-Vill. Novis. App. (1880) 141; Vidal Phan. Cuming. Philip. (1885) 129, Rev. Pl. Vasc. Filip. (1886) 196; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 119, Fl. Manila (1912) 391.

Convolvulus obscurus Linn. Sp. Pl. ed. 2 (1762) 220.

Throughout the Philippines in open grasslands and borders of thickets at low and medium altitudes, often common. Tropical Asia, Africa, and Malaya.

Local names: Bangbañgau (Ilk.); kuskusipa (Ilk.); panggi-panggi (Sul.).

IPOMOEA PES-CAPRAE (Linn.) Roth Nov. Pl. Sp. (1821) 109; Choisy in DC. Prodr. 9 (1845) 349; Miq. Fl. Ind. Bat. 2 (1856) 602; F.-Vill. Novis. App. (1880) 140; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 120, 3 (1908) Bot. 429, Fl. Manila (1912) 391, Sp. Blancoanae (1918) 323.

Convolvulus pes-caprae Linn. Sp. Pl. (1753) 159; Blanco Fl. Filip. (1837) 88, ed. 2 (1845) 65, ed. 3, 1 (1877) 123, t. 29.

Ipomoea biloba Forsk. Fl. Aeg.-Arab. (1775) 44; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 212; Ceron Cat. Pl. Herb. Manila (1892) 123.

Ipomoea carnosae F.-Vill. Novis. App. (1880) 140, non R. Br.

On all sandy seashores throughout the Philippines and also on the margins of some lakes. A pantropic strand plant.

Local names: Arodaí (Tag., Bik.); bagasúa' (Tag., Bis.); balim-balim (Tag.); daloidói (Bik.); daripai (Tag., Bik., Bis.); kabai-kabái (Tag.); kamkamóte (Ilk.); kamokamotíhan (Tag.); kamigang (Tag., Bis.); katang-katang (Tag., Bik.); lagairái (Tag., Bik.); lagilai (Bag.); lambaiong (Sul., Ilk.); palang-palang (P. Bis.); polang-polang (P. Bis.); tagarai (Tag.); vadinó (Iv.).

IPOMOEA PES-TIGRIDIS Linn. Sp. Pl. (1753) 162; Blanco Fl. Filip. (1837) 87, ed. 2 (1845) 71, ed. 3, 1 (1877) 133; Miq. Fl. Ind. Bat. 2 (1857) 609; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 204; F.-Vill. Novis. App. (1880) 141; Vidal Phan. Cuming. Philip. (1885) 129, Rev. Pl. Vasc. Filip. (1886) 196; Merr. Fl. Manila (1912) 390, Sp. Blancoanae (1918) 323.

Convolvulus pes-tigridis Spreng. Syst. 1 (1825) 592; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 368.

Ipomoea hepaticifolia Linn. Sp. Pl. (1753) 161; F.-Vill. Novis. App. (1880) 141.

In all or most parts of the Philippines in open grasslands and waste places at low and medium altitudes. Tropical Africa and Asia through Malaya to Polynesia.

Local names: Bangbañgau-ñg-buduan (Ilk.); malasandía (P. Bis.); lasandía (P. Bis.).

IPOMOEA POLYMORPHA R. & S. Syst. 4 (1819) 254; Merr. in Philip. Journ. Sci. 14 (1919) 450.

Ipomoea heterophylla R. Br. Prodr. (1810) 487, non Ortega, 1800.

Convolvulus brownii Spreng. Syst. 1 (1825) 612.

Convolvulus robertianus Spreng. op. cit. 5 (1828) 192.

Luzon (Ilocos Norte, Union), *B. S.* 32945 Ramos, *Lete* 108, 175. In dry open places at low altitudes. Formosa, tropical Australia.

IPOMOEA PURPUREA (Linn.) Roth Bot. Abhandl. (1787) 27; F.-Vill. Novis. App. (1880) 140; Merr. Fl. Manila (1912) 390.

Convolvulus purpureus Linn. Sp. Pl. ed. 2 (1762) 219.

Occasionally cultivated in Manila and other towns for ornamental purposes, but showing no tendency to become naturalized. A native of tropical America. Morning glory.

IPOMOEA QUINATA R. Br. Prodr. (1810) 486; Choisy in DC. Prodr. 9 (1845) 385; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 214; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 122.

Luzon (Benguet), *Loher* 4143, 4144. In grasslands or thickets. India, Burma, Indo-China, southern China, tropical Australia.

IPOMOEA REPTANS (Linn.) Poir. in Lam. Encycl. Suppl. 3 (1814) 460; Miq. Fl. Ind. Bat. 2 (1857) 601; F.-Vill. Novis. App. (1880) 140; Vidal Phan. Cuming. Philip. (1885) 129; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 244, Fl. Manila (1912) 392, Sp. Blancoanae (1918) 324.

Convolvulus reptans Linn. Sp. Pl. (1753) 158.

Ipomoea aquatica Forsk. Fl. Aeg.-Arab. (1775) 44, C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 210; Vidal Phan. Cuming. Philip. (1885) 196.

Convolvulus repens Vahl Symb. 1 (1790) 17; Blanco Fl. Filip. (1837) 92, ed. 2 (1845) 68, ed. 3, 1 (1877) 128, *t.* 149, non Linn.

Throughout the Philippines in stagnant streams, fresh-water swamps, and pools; widely used as food, perhaps introduced. Throughout the Tropics of the Old World; in southern China extensively cultivated.

Local names: Balánṡög (Ilk.); galatgat (Ilk.); kangkóng (Bik., Tag., Pamp.); kangkung (Sul.); tangkóng (Ilk., Kuy., Bis.); tankúng (Sul.).

IPOMOEA STOLONIFERA (Cyr.) Poir. in Lam. Encycl. 6 (1804) 20; House in Ann. N. Y. Acad. Sci. 18 (1908) 213; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 429.

Convolvulus stolonifera Cyr. Pl. Rar. 1 (1788) 14.

Convolvulus littoralis Linn. Syst. ed. 10 (1759) 924, non *Ipomoea littoralis* Blume.

Convolvulus acetosaefolius Vahl Ecl. 1 (1796) 18.

Ipomoea acetosaefolia R. & S. Syst. 4 (1819) 246.

Ipomoea carnosa R. Br. Prodr. (1810) 485.

Babuyan Islands (Camiguin), Luzon (Cagayan), *B. S.* 4091 *Fénix*, 7434 *Ramos*, *F. B.* 17142 *Curran*. On sandy seashores. Tropical and subtropical seashores of both hemispheres.

IPOMOEA TRILOBA Linn. Sp. Pl. (1753) 161; Choisy in DC. Prodr. 9 (1845) 383; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 435, Fl. Manila (1912) 391, Sp. Blancoanae (1918) 322.

Convolvulus dentatus Blanco Fl. Filip. (1837) 89, ed. 2 (1845) 66, ed. 3, 1 (1877) 123, *t.* 31, non Vahl.

Ipomoea blancoi Choisy in DC. Prodr. 9 (1845) 389; Miq. Fl. Ind. Bat. 2 (1857) 619; F.-Vill. Novis. App. (1880) 142; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 26, 27 (1905) 63, Philip. Journ. Sci. 1 (1906) Suppl. 119.

Ipomoea mariannensis Choisy in Mém. Soc. Phys. Hist. Nat. Genève 6 (1833) 468; F.-Vill. Novis. App. (1880) 142.

Ipomoea commutata Naves in Blanco Fl. Filip. ed. 3 (1877-83) *t.* 31, non R. & S.

Throughout the Philippines, common in waste places, borders of thickets, etc., in and about towns at low and medium altitudes. A native of tropical America, now a pantropic weed.

Local names: Aurora (Sp., Tag.); bangbaṡgau (Ilk.); halobagbug (Tag.); kamkamóte (Ilk.); koskusipa (Ilk.); kupit-kupit (Ilk.); muti-muti (C. Bis.); sagikat (Bag.).

EXCLUDED SPECIES

IPOMOEA COMMUTATA R. & S.; F.-Vill. Novis. App. (1880) 142.

IPOMOEA GRANDIFLORA Lam.; F.-Vill. op. cit. 141.

IPOMOEA RUGOSA Choisy; F.-Vill. op. cit. 140.

IPOMOEA SAGITTAEFOLIA Burm. f.; F.-Vill. l. c.

IPOMOEA TRIDENTATA Roth; F.-Vill. op. cit. 141.

13. *CALONYCTION* Choisy

CALONYCTION ACULEATUM (Linn.) House in Bull. Torr. Bot. Club 31 (1904) 590; Merr. Fl. Manila (1912) 384, Sp. Blancoane (1918) 321.

Convolvulus aculeatus Linn. Sp. Pl. (1753) 155.

Ipomoea bona-nox Linn. Sp. Pl. ed. 2 (1762) 288, p. p.; F.-Vill. Novis. App. (1880) 139; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 26.

Calonyction speciosum Choisy in Mém. Soc. Phys. Hist. Nat. Genève 6 (1833) 441, DC. Prodr. 9 (1845) 345; Miq. Fl. Ind. Bat. 2 (1855) 596.

Calonyction bona-nox Boj. Hort. Maurit. (1837) 228.

Convolvulus muricatus Blanco Fl. Filip. (1837) 92, ed. 2 (1845) 68, ed. 3, 1 (1877) 127, t. 332, non Linn.

Luzon (most or all provinces), Masbate, Samar, Leyte. In thickets and secondary forests at low and medium altitudes, often abundant. Pantropic; probably a native of tropical America.

Local names: Kakaiuit (Gad.); kalakamôte (Tag., Bis.); kamokamotihan (Tag., Bis.); malakamôte (Tag., Bis.); pekpeket (Bon.).

CALONYCTION ALBUM (Linn.) House in Bull. Torr. Bot. Club. 31 (1904) 591; Merr. Fl. Manila (1912) 384, Sp. Blancoanae (1918) 321.

Ipomoea alba Linn. Sp. Pl. (1753) 161.

Convolvulus grandiflorus Linn. f. Suppl. (1781) 136.

Ipomoea longiflora R. Br. Prodr. (1810) 484; F.-Vill. Novis. App. (1880) 141.

Calonyction grandiflorum Choisy in Mém. Soc. Phys. Hist. Nat. Genève 6 (1833) 442, DC. Prodr. 9 (1845) 346.

Convolvulus catharticus Blanco Fl. Filip. (1837) 94.

Convolvulus longiflorus Spreng. Syst. 1 (1825) 595; Blanco Fl. Filip. ed. 2 (1845) 69, ed. 3, 1 (1877) 130.

Luzon (Union, Rizal, Laguna, Batangas), Mindanao (Palmas Island), Jolo, Merrill 5330bis, 7384, Sp. Blancoanae 1051, Lete 132. In thickets often near the sea. Pantropic.

Local name: Lambatung (Sul.).

CALONYCTION CAMPANULATUM Hallier f. in Bull. Herb. Boiss. 5 (1897) 1050, t. 18, f. 2.

Luzon (Union), Lete 253. Introduced and probably planted only. Mexico and Central America.

Local name: Suma-ñg-nagisit (Ilk.).

CALONYCTION MURICATUM (Linn.) G. Don Gen. Syst. 4 (1838) 264; Hallier f. in Bull. Herb. Boiss. 5 (1897) 1044; Merr. Sp. Blancoanae (1918) 321.

Convolvulus muricatus Linn. Mant. 1 (1767) 44.

Ipomoea muricata Jacq. Hort. Schoenbr. 3 (1798) 40, t. 323; F.-Vill. Novis. App. (1880) 141.

Convolvulus colubrinus Blanco Fl. Filip. ed. 2 (1845) 66, ed. 3, 1 (1877) 125, t. 315.

Luzon (Pampanga), Guerrero. Cultivated only, introduced from tropical Asia.

Local names: Tonkín (Tag.); tunkín (Tag.).

14. QUAMOCLIT Moench

QUAMOCLIT PENNATA (Desr.) Bojer Hort. Maurit. (1837) 224; Voigt Hort. Suburb. Calcut. (1845) 353; Merr. Fl. Manila (1912) 383, Sp. Blancoanae (1918) 322.

Ipomoea quamoclit Linn. Sp. Pl. (1753) 159; Blanco Fl. Filip. (1837) 97, ed. 2 (1845) 72, ed. 3, 1 (1877) 134, t. 33; F.-Vill. Novis. App. (1880) 140; Vidal Phan. Cuming. Philip. (1885) 129, Rev. Pl. Vasc. Filip. (1886) 196.

Convolvulus pennatus Desr. in Lam. Encycl. 3 (1791) 567.

Quamoclit vulgaris Choisy in Mém. Soc. Phys. Hist. Nat. Genève 6 (1833) 434; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 369; Miq. Fl. Ind. Bat. 2 (1857) 594; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 26.

Luzon (Ilocos Norte, Bontoc, Nueva Vizcaya, Union, Pampanga, Bulacan, Rizal, Bataan, Laguna, Camarines, Albay, Sorsogon), Panay, Negros, Cebu, Mindanao. In thickets at low and medium altitudes, thoroughly naturalized. A native of tropical America now pantropic.

Local names: Agau (Tag.); cabello de angel (Sp.); lumpitan (Mag.); malabokbok (Tag.); malmarama (C. Bis.); piros-piros (C. Bis.); sailatan (Sul.); silauak-an-kambing (Sul.); tartaraok (Ilk.); tentenedór (Ilk.).

QUAMOCLIT PHOENICEA (Roxb.) Choisy Conv. Or. (1834) 51; Merr. Fl. Manila (1912) 383.

Ipomoea phoenicea Roxb. Fl. Ind. 2 (1824) 92; F.-Vill. Novis. App. (1880) 140.

Ipomoea coccinea F.-Vill. Novis. App. (1880) 140, non Linn.

Quamoclit coccinea Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 17, non Moench.

Luzon (Rizal), Merrill 3988, Phil. Pl. 89, 1953, B. S. 19178. In thickets at low altitudes, thoroughly naturalized. A native of tropical America, now pantropic.

15. RIVEA Choisy

RIVEA APOENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2604.

Mindanao (Davao), Elmer 11231. In forests, altitude about 450 m; doubtfully distinct from *R. luzonensis* Hallier f. Endemic.

Local name: Dalumosip (Bag.).

RIVEA BARNESII Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 40, Philip. Journ. Sci. 1 (1906) Suppl. 119.

Rivea cinerea Elm. Leaf. Philip. Bot. 1 (1908) 335.

Rivea urdanetensis Elm. op. cit. 7 (1915) 2605.

Luzon (Benguet, Pangasinan, Rizal, Bataan, Camarines), Mindoro, Samar, Leyte, Mindanao (Bukidnon, Agusan), *F. B.* 68 *Barnes*, *B. S.* 29917 *Fénix*, 1062, 24293, 22202, 39593 *Ramos*, 29317, 39036 *Ramos & Edaño*, *Wenzel* 472, 855, *Elmer* 8882, 13361, *Merrill* 1657, *Phil. Pl.* 467, *Loher* 5577. In forests at low and medium altitudes. Endemic.

Local names: Guahal (Ig.); kaulilan (Mbo.).

RIVEA CORYMBOSA (Linn.) Hallier f. in Engl. Bot. Jahrb. 18 (1894) 157; Merr. Fl. Manila (1912) 387.

Convolvulus corymbosus Linn. Syst. ed. 10 (1759) 923.

Ipomoea burmanni Choisy in DC. Prodr. 9 (1845) 350.

Ipomoea sidaefolia Choisy Conv. Or. (1834) 77, DC. Prodr. 9 (1845) 372.

Luzon (Bulacan, Rizal, Laguna), *Merrill Phil. Pl.* 443, *Loher* 4157, 6575, *B. S.* 24103, 22413 *Ramos*. Introduced from tropical America, in some places now spontaneous in thickets and secondary forests:

RIVEA LUZONENSIS Hallier f. in Bull. Herb. Boiss. 6 (1898) 714, *t.* 19; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 119.

Rivea glabrata Elm. Leaf. Philip. Bot. 1 (1908) 334.

Luzon (Cagayan, Bontoc, Ifugao, Benguet, Nueva Vizcaya, Pangasinan, Nueva Ecija, Rizal, Bataan, Laguna, Sorsogon), Catanduanes, Mindanao (Lanao). Common in thickets and forests, especially along mountain streams at low and medium altitudes, ascending to 1,500 m. Endemic.

Local names: Busilád (Tag.); denodokto (Ig.); sabaltukon (Tag.); tauid-tauid (Neg.).

16. ARGYREIA Loureiro

ARGYREIA NITIDA (Desr.) Choisy in Mém. Soc. Phys. Hist. Nat. Genève 6 (1833) 424, Conv. Or. (1833) 41, DC. Prodr. 9 (1845) 331; Miq. Fl. Ind. Bat. 2 (1857) 588; F.-Vill. Novis. App. (1880) 139; Naves in Blanco Fl. Filip. ed. 3 (1877-83) *t.* 412.

Convolvulus nitidus Desr. in Lam. Encycl. 3 (1791) 544.

Argyreia mollis Merr. Fl. Manila (1912) 386, non Choisy.

Luzon (Ilocos Norte, Nueva Ecija, Tarlac, Pampanga, Rizal, Laguna), Culion, *Merrill* 601, 1299, 3643, 7352, *Phil. Pl.* 36, *F. B.* 8420, 19308 *Curran*, 13537 *Merritt & Darling*, 27089 *Mabesa*, *B. S.* 22002 *Ramos*, 11920 *Robinson & Ramos*. In thickets and secondary forests at low and medium altitudes. Endemic.

Local names: Baging-kastila (Tag.); bulakán (P. Bis.); bulalakan (P. Bis.).

ARGYREIA NERVOSA (Burm. f.) Boj. Hort. Maurit. (1837) 244; Merr. Fl. Manila (1912) 386.

Convolvulus nervosus Burm. f. Fl. Ind. (1768) 48, *t.* 20, *f.* 1.

Convolvulus speciosus Linn. f. Suppl. (1781) 137.

Argyreia speciosa Sweet Hort. Brit. (1827) 289; Choisy in DC. Prodr. 9 (1845) 328; F.-Vill. Novis. App. (1880) 139; Vidal Sinopsis Atlas (1883) 34, t. 71, f. B, Rev. Pl. Vasc. Filip. (1886) 196.

Planted here and there but not as yet naturalized. Introduced from tropical Asia. Pantropic, cultivated, and naturalized.

Local name: Hoja seda (Sp.).

ARGYREIA PURPURICARPA Elm. Leaf. Philip. Bot. 5 (1913) 1766.

Palawan, *Elmer 12777*. In forests along streams, altitude about 225 m. Endemic.

EXCLUDED SPECIES

ARGYREIA MALABARICA Choisy; F.-Vill. Novis. App. (1880) 139.

ARGYREIA NELLYGHERYA Choisy; F.-Vill. l. c.

ARGYREIA POPULIFOLIA Choisy; F.-Vill. l. c.

17. STICTOCARDIA Hallier f.

STICTOCARDIA CAMPANULATA (Linn.) House in Muhlenbergia 5 (1909) 72; Merr. in Philip. Journ. Sci. 9 (1914) 133.

Ipomoea campanulata Linn. Sp. Pl. (1753) 160; F.-Vill. Novis. App. (1880) 141, quoad syn. Rheede.

Rivea tiliaefolia Choisy Conv. Or. (1834) 25, DC. Prodr. 9 (1845) 325.

Argyreia tiliaefolia Wight Ic. 4² (1850) 12, t. 1358; Miq. Fl. Ind. Bat. 2 (1857) 587; F.-Vill. Novis. App. (1880) 139; Vidal Phan. Cuming. Philip. (1885) 129, Rev. Pl. Vasc. Filip. (1886) 195.

Convolvulus tiliaefolius Desr. in Lam. Encycl. 3 (1791) 544.

Stictocardia tiliaefolia Hallier f. in Engl. Bot. Jahrb. 18 (1894) 159; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 429, Fl. Manila (1912) 385.

Batan Islands, Luzon (Cagayan, Ilocos Norte, Benguet, Union, Pangasinan, Bulacan, Rizal, Bataan, Tayabas, Laguna, Albay), Alabat, Negros, Ticao, Mindanao. In thickets and secondary forests at low altitudes, often along the seashore and tidal streams. India to Malaya, introduced in other tropical countries.

The specimen in the Linnean herbarium and the last part of the Linnean description is *Hibiscus tiliaceus* Linn.; I interpret *Adamboe* Rheede Hort. Malabar. 11: 115, t. 56, as the type.

Local names: Bulákan (Tag., Sul.); burákan-maputí (S. L. Bis.); kal-kalauag (Ilk.); tibulbúl (Bik.).

EXCLUDED GENUS

CUSCUTA REFLEXA Roxb.; F.-Vill. Novis. App. (1880) 143.

HYDROPHYLLACEAE

1. HYDROLEA Linnaeus

HYDROLEA ZEYLANICA (Linn.) Vahl Symb. 2 (1791) 46; Choisy in Mém. Soc. Phys. Hist. Nat. Genève 6 (1833) 107, DC. Prodr. 10 (1846) 180; Blanco Fl. Filip. ed. 2 (1845) 148, ed. 3, 1 (1877) 266; Miq. Fl. Ind. Bat. 2 (1857) 633; F.-Vill. Novis. App. (1880) 137; Vidal Phan. Cuming. Philip. (1885) 128, Rev. Pl. Vasc. Philip.

(1886) 192; Merr. Fl. Manila (1912) 392, Sp. Blancoanae (1918) 326; Brand in Engl. Pflanzenreich 59 (1913) 174.

Nama zeylanica Linn. Sp. Pl. (1753) 226.

Hydrolea arayatensis Blanco Fl. Filip. (1837) 211.

Nama jamaicensis Blanco op. cit. (1837) 211, ed. 2 (1845) 148, ed. 3, 1 (1877) 266, non Linn.

Northern Luzon to Mindanao, probably in most islands and provinces. In open wet places, often a common rice-paddy weed. India to China through Malaya to tropical Australia.

BORAGINACEAE

1. *CORDIA* Linnaeus

CORDIA CUMINGIANA Vidal Rev. Pl. Vasc. Filip. (1885) 187, Rev. Pl. Vasc. Filip. (1886) 192; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 60; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 689.

Cordia propinqua Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 60.

Luzon (Cagayan, Benguet, Union, Pangasinan, Rizal), Mindoro, Leyte, Panay, Mindanao (Surigao, Zamboanga, Bukidnon, Davao), *Cuming* 1012, *Merrill* 1181, 1321, 5069, *Phil. Pl.* 489, *Loher* 6576, *Copeland*, *Elmer* 5663, 7101, *B. S.* 13822 *Ramos*, 31009, 38470 *Ramos & Edaño*, 34563 *Ramos & Pascasio*. In thickets and secondary forests at low and medium altitudes. Endemic.

Local names: Anónang-lalàke (Tag.); gagayok (Buk.); maratarong (Ilk.).

CORDIA DICHOTOMA Forst. f. Prodr. (1786) 18; Blanco Fl. Filip. ed. 2 (1845) 123, ed. 3, 1 (1877) 159.

Cordia obliqua Willd. Phytogr. (1794) 4, t. 4, Sp. Pl. 1 (1797) 1072; Hutchinson in Kew Bull. (1918) 221, cum syn.

Cordia myxa C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 136; F.-Vill. Novis. App. (1880) 137; Vidal Sinopsis Atlas (1883) 34, t. 70, f. D; Merr. Fl. Manila (1912) 137, Interpret. Herb. Amb. (1917) 447, Sp. Blancoanae (1918) 327, non Linn.

Cordia sebestena Blanco Fl. Filip. (1837) 121, ed. 2 (1845) 87, ed. 3, 1 (1877) 158, t. 43, non Linn.

Cordia blancoi Vidal Rev. Pl. Vasc. Filip. (1886) 192; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 61, Philip. Journ. Sci. 1 (1906) Suppl. 120; C. B. Rob. op. cit. 4 (1909) Bot. 688.

Cordia leschenaultii DC. Prodr. 9 (1845) 482, quoad *Cuming* 1612, in nota; Vidal Phan. Cuming. Philip. (1885) 128, Rev. Pl. Vasc. Filip. (1886) 193.

Cordia blancoi Vidal var. *mollis* Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 61.

Throughout the Philippines in most or all islands and provinces. Usually common in secondary forests, thickets, etc., at low and medium altitudes. India to southern China and Formosa through Malaya to tropical Australia and Polynesia.

Local names: Anónang (Ibn., Ilk., Tag., Bik., Bis.); anónang-bakir (Ilk.); anóng (Tag.); anóno (Tag.); anónung (Tag.); anúnong (If.); bibilí (Bis.); guma (Sul.); núnang (Sul.); saloyong (Tag.); sinaligan (Ilk.).

CORDIA SUBCORDATA Lam. Tabl. Encycl. 1 (1791-97) 421; DC. Prodr. 9 (1845) 477; Miq. Fl. Ind. Bat. 2 (1858) 915; F.-Vill. Novis. App. (1880) 137; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 140; Vidal Sinopsis Atlas (1883) 34, *t.* 70, *f.* E, Phan. Cuming. Philip. (1885) 128, Rev. Pl. Vasc. Filip. (1886) 192; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 62, Interpret. Herb. Amb. (1917) 447, Sp. Blancoanae (1918) 327; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 689.

Cordia banalo Blanco Fl. Filip. (1837) 124.

Cordia ignota Blanco op. cit. ed. 2 (1845) 88, ed. 3, 1 (1877) 60.

Luzon (Union, Batangas, Tayabas, Camarines), Mindoro, Palawan, Polillo, Burias, Mindanao, Basilan, Jolo, Tawitawi. In thickets and forests along the seashore, often common. Eastern Africa and tropical Asia through Malaya to tropical Australia and Polynesia.

Local names: Agotot (P. Bis.); agutud (Sul.); agutug (C. Bis.); agutut (P. Bis.); anobrang (Ilk.); balu (Sul.); balug (Yak.); balungkau (Tagb.); banágo (Sul.); banálo (Tag.); baut (Ism.); bibili (Bis.); kamanak-manak (Mag.); kalapatis (Bag.); sigang-dágat (Bik.); siñgang-dágat (Bik.).

2. EHRETIA Linnaeus

EHRETIA ACUMINATA R. Br. Prodr. (1810) 497; DC. Prodr. 9 (1845) 503; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 141; Vidal Rev. Pl. Vasc. Filip. (1886) 193; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 690; Merr. Sp. Blancoanae (1918) 328.

Ehretia virgata Blanco Fl. Filip. (1837) 127, ed. 2 (1845) 90, ed. 3, 1 (1877) 165, non Sw.

Ehretia onava A. DC. Prodr. 9 (1845) 511; Miq. Fl. Ind. Bat. 2 (1858-59) 922; F.-Vill. Novis. App. (1880) 138.

Ehretia polyantha A. DC. Prodr. 9 (1845) 503; Miq. Fl. Ind. Bat. 2 (1858-59) 920; F.-Vill. Novis. App. (1880) 138.

Luzon (Cagayan, Zambales, Nueva Vizcaya, Nueva Ecija, Rizal, Laguna, Camarines, Albay, Sorsogon), Mindanao (Davao), *Merrill 1679, 1846, 1857, Sp. Blancoanae 179, Elmer 15395, 14456, 10726, F. B. 11298 Klemme, 8479, 5848, 6938 Curran, 458, 1131 Ahern's collector*. In primary and secondary forests at low altitudes. India to southern China southward to tropical Australia.

Local names: Anónang (C. Bis.); anónang-bakir (Ilk.); anónang-magamai (C. Bis.); balagla (Tag.); baliuit (Sbl.); balubañgag (Sul.); kalibinung (Sbl.); kanaua (Tag.); nanang (Bag.); ñgañgaita (Tag.); onába (Tag.); opa (Neg.); tabañgak (Bik.); tanaua (Tag.).

EHRETIA MICROPHYLLA Lam. Tabl. Encycl. 1 (1791-97) 425; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 120, 3 (1908) Bot. 430, Fl. Manila (1912) 394, Sp. Blancoanae (1918) 328; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 692.

Ehretia buxifolia Roxb. Pl. Coromandel 1 (1795) 42, *t.* 57; Miq. Fl. Ind. Bat. 2 (1858-59) 921; Vidal Sinopsis Atlas (1883) 34, *t.* 70, *f.* B, Phan. Cuming. Philip. (1885) 128, Rev. Pl. Vasc. Filip. (1886) 193; F.-Vill. Novis. App. (1880) 138.

Carmona heterophylla Cav. Ic. 5 (1799) 23, *t.* 238; Blanco Fl. Filip. (1837) 209, ed. 2 (1845) 147, ed. 3, 1 (1877) 265, *t.* 72.

Ehretia heterophylla Spreng. Syst. 1 (1825) 848; A. DC. Prodr. 9 (1845) 509.

Batan Islands and northern Luzon to Palawan and Mindanao. In most or all islands and provinces in thickets and secondary forests at low and medium altitudes, often common. India to southern China, Formosa, and Malaya.

Local names: Alaṅgit (Bis.); alaṅgitṅgit (Tag., Bis.); balingsúa (C. Bis.); buntatai (P. Bis.); buyo-búyo (Sul.); buyok-búyok (Sul.); cha (Tag.); chaang-bundok (Tag.); chaang-gúbat (Tag.); gari (Bag.); ichá (Ilk.); ichá-ṅga-atap (Ilk.); ichá-ti-bakir (Ilk.); itsá (Ilk.); kalamogá (Tag.); kalimómog (Tag.); kalimúmug (Mag.); mangit (Tag., Bis.); mara-mara (Bik., S. L. Bis.); maratia (Ibn.); mura-mara (P. Bis.); palupo (Iv.); putputai (Bik.); santing (Sul.).

EHRETIA NAVESII Vidal Rev. Pl. Vasc. Filip. (1886) 194; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 691; Merr. Fl. Manila (1912) 394, Sp. Blancoanae (1918) 328.

Menais mollis Blanco Fl. Filip. (1837) 139, ed. 2 (1845) 99, ed. 3, 1 (1877) 182.

Ehretia virgata Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 70, non Blanco.

Ehretia mollis Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 5, non Wall.

Northern Luzon to Mindanao. In most islands and provinces, occurring in thickets and secondary forests at low altitudes. Endemic.

Local names: Alimbúṅgug (C. Bis.); kalabónog (Ilk.); kalimómog (Tag.); malatadiang (Gad.); maragaúed (Ilk.); taglokot (Tag.); tali-búnog (Ig.); tsang-gúbat (Tag.).

EHRETIA PHILIPPINENSIS A. DC. Prodr. 9 (1845) 504; Miq. Fl. Ind. Bat. 2 (1858-59) 920; F.-Vill. Novis. App. (1880) 138; Vidal Sinopsis Atlas (1883) 34, t. 70, f. C, Phan. Cuming. Philip. (1885) 128, Rev. Pl. Vasc. Filip. (1886) 193; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 120, 3 (1908) Bot. 430, Sp. Blancoanae (1918) 327; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 691.

Ehretia beurreria Blanco Fl. Filip. (1837) 127, ed. 2 (1845) 91, ed. 3, 1 (1877) 166, non Linn.

Ehretia blancoi A. DC. Prodr. 9 (1845) 511; Miq. Fl. Ind. Bat. 2 (1858-59) 922; F.-Vill. Novis. App. (1880) 138.

Babuyan Islands and northern Luzon to Palawan and Mindanao. In thickets and forests at low and medium altitudes. Endemic.

Local names: Alibónṅog (Ism.); alibúnṅog (C. Bis.); anonáṅgin (Bik.); bayukon (Tag.); halimúmog (Tag.); kalamúnṅog (P. Bis.); kutup (Sul.); línṅúnṅug (Mbo.); ludúṅla (Bon.); salimómo (Tag.); talibóbong (Bik.).

3. COLDENIA Linnaeus

COLDENIA PROCUMBENS Linn. Sp. Pl. (1753) 125; DC. Prodr. 9 (1845) 558; Blanco Fl. Filip. (1837) 74, ed. 2 (1845) 56, ed. 3, 1 (1877) 105; Miq. Fl. Ind. Bat. 2 (1858-59) 933; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 144; F.-Vill. Novis. App. 138; Vidal Phan. Cuming. Philip. (1885) 128, Rev. Pl. Vasc. Filip. (1886)

194; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 693; Merr. Fl. Manila (1912) 396, Sp. Blancoanae (1918) 328.

Luzon (Cagayan, Union, Pangasinan, Zambales, Pampanga, Rizal), Mindoro. In dry open places, fallow rice paddies, etc., at low and medium altitudes; locally common. Pantropic.

Var. **ARISTATA** var. nov.

A typo differt ramis foliisque parce pilosis, coccis tenuiter aristatis.

Palawan, *Merrill 9565*. On lake margins on exposed beach at low altitudes.

Local names: Orégano-laláki (Tag.); papait-ti-nuang (Ilk.); tabtabókol (Ilk.); tapiasin (Tag.).

4. **ROTULA** Loureiro

ROTULA AQUATICA Lour. Fl. Cochinch. (1790) 121; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 693; Bunting in Journ. Bot. 47 (1909) 270. *Rhabdia lycioides* Mart. Nov. Gen. Sp. Pl. 2 (1826) 137, t. 195; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 145; F.-Vill. Novis. App. (1880) 138; Vidal Sinopsis Atlas (1883) 34, t. 70, f. F, Rev. Pl. Vasc. Filip. (1886) 194.

Luzon (Cagayan, Isabela, Ilocos Norte, Zambales, Bulacan, Rizal), Mindoro. Characteristically growing among rocks and trailing over gravel bars in stream beds at low altitudes. Pantropic.

Local names: Bongtal (Ilk.); buntut-buáya (Tag.); kulatai (Tag.); takad (Tag.).

5. **TOURNEFORTIA** Linnaeus

TOURNEFORTIA ARGENTEA Linn. f. Suppl. (1781) 133; Miq. Fl. Ind. Bat. 2 (1858-59) 926; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 145; F.-Vill. Novis. App. (1880) 138; Vidal Rev. Pl. Vasc. Filip. (1886) 195; Merr. Philip. Journ. Sci. 3 (1908) Bot. 430, Interpret. Herb. Amb. (1917) 448, Sp. Blancoanae (1918) 329, C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 693.

Tournefortia arborea Blanco Fl. Filip. (1837) 129, ed. 2 (1845) 91, ed. 3, 1 (1877) 167.

Batan Islands and northern Luzon to Palawan, Mindanao, and the Sulu Archipelago. A characteristic tree along sandy seashores. Tropical Asia to Mauritius, Malaya, tropical Australia, and Polynesia.

Local names: Bantal (Ibn.); bukabuk (C. Bis.); kalaguñgung (Bis.); patayud (Bis.); noog-noog (C. Bis.); salakapo (Ilk.); salsalakapo (Ilk.); vangta (Iv.).

TOURNEFORTIA HORSFIELDII Miq. Fl. Ind. Bat. 2 (1858-59) 927; F.-Vill. Novis. App. (1880) 138; Vidal Phan. Cuming. Philip. (1885) 128, Rev. Pl. Vasc. Filip. (1886) 195; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 694; Merr. op. cit. 5 (1910) Bot. 379.

Luzon (Cagayan, Ilocos Norte, Benguet, Union, Nueva Vizcaya, Pangasinan, Zambales, Pampanga, Cavite, Laguna, Batangas). In thickets at low and medium altitudes, in Benguet ascending to 1,800 m; not always clearly distinct from the next species. Malay Archipelago.

Local names: Anayok (Ig.); dupaan (Ig.); pañgas (Pamp.); salangkápau (If.); talakápo (Ilk.).

- TOURNEFORTIA SARMENTOSA** Lam. Tabl. Encycl. 1 (1797) 416; Miq. Fl. Ind. Bat. 2 (1858-59) 927; F.-Vill. Novis. App. (1880) 138; Vidal Sinopsis Atlas (1883) 34, *t. 70, f. A*, Phan. Cuming. Philip. (1885) 128, Rev. Pl. Vasc. Filip. (1886) 194; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 120, 3 (1908) Bot. 430, Fl. Manila (1912) 394, Sp. Blancoanae (1918) 329; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 694; Gagnep. in Not. Syst. 3 (1914) 33.
- Tournefortia urvilleana* Cham. in Linnaea 4 (1829) 166; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 370; A. DC. Prodr. 9 (1845) 515; F.-Vill. Novis. App. (1880) 138.
- Tournefortia hirsutissima* Blanco Fl. Filip. (1837) 128, ed. 2 (1845) 91, ed. 3, 1 (1877) 167, *t. 46*, non Linn.

Babuyan Islands and northern Luzon to Palawan and Mindanao, in most or all islands and provinces. In thickets and secondary forests at low and medium altitudes. Mauritius to Indo-China, Malaya, and tropical Australia.

Local names: Patayud (Bis.); salakápo (Ilk.); salsalakápu (Ilk.); tanara-daganaan (Bik.).

6. HELIOTROPIUM Tournefort

- HELIOTROPIUM BRACTEATUM** R. Br. Prodr. (1910) 493; DC. Prodr. 9 (1845) 547; Benth. Fl. Austral. 4 (1869) 397; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 123; C. B. Rob. op. cit. 4 (1909) Bot. 695.

Luzon (Ilocos Norte), Mindanao (Davao), *Weber 1469, Copeland 538, B. S. 32733 Ramos*. In open places at low altitudes. Java to tropical Australia.

- HELIOTROPIUM INDICUM** Linn. Sp. Pl. (1753) 130; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 152; F.-Vill. Novis. App. (1880) 139; Vidal Phan. Cuming. Philip. (1885) 129, Rev. Pl. Vasc. Filip. (1886) 195; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 120, 3 (1908) Bot. 430, Fl. Manila (1912) 395, Sp. Blancoanae (1918) 329; C. B. Rob. in Philip. Journ. Sci. 4 (1907) Bot. 695.

Heliotropium parviflorum Blanco Fl. Filip. (1837) 80, ed. 2 (1845) 59, ed. 3, 1 (1877) 113, *t. 184*.

Tiaridium indicum Lehm. Asperif. (1817) 14; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 371.

Heliophytum indicum A. DC. Prodr. 9 (1845) 556; Miq. Fl. Ind. Bat. 2 (1858-59) 925.

A common weed in the settled areas throughout the Philippines at low altitudes. Pantropic.

Local names: Buntót-león (Tag., Bik.); higad-higáran (Tag.); hinlala-yón (Tag.); ikog-íkog-sang-kutí (Bis.); ikoi-pusa (Sbl.); kabra-kabra (Bis.); kambra-kambra (Bis.); kuting-kutíngan (Tag.); makabra (P. Bis.); malakudkúran (Tag.); pengñga-pengñgá (Ilk.); punta-elefánte (P. Bis.); trompa elefánte (Sp.).

- HELIOTROPIUM OVALIFOLIUM** Forsk. var. **DEPRESSUM** (Cham.) Merr. in Philip. Journ. Sci. 9 (1914) Bot. 134, 10 (1915) Bot. 340.

Heliotropium gracile R. Br. var. *depressum* Cham. in Linnaea 4 (1829) 457.

Heliotropium coromandelinum Retz. var. *depressum* A. DC. Prodr. 9 (1845) 542.

Heliotropium coromandelinum F.-Vill. Novis. App. (1880) 138; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 28, non Retz.

Luzon (Laguna), *Gates 6651*. On the shores of Lake Bay. Tropical Africa, Asia, and Australia, the variety also in the Marianne Islands.

HELIOTROPIUM STRIGOSUM Willd. Sp. Pl. 1 (1797) 743; Rolfe in Journ. Bot. 23 (1885) 214; Vidal Phan. Cuming. Philip. (1885) 129, Rev. Pl. Vasc. Filip. (1886) 195; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 695.

Luzon (Zambales), *Merrill 328*. In dry open sandy places near the sea. This is the var. *brevifolium* (Wall.) C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 151. India to the Malay Peninsula and tropical Australia.

EXCLUDED SPECIES

HELIOTROPIUM CURASSAVICUM Linn.; F.-Vill. Novis. App. (1880) 138.

7. TRICHODESMA R. Brown

TRICHODESMA INDICUM (Linn.) R. Br. Prodr. (1810) 496; DC. Prodr. 10 (1846) 172; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 153; F.-Vill. Novis. App. (1880) 139; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 696; Merr. Fl. Manila (1912) 395, Sp. Blancoanae (1918) 329; Brand in Engl. Pflanzenreich 78 (1921) 38.

Borago indica Linn. Sp. Pl. (1753) 137; Blanco Fl. Filip. ed. 2 (1845) 60, ed. 3, 1 (1877) 114.

Luzon (Rizal, Laguna), *Merrill Sp. Blancoanae 63*, *B. S. 6093*. Robinson. A weed in cultivated ground, especially peanut plantations. Persia, India, Mauritius.

TRICHODESMA ZEYLANICUM (Burm. f.) R. Br. Prodr. (1810) 496; DC. Prodr. 10 (1846) 172; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 154; F.-Vill. Novis. App. (1880) 139; Vidal Phan. Cuming. Philip. (1885) 129, Rev. Pl. Vasc. Filip. (1886) 195; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 696; Merr. Fl. Manila (1912) 396, Sp. Blancoanae (1918) 328; Brand in Engl. Pflanzenreich 78 (1921) 40, f. 4, D, E.

Borago zeylanica Burm. f. Fl. Ind. (1768) 41; Linn. Mant. 2 (1771) 202.

Borago indica Blanco Fl. Filip. (1837) 81, non Linn.

Borago africana Blanco op. cit. ed. 2 (1845) 60, ed. 3, 1 (1877) 114, non Linn.

Luzon (Cagayan, Ilocos Norte, Pampanga, Rizal, Laguna, Tayabas), *Cuming 680*, *Merrill 1466*, *2623*, *Sp. Blancoanae 769*, *Phil. Pl. 985*, *B. S. 7950*, *7694*, *27574* Ramos. A weed in cultivated lands, waste places, etc., at low altitudes. Tropical Asia to Mauritius, Malaya, and tropical Australia.

Local names: Dilang-usá (Tag.); mabulo (Tag.); sigang-dágat (Tag.).

8. CYNOGLOSSUM Tournefort

CYNOGLOSSUM LANCEOLATUM Forsk. Fl. Aegypt. Arab. (1775) 41; Brand in Engl. Pflanzenreich 78 (1921) 137, f. 18.

Cynoglossum micranthum Desf. Tabl. (1804) 220; DC. Prodr. 10 (1846) 149; Miq. Fl. Ind. Bat. 2 (1858-59) 931; F.-Vill. Novis. App. (1880) 139; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 156; Vidal Phan. Cuming. Philip. (1885) 129, Rev. Pl. Vasc. Filip. (1886) 195; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 696.

Luzon (Cagayan, Lepanto, Bontoc, Benguet, Nueva Vizcaya), *Cuming 1341, Merrill 4833, B. S. 8265, 5474, 5543 Ramos, F. B. 15949 Bacani*. On open grassy slopes and in thin pine forests at medium altitudes, ascending to 2,000 m. Tropical Africa, Asia, and Malaya.

Local name: Poyot (Ig.).

CYNOGLOSSUM ZEYLANICUM (Vahl) Thunb. ex Lehm. in Neue Schrift. Naturf. Ges. Halle III 2 (1817) 20; Brand in Engl. Pflanzenreich 78 (1921) 134.

Anchusa zeylanica Vahl ex Hornem. Enum. Hafn. (1807) 20, Hort. Hafn. 1 (1813) 176, *nomen nudum*.

Echinospermum zeylanicum Lehm. Pl. Asperifol. (1818) 116.

Rochelia zeylanica R. & S. Syst. 4 (1819) 108, 780.

Cynoglossum furcatum Wall. in Roxb. Fl. Ind. 2 (1824) 6; DC. Prodr. 10 (1846) 149; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 155; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 123; Merr. op. cit. 5 (1910) Bot. 379; C. B. Rob. op. cit. 4 (1907) Bot. 696.

Luzon (Bontoc, Lepanto, Benguet, Nueva Vizcaya), Mindanao (Bukidnon, Davao), *B. S. 31963 Santos, 12901 Fénix, 5543 Ramos, 38131, 38732 Ramos & Edaño, Merrill 4299, Elmer 6381, 11481, Copeland 1134*. Chiefly on open grassy slopes, altitude 1,200 to 2,200 m. India and Ceylon to China and Japan.

Local names: Kalimbáko (Bag.); tabtabáko (Ilk.).

9. BOTHRIOSPERMUM Bunge

BOTHRIOSPERMUM TENELLUM (Hornem.) Fisch. & Mey. Ind. Sem. Hort. Petr. (1835) 24; DC. Prodr. 10 (1846) 116; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 167; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 228; C. B. Rob. op. cit. 4 (1909) Bot. 697.

Anchusia tenella Hornem. Hort. Hafn. 1 (1813) 176.

Luzon (Benguet), *Merrill Phil. Pl. 876, Elmer 5774, Williams 1359*. In waste places about rice paddies, along streams, etc., altitude 1,300 to 1,500 m. India to China and Japan, introduced in Mauritius.

10. TRIGONOTIS Steven

TRIGONOTIS APOENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2562.

Mindanao (Davao), *Elmer 11500*. On forested stream banks, altitude about 1,700 m. Endemic.

Local name: Salimbáṅgad (Bag.).

TRIGONOTIS PHILIPPINENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 228, 4 (1909) Bot. 697.

Luzon (Benguet, Ifugao), *Merrill 4700, Phil. Pl. 898, Loher 5053, B. S. 32005 Santos, 4442 Mearns, 40480 Ramos & Edaño*. On cliffs and also in the mossy forest, altitude 2,000 to 2,500 m. Endemic.

Allied to *T. formosana* Hayata.

EXCLUDED GENERA

BORAGO OFFICINALIS Linn.; F.-Vill. Novis. App. (1880) 139.

SCHLEIDENIA PARCIFLORA DC.; Llanos in Mem. Acad. Cienc. Madr. 4 (1859) 499; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 100.

VERBENACEAE

1. VERBENA Linnaeus

VERBENA OFFICINALIS Linn. Sp. Pl. (1753) 29; Schauer in DC. Prodr. 11 (1845) 547; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 565; F.-Vill. Novis. App. (1880) 158; Vidal Rev. Pl. Vasc. Filip. (1886) 207; H. Lam Verb. Malay. Archipel. (1919) 10.

Luzon (Cagayan, Isabela, Nueva Vizcaya), *Merrill 305, B. S. 7789, 7976 Ramos, 11344 McGregor*. A weed in waste places in and about towns at low and medium altitudes; introduced. Cosmopolitan in subtemperate and subtropical regions.

EXCLUDED SPECIES

VERBENA BONARIENSIS Linn.; F.-Vill. Novis. App. (1880) 157.

VERBENA CHAMAEDRIFOLIA Juss.; F.-Vill. l. c.

2. LANTANA Linnaeus

LANTANA CAMARA Linn. Sp. Pl. (1753) 627; Schauer in DC. Prodr. 11 (1847) 598; F.-Vill. Novis. App. (1880) 157; Vidal Sinopsis Atlas (1883) 35, t. 74, f. D; Merr. Fl. Manila (1912) 398, Sp. Blancoanae (1918) 330.

Lantana viburnoides Blanco Fl. Filip. ed. 2 (1845) 345, ed. 3, 2 (1878) 275, t. 216, non Vahl.

Lantana aculeata Linn. l. c.; Hallier f. in Meded. Rijks Herb. 37 (1918) 17; H. Lam Verb. Malay. Archipel. (1919) 12.

Throughout the Philippines in the settled areas at low and medium altitudes, occurring in thickets and waste places. A native of tropical America, now pantropic.

Local names: Bahúg-bahúg (P. Bis.); bohó-bohó (P. Bis.); coronítas (Sp.).

EXCLUDED SPECIES

LANTANA ALBA Mill.; F.-Vill. Novis. App. (1880) 157.

LANTANA MIXTA Linn.; F.-Vill. l. c.

LANTANA SANGUINEA Medic.; F.-Vill. l. c.

3. *LIPPIA* Linnaeus

LIPPIA NODIFLORA (Linn.) Rich. in Michx. Fl. Bor. Am. 2 (1803) 15; Schauer in DC. Prodr. 11 (1847) 585; Miq. Fl. Ind. Bat. 2 (1858) 905; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 563; F.-Vill. Novis. App. (1880) 157; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 430, Fl. Manila (1912) 398, Sp. Blancoanae (1918) 330; H. Lam Verb. Malay. Archipel. (1919) 16.

Verbena nodiflora Linn. Sp. Pl. (1753) 20.

Verbena capitata Forsk. Fl. Aeg.-Arab. (1775) 10; Blanco Fl. Filip. (1837) 19, ed. 2 (1845) 14, ed. 3, 1 (1877) 26.

Throughout the Philippines. A common weed in open waste places at low and medium altitudes. Pantropic.

Local names: Busbusi (Ilk.); lopu-lupú (P. Bis.); nakulad (Iv.); sirik puyo (Bis.).

EXCLUDED SPECIES

LIPPIA CITRIODORA Benth.; F.-Vill. Novis. App. (1880) 157.

4. *STACHYTARPHETA* Vahl

STACHYTARPHETA JAMAICENSIS (Linn.) Vahl Enum. 1 (1804) 206; Merr. Fl. Manila (1912) 399.

Verbena jamaicensis Linn. Sp. Pl. (1753) 19.

Verbena indica Linn. Syst. ed. 10 (1759) 851.

Stachytarpheta indica Vahl Enum. 1 (1804) 206; Schauer in DC. Prodr. 11 (1847) 564; Miq. Fl. Ind. Bat. 2 (1858) 907; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 564; F.-Vill. Novis. App. (1880) 157; Vidal Sinopsis Atlas (1883) t. 74, f. B; Merr. Fl. Manila (1912) 399.

Throughout the Philippines. A common weed in open waste places at low and medium altitudes in the settled areas. A native of tropical America, now pantropic.

Local names: Albáka (P. Bis.); bilu-bilu (Sul.); bolomoros (Bik.); kandikandiláan (Tag.); limbagat (C. Bis.).

5. *PETREA* Houstoun

PETREA VOLUBILIS Linn. Sp. Pl. (1753) 626; Jacq. Select. Am. (1763) 180, t. 114; Schauer in DC. Prodr. 11 (1847) 618; F.-Vill. Novis. App. (1880) 158; Merr. Fl. Manila (1912) 400; H. Lam Verb. Malay. Archipel. (1919) 26.

Occasionally cultivated in Manila and other large towns for ornamental purposes but nowhere spontaneous. A native of tropical America.

6. *DURANTA* Linnaeus

DURANTA REPENS Linn. Sp. Pl. (1753) 637; Merr. Fl. Manila (1912) 399.

Duranta plumieri Jacq. Select. Am. (1763) 186, t. 176; Schauer in DC. Prodr. 11 (1847) 615; F.-Vill. Novis. App. (1880) 158; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 35; H. Lam Verb. Malay. Archipel. (1919) 27.

Cultivated for ornamental purposes. A native of tropical America.

7. *CALLICARPA* Linnaeus

CALLICARPA ALBIDO-TOMENTELLA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 300.

Luzon (Abra), *B. S.* 26976 Ramos. In forests along small streams at low altitudes. Endemic.

CALLICARPA ANGUSTA Schauer in DC. Prodr. 11 (1847) 642; Miq. Fl. Ind. Bat. 2 (1858) 889; F.-Vill. Novis. App. (1880) 158; Vidal Phan. Cuming. Philip. (1885) 134, Rev. Pl. Vasc. (1886) 208; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 341; H. Lam Verb. Malay. Archipel. (1919) 66.

Luzon (Nueva Ecija, Bulacan, Zambales, Rizal), Mindoro, *Cuming* 1425, *B. S.* 26367, 34051 Ramos & Edaño, 1030, 39455, 39497 Ramos, *F. B.* 1888 Ahern's collector, 8788 Merritt, Hallier. In thickets and secondary forests at low altitudes. Endemic.

Local name: Dirik-dirik (Neg.).

CALLICARPA APOENSIS Elm. Leaf. Philip. Bot. 3 (1910) 861.

Callicarpa pentandra Roxb. var. *paloensis* Bakh., forma *apoensis* Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 14.

Mindanao (Davao), *Elmer* 11491. In forests, altitude about 1,700 m. Celebes, fide Bakhuizen.

Local name: Layaupan (Bag.).

CALLICARPA BASILANENSIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 262; H. Lam Verb. Malay. Archipel. (1919) 52.

Mindanao (Misamis, Zamboanga), Basilan, *F. B.* 3974, 6124 Hutchinson, 13795 Foxworthy, De Mesa, & Villamil, *B. S.* 11831, 11526, 11502 Robinson, 15450 Reillo, 36737 Ramos & Edaño, Hallier. Chiefly in secondary forests at low altitudes. Endemic.

Local name: Linagop (Sub.).

This is remote from *Callicarpa pentandra* Roxb. where Bakhuizen has erroneously placed it as a synonym, Bull. Jard. Bot. Buitenz. III 3 (1921) 11. *Callicarpa cumingiana* Schauer, also reduced by Bakhuizen, is remote from *C. basilanensis* Merr.

CALLICARPA CANA Linn. Mant. 2 (1771) 198; Schauer in DC. Prodr. 11 (1847) 643; Miq. Fl. Ind. Bat. 2 (1858) 885; F.-Vill. Novis. App. (1880) 158; Vidal Phan. Cuming. Philip. (1885) 134, Rev. Pl. Vasc. Filip. (1886) 208; Merr. Fl. Manila (1912) 401; H. Lam Verb. Malay. Archipel. (1919) 68.

Callicarpa bicolor Schauer in DC. Prodr. 11 (1847) 642 (quoad Philip.); Miq. Fl. Ind. Bat. 2 (1858) 889 (quoad Philip.); F.-Vill. Novis. App. (1880) 158; Vidal Sinopsis Atlas (1883) 35, t. 74, f. C; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 121, non ? Juss.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces. In thickets and secondary forests at low altitudes. Malay Peninsula and Archipelago to the Bismarck Archipelago, the Marianne, Caroline, and Palau Islands.

Local names: Alalui (C. Bis.); alayo-ti-manók (Pang.); anobrang (Ilk.); anuyup (Ibn., Ilk.); palis (Tag.); papalsis (Tag.); tambalási

(Tag.); tumbul-basi (Sul.); tígau (Bis., Bik., Tag.); tígau-na-itím (Tag.); túbang-dalág (Tag.).

CALLICARPA CAUDATA Maxim. in Bull. Acad. St. Pétersb. 31 (1887) 76; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 299, 5 (1910) Bot. 380; Elm. Leaf. Philip. Bot. 3 (1910) 862; H. Lam Verb. Malay. Archipel. (1919) 59, incl. var. *magna* H. Lam.

Luzon (Abra, Bontoc, Kalinga, Benguet, Nueva Vizcaya, Laguna, Tayabas, Mindanao (Misamis, Davao), *Cuming 1095, Merrill Phil. Pl. 1727, Elmer 5784, 5870, B. S. 27041 Ramos, 37481, 38035 Ramos & Edaño, 31659 Santos*. On steep open slopes, in thickets, and in stream depressions, altitude 1,200 to 2,200 m. Endemic.

Local names: Anayop (Ig., Bon.); anigup (Ig.); arayop (Bon.); harayhai (Neg.); kabititi (Bag.); mama (Ig.); suba (Ig.).

This is certainly distinct from *Callicarpa cuspidata* Roxb., where Bakhuizen has erroneously placed it as a synonym.

CALLICARPA CAULIFLORA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 338; H. Lam Verb. Malay. Archipel. (1919) 83.

Mindanao (Zamboanga), *F. B. 9321 Whitford & Hutchinson*. In forested ravines at low altitudes. Endemic.

This is remote from *Callicarpa pentandra* Roxb. forma *hexandra* Bakh., where Bakhuizen has erroneously placed it as a synonym, Bull. Jard. Bot. Buitenz. III 3 (1921) 13.

CALLICARPA CUMINGIANA Schauer in DC. Prodr. 11 (1847) 644; Miq. Fl. Ind. Bat. 2 (1858) 887; F.-Vill. Novis. App. (1880) 158. *Geunsia cumingiana* Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 315; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 207; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 343; H. Lam Verb. Malay. Archipel. (1919) 35.

Callicarpa affinis Elm. Leaf. Philip. Bot. 3 (1910) 864.

Geunsia farinosa F.-Vill. Novis. App. (1880) 158; Vidal Phan. Cuming. Philip. (1885) 134, Rev. Pl. Vasc. Filip. (1886) 207, non Blume.

Callicarpa pentandra Roxb. var. *cumingiana* Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 16.

Polillo, Luzon (Albay), Samar, Leyte, Panay, Negros, Siargao, Bucas Grande, Mindanao, *Cuming 1707, Merrill Phil. Pl. 1691, Elmer 7368, 10856, 11102, 13351, Wenzel 1235, B. S. 14710, 24383 Ramos, 21179, 30998 Ramos & Edaño, 34866, 35071 Ramos & Pascasio, F. B. 24043 Hinolan, 12444 Danao, 23866 Cardona, 14928 Tarrosa & Almagro*. In secondary forests at low and medium altitudes. Celebes, Moluccas.

Local names: Danasi (Sul.); gagayug (Mag.); magilak (Tag.); mala-tabáko (P. Bis.); manabáko (P. Bis.); nago (Bag.); sambuyut (Sul.); sobsoganbogo (Bik.).

CALLICARPA DENTICULATA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 430; H. Lam Verb. Malay. Archipel. (1919) 65.

Batan and Babuyan Islands, *B. S. 3622, 4023 Fénix*. On open slopes in thickets at low altitudes. Endemic.

Local names: Anaif (Iv.); mayop (Ilk.).

CALLICARPA DOLICHOPHYLLA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 339; H. Lam Verb. Malay. Archipel. (1919) 82.

Callicarpa longifolia Lam. var. *subglabrata* Schauer in DC. Prodr. 11 (1847) 645, p. p., quoad *Cuming* 1330; Vidal Phan. Cuming Philip. (1885) 134, Rev. Pl. Vasc. Filip. (1886) 208.

Callicarpa caudata Maxim. var. *glabriuscula* H. Lam Verb. Malay. Archipel. (1919) 61.

Luzon (Cagayan, Nueva Vizcaya, Bulacan, Rizal), *Cuming* 1330, *Merrill Phil. Pl.* 2037, *B. S.* 8268, 1063 *Ramos*, 11327 *McGregor*. In thickets or secondary forests at low or medium altitudes. Endemic.

This is remote from *Callicarpa longifolia* Lam., where Bakhuizen has erroneously placed it as a synonym, *Bull. Jard. Bot. Buitenz.* III 3 (1921) 26.

CALLICARPA ELEGANS Hayek in Just's Bot. Jahresber. 33 (1905) 88, Fedde Repert. 2 (1906) 88; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 338; H. Lam Verb. Malay. Archipel. (1919) 83.

Luzon (Cagayan, Ilocos Norte, Abra, Pangasinan, Zambales, Bulacan, Bataan, Tayabas, Camarines), Mindoro, Sibuyan, Panay, *Cuming* 1460, *Elmer* 12144, *Williams* 340, *B. S.* 7054, 13893, 33146, 27662, 4815, 22310 *Ramos*, 17792, 17851 *Otanes*, 29137 *Ramos & Edaña*. Chiefly in forests along streams at low altitudes. Palau.

Local name: Tambalabási (Sbl.).

This is specifically distinct from *Callicarpa japonica* Thunb. and *C. dichotoma* (Lour.) Raeusch.; Bakhuizen reduces it to *C. japonica* Thunb. var. *dichotoma* (Lour.) Bakh., in *Bull. Jard. Bot. Buitenz.* III 3 (1921) 26.

CALLICARPA ERIOCLONA Schauer in DC. Prodr. 11 (1847) 643; F.-Vill. Novis. App. (1880) 158; Vidal Phan. Cuming. Philip. (1885) 134, Rev. Pl. Vasc. Filip. (1886) 208; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 121; Elm. Leaf. Philip. Bot. 3 (1910) 866; H. Lam Verb. Malay. Archipel. (1919) 76.

Luzon (Cagayan to Sorsogon), Mindoro, Leyte, Negros, Mindanao. In primary and secondary forests at low altitudes, often rather common, incl. *Elmer* 15124 as *C. candida* Elm. Borneo, Celebes, New Guinea, New Britain and New Ireland.

Local names: Kagong (Bag.); palis (Tag.); salingárau (Neg.); tambalabási (Tag.); tígau (Tag., P. Bis.); túbang-dalág (Tag.).

CALLICARPA FASCICULIFLORA Merr. in Philip. Journ. Sci. 17 (1920) 313.

Bucas Grande, *B. S.* 35123 *Ramos & Pascasio*. On open forests at low altitudes. Endemic.

CALLICARPA FLAVIDA Elm. Leaf. Philip. Bot. 3 (1910) 863.

Callicarpa epiphytica Elm. op. cit. 8 (1915) 2871.

Geunsia flavida H. Lam Verb. Malay. Archipel. (1919) 39.

Geunsia epiphytica H. Lam l. c. incl. var. *apiculata* H. Lam.

Callicarpa pentandra Roxb. var. *typica* Bakh. forma *flavida* Bakh. in *Bull. Jard. Bot. Buitenz.* III 3 (1921) 15.

Dinagat, Mindanao (Agusan, Davao), *Elmer 13822, 11851, 13861, B. S. 35185 Ramos & Pascasio*. In primary forests at low altitudes on Dinagat, in Mindanao on mountains, altitude 1,200 to 1,500 m. Endemic.

Local names: Layaupan (Bag.); madolau (Mbo.); pananagok (Mbo.).

CALLICARPA FORMOSANA Rolfe in Journ. Bot. 20 (1882) 358; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 121.

Callicarpa americana Blanco Fl. Filip. (1837) 517, ed. 2 (1845) 360, ed. 3, 2 (1878) 300, *t. 427bis*, non Linn.

Callicarpa attenuata Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 384, non Wall.

Callicarpa blancoi Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 315; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 121, Fl. Manila (1912) 401, Sp. Blancoanae (1918) 330; Elm. Leaf. Philip. Bot. 3 (1910) 864; H. Lam Verb. Malay. Archipel. (1919) 58.

Callicarpa ovata C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 215; H. Lam Verb. Malay. Archipel. (1919) 64.

Throughout the Philippines in thickets and secondary forests at low and medium altitudes; common. Represented by more than 100 collections. I fail to distinguish *C. blancoi* Rolfe from *C. formosana* Rolfe. Formosa.

Local names: Anadhiu (Ig.); anoyop (Ilk., Ibn.); anoyot (Ilk.); atólba (If.); palis (Tag.); tambalabási (Tag.); tígau (Tag.); tígau (Tag., Bis., Bik.); tígau-tígau (C. Bis.); tigbabási (Bik.); timbabási (Tag.); túbang-dalág (Tag.); tubaybási (Tag.).

I fail to see how this can be reduced to *Callicarpa pedunculata* R. Br., as Bakhuizen disposes of it, Bull. Jard. Bot. Buitenz. III 3 (1921) 24.

CALLICARPA LANCIFOLIA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 70; H. Lam Verb. Malay. Archipel. (1919) 54.

Luzon (Tayabas), Mindoro, Ticao, Cebu, Mindanao (Surigao, Lanao, Zamboanga), Basilan, *B. S. 11078, 39816 Ramos, B. S. 34767, 34775 Ramos & Pascasio, 37388 Ramos & Edaño, 15802 Fénix, F. B. 23489 Manuel, 2534 Clark, Merrill 5556, 8115, 8188, Wenzel 1863, Williams 2307*. In forests at low and medium altitudes, ascending to 1,000 m. Endemic.

Local names: Katonal (Sub.); palis (Tag.); tígau (Bik., C. Bis.).

This is sufficiently distinct from *Callicarpa cuspidata* Roxb., where Bakhuizen places it as a synonym, Bull. Jard. Bot. Buitenz. III 3 (1921) 23.

CALLICARPA LONGIFOLIA Lam. Encycl. 1 (1785) 563; Schauer in DC. Prodr. 11 (1847) 645; Koord. & Val. Bijdr. Boom. Java 7 (1900) 176; F.-Vill. Novis. App. (1880) 158; H. Lam Verb. Malay. Archipel. (1919) 86, incl. var. *subglabrata* Schauer et var. *floccosa* Schauer.

Callicarpa attenuatifolia Elm. Leaf. Philip. Bot. 8 (1915) 2870.

Luzon (Apayao, Union, Tayabas), Mindoro, Polillo, Catanduanes, Mindanao (Surigao, Davao, Zamboanga), *Merrill 1214, 8057, Elmer 13536, Lete 212, Whitford 828, Williams 2116, B. S. 28048 Fénix, 29116, 28513 Ramos & Edaño, 30328 Ramos*. In thickets and forests at low and medium altitudes. India through Malaya to New Guinea and New Ireland.

Local names: Papalsin (Tag.); simadgimbadjon (Mbo.); tibabási (Tag.); tígau (P. Bis., Tag., Bik.); tobaybási (Tag.).

CALLICARPA LONGIPETIOLATA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 47; H. Lam Verb. Malay. Archipel. (1919) 75.

Callicarpa tomentosa Murr. var. *longipetiolata* Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 22.

Luzon (Bontoc, Benguet), *Elmer* 6266, 14280, *Merrill Phil. Pl.* 873, *B. S.* 31935 Santos, *Vanoverbergh* 1376, *Clemens* 9185. In thickets bordering pine forests, altitude 1,600 to 2,000 m. Endemic.

CALLICARPA LONGIVILLOSA Merr. in Philip. Journ. Sci. 17 (1920) 313.

Mindanao (Surigao), *B. S.* 34538 *Ramos & Pascasio*. In forests along streams at low altitudes. Endemic.

CALLICARPA MAGNA Schauer in DC. Prodr. 11 (1847) 641; Miq. Fl. Ind. Bat. 2 (1858) 889; F.-Vill. Novis. App. (1880) 158; Vidal Phan. Cuming. Philip. (1885) 134, Rev. Pl. Vasc. Filip. (1886) 208. *Geunsia straminea* Elm. ex Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 22, in syn.

Callicarpa arborea Merr. in Philip. Bureau Forestry Bull. 1 (1903) 51, non Roxb.

Callicarpa lanata H. Lam Verb. Malay. Archipel. (1919) 79, quoad Philip.

Callicarpa tomentosa Murr. var. *magna* Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 22.

Luzon (Cagayan, Benguet, Laguna, Tayabas), Palawan, Mindanao (Bukidnon), *Cuming* 1266, *Elmer* 9125, 8193, 17575, *Williams* 1003, *Merrill Phil. Pl.* 395, *B. S.* 15038 *Ramos*, 38748 *Ramos & Edaño*, *F. B.* 33804 *Mabesa*. Chiefly in secondary forests at low and medium altitudes. Endemic.

Local names: Atímla (Tag.); magílig (Tag.).

CALLICARPA MAGNIFOLIA Merr. in Philip. Journ. Sci. 20 (1922) 437.

Luzon (Kalinga), *B. S.* 37563 *Ramos & Edaño*. In forests, altitude 1,200 m. Endemic.

Local name: Agnai (Klg.).

CALLICARPA MEGALANTHA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 71; H. Lam Verb. Malay. Archipel. (1919) 75.

Luzon (Bontoc, Ifugao), *B. S.* 19687 *McGregor*, 37718 *Ramos & Edaño*. In the mossy forest at or above 1,500 m altitude. Endemic.

Local name: Palayan (Bón.).

Reduced by Bakhuizen, in Bull. Jard. Bot. Buitenz. III 3 (1921) 11, to *Callicarpa pentandra* Roxb., where it apparently does not belong.

CALLICARPA MICRANTHA Vidal Phan. Cuming. Philip. (1885) 187, Rev. Pl. Vasc. Filip. (1886) 208; H. Lam Verb. Malay. Archipel. (1919) 59.

Luzon (Ilocos Norte, Ilocos Sur), *Cuming* 1165, *F. B.* 13833 *Merritt & Darling*. In thickets at low altitudes. Endemic.

This has nothing in common with *Callicarpa cuspidata* Roxb., where Bakhuizen has erroneously placed it as a synonym, Bull. Jard. Bot. Buitenz. III 3 (1921) 23.

CALLICARPA OBTUSIFOLIA Merr. in Philip. Journ. Sci. 14 (1919) 451.

Luzon (Ilocos Norte), *B. S.* 32921 *Ramos*. In thickets at low altitudes. Endemic.

Local name: 'Anoyop (Ilk.).

CALLICARPA PALOENSIS Elm. Leaf. Philip. Bot. 1 (1908) Bot. 336.

Geunsia paloensis H. Lam Verb. Malay. Archipel. (1919) 78.

Callicarpa pentandra Roxb. var. *paloensis* Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 14.

Callicarpa sorsogonensis Elm. ex Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 22, in syn.

Luzon (Sorsogon), Leyte, *Elmer* 7370, 14510, 16939. In forests, altitude about 300 m. Very closely allied to *C. flavida* Elm. but with smaller flowers and fruits; remote from *C. magna* Schauer, where Bakhuizen places it as a synonym. Endemic.

CALLICARPA PENTANDRA Roxb. Fl. Ind. ed. 2, 1 (1832) 395; Schauer in DC. Prodr. 11 (1847) 646; Miq. Fl. Ind. Bat. 2 (1858) 885; Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 11, pro minore parte.

Geunsia hookeri Merr. in Philip. Journ. Sci. 7 (1912) Bot. 342.

Geunsia pentandra Merr. in Philip. Journ. Sci. 11 (1916) Bot. 309; H. Lam. Verb. Malay. Archipel. (1919) 33.

Callicarpa subglandulosa Elm. Leaf. Philip. Bot. 2 (1908) 513; H. Lam Verb. Malay. Archipel. (1919) 61.

Cebu, Negros, Mindanao (Davao), *Cuming* 1773, *Elmer* 9739, 10362, 11491. In forests at low and medium altitudes, ascending to 1,700 m. Java, Celebes, Amboina, New Guinea.

Local name: Layaupan (Bag.).

CALLICARPA PHANEROPHLEBIA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 301.

Luzon (Nueva Ecija, Laguna), *B. S.* 26233 *Ramos & Edaña*, 22919 *McGregor*. In open places along streams at low altitudes. Endemic.

CALLICARPA PLATYPHYLLA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 57.

Luzon (Cagayan), *F. B.* 26967 *Velasco*, 17181 *Curran*, *B. S.* 13903 *Ramos*. In forests at low altitudes. Endemic.

CALLICARPA RAMIFLORA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 262; H. Lam Verb. Malay. Archipel. (1919) 62.

Leyte, Catanduanes, Mindanao (Lanao), *Clemens* 1167, *B. S.* 15278, 30275 *Ramos*. In forests at low and medium altitudes, ascending to 700 m. Endemic.

Remote from *Callicarpa pentandra* Roxb., where Bakhuizen has erroneously placed it as a synonym, Bull. Jard. Bot. Buitenz. III 3 (1921) 11.

CALLICARPA RIVULARIS Merr. in Philip. Journ. Sci. 7 (1912) Bot. 340; H. Lam Verb. Malay. Archipel. (1919) 67.

Callicarpa angusta Schauer var. *longifolia* H. Lam op. cit. 66.

Callicarpa erioclona Schauer forma *rivularis* Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 19.

Palawan, *B. S.* 660, 719 *Foxworthy*. On river banks and on boulders in stream beds, altitude 60 to 1,000 m. Endemic.

CALLICARPA STENOPHYLLA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 380; H. Lam Verb. Malay. Archipel. (1919) 61.

Luzon (Ilocos Norte, Lepanto, Bontoc, Benguet, Nueva Ecija), *B. S.* 5739, 5790, 27388, 33012 *Ramos*, 26312, 37679, 37635 *Ramos & Edaño*, *F. B.* 16574 *Darling*, 18162 *Curran*, *Merritt*, & *Zschokke*. In thickets at low and medium altitudes, ascending to 1,500 m. Endemic.

Local names: Karangiti (Neg.); layop (Bon.).

This is remote from both *Callicarpa formosana* Rolfe and from *C. blancoi* Rolfe, both of which, together with this species, Bakhuizen has erroneously reduced to *C. pedunculata* R. Br., Bull. Jard. Bot. Buitenz. III 3 (1921) 24.

CALLICARPA SUBALBIDA Elm. Leaf. Philip. Bot. 1 (1908) 337; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 220; H. Lam Verb. Malay. Archipel. (1919) 63.

Callicarpa erioclona Schauer var. *subalbida* Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 19.

Luzon (Laguna, Tayabas), Polillo, Mindoro, *Elmer* 9184, *B. S.* 6861 *Robinson*, 10269 *McGregor*, 27955 *Ocampo*, 28969 *Ramos & Edaño*, 41009, 41059 *Ramos*. In forests along streams at low and medium altitudes. Endemic.

CALLICARPA SUBINTEGRA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 299.

Luzon (Rizal, Tayabas), *B. S.* 26619, 29707 *Ramos & Edaño*. On forested slopes, altitude about 200 m. Endemic.

Var. **PARVA** Merr. op. cit. 300.

Luzon (Nueva Ecija, Camarines), *B. S.* 26465, 33838 *Ramos & Edaño*. In forests, altitude 300 to 600 m. Endemic.

Local name: Maratariṅgau (Neg.).

CALLICARPA SURIGAENSIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 262; H. Lam Verb. Malay. Archipel. (1919) 79.

Callicarpa pentandra Roxb. var. *cumingiana* Bakh., forma *surigaensis* Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 16.

Mindanao (Surigao, Cotabato), *Allen* 168, *Quadras*, *Ahern* 318, *B. S.* 34379, 34545 *Ramos & Pascasio*. In primary forests at low altitudes. Endemic.

Local names: Alingtutuṅgau (C. Bis.); buyakan (C. Bis.).

CALLICARPA WEBERI Merr. in Philip. Journ. Sci. 12 (1917) Bot. 298.

Bancalan, *Weber*. In thickets or forests at low altitudes. Endemic.

This has nothing to do with *Callicarpa pentandra* Roxb., where it was placed by Bakhuizen as a synonym, Bull. Jard. Bot. Buitenz. III 3 (1921) 11.

EXCLUDED SPECIES

CALLICARPA LANATA Vahl; F.-Vill. Novis. App. (1880) 158.

CALLICARPA BICOLOR Juss.; Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 19.

This is erroneously credited to the Philippines in the reduction of *C. paucinervia* Merr. as a synonym; the type of the latter was from the Marianne Islands.

8. *TECTONA* Linnaeus f.

TECTONA GRANDIS Linn. f. Suppl. (1781) 151; Blanco Fl. Filip. (1837) 130, ed. 2 (1845) 92, ed. 3, 1 (1877) 170, *t.* 114; Schauer in DC. Prodr. 11 (1847) 629; Miq. Fl. Ind. Bat. 2 (1858) 901; F.-Vill. Novis. App. (1880) 158; Vidal Sinopsis Atlas (1883) 35, *t.* 74, *f.* A, Rev. Pl. Vasc. Filip. (1886) 208; Merr. Sp. Blancoanae (1918) 331; H. Lam Verb. Malay. Archipel. (1919) 95.

Planted in various parts of the Philippines, especially in the Sulu Archipelago and in parts of Mindanao, and now established in the southern part of the Archipelago. The tree at Tanay, Rizal Province, Luzon, from which Blanco secured specimens before 1837 still exists there. Teak.

Local names: Dalanang (P. Bis.); dalandon (Bis.); dāti (Sul.); djāti (Sul.); hadlayāti (Mbo.); hāti (Sul.); kalayāti (Bis.); sagunyāti (Bis.); téca (Sp.); yāti (Chab., Sul.).

TECTONA PHILIPPINENSIS Benth. & Hook. f. Gen. Pl. 2 (1876) 1152; F.-Vill. Novis. App. (1880) 158; Vidal Phan. Cuming. Philip. (1885) 134, Rev. Pl. Vasc. Filip. (1886) 209, *nomen nudum* in all cases; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 227, descr., Sp. Blancoanae (1918) 330; H. Lam Verb. Malay. Archipel. (1919) 94.

? *Diospyros tectona* Blanco Fl. Filip. ed. 2 (1845) 609, *nomen nudum*. *Tectona hamiltoniana* Schauer in DC. Prodr. 11 (1847) 629, quoad Philip.; Miq. Fl. Ind. Bat. 2 (1858) 902, quoad Philip.; F.-Vill. Novis. App. (1880) 158, non Wall.

Luzon (Bátangas), Mindoro (Iling Island), *Cuming 1432, Merrill Sp. Blancoanae 503, F. B. 25065 Medina, 7746 Curran & Merritt*. In thickets and secondary forests at low altitudes. Endemic.

Local names: Bunglas (P. Bis.); malapañgit (Tag.).

9. *PREMNA* Linnaeus

PREMNA ADENOSTICTA Schauer in DC. Prodr. 11 (1847) 630; Miq. Fl. Ind. Bat. 2 (1858) 892; F.-Vill. Novis. App. (1880) 159; Vidal Phan. Cuming. Philip. (1885) 134, Rev. Pl. Vasc. Filip. (1886) 209; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 230; H. Lam Verb. Malay. Archipel. (1919) 126.

Luzon (Ilocos Sur, Union, Pangasinan, Zambales, Nueva Ecija, Bataan, Rizal, Camarines), Mindanao (Cotabato, Davao), *Cuming 1230, Ahern 103, F. B. 25460 Paraiso, 6332, 6376 Curran, 22424 Alvarez, 435, 1122, 2863 Ahern's collector, 27556 De Mesa*. On forested slopes at low and medium altitudes. Endemic.

Local names: Kalanggiáuan (Ilk.); kalipápa-madam (Mag.); kla (Tagk.); lanabau (P. Bis.); lĩngo-lĩngo (Ilk.); magupai (Sml.); muláuin-áso (Sbl.); sasalit (Mag.).

PREMNA AREOLATA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 73; H. Lam Verb. Malay. Archipel. (1919) 124.

Mindanao (Lanao), Basilan, *B. S. 16179 Reillo, Clemens 604bis*. In forests at low and medium altitudes. Endemic.

PREMNA BENGUETENSIS C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 215; H. Lam Verb. Malay. Archipel. (1919) 136.

Luzon (Benguet, Nueva Ecija), *Williams 1086, 1207, F. B. 22124 Alvarez*. In forested ravines, altitude about 1,400 m. Endemic.

PREMMA CONGESTA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 232; H. Lam Verb. Malay. Archipel. (1919) 118.

Luzon (Ilocos Norte, Pangasinan, Nueva Ecija, Rizal), Palawan, *F. B. 3281 Ahern's collector, B. S. 32914 Ramos, 26289 Ramos & Edaña*. In thickets and secondary forests at low altitudes. Endemic.

Local name: Alakáag (Tag.).

PREMNA CUMINGIANA Schauer in DC. Prodr. 11 (1847) 634; Miq. Fl. Ind. Bat. 2 (1858) 897; F.-Vill. Novis. App. (1880) 159; Vidal Phan. Cuming. Philip. (1885) 134, Rev. Pl. Vasc. Filip. (1886) 209; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 121, 230, Sp. Blancoanae (1918) 332; H. Lam Verb. Malay. Archipel. (1919) 157, Bull. Jard. Bot. Buitenz. III 3 (1921) 46.

Premna cordata Blanco Fl. Filip. (1837) 489, non R. Br.

Premna tomentosa Blanco op. cit. ed. 2 (1845) 342, ed. 3, 2 (1878) 269, non Wall.

Premna cardiophylla Schauer in DC. Prodr. 11 (1847) 638; Miq. Fl. Ind. Bat. 2 (1858) 900; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 435.

Premna tomentosa H. Lam in Bull. Jard. Bot. Buitenz. III 3 (1921) 45, quoad Philip., non Willd.

Northern Luzon (Cagayan) to Palawan and Mindanao, *Cuming 778, 1280, Merrill Sp. Blancoanae 681, 932, Phil. Pl. 355, Elmer 17576, 12604, 7374, 15611, Loher 5559, F. B. 23285 Velasco, 15202, 15052 Bernardo, 10998, 10451, 17327 Curran, 28072 Alambra, 26074 Barros, 1850, 3132 Ahern's collector, B. S. 15704, 28171 Fénix, 4606 Ramos*. Chiefly in secondary forests at low and medium altitudes, ascending to 1,000 m. Celebes.

Local names: Alagáu (P. Bis.); banabá (Ibn.); magalas (Tag.); magilig (Tag.); magilik (Tag.); manabá (Bik., Buk.); malaápi (Tag.); maparai (Bag.); mulmagan (Tagb.); palaudiáuan (Ilk.).

PREMNA DEPAUPERATA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 231; Hallier f. in Meded. Rijks Herb. 37 (1918) 39; H. Lam Verb. Malay. Archipel. (1919) 149, Bull. Jard. Bot. Buitenz. III 3 (1921) 43.

Culion, *Merrill 603*. On dry open hillsides at low altitudes. Endemic.

Hallier records this from Luzon, Negros, Mindoro, Mindanao, and small islands near Celebes, certainly indicating a misinterpretation of the species. It is represented as yet only by the type collection.

PREMNA HERBACEA Roxb. Hort. Bengal. (1814) 46, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 485; Schauer in DC. Prodr. 11 (1847) 637; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 581.

Pygmaeopremna humilis Merr. in Philip. Journ. Sci. 5 (1910) Bot. 225; H. Lam Verb. Malay. Archipel. (1919) 161.

Premna timoriana H. Lam in Bull. Jard. Bot. Buitenz. III 3 (1921) 37, quoad Philip.!, non Decne.

Luzon (Cagayan, Isabela, Bontoc, Nueva Vizcaya), Mindanao (Bukidnon), *B. S.* 7841, 8124 *Ramos*, 38489 *Ramos & Edaño*, 20178, 11458 *McGregor*, 15680, 26123 *Fénix*, *F. B.* 26547* *Rola*, *Vanoverbergh* 3660, *Baker* 3605. In open grasslands at low and medium altitudes. India to Siam and Hainan.

Local name: Huniyan (Buk.).

PREMNA LEYTENSIS Merr. in *Philip. Journ. Sci.* 12 (1917) Bot. 302.

Leyte, *Wenzel* 1364. In thickets or forests at low or medium altitudes. Endemic.

PREMNA MEMBRANACEA Merr. in *Govt. Lab. Publ. (Philip.)* 35 (1906) 65, *Philip. Journ. Sci.* 1 (1906) Suppl. 230; *H. Lam Verb. Malay. Archipel.* (1919) 132.

Premna subrotundifolia Elm. ex *Lam* in *Bull. Jard. Bot. Buitenz.* III 3 (1921) 36, in syn. sub. *P. sterculifolia* King & Gamble.

Luzon (Rizal, Laguna, Tayabas, Sorsogon), Samar, Leyte, Panay, Camiguin de Misamis, Mindanao (Surigao, Davao), *Merrill* 5440, *Elmer* 16711 as *P. subrotundifolia* Elm., 8275, *Williams* 2630, *Wenzel* 191, 974, *B. S.* 3339, 3333, 15194, 14620 *Ramos*, 31186 *Ramos & Edaño*, *F. B.* 3102, 1065 *Ahern's collector*, 21396 *Villamil*.

In primary and secondary forests at low and medium altitudes. Endemic.

Var. **CORDATA** Merr.

A typo differt foliis crassioribus, basi perspicue cordatis.

Siargao, *B. S.* 34861 *Ramos & Pascasio*. In forests at low altitudes. Endemic.

Local name: Nago (Bag.).

PREMNA MEMBRANIFOLIA Merr. in *Philip. Journ. Sci.* 8 (1913) Bot. 388; *H. Lam Verb. Malay. Archipel.* (1919) 137.

Leyte, *Wenzel* 114. In forests at low altitudes. Endemic.

PREMNA NAUSEOSA Blanco *Fl. Filip.* (1837) 489; *Schauer* in *DC. Prodr.* 11 (1847) 638; *Miq. Fl. Ind. Bat.* 2 (1958) 900; *F. Vill. Novis. App.* (1880) 159; *Vidal Phan. Cuming. Philip.* (1885) 134, *Rev. Pl. Vasc. Filip.* (1886) 209; *Merr. in Philip. Journ. Sci.* 1 (1906) Suppl. 121, 233, *Fl. Manila* (1912) 405, *Sp. Blancoanae* (1918) 331.

Premna integrifolia Blanco *Fl. Filip.* ed. 2 (1845) 342, ed. 3, 2 (1878) 268, *t.* 396.

Premna mucronata *Schauer* in *DC. Prodr.* 11 (1847) 635, quoad *Philip.*; *Miq. Fl. Ind. Bat.* 2 (1858) 897; *F.-Vill. Novis. App.* (1880) 159, non *Roxb.*

Premna leucostoma *Naves* in *Blanco Fl. Filip.* ed. 3 (1877-83) *t.* 396, non *Miq.*

Premna latifolia *Roxb.* var. *mucronata* *H. Lam Verb. Malay. Archipel.* (1919) 151, non *Clarke*, *Bull. Jard. Bot. Buitenz.* III 3 (1921) 44, quoad *Philip.*

Premna timoriana *Hallier f.* in *Meded. Rijks Herb.* 37 (1918) 35; *H. Lam Verb. Malay. Archipel.* (1919) 119, non *Deene*.

Luzon (Cagayan, Ilocos Sur, Isabela, Union, Pangasinan, Zambales, Nueva Ecija, Tarlac, Bulacan, Bataan, Rizal, Batangas, Laguna, Tayabas, Camarines). In secondary forests at low altitudes; common. Endemic.

Local names: Agráu (Ilk.); alagáu-gúbat (Tag.); ananghit (Tag.); anghit (Tag.); angswan (Bik.); ansuan (Bik.); areu (Sbl.); mala-muláuin (Tag.); mulaúin-áso (Tag.).

PREMNA OBLONGIFOLIA Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 48, Philip. Journ. Sci. 1 (1906) Suppl. 230; H. Lam Verb. Malay. Archipel. (1919) 129, Bull. Jard. Buitenz. III 3 (1921) 39 (var. *typica* H. Lam).

Luzon (Benguet, Tayabas), *Elmer* 5990, *Merrill* 9642, *Phil. Pl.* 892, *Williams* 1165, *Quisumbing* 1343. In thickets on rocky slopes and in ravines among boulders, altitude 1,200 to 1,600 m. Borneo, with a variety in Sumatra, Borneo, and Java, fide H. Lam.

PREMNA OBTUSIFOLIA R. Br. Prodr. (1810) 512; Benth. Fl. Austral. 5 (1870) 58; Merr. Interpret. Herb. Amb. (1917) 450.

Premna cyclophylla Miq. Fl. Ind. Bat. 2 (1858) 899.

Premna laevigata Miq. op. cit. 895.

Premna integrifolia C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 574; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 121, 233, 3 (1908) Bot. 431, Fl. Manila (1912) 405; H. Lam Verb. Malay. Archipel. (1919) 140, pro parte, non Linn.

Throughout the Philippines in thickets along the seashore but scarcely occurring inland. In similar habitats, Malaya to tropical Australia.

Local names: Adgáu (Mbo.); agáu (Bik.); agdau (Sul.); alagáu (Tag., Bik., Tagb.); alagáu-blanko (C. Bis.); alagáu-dáгат (Tag.); alalgáu (Tag.); anobrang (Ilk.); aragáu (Bag.); argáu (P. Bis.); naga (Bag.).

PREMNA ODORATA Blanco Fl. Filip. (1837) 488, ed. 2 (1845) 341, ed. 3, 2 (1878) 268; Schauer in DC. Prodr. 11 (1874) 638; Miq. Fl. Ind. Bat. 2 (1858) 900; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 76, Philip. Journ. Sci. 1 (1906) Suppl. 121, 232, 3 (1908) Bot. 431, 5 (1910) Bot. 380, Fl. Manila (1912) 405, Sp. Blancoanae (1918) 331.

Premna serratifolia Blanco Fl. Filip. ed. 2 (1845) 342, ed. 3, 2 (1878) 269, non Linn.

Premna vestita Schauer in DC. Prodr. 11 (1847) 631; Miq. Fl. Ind. Bat. 2 (1858) 892; F.-Vill. Novis. App. (1880) 159; Vidal Sinopsis Atlas (1883) 35, t. 74, f. E; Phan. Cuming. Philip. (1885) 134, Rev. Pl. Vasc. Filip. (1886) 209.

Premna pubescens Blume var. *odorata* H. Lam Verb. Malay. Archipel. (1919) 153, Bull. Jard. Bot. Buitenz. III 3 (1921) 44, excl. syn. *P. subscandens* Merr.

Premna oblongata Miq. var. *puberula* H. Lam op. cit. 127.

Premna curranii H. Lam op. cit. 116, Bull. Jard. Bot. Buitenz. III 3 (1921) 37.

Batan Islands and northern Luzon to Mindanao, in most or all islands and provinces. Common in thickets and secondary forests at low altitudes. Endemic unless referable to the Malayan *P. pubescens* Blume. (Celebes, Java, fide H. Lam.)

Local names: Aagáu (Tag.); abgáu (P. Bis.); adgáu (P. Bis., Bik.); adiyo (Tag.); agbáu (C. Bis.); agdáu (Pang.); alagáu (Tag., Ilk.); anobran (Ilk.); argáu (P. Bis.); atin̄gi (Gad.); duragáu (Sub.); guachal (Ig.); lagáu (Mag.); lassi (Ibn.); pumuhāt (Bis.); tangli (Pamp.); tibanḡngen (Bon.).

PREMNA STELLATA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 203; H. Lam Verb. Malay. Archipel. (1919) 154.

Samar, *Cuming 1732*, B. S. 24262 Ramos, F. B. 12643 Rosenbluth. In forests at low altitudes. Endemic.

Local name: Manabá (S. L. Bis.).

PREMNA SUBGLABRA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 234, 3 (1908) Bot. 431; H. Lam Verb. Malay. Archipel. (1919) 123. *Premna nitida* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 234, non K. Schum.

Premna nitens Usteri Beitr. Ken. Philip. Veg. (1905) 123 sphalm.

Premna foetida Hallier f. Meded. Rijks Herb. 37 (1918) 37, quoad Philip., non Reinw.

Batan and Babuyan Islands, Luzon (Cagayan to Sorsogon), Mindoro, Masbate, Biliran, Leyte, Cebu, Camiguin de Misamis, Mindanao. In thickets and secondary forests at low and medium altitudes; common. Endemic.

Local names: Adgáu (Bik., C. Bis., Mbo.); agáu (Bik.); alagáu (Tag.); alagáu-blanko (Sul.); ariáu (Iv.); salipápa (Bik.).

PREMNA SUBSCANDENS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 230, Fl. Manila (1912) 405.

Luzon (Union, Nueva Vizcaya, Pangasinan, Rizal, Laguna, Tayabas), Ticao, F. B. 443, 449 Ahern's collector, 1095 Clark, 21363 Foxworthy & Catalan, B. S. 14160 McGregor, 2641 Ramos, Lete 325, 329, Merrill 1874, 2892, Phil. Pl. 370, 1798, Elmer 8148 as *Geunsia*. In thickets and secondary forests at low altitudes. Endemic.

This is totally and constantly different from *P. odorata* Blanco to which Lam has erroneously reduced it (*P. pubescens* Blume var. *odorata* Lam).

Local names: Alagáu-báging (Tag.); anangget (Tag.); anobrang-ñglimanut (Ilk.); sikir-ñg-purau (Ilk.); uradgáu (S. L. Bis.).

PREMNA WILLIAMSII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 74; H. Lam Verb. Malay. Archipel. (1919) 129.

Mindanao (Zamboanga), *Williams 2330*. In forests at low or medium altitudes. Endemic.

EXCLUDED SPECIES

PREMNA FOETIDA Reinw.; F.-Vill. Novis. App. (1880) 159.

PREMNA GAUDICHAUDII Schauer; F.-Vill. l. c.

PREMNA MARIANNARUM Schauer; F.-Vill. l. c.

PREMNA PUBESCENS Blume; F.-Vill. l. c.

PREMNA TOMENTOSA Willd.; F.-Vill. l. c.

PREMNA VIBURNOIDES Wall.; F.-Vill. l. c.

10. VITEX Linnaeus

VITEX AHERNIANA Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 18, H. Lam Verb. Malay. Archipel. (1919) 206.

Vitex curranii H. Lam Verb. Malay. Archipel. (1919) 207.

Babuyan Islands, Luzon (Cagayan, Pangasinan, Zambales, Laguna, Tayabas, Camarines, Albay, Sorsogon), Lubang, Sibuyan, Samar, Leyte, Panay, Negros, Mindanao (Surigao, Agusan, Davao, Zamboanga). In primary forests at low and medium altitudes, often common; represented by more than 70 collections. Endemic.

Local names: Agug (Tag.); amamahít (P. Bis.); dalipápa (Ibn., Bik.); dañgúla (P. Bis.); didigkalin (Bik., Tag.); dilipápak (Tag.); duñgúla (P. Bis.); galipápa (Ibn.); ígang (Tag.); kalipápa (Bik., S. L. Bis., Mbo.); kolipápa (Bik.); kulipápa (Bik., S. L. Bis., C. Bis., Mbo.); malaígang (Tag.); mamahít (P. Bis.); mongpong (S. L. Bis.); pamagsen (Mbo.); sasalit (Sbl., Tag.); sasilit (Tag.); sasulit (Sbl.) tayupuk (Mbo.).

VITEX GLABRATA R. Br. Prodr. (1810) 512; Ceron Cat. Pl. Herb. Manila (1892) 133, Hallier f. in Meded. Rijks Herb. 37 (1918) 54; H. Lam Verb. Malay. Archipel. (1919) 203.

Vitex pentaphylla Merr. in Philip. Journ. Sci. 4 (1909) Bot. 320.

Vitex nitida Merr. in Philip. Journ. Sci. 7 (1912) Bot. 343; H. Lam Verb. Malay. Archipel. (1919) 194.

Luzon (Camarines, Sorsogon), Mindoro, Culion, Palawan, Balabac, Negros, Mindanao (Surigao, Agusan, Butuan, Cotabato, Zamboanga), *F. B. 9490 Whitford & Hutchinson, 19546 Klemme, 20771 Miranda, 23671 Razon, 20638 Miranda, 24817 Somonte, B. S. 34472 Ramos & Pascasio, 39371 Ramos, Merrill 2162, 9330, Williams 2949*. In forests at low altitudes. India to Indo-China, Java, Timor, Celebes, New Guinea, and tropical Australia.

Local names: Ampapalút (Sul.); amuláon (Sul.); boñgóg (C. Bis.); boñgúg (C. Bis., Buk.); bonkolion (C. Bis.); kamoláuan (Mbo.); kalipápa-aso (Sul.); sasalit (Mbo.); tálang-puso (Bik.); topas (Bag.).

VITEX LUZONICA H. Lam in Bull. Jard. Bot. Buitenz. III 3 (1921) 61.

Luzon, *Ahern 706* (not 760). This number seems to be missing in the herbarium of the Bureau of Science. The species is apparently allied to *Vitex glabrata* R. Br. Endemic.

VITEX NEGUNDO Linn. Sp. Pl. (1753) 638; Schauer in DC. Prodr. 11 (1847) 684; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 380; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 583; F.-Vill. Novis. App. (1880) 160; Vidal Phan. Cuming. Philip. (1885) 134, Rev. Pl. Vasc. Filip. (1886) 210; Merr. Fl. Manila (1912) 404, Sp. Blancoanae (1918) 332; H. Lam Verb. Malay. Archipel. (1919) 189.

Vitex leucoxydon Blanco Fl. Filip. (1837) 516, ed. 2 (1845) 359, ed. 3, 2 (1878) 300, *t.* 228, non Linn.

Throughout the Philippines at low and medium altitudes, in waste places, thickets, etc., often common. Tropical East Africa, Madagascar, India to Japan, southward through Malaya to western Polynesia.

Var. **INCISA** (Lam.) C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 584; Rehder in Sargent Pl. Wils. 3 (1916) 373.

Vitex incisa Lam. Encycl. 2 (1788) 612; Poir. III 3 (1823) 92, t. 541, f. 2.

Luzon (Ilocos Norte), *F. B. 14051 Merritt & Darling*. India to China.

Var. **BICOLOR** (Willd.) H. Lam Verb. Malay. Archipel. (1919) 191.

Vitex bicolor Willd. Enum. Hort. Berol. (1809) 606; Schauer in DC. Prodr. 11 (1847) 683; Hallier f. in Meded. Rijks Herb. 37 (1918) 42.

Philippine and extra-Philippine range of the species and scarcely distinguishable from it.

Local names: Dabtan (If.); danglá (Ilk.); lagundî (Ibn., Tag., Bik., P. Bis.); líñgei (Bon.); sagarai (Bag.).

VITEX PARVIFLORA Juss. in Ann. Mus. Hist. Nat. Paris 7 (1806) 76; Walp. Repert. 4 (1844) 85; Schauer in DC. Prodr. 11 (1847) 695; Miq. Fl. Ind. Bat. 2 (1858) 865; Merr. Fl. Manila (1912) 404, Sp. Blancoanae (1918) 333; H. Lam Verb. Malay. Archipel. (1919) 213, Bull. Jard. Bot. Buitenz. III 3 (1921) 57.

Vitex timoriensis Walp. Repert. 4 (1844) 84; Schauer in DC. Prodr. 11 (1847) 686; Miq. Fl. Ind. Bat. 2 (1858) 863; F.-Vill. Novis. App. (1880) 160; Vidal Sinopsis Atlas (1883) 35, t. 75, f. C.

Vitex littoralis Decne. in Nouv. Ann. Mus. Paris 3 (1834) 401; Vidal Phan. Cuming. Philip. (1885) 134, Rev. Pl. Vasc. Filip. (1886) 210; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 51, Philip. Journ. Sci. 1 (1906) Suppl. 121; H. Lam Verb. Malay. Archipel. (1919) 194.

Vitex altissima Blanco Fl. Filip. (1837) 516, ed. 2 (1845) 359, ed. 3, 2 (1878) 299, t. 227; Miq. Fl. Ind. Bat. 2 (1858) 861, p. p.; F.-Vill. Novis. App. (1880) 160, non Linn. f.

Vitex geniculata Blanco op. cit. 514, 358, 299, pro majore parte; F.-Vill. Novis. App. (1880) 160; Schauer in DC. Prodr. 11 (1847) 696.

Vitex latifolia Blanco op. cit. 514, 358, 298, non Mill.

Vitex cofassus Reinw. var. *timorensis* Hallier f. in Meded. Rijks Herb. 37 (1918) 47.

Vitex cofassus Reinw. var. *pubescens* Hallier f. op. cit. 48.

Vitex glandulosa H. Lam Verb. Malay. Archipel. (1919) 199.

Throughout the Philippines in all or most islands and provinces. Common in both secondary and open primary forests at low altitudes.

This valuable timber tree, commercially known as molave, is common in many parts of the Philippines. It is represented by more than 225 individual collections. The species is not closely allied to *V. cofassus* Reinw. and presents no intergrades with that species, of which Hallier considered it to be a variety. I have a photograph of Jussieu's type; it is identical with *V. littoralis* Decne. The inflorescences are often abnormal. Saleyer, Timor, Java, Celebes, Amboina.

Local names: Adgaúon (S. L. Bis.); alah (Bag.); amaráun (Bik., Bis.); amuaúan (Gad.); amugaúan (Ibn.); amulaúon (Mbo.); anla (Bag.); bu-laúen (Pang.); burikán (Bag.); edieu (Bon.); hamolaúen (P. Bis.); ha-

moráon (Bik., S. L. Bis.); hamulai (Sul.); hamulaúon (Sul.); hamuráon (Bik.); hamuyáon (C. Bis.); huláh (Bag.); kalipápa (Sub., Sul.); kalipápa-bató (Sub., Mag.); kulipápa (Mag.); kulimpápa (Mag.); malabalinanau (Sbl.); maraúin (Bis., P. Bis.); maulaúin-aso (Kuy.); molaúin (P. Bis., Chab., Tag.); moláve (Ilk., Sbl., Tag., Pamp., Bik., S. L. Bis., P. Bis., C. Bis., Lan.); moláve-batú (C. Bis., Sul.); moláve de playa (Sp.); mulaúin (Pang., Tag., Sbl., Bik., Sul.); muláon (P. Bis.); sagad (Ilk.); salingkápa (Bis.); muraúin (Bis.); sagat (Ilk., Ting.); sasalit (Mag.); topas (Bag.); tugas (P. Bis., C. Bis.); tugas-abgauon (S. L. Bis.); tugas-lanhan (C. Bis.); taga (Ibn.).

VITEX PUBESCENS Vahl Symb. 3 (1794) 85; Schauer in DC. Prodr. 11 (1847) 686; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 585; F.-Vill. Novis. App. (1880) 160; Vidal Sinopsis Atlas (1883) 35, t. 75, f. A, Rev. Pl. Vasc. Filip. (1886) 210; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 427; H. Lam Verb. Malay. Archipel. (1919) 183.

. *Vitex latifolia* Lam. Encycl. 2 (1788) 613; Hallier f. in Meded. Rijks Herb. 37 (1918) 44, non Mill.

Mindoro, Culion, Palawan, Balabac, Jolo, Tawitawi, Guimaras. In the islands mentioned common in once cleared areas, and secondary forests at low altitudes. India to Indo-China, Malay Peninsula, Borneo, Java, Timor, and Celebes.

Local names: Ablas (Tagb.); amuráon (Tagb.); kulimpápa (Sul.); moláve (Tagb., Tag.); morón (Tagb.); salingkápa (P. Bis.).

VITEX QUINATA (Lour.) F. N. Will. in Bull. Herb. Boiss. II 5 (1905) 431.

Cornutia quinata Lour. Fl. Cochinch. (1790) 387, ed. Willd. (1793) 470.

Vitex heterophylla Roxb. Hort. Beng. (1814) 46, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 75; Schauer in DC. Prodr. 11 (1847) 686; Vidal Sinopsis Atlas (1883) 35, t. 85, f. B; F.-Vill. Novis. App. (1880) 160; Hallier f. in Meded. Rijks. Herb. 37 (1918) 45; H. Lam Verb. Malay. Archipel. (1919) 187.

Vitex celebica Koord. in Meded. Lands Plant. 19 (1898) 560, 645; in Philip. Journ. Sci. 13 (1918) Bot. 58; H. Lam Verb. Malay. Archipel. (1919) 211, sp. dub., Bull. Jard. Bot. Buitenz. III 3 (1921) 56.

Luzon (Ilocos Sur, Zambales, Bataan, Rizal), Leyte, Negros, Mindanao (Surigao, Butuan, Zamboanga, Cotabato), B. S. 1410 Ramos, F. B. 14049 Merritt & Darling, 26871 Franco, 24686 Peña, 5837 Curran, 26007 Mallonga, 20746 Rafael & Ponce, 26143 Babaran, 13383 Foxworthy, De Mesa, & Villamil, Merrill 2839, Wenzel 809, Elmer 11602. In forests at low altitudes. India to southern China and Formosa, Malay Peninsula, Sumatra, Java, and Celebes.

Loureiro's type was from the vicinity of Canton and is preserved in the herbarium of the Paris Museum; the species is now very common about Canton. While the Philippine form is not exactly identical with it, it can scarcely be separated. See *V. turczaninowii* Merr.

Local names: Hamulaúin (Sul.); kalipápa-asu (Mag.); kalipápa-madam (Mag.); kamalan (Tag.); limo-límo (Ilk.); limpápa (Sul.); liñgo-liñgo (Ilk.); magúpai (Sul.); moláve-aso (Sul.); tugas (S. L. Bis.).

VITEX TRIFOLIA Linn. Sp. Pl. (1753) 638; Schauer in DC. Prodr. 11 (1847) 683; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 380; Blanco Fl. Filip. (1837) 513, ed. 2 (1845) 358, ed. 3, 2 (1878) 297, *t.* 226; Miq. Fl. Ind. Bat. 2 (1858) 859; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 583; F.-Vill. Novis. App. (1880) 159; Vidal Phan. Cuming. Philip. (1885) 134, Rev. Pl. Vasc. Filip. (1886) 210; Merr. Fl. Manila (1912) 404, Sp. Blancoanae (1918) 332; H. Lam Verb. Malay. Archipel. (1919) 180.

Along the seashore throughout the Philippines. In similar habitats, India to Mauritius and Japan, southward through Malaya to tropical Australia and Polynesia.

Local names: Danglá (Ilk.); lagúndi (Tag., Sbl., Bik., Bis.); lagundian (Lan.); lagundíng-dápat (Tag.); liñgei (Bon.); lipuk (Tag.); tigau (Sul.).

Var. **OVATA** (Thunb.) Makino in Bot. Mag. Tokyo 17 (1903) 92; Merr. Sp. Blancoanae (1918) 332.

Vitex ovata Thunb. Fl. Jap. (1784) 257; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 17, Philip. Journ. Sci. 1 (1906) Suppl. 121, 3 (1908) Bot. 432.

Vitex repens Blanco Fl. Filip. (1837) 513, ed. 2 (1845) 358, ed. 3, 2 (1878) 297.

Vitex trifolia Linn. var. *simplicifolia* Cham. in Linnaea 7 (1832) 107.

Vitex trifolia Linn. var. *unifoliolata* Schauer in DC. Prodr. 11 (1847) 683.

Vitex trifolia Linn. var. *obovata* Benth. Fl. Austral. 5 (1876) 67; Ceron Cat. Pl. Herb. Manila (1892) 133.

A prostrate form with l-foliolate leaves, occurring only on sandy beaches. Common on the coasts of Luzon and Mindoro, India to Japan, Malaya, and Polynesia.

Local names: Agubarau (Bis.); daldaláki (Ilk.); danglá-ti-baybai (Ilk.); dunglá (Tag.); lagundí-dápat (Tag.); lagundíng-gapáng (Tag.).

VITEX TURCZANINOWII Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 77, Philip. Journ. Sci. 1 (1906) Suppl. 121.

Premna philippinensis Turcz. in Bull. Soc. Nat. Mosc. 36² (1863) 215; F.-Vill. Novis. App. (1880) 159, non *Vitex philippinensis* Merr.

Vitex altissima Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 380, Repert. 4 (1844) 84; Schauer in DC. Prodr. 11 (1847) 685, quoad Philip., non Linn. f.

? *Vitex undulata* Walp. l. cc. 380, 83, non Wall.

Viticipremna turczaninowii H. Lam Verb. Malay. Archipel. (1919) 162.

Viticipremna philippinensis H. Lam in Bull. Jard. Bot. Buitenz. III 3 (1921) 47.

Batan Islands, Luzon (Cagayan, Ilocos Sur, Pangasinan, Tayabas, Bataan, Rizal, Laguna, Camarines, Sorsogon), Mindoro, Ticao, Leyte, Mindanao (Surigao, Agusan), *Cuming* 1172, 1173, 1294, *Merrill* 2852, *Phil.*

Pl. 382, *F. B.* 26677 *Peñas*, 20465 *Barros*, 23490 *Manuel*, 25551 *Vargas*, 24194 *Bawan*, 1127, 2961 *Ahern's collector*, 3059 *Borden*, 25884 *Alambra & Borromeo*. In forests at low altitudes. Endemic.

A species badly confused with *Vitex heterophylla* Roxb. = *V. quinata* F. N. Will., the type cited by H. J. Lam under both. The leaves are practically glandless, while the flowers are always yellow, not blue. I can see no valid reason for recognizing the genus *Viticipremna*.

Local names: Boñgogon (S. L. Bis.); kalimantau (Tag.); hamuráun-asu (Bik.); kamalan (Tag.); linolino (Ilk.); lingo-lingo (Ibn., Ilk.); liño-liño (Ig.); magomo (S. L. Bis.); mala-moláve (Tag.); malamuláuin (Tag.); mala-usá (Tag.); muláuin (Tag.); maláuing-ásó (Tag.); tugas (S. L. Bis., P. Bis.); tugas-buñgogon (S. L. Bis.); vasung (Iv).

VITEX UNIFOLIOLATA Merr. in Philip. Journ. Sci. 20 (1922) 438.

Mindanao (Zamboanga), *B. S.* 37048 *Ramos & Edaño*. In forests along streams at low altitudes.

Local name: Babako (Mbo.).

EXCLUDED SPECIES

VITEX PUNCTATA Schauer; *F.-Vill. Novis. App.* (1880) 160.

VITEX VELUTINA (Koord. & Val.) Koord.; H. Lam in Bull. Jard. Bot. Buitenz. III 3 (1921) 54.

A Javan and Sumatran species to which H. Lam refers *F. B.* 3059 *Borden*, which is matched by *Whitford 1335* and *F. B.* 25884 *Alambra & Borromeo*, all from Bataan Province, Luzon. This form has yellow flowers and appears to me to be more closely allied to *Vitex turczaninowii* Merr. than to *V. heterophylla* Roxb. = *V. quinata* (Lour.) F. N. Will., which has blue flowers, and to which *V. velutina* Koord. is closely allied.

11. TEIJSMANNIODENDRON Koorders

TEIJSMANNIODENDRON LONGIFOLIUM (Merr.) comb. nov.

Vitex longifolia Merr. in Philip. Journ. Sci. 5 (1910) Bot. 227; H. Lam Verb. Malay. Archipel. (1919) 201, Bull. Jard. Bot. Buitenz. III 3 (1921) 58.

Vitex merrillii H. Lam Verb. Malay. Archipel. (1919) 212.

Vitex euphlebia Merr. ex H. Lam l. c. in syn.

Mindanao (Agusan, Surigao, Butuan), *F. B.* 7574 *Hutchinson*, 24525 *Miras & Oliveros*, 24341, 24394 *Cortez & Hernandez*, 20752 *Rafael & Ponce*, 20583 *Miranda*, *B. S.* 15906 *Fénix*. In forests at low and medium altitudes. Celebes.

Local names: Atikoko (Mbo., C. Bis.); mamananau (Mbo.); sikukok (Mbo.).

Perhaps not distinguishable from *T. bogoriense* Koord.

TEIJSMANNIODENDRON PTEROPODUM (Miq.) Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 29 (*Teysmanniodendron*).

Vitex pteropoda Miq. Fl. Ind. Bat. Suppl. (1860) 242, 567.

Vitex philippinensis Merr. in Philip. Bureau Forestry Bull. 1 (1903) 52.

Vitex peralata King in Kew Bull. (1908) 112; Gamble in Journ. As. Soc. Beng. 74² (1909) 851.

Samar, Biliran, Leyte, Mindanao (Zamboanga, Davao), *B. S.* 17449, 24490 Ramos, 18525 McGregor, *Cuming* 1689, *Wenzel* 1410, 1656, *Merrill Phil. Pl.* 1326, *Elmer* 7096, *Ahern* 386, *F. B.* 22932 *Fajatin*. In forests at low altitudes. Malay Peninsula, Sumatra, Bangka, Borneo.

12. GMELINA Linnaeus

GMELINA ELLIPTICA Sm. in Rees Cyclop. 16 (1810–11) No. 2.

Gmelina villosa Roxb. Hort. Beng. (1814) 46, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 86; Schauer in DC. Prodr. 11 (1847) 679; Miq. Fl. Ind. Bat. 2 (1858) 866; F.-Vill. Novis. App. (1880) 159; Vidal Rev. Pl. Vasc. Filip. (1886) 210; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 51; Koord. & Val. Bijdr. Boom. Java 7 (1900) 197; H. Lam Verb. Malay. Archipel. (1919) 217.

Gmelina asiatica Linn. var. *villosa* Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 70.

Luzon (Tayabas), Mindoro, Masbate, Panay, Guimaras, Negros, Cebu, Bohol, Mindanao, Basilan, Bongao. Common in thickets and secondary forests at low altitudes. Burma, through Malaya to the Moluccas and the Palau Islands.

Local names: Baṅgana (Bag.); bohól (C. Bis.); bulbuol (P. Bis.); danhaṅgas (Mag.); kalúṅgun (P. Bis.); puhúṅg (Sul.); saonad (Sub.); talauan (P. Bis.); talúṅgud (Sul.); talúṅgun (Sul.); tanlúṅgun (P. Bis.); tulúṅgun (P. Bis.); tuṅgólnol (P. Bis.).

GMELINA PHILIPPENSIS Cham. in Linnaea 7 (1832) 109; Walp. Repert. 4 (1844) 97, Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 380; Merr. Fl. Manila (1912) 406, Sp. Blancoanae (1918) 333.

Gmelina asiatica Blanco Fl. Filip. (1837) 492, ed. 2 (1845) 344, ed. 3, 2 (1878) 274; Schauer in DC. Prodr. 11 (1847) 679, quoad Philip.; F.-Vill. Novis. App. (1880) 159; Vidal Sinopsis Atlas (1883) 36, *t.* 75, *f.* *E*, non Linn.

Gmelina inermis Blanco op. cit. 493, 345, 274, *t.* 215.

Gmelina hystrix Kurz in Journ. As. Soc. Beng. 39² (1870) 81; Hook. f. in Curtis's Bot. Mag. III 50 (1894) *t.* 7391; F.-Vill. Novis. App. (1880) 159; Vidal Phan. Cuming. Philip. (1885) 134; Rev. Pl. Vasc. Filip. (1886) 210; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 121.

Gmelina asiatica Linn. var. *philippinensis* Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 70.

Luzon (Cagayan, Benguet, Pangasinan, Zambales, Bataan, Pampanga, Bulacan, Rizal, Laguna), Panay. In thickets and secondary forests at low and medium altitudes; common. Endemic?

This has been credited to Siam (*G. hystrix* Kurz), but Hallier f., in Meded. Rijks Herb. 37 (1918) 60, confines it to the Philippines. H. Lam, Verb. Malay. Archipel. (1919) 221, reduces it to *G. asiatica* Linn.

Local names: Alipúṅg (Tag.); alipúṅga (Tag.); бага-бабуи (Tag., Bis.); betebet (Pang.); bosel-bosel (Ilk.); kalulut (Pamp.); paniktik (Sbl.); sousou (Ig.); tulóṅgau (P. Bis.).

Bakhuizen gives the range of the variety as Siam, Tenasserim, Cochin-China, and the Philippines.

EXCLUDED SPECIES

GMELINA PARVIFOLIA Roxb.; F.-Vill. Novis. App. 1880) 159.

GMELINA ARBOREA Roxb.; Hallier f. in Meded. Rijks Herb. 37 (1918) 58; H. Lam Verb. Malay. Archipel. (1919) 219; Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 69.

The Philippine record is based on the range as given by C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 581, probably after F.-Villar. The species does not extend to the Philippines.

13. CLERODENDRON Linnaeus

CLERODENDRON BETHUNEANUM Low Sarawak (1848) 378; Hook. Comp. Bot. Mag. 30 (1848) 30, Curtis's Bot. Mag. III 5 (1849) t. 4485; Ceron Cat. Pl. Herb. Manila (1892) 133; H. Lam Verb. Malay. Archipel. (1919) 297.

Clerodendron squamatum Hallier f. in Meded. Rijks Herb. 37 (1918) 81, quoad Philip., haud Vahl.

Clerodendron squamatum Vahl var. *bethuneana* Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 94.

Luzon (Bataan, Tayabas, Laguna, Camarines), Palawan, Balabac, Polillo, Catanduanes, Masbate, Leyte, Panay, Negros, Cebu, Mindanao, Basilan, Wenzel 1044, Ahern 827, Elmer 13641, 12649, Williams 2584, Merrill 8119, 3065, B. S. 786, 602 Foxworthy, 15533 Fénix, 30263 Ramos, 38695, 39076 Ramos & Edaño, 18113 Robinson, 15480 Reillo. In thickets, clearings, and secondary forests at low altitudes; very similar to *C. intermedium* Cham. Borneo, Celebes.

Local names: Anóran (Tagb.); antutun̄gau-pulá (Sul.); biniúang (Tag); guánton (C. Bis.); kali-kali (Sul.); matá-kuó (P. Bis.); maitúm (Mbo.); udan-udan (Sub.).

CLERODENDRON BRACHYANTHUM Schauer in DC. Prodr. 11 (1847) 668; Miq. Fl. Ind. Bat. 2 (1858) 878; F.-Vill. Novis. App. (1880) 161; Vidal Phan. Cuming. Philip. (1885) 135, Rev. Pl. Vasc. Filip. (1886) 211; Usteri Beitr. Ken. Philip. Veg. (1905) 123 (*brachyanthemum*); H. Lam Verb. Malay. Archipel. (1919) 291.

Luzon (Ilocos Norte, Abra, Bontoc, Kalinga, Benguet, Nueva Vizcaya, Rizal, Laguna, Tayabas, Camarines, Sorsogon), Polillo, Mindoro, Catanduanes, Leyte, Mindanao (Agusan). Chiefly in secondary forests at low and medium altitudes; often common. Endemic.

Local names: Hamindáng (Bik.); kayomkom (Tag.); lusib (Klg.); mangha (Tag.); samanpait (Buk.); talabogting (Mbo.).

CLERODENDRON CALAMATOSUM Linn. Mant. 1 (1767) 90; Schauer in DC. Prodr. 11 (1847) 663; F.-Vill. Novis. App. (1880) 160; Ceron Cat. Pl. Herb. Manila (1892) 133; Merr. Fl. Manila (1912) 403, Hallier f. in Meded. Rijks Herb. 37 (1918) 74; H. Lam Verb. Malay. Archipel. (1919) 256.

Luzon (Bontoc, Lepanto, Union, Pangasinan, Nueva Ecija, Tayabas, Bataan, Rizal, Camarines), Mindanao (Zamboanga), Basilan. Chiefly in cultivation for ornamental purposes, occasional in waste places about towns. Introduced. Malay Peninsula, Sumatra, Java.

CLERODENDRON CUMINGIANUM Schauer in DC. Prodr. 11 (1847) 666; Miq. Fl. Ind. Bat. 2 (1858) 875; F.-Vill. Novis. App. (1880) 160; Vidal Phan. Cuming. Philip. (1885) 135, Rev. Pl. Vasc. Filip. (1886) 211; Hallier f. in Meded. Rijks Herb. 37 (1918) 69; H. Lam Verb. Malay. Archipel. (1919) 262.

Panay, Negros, Cebu, Mindanao (Zamboanga), *Cuming 1760, B. S. 35689, 31368, 31359, 36663, 38753 Ramos & Edaña, 7321 Celestino, F. B. 23078 Reyes & Pascual*. Chiefly in secondary forests along streams at low altitudes. Endemic.

Local name: Salumget (Sub.).

CLERODENDRON ELLIPTIFOLIUM Merr. in Philip. Journ. Sci. 7 (1912) Bot. 341; H. Lam Verb. Malay. Archipel. (1919) 261.

Camiguin de Misamis, *B. S. 14463 Ramos*. In clearings and thickets at low altitudes. Endemic.

Bakhuizen, in publishing *Clerodendron sahelangi* Koord. of Celebes, in Bull. Jard. Bot. Buitenz. III 3 (1921) 77, thinks that this may be the same as *C. elliptifolium* Merr.

CLERODENDRON FRAGRANS Vent. Jard. Malm. 2 (1804) t. 70; Schauer in DC. Prodr. 11 (1847) 666; F.-Vill. Novis. App. (1880) 160; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 222; Vidal Phan. Cuming. Philip. (1885) 135, Rev. Pl. Vasc. Filip. (1886) 211; Merr. Fl. Manila (1912) 402; H. Lam Verb. Malay. Archipel. (1919) 259.

Clerodendron philippinum Schauer in DC. Prodr. 11 (1847) 667; Miq. Fl. Ind. Bat. 2 (1858) 877; F.-Vill. Novis. App. (1880) 161; Vidal Phan. Cuming. Philip. (1885) 135, Rev. Pl. Vasc. Filip. (1886) 212; H. Lam Verb. Malay. Archipel. (1919) 319.

Throughout the Philippines in cultivation, occasional also as an escape in and near towns. A native of southeastern Asia, now pantropic in cultivation.

Local names: Higantong (Bis.); mil flores (Sp.); pelegrina (Bik.); peregrino (Sp.); sabuka (Ig.).

CLERODENDRON INERME (Linn.) Gaertn. Fruct. 1 (1788) 271; Schauer in DC. Prodr. 11 (1847) 660; Miq. Fl. Ind. Bat. 2 (1858) 868; F.-Vill. Novis. App. (1880) 160; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 122; H. Lam Verb. Malay. Archipel. (1919) 251.

Volkameria inermis Linn. Sp. Pl. (1753) 637.

Volkameria commersonii Poir. in Lam. Encycl. 8 (1808) 688.

Clerodendron commersonii Spreng. Syst. 2 (1825) 758; Schauer in DC. Prodr. 1 (1847) 673; Miq. Fl. Ind. Bat. 2 (1858) 883; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 245, Fl. Manila (1912) 403, Sp. Blancoanae (1918) 334.

Volkameria nereifolia Roxb. Fl. Ind. ed. 2, 3 (1832) 64.

Clerodendron neriifolium Wall. Cat. (1829) No. 1789; Schauer in DC. Prodr. 11 (1847) 660; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 589; Gamble in Journ. As. Soc. Beng. 74² (1909) extra number 827.

Clerodendron capsulare Blanco Fl. Filip. (1837) 509, ed. 2 (1845) 355, ed. 3, 2 (1878) 292, t. 224; Schauer in DC. Prodr. 11 (1847) 674.

Along the seashore and tidal streams throughout the Philippines. India to Formosa through Malaya to tropical Australia and Polynesia.

Local names: Añg-angri (Ilk.); baliseng (Bis.); busel-busel (Ilk.); mañgotñgot (Tag.); samín-añga (Sul.); tabañgoñgong (P. Bis.).

CLERODENDRON INTERMEDIUM Cham. in Linnaea 7 (1832) 105; Schauer in DC. Prodr. 11 (1847) 669; Miq. Fl. Ind. Bat. 2 (1858) 880; Vidal Phan. Cuming. Philip. (1885) 135, Rev. Pl. Vasc. Filip. (1886) 221; F.-Vill. Novis. App. (1880) 161; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 122, 3 (1908) Bot. 431, Fl. Manila (1912) 402, Sp. Blancoanae (1918) 335; H. Lam Verb. Malay. Archipel. (1919) 298.

Volkameria inermis Blanco Fl. Filip. (1837) 511, non Linn.

Volkameria casopanguil Blanco op. cit. ed. 2 (1845) 356, ed. 3, 2 (1878) 294, t. 173.

Clerodendron paniculatum Perr. in Mém. Soc. Linn. Paris 3 (1824) 110, non Linn.

Clerodendron blumeianum Hallier f. in Meded. Rijks Herb. 37 (1918) 78, quoad Philip., non Schauer.

Clerodendron squamatum H. Lam Verb. Malay. Archipel. (1919) 302, quoad Philip., non Vahl.

Throughout the Philippines in thickets, secondary forests, and open damp places at low and medium altitudes, often common. Formosa, Borneo, Celebes, ? Sumatra. Bakhuizen, perhaps correctly, reduces this to *Clerodendron squamatum* Vahl.

Local names: Aloksok (Bis.); asuañgai (Bis.); balantana (Bis.); bantana (Bis.); dagtung (C. Bis.); humang (If.); igiñga (Tag.); kalalauan (Neg.); kasopáñgil (Tag.); kasupángil (Tag.); katuñgátun (Mag.); kolo-kolog (Bis.); laroan-anító (Tag.); libintano (P. Bis.); pakapis (Bis.); salinguák (P. Bis.).

CLERODENDRON KLEMMEI Elm. Leaf. Philip. Bot. 2 (1908) 514; H. Lam Verb. Malay. Archipel. (1919) 309.

Luzon (Cagayan, Ilocos Norte, Abra, Bontoc, Lepanto, Benguet, Nueva Vizcaya, Laguna), *Elmer* 8679, *F. B.* 13059 *Wood*, 11618, 16618, 16603 *Curran*, 5684 *Klemme*, 15834 *Curran & Merritt*, *B. S.* 7712, 7251, 27024 *Ramos*, 20191 *McGregor*, 9691 *Robinson*. In thickets and forests at medium altitudes, ascending to 1,600 m. Endemic.

Local name: Luag (Klg.).

CLERODENDRON LANUGINOSUM Blume Bijdr. (1826) 810; Schauer in DC. Prodr. 11 (1847) 672; Miq. Fl. Ind. Bat. 2 (1858) 882; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 52; H. Lam Verb. Malay. Archipel. (1919) 294.

Camiguin de Misamis, Mindanao (Agusan, Lanao, Bukidnon, Zamboanga), Basilan, *Elmer* 13559, *Weber* 1102, *Merrill* 8239, *Hallier*, *B. S.* 996, 10000 *Robinson*, 14477 *Ramos*, 38617 *Ramos & Edaño*, 15404 *Reillo*, *F. B.* 25911 *Alviar*. In thickets and secondary forests at low altitudes. Banda, Ternate, Ceram.

Local names: Antutun̄gau-taluk (Sub.); magalablab (Bag.); salumpapait (Lan.); takipan (Sul.); tanogo (Sul.).

CLERODENDRON LUZONIENSE Merr. in Philip. Journ. Sci. 20 (1922) 436.

Luzon (Camarines), *B. S.* 33784, 33779 Ramos & Edaña. In damp forests at low altitudes. Endemic.

CLERODENDRON MABESAE Merr. in Philip. Journ. Sci. 12 (1917) Bot. 302.

Luzon (Laguna), *F. B.* 26796 Mabesa. In primary forests, altitude about 300 m. Endemic.

CLERODENDRON MACROCALYX H. Lam Verb. Malay. Archipel. (1919) 293.

Siargao, Mindanao (Surigao, Davao, Lanao), *Elmer* 11338, *Ahern* 691, *De Vore & Hoover* 173, *Clemens* 662, *B. S.* 34904, 35024, 34382 Ramos & Pascasio, *F. B.* 26265 Mallonga. In thickets and secondary forests at low and medium altitudes; all identified as *C. lanuginosum* Blume. Endemic.

CLERODENDRON MACROSTEGIUM Schauer in DC. Prodr. 11 (1847) 666; Miq. Fl. Ind. Bat. 2 (1858) 875, Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 253; F.-Vill. Novis. App. (1880) 160; Vidal Phan. Cuming. Philip. (1885) 135, Rev. Pl. Vasc. Filip. (1886) 211; Merr. in Philip. Journ. Sci. 11 (1916) Bot. 310, Sp. Blancoanae (1918) 334; H. Lam Verb. Malay. Archipel. (1919) 263.

Volkameria grandiflora Blanco Fl. Filip. (1837) 512, ed. 2 (1845) 357, ed. 3, 2 (1878) 295; Schauer in DC. Prodr. 11 (1847) 657; Miq. Fl. Ind. Bat. 2 (1858) 883, non *Clerodendron grandiflorum* Schauer.

Clerodendron grandiflorum H. Lam Verb. Malay. Archipel. (1919) 318, non Schauer.

Luzon (Nueva Vizcaya, Rizal, Tayabas), Mindoro, Sibuyan, Panay, *Cuming* 1541, *Merrill* 1860, 1244, 1260, 886, *Sp. Blancoanae* 1026, *Loher* 6573, *Elmer* 12161, *F. B.* 6697 Kobbe, 3330 Ahern's collector, 9957, 3707 Merritt, *B. S.* 936 Mangubat. In secondary forests and thickets at low altitudes. Ceram, Amboina, Saparua.

Local names: Agboligan (Ilk.); aktoligan (Ilk.); bagáuak (Tag.); baúgak (P. Bis.); kasopán̄gil-na-putí (Tag.); magboligan (Ilk.); nakboligan (Ilk.); payi-payi (P. Bis.).

CLERODENDRON MINAHASSAE Teysm. & Binn. in Nat. Tijdschr. Nederl. Ind. 25 (1863) 409; Miq. Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 251, t. 9; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 52, Fl. Manila (1912) 402, Sp. Blancoanae (1918) 334; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 220; H. Lam Verb. Malay. Archipel. (1919) 314.

Clerodendron fortunatum Blanco Fl. Filip. (1837) 508, ed. 2 (1845) 354, ed. 3, 2 (1878) 291, t. 223; H. Lam op. cit. 317, non Linn.

Clerodendron blancoi Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 223; Vidal Rev. Pl. Vasc. Filip. (1886) 211; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 122, Govt. Lab. Publ. (Philip.) 27 (1905) 68, 35 (1906) 76.

Clerodendron infortunatum F.-Vill. Novis. App. (1880) 161, non Linn.

Northern Luzon (Cagayan) to Mindanao and Basilan, in most islands and provinces. Often common in thickets and secondary forests at low and medium altitudes. Celebes, Sulu Islands.

H. Lam Verb. Malay. Archipel. (1919) 315, distinguishes the Philippine form as var. *brevitubulosum* H. Lam.

Local names: Amamboligan (Ilk.); ambuligan (Ilk.); ayam-ayam (Ilk.); bagalbak (Sbl.); bagáuak (Tag.); bagáuak-itím (Tag.); bagáuak-na-putí (Tag.); bakóbok (Ilk.); danata (S. L. Bis.); kasopángil-gúbat (Tag.); ku-ku (Sul.); sunkol (S. L. Bis.); tabúgok (Sub.).

CLERODENDRON MINDORENSE Merr. in Philip. Journ. Sci. 7 (1912)

Bot. 342; H. Lam Verb. Malay. Archipel. (1919) 309.

Clerodendron simile Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 64, non Pearson.

Luzon (Sorsogon), Mindoro, Semirara, Negros, Mindanao (Misamis), Merrill 1234, 1192, Elmer 15494, McGregor 210, 273, F. B. 6897, 4043, 6186, 6142 Merritt, 17421 Curran. In primary and secondary forests at low altitudes. Endemic.

Local names: Bagab (Mang.); bagáuak (Tag.).

CLERODENDRON MULTIBRACTEATUM Merr. in Philip. Journ. Sci. 7 (1912) Bot. 98; H. Lam Verb. Malay. Archipel. (1919) 270.

Luzon (Bontoc, Lepanto), Mindoro, Vanoverbergh 777, Merrill 5516, Sandkuhl 297, F. B. 5713 Klemme, B. S. 37836 Ramos & Edaño. In the mossy forests, altitude 1,600 to 2,000 m. Endemic.

Local name: Palutan (Ig.).

CLERODENDRON PRESLI Elm. Leaf. Philip. Bot. 2 (1908) 515; H. Lam Verb. Malay. Archipel. (1919) 314.

Negros, Elmer 10223. In the mossy forest, altitude about 1,400 m. Endemic.

CLERODENDRON PUBERULUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 72; H. Lam Verb. Malay. Archipel. (1919) 283.

Mindanao (Cotabato, Davao), De Vore & Hoover 177, Copeland 414, B. S. 38348 Wester. In thickets and open places at low altitudes. Endemic.

Local name: Urang-urang (Mag.).

If Bakhuizen is correct in his synonym, Bull. Jard. Bot. Buitenz. III 3 (1921) 91, I do not see how this can possibly be referred to *Clerodendron buchanani* (Roxb.) Walp. Its true alliance is with *C. intermedium* Cham.

CLERODENDRON QUADRILOCULARE (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 63, Philip. Journ. Sci. 1 (1906) Suppl. 122, Fl. Manila (1912) 402, Sp. Blancoanae (1918) 335; Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 85.

Ligustrum quadriloculare Blanco Fl. Filip. (1837) 10, ed. 2 (1845) 7, ed. 3, 1 (1877) 14, t. 225; A. DC. Prodr. 8 (1844) 294.

Clerodendron blancoanum F.-Vill. Novis. App. (1880) 161; Merr. Sp. Blancoanae (1918) 20; Hallier f. in Meded. Rijks Herb. 37 (1918) 75.

Clerodendron longiflorum Schauer in DC. Prodr. 11 (1847) 670 (quoad Philip.); Miq. Fl. Ind. Bat. 2 (1858) 884 (quoad Philip.); F.-Vill. Novis. App. (1880) 161, non Decne.

Clerodendron navesianum Vidal Cat. Pl. Prov. Manila (1880) 39, Sinopsis Atlas (1883) 35, t. 75, f. D, Rev. Pl. Vasc. Filip. (1886) 210; H. Lam Verb. Malay. Archipel. (1919) 313.

Luzon (Benguet, Nueva Vizcaya, Pangasinan, Zambales, Pampanga, Bataan, Rizal, Laguna, Batangas), Mindoro, Ticao, Panay, Negros, Siargao, Bucas Grande. In primary forests at low and medium altitudes. New Guinea, fide Bakhuizen.

Local names: Bagáuak (Tag.); bagáuak-na-pulá (Tag.); baligtárin (Tag.); baliktáran (Tag.); salingúak (Tag.); uak-uák (S. L. Bis.).

CLERODENDRON THOMSONAE Balf. in Edinb. New Philos. Journ. II 15 (1862) 233; Merr. Fl. Manila (1912) 402; Curtis's Bot. Mag. t. 5313; H. Lam Verb. Malay. Archipel. (1919) 255.

In cultivation only, of recent introduction. A native of tropical Africa, now cultivated in most tropical countries.

Local name: Secreto de amor (Sp.).

CLERODENDRON TRICHOTOMUM Thunb. Fl. Jap. (1784) 256; Schauer in DC. Prodr. 11 (1847) 668; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 432; H. Lam Verb. Malay. Archipel. (1919) 273; Hallier f. Meded. Rijks Herb. 37 (1918) 69.

Batan Islands, Luzon (Cagayan, Isabela, east coast), B. S. 3615 *Fénix*, 10162 *McGregor*, 3114 *Mearns*. In thickets at low altitudes. Japan to southern China and Formosa.

Local name: Túñgau (Iv.).

CLERODENDRON VANOVERBERGHII Merr. in Philip. Journ. Sci. 7 (1912) Bot. 98; H. Lam Verb. Malay. Archipel. (1919) 286.

Luzon (Bontoc), *Vanoverbergh* 838. In forests, altitude about 1,650 m. Endemic.

This is reduced by Bakhuizen, in Bull. Jard. Bot. Buitenz. III 3 (1921) 90, to *C. butuanum* Miq. of New Guinea and the Moluccas.

CLERODENDRON VILLOSUM Blume Bijdr. (1826) 811; Schauer in DC. Prodr. 11 (1847) 667; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 589; F.-Vill. Novis. App. (1880) 161; Gamble in Journ. As. Soc. Beng. 74² (1909) extra number 836; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 342; H. Lam Verb. Malay. Archipel. (1919) 289; Hallier f. in Meded. Rijks Herb. 37 (1918) 62.

Clerodendron infortunatum Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 380?; Ceron Cat. Pl. Herb. Manila (1892) 133?, non Linn.

Clerodendron curranii Elm. Leaf. Philip. Bot. 5 (1913) 1846; H. Lam Verb. Malay. Archipel. (1919) 288.

Culion, Palawan, Balabac, Bancalan, *Elmer* 12860, *Merrill* 671, 799, 7237, *Phil. Pl.* 1299, B. S. 477, 417 *Mangubat*. In old clearings, thickets, etc., at low altitudes. Burma, Malay Peninsula, Penang, Sumatra, Java, Borneo.

F. B. 10973 *Curran*, referred here by Lam, is a fruiting specimen of *C. brachyanthum* Schauer.

CLERODENDRON WENZELII Merr. in Philip. Journ. Sci. 9 (1914) Bot. 385; H. Lam Verb. Malay. Archipel. (1919) 285.

Leyte, *Wenzel* 627. In forests, altitude about 500 m. Endemic.

CLERODENDRON WILLIAMSII Elm. Leaf. Philip. Bot. 2 (1910) 684;
H. Lam Verb. Malay. Archipel. (1919) 281.

Clerodendron macrophyllum Blume var. *sinuato-lobatum* Hallier f.
in Meded. Rijks Herb. 37 (1918) 73; Bakh. in Bull. Jard. Bot.
Buitenz. III 3 (1921) 82.

Camiguin, de Misamis, Mindanao (Davao, Lanao, Zamboanga), Jolo,
Williams 2174, Elmer 11149, 14236, Merrill 8250, 5314, Copeland 958,
F. B. 23171 Agama. In forests at medium altitudes. Endemic.

Local name: Dibalai (Bag.).

EXCLUDED SPECIES

CLERODENDRON BLUMEANUM Schauer; F.-Vill. Novis. App. (1880) 161.

CLERODENDRON DISPARIFOLIUM Blume; F.-Vill. op. cit. 160.

CLERODENDRON FALLAX Lindl.; F.-Vill. l. c.

CLERODENDRON OBTUSIDENS Miq.; F.-Vill. l. c.

CLERODENDRON SERRATUM Spreng.; F.-Vill. l. c.

CLERODENDRON SIPHONANTHUS R. Br.; F.-Vill. op. cit. 161.

CLERODENDRON SQUAMATUM Vahl; F.-Vill. l. c.

CLERODENDRON URTICIFOLIUM Wall.; F.-Vill. l. c.

14. PETRAEOVITEX Oliver

PETRAEOVITEX TRIFOLIATA Merr. in Philip. Journ. Sci. 2 (1907) Bot.
425; H. Lam Verb. Malay. Archipel. (1919) 324.

Petraeovitex ternata Hallier f. Meded. Rijks Herb. 37 (1918) 85;
H. Lam Verb. Malay. Archipel. (1919) 324, saltem quoad Philip.

Palawan, Mindanao (Zamboanga), Basilan, *B. S. 708 Foxworthy, 15524*
Fénix, 16410 Reillo, Elmer 12892, Hallier. In forests at low altitudes,
ascending to 900 m. Borneo.

15. SYMPHOREMA Roxburgh

SYMPHOREMA LUZONICUM (Blanco) F.-Vill. Novis. App. (1880) 162;
Perk. Frag. Fl. Philip. (1904) 3; Merr. in Philip. Journ. Sci. 1
(1906) Suppl. 122, Fl. Manila (1912) 400, Sp. Blancoanae (1918)
335.

Balabai Blanco Fl. Filip. (1837) 406.

Litsea luzonica Blanco op. cit. ed. 2 (1845) 284, ed. 3, 2 (1878) 162.

Sczegleewia luconensis Turcz. in Bull. Soc. Nat. Mosc. 36² (1863)
212.

Symphorema glabrum Hassk. in Flora 48 (1865) 402; H. Lam Verb.
Malay. Archipel. (1919) 330.

Symphorema involucratum Llanos ex F.-Vill. & Naves in Blanco Fl.
Filip. ed. 3, 4¹ (1880) 105, non Kurz.

Symphorema luzoniense Vidal Sinopsis Atlas (1883) 36, t. 75, f. F,
Phan. Cuming. Philip. (1885) 135, Rev. Pl. Vasc. Filip. (1886) 212.

Symphorema cumingianum Briq. in Engl. & Prantl Nat. Pflanzenfam.
4^{3a} (1894) 180, *nomen nudum*.

Luzon (Ilocos Norte, Nueva Ecija, Pampanga, Bataan, Rizal, Laguna, Tayabas), Mindoro, Busuanga, Palawan. Common in secondary and primary forests at low altitudes. Endemic.*

Local names: Balábai (Tag.); malabulaon (Pamp.); malasiad (Tag.); malasiag (Tag.); malaskog (Tag.); muláuing-báging (Tag.); pamulak-lakin (Tag.).

16. *AVICENNIA* Linnaeus

AVICENNIA MARINA (Forsk.) Vierh. in Denkschr. Akad. Wissensch. Wien 71 (1907) 435; Bakh. in Bull. Jard. Bot. Buitenz. 3 (1921) 102, 203, t. 14-19.

Sceura marina Forsk. Fl. Aegypt.-Arab. (1775) 37.

Throughout the Philippines on muddy seashores and along tidal streams, very common. India to Malaya, tropical Australia, and Polynesia.

Local names: Api-ápi (Sul., P. Bis., Mag., Tag.); buñgálan (P. Bis.); buñgálon (Tag., Sbl., Bik.); buñgálu (Tag.); buñgálun (Tag.); kalapíni (Tag., Pang.); kalapíni mañgitit (Sbl.); kalapíni-maputí (Tag.); kulási (Mag., Bag.); kuyápi (Bik.); liñgog (Ibn.); liñgig (Neg.); mabaran (Bag.); miápi (S. L. Bis.); piápi (Mbo., P. Bis., Tag.); piksik (Tag.); pipisig (Bik.); pipisik (Tag.); sagarai (Bag.).

A species characterized by its expanded flowers being but 2.5 to 5 mm in diameter. The recognized forms occurring in the Philippines, all but one previously referred to *Avicennia officinalis* Linn., are as follows:

Var. *ALBA* (Blume) Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 103, 207, t. 14, 15.

Avicennia alba Blume Bijdr. (1826) 821; Koord. & Val. Bijdr. Boom. Java 7 (1900) 221.

Mindanao (Misamis, Lanao, Surigao, Cotabato), *F. B. 23322 Agama, 17958 Miranda, 19547 Klemme, 3947 Hutchinson, Bolster 400*. India to southern China through Malaya to Polynesia.

Var. *RESINIFERA* (Forst.) Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 104, 210, t. 16.

Avicennia resinifera Forst. Pl. Esculent. (1786) 72, Prodr. (1786) 45.

Avicennia eucalyptifolia Zipp. ex Miq. Fl. Ind. Bat. 2 (1858-59) 912; Hallier f. in Meded. Rijks Herb. 37 (1918) 89.

Avicennia mindanaensis Elm. Leaf. Philip. Bot. 8 (1915) 2868.

Negros, Leyte, Panay, Mindanao, *Elmer 11990, F. B. 17337, 17451 Curran, 23088 Pascual, 28353 Mataya*. Along muddy seashores and tidal streams. Timor, Billiton, Moluccas, to Australia, New Zealand, and Polynesia.

Var. *RUMPHIANA* (Hallier f.) Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 104, 213, t. 19.

Avicennia rumphiana Hallier f. in Meded. Rijks Herb. 37 (1918) 89.

Avicennia officinalis Schauer in DC. Prodr. 11 (1847) 700 p. p.; F.-Vill. Novis. App. (1880) 162; Vidal Sinopsis Atlas (1883) 36, t. 75, f. G, Rev. Pl. Vasc. Filip. (1886) 212; Koord. & Val. Bijdr. Boom. Java 7 (1900) 217 p. p.; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 122, Fl. Manila (1912) 397, Sp. Blancoanae (1918) 335; H. Lam Verb. Malay. Archipel. (1919) 340 p. p., non Linn.

Avicennia nitida Blanco Fl. Filip. (1837) 504, non Jacq.

Avicennia tomentosa Blanco op. cit. ed. 2 (1845) 353, ed. 3, 2 (1878) 289, t. 73, Hallier f. in Meded. Rijks Herb. 37 (1918) 88, non Jacq.

Avicennia marina Vierh. var. *intermedia* Bakh. op. cit. 104, 211, p. p., quoad Philip.

Throughout the Philippines, the very common form, previously all referred to *Avicennia officinalis* Linn. Singapore, Borneo, Ternate, Amboina, New Guinea.

AVICENNIA OFFICINALIS Linn. Sp. Pl. (1753) 110; Schauer in DC. Prodr. 11 (1847) 700; Bakh. in Bull. Jard. Bot. Buitenz. III 3 (1921) 102, 214, t. 20, 21, cum syn.

Avicennia oepata Ham. in Trans. Linn. Soc. 17 (1835) 221; Hallier f. in Meded. Rijks Herb. 37 (1918) 89.

Luzon (Tayabas, Camarines), Mindoro, Palawan, Samar, Negros, Mindanao (Zamboanga), *F. B.* 19386 Curran, 25835 Valderrama, 9796 Merritt, 24763 Miranda, 21470 Alvarez, 26946 Cailipan, 7494 Manalo, *B. S.* 761 Foxworthy, Merrill 2431, Whitford 588. Along muddy seashores and tidal streams. India to southern China and Formosa through Malaya to New Guinea.

A species distinguished especially by its expanded flowers being 1 to 1.5 cm in diameter.

Local names: Api-ápi (Tag.); bungálon (Tag., Bik.); miápi (S. L. Bis.); piápi (Tag.).

LABIATAE

1. CYMARIA Benth

CYMARIA ACUMINATA Decne. in Nouv. Ann. Mus. Paris 3 (1834) 71; Benth. in DC. Prodr. 12 (1848) 602; F.-Vill. Novis. App. (1880) 166; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 214.

Luzon (Pangasinan, Rizal, Laguna, Batangas), Mindanao (Davao, Cotabato, Bukidnon), Jolo, *Cuming* 446, *Merrill Phil. Pl.* 1833, *B. S.* 29473 Ramos & Edaño, 13587, 22324 Ramos, 24966 Fénix. In thickets and secondary forests at low and medium altitudes. Java, Timor.

Local name: Nigu-nigu (Sul.).

2. AJUGA Linnaeus

AJUGA BRACTEOSA Wall. Cat. (1830) No. 2032, *nomen nudum*; Benth. in Wall. Pl. As. Rar. 1 (1830) 59; Hook. f. Fl. Brit. Ind. 4 (1885) 702.

Luzon (Benguet, Bontoc, Cavite), Mindanao (Lanao), *Merrill* 4422, 7773, 10626, *Elmer* 6594, 8626, *Williams* 1122, *Vanoverbergh* 222, *Clemens* 570, *B. S.* 5541 Ramos, 37874 Ramos & Edaño, 14047 Robinson. Chiefly on banks, in ravines, sometimes in open cultivated areas, altitude 600 to 1,700 m. Afghanistan to China and Japan.

The specimens were all distributed under an unpublished binomial proposed by Mr. Rolfe. Examination of more-ample material at Kew has led to the identification of the Philippine form with Wallich's Asiatic species.

3. **TEUCRIUM** Linnaeus

TEUCRIUM VISCIDUM Blume Bijdr. (1826) 827.

Teucrium stoloniferum Roxb. Hort. Beng. (1814) 44, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 3; Benth. in Wall. Pl. As. Rar. 1 (1830) 58.

Teucrium philippinense Merr. in Philip. Journ. Sci. 7 (1912) Bot. 100.

Luzon (Bontoc, Benguet), *Vanoverbergh 1374*, *F. B. 4935 Curran*. In forests and in thickets about limestone boulders, altitude 1,400 to 1,700 m. India to China and Java.

4. **ROSMARINUS** Linnaeus

ROSMARINUS OFFICINALIS Linn. Sp. Pl. (1753) 23; Benth. in DC. Prodr. 12 (1848) 360; Blanco Fl. Filip. (1837) 20, ed. 2 (1845) 15, ed. 3, 1 (1877) 28, *t. 94*; F.-Vill. Novis. App. (1880) 165; Merr. Fl. Manila (1912) 407, Sp. Blancoanae (1918) 336.

Cultivated in gardens for medicinal purposes and commonly sold in the markets. Introduced from Europe. Rosemary.

Local names: Duméro (Tag.); roméro (Sp.).

5. **GOMPHOSTEMMA** Wallich

GOMPHOSTEMMA PHILIPPINARUM Benth. in DC. Prodr. 12 (1848) 551; F.-Vill. Novis. App. (1880) 166; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 214; Prain in Ann. Bot. Gard. Calcutta 3 (1891) 259, *t. 101*; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 299.

Gomphostemma cinereum Elm. Leaf. Philip. Bot. 8 (1919) 3086.

Northern Luzon to Mindanao and Basilan, in most islands and provinces, incl. *Elmer 13469* as *G. luzonense* Elm. In forests, chiefly at medium and higher altitudes, in Benguet ascending to 2,200 m. Endemic.

This species presents considerable variation, especially in its leaf characters and in its indumentum. It would probably be best to refer it to *Gomphostemma oblongum* Wall., a species of the Malay Peninsula and Indo-China; *Cuming 1840*, the type collection, was from Bohol.

Local names: Ata-ata (Tag.); kagong (Bag.); kasunisúni (Buk.); magtiñgon (Buk.).

EXCLUDED SPECIES

GOMPHOSTEMMA JAVANICUM Benth.; F.-Vill. Novis. App. (1880) 166.

6. **SCUTELLARIA** Rivinius

SCUTELLARIA INDICA Linn. Sp. Pl. (1753) 600; Benth. in DC. Prodr. 12 (1848) 417, Fl. Hongk. (1861) 278.

Scutellaria copelandii Merr. in Philip. Journ. Sci. 7 (1912) Bot. 349.

Luzon (Ilocos Norte), Mindanao (Zamboanga, Cotabato, Butuan), *Weber 1512*, *Merrill 8210*, *Copeland 1597*, *B. S. 27180*, *33197 Ramos*. On cliffs and boulders along streams at low and medium altitudes. Eastern Siberia and Manchuria to Japan to southern China and Formosa; by some authors credited also to New Guinea.

Local name: Banod (Bag.).

SCUTELLARIA LUZONICA Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 315; Ceron Cat. Pl. Herb. Manila (1892) 135; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 122, 2 (1907) Bot. 299, 5 (1910) Bot. 381.

Scutellaria marivelensis Elm. Leaf. Philip. Bot. 2 (1908) 516.

Luzon (Cagayan, Abra, Bontoc, Benguet, Zambales, Bulacan, Bataan, Rizal, Batangas, Tayabas), Mindoro. In ravines, on ridges in the mossy forest, etc., altitude 800 to 2,400 m, occasionally found along mountain streams at lower altitudes. New Guinea.

Local names: Lupiñgan (Ig.); sidit (Ig.).

SCUTELLARIA RUSSELIAEFOLIA Vatke in Bot. Zeit. 30 (1872) 716.

Luzon (Ifugao, Zambales, Tayabas, Laguna, Camarines, Albay, Sorsogon), Mindoro, Catanduanes, Leyte, Panay, *Jagor* 884, *B. S.* 4772, 22205, 20801 *Escritor*, 29171 *Ramos & Edaño*. In forests at medium altitudes, often in the mossy forest above an altitude of 1,000 m. Endemic.

7. CALAMINTHA Moench

CALAMINTHA UMBROSA (Bieb.) Benth. in DC. Prodr. 12 (1848) 233; Hook. f. Fl. Brit. Ind. 4 (1885) 450; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 123; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 383.

Melissa umbrosa Bieb. Fl. Taur.-Cauc. 2 (1808) 63.

Stachys rubisepala Elm. Leaf. Philip. Bot. 1 (1908) 338.

Calamintha repens Benth. in DC. Prodr. 12 (1848) 233.

Luzon (Abra, Bontoc, Benguet). Common in shaded ravines and often on open slopes, altitude 1,200 to 2,200 m. Caucasus to Japan southward to Java.

Local name: Pupuguk (Ig.).

8. LEUCAS R. Brown

LEUCAS ASPERA (Willd.) Spreng. Syst. 2 (1825) 743; Benth. in DC. Prodr. 12 (1848) 532; Miq. Fl. Ind. Bat. 2 (1858) 982; Hook. f. Fl. Brit. Ind. 4 (1885) 690; F.-Vill. Novis. App. (1880) 165; Usteri Beitr. Ken. Philip. Veg. (1905) 124.

Phlomis aspera Willd. in Link Enum. Hort. Berol. 2 (1822) 621.

Luzon (Cagayan, Isabela, Ilocos Norte, Abra, Union, Pampanga, Bataan, Rizal), Mindoro, Mindanao (Lanao). In open dry sandy soil, a weed in waste places, locally abundant; certainly introduced. India to Mauritius and Java.

Local names: Karukansóli (Tag.); pansí-pánsi (Ting., Tag., Bis.); pay-si-páysi (Bis.); sipsipan (Pamp.); sulasulasíhan (Tag.).

LEUCAS JAVANICA Benth. Lab. Gen. Sp. (1836) 611, DC. Prodr. 12 (1848) 528; F.-Vill. Novis. App. (1880) 165; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 214; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 433, Fl. Manila (1912) 412.

Batan Islands, Luzon (Ilocos Norte, Rizal, Bataan, Laguna, Tayabas, Batangas), Mindoro, Coron, Palawan, Mindanao (Agusan, Zamboanga). In thickets, old clearings, about walls, etc., at low and medium altitudes. Formosa, Java.

Local names: Banbansit (Ilk.); paling-harap (Tag.).

LEUCAS LAVANDULIFOLIA Sm. in Rees Cycl. 20 (1812) No. 2; Merr. Fl. Manila (1912) 412, Sp. Blancoanae (1918) 336.

Leucas linifolia Spreng. Syst. 2 (1825) 743; Benth. in DC. Prodr. 12 (1848) 533; Miq. Fl. Ind. Bat. 2 (1858) 983; Hook. f. Fl. Brit. Ind. 4 (1885) 690; F.-Vill. Novis. App. (1880) 165; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 214.

Phlomis zeylanica Blanco Fl. Filip. (1837) 475 (*ceilanica*), ed. 2 (1845) 331, ed. 3, 2 (1878) 248, non Linn.

Luzon (Cagayan to Sorsogon), Polillo, Mindoro, Mindanao (Surigao). A common weed in open waste places at low and medium altitudes; certainly introduced. India to southern China, the Mascarene Islands, and Malaya.

Local names: Karukansóli (Tag.); kaskasúmba (Ilk.); laṅga-laṅga (Bik.); pansi-pánsi (Bis., Tag.); paysi-páysi (Bis.); salita (Tag.); so-lasolasíhan (Tag.).

LEUCAS MOLLISSIMA Wall. Pl. As. Rar. 1 (1830) 62; Benth. in DC. Prodr. 12 (1848) 525; Hook. f. in Fl. Brit. Ind. 4 (1885) 682; Merr. & Rolfe in Philip. Journ. Sci. 5 (1910) Bot. 381.

Leucas sericea Elm. Leaf. Philip. Bot. 1 (1908) 340.

Luzon (Ilocos Norte, Lepanto, Bontoc, Benguet) Mindoro, Golo, *Loher 4226*, *Elmer 6576, 8409*, *Williams 1360*, *B. S. 5323, 5456* *Ramos, 38112* *Ramos & Edaño, F. B. 16338* *Curran, Merritt, & Zschokke*. On open slopes, about ledges, etc., chiefly in the pine region, altitude 1,000 to 1,700 m. India to China.

Local names: Bagbagsaṅgi (Bon.); pangpaṅgau (Bon.).

LEUCAS ZEYLANICA (Linn.) R. Br. ex Spreng. Syst. 2 (1825) 742 (*ceylanica*); Benth. in DC. Prodr. 12 (1848) 531; Hook. f. Fl. Brit. Ind. 4 (1885) 689; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 122; Hallier f. in Bull. Herb. Boiss. 6 (1898) 617.

Phlomis zeylanica Linn. Sp. Pl. (1753) 586.

Leucas bancana Miq. Fl. Ind. Bat. Suppl. (1861-62) 572.

Spermacoce ? denticulata Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 353, Repert. 6 (1846) 29; F.-Vill. Novis. App. (1880) 113.

Luzon (Nueva Vizcaya, Bataan), Panay, Mindanao (Lanao, Davao), *Williams 56*, *Merrill 3095*, *Whitford 514*. In open grasslands at low altitudes. Tropical Asia to Malaya.

Local names: Guma-guma (Sul.); masibulan (Gad.).

DOUBTFUL SPECIES

LEUCAS PUBESCENS Benth.; Usteri Beitr. Ken. Philip. Veg. (1905) 124.

I have seen no specimens of this species, which is definitely known only from India; the identification of Usteri's specimen is probably wrong.

LEUCAS MARRUBIODES Wall.; Ceron Cat. Pl. Herb. Manila (1892) 135.

The record is based on *Vidal 3468* from Panay, which is perhaps a form of *Leucas mollissima* Wall.

9. PARAPHLOMIS Prain

PARAPHLOMIS RUGOSA (Benth.) Prain in Ann. Bot. Gard. Calcutta 9 (1901) 60, Journ. As. Soc. Beng. 74² (1907) 721.

Phlomis rugosa Benth. in Wall. Pl. As. Rar. 1 (1830) 63, Lab. Gen. Sp. (1836) 634, DC. Prodr. 12 (1848) 545; Hook. f. Fl. Brit. Ind. 4 (1885) 693.

Gomphostemma membranifolium Miq. Fl. Ind. Bat. 2 (1858) 988.

Gomphostemma luzonense Elm. Leaf. Philip. Bot. 1 (1908) 339.

Luzon (Ilocos Norte, Apayao, Bontoc, Rizal, Laguna, Tayabas), *Elmer* 7433, *Merrill* 2305, *F. B.* 25379 *Mabesa*, *B. S.* 33106, 992 *Ramos*, 28388 *Fénix*, 29781 *Ramos & Edaño*. In forests, chiefly at medium altitudes. India to Indo-China, the Malay Peninsula and Archipelago.

Local name: Botiagon (Mbo.).

10. LEONURUS Linnaeus

LEONURUS SIBIRICUS Linn. Sp. Pl. (1753) 584; Benth. in DC. Prodr. 12 (1848) 501; Miq. Fl. Ind. Bat. 2 (1858) 978; Hook. f. Fl. Brit. Ind. 4 (1885) 678; F.-Vill. Novis. App. (1880) 165; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 214; Merr. Fl. Manila (1912) 412, Sp. Blancoanae (1918) 336.

Stachys artemisiae Lour. Fl. Cochinch. (1790) 365; Blanco Fl. Filip. (1837) 476, ed. 2 (1845) 331, ed. 3, 2 (1878) 249, *t.* 259.

Batan Islands and northern Luzon to Mindanao. Widely scattered in waste places in and about towns; certainly introduced. A native of Asia, now in all warm countries.

Local name: Kamariang-songsong (Tag.).

11. ACHYROSPERMUM Blume

ACHYROSPERMUM DENSIFLORUM Blume Bijdr. (1826) 841; Benth. in DC. Prodr. 12 (1848) 458; Hook. f. Fl. Brit. Ind. 4 (1885) 673, in nota.

Achyropermum philippinense Benth. in DC. Prodr. 12 (1848) 458; Miq. Fl. Ind. Bat. 2 (1858) 990; F.-Vill. Novis. App. (1880) 165; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 214.

Luzon (Benguet, Rizal, Laguna, Batangas), Mindoro. In forested ravines along streams at low and medium altitudes; represented by numerous collections. India to Burma and Java.

12. ANISOMELES R. Brown

ANISOMELES INDICA (Linn.) O. Kuntze Rev. Gen. Pl. (1891) 512; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 122, 3 (1908) Bot. 432, Fl. Manila (1912) 411, Sp. Blancoanae (1918) 336.

Nepeta indica Linn. Sp. Pl. (1753) 571.

Anisomeles ovata R. Br. in Ait. Hort. Kew ed. 2, 2 (1811) 364; Wight in Hook. Bot. Miscel. 2 (1831) 358, *t.* 19; Benth in DC. Prodr. 12 (1848) 455; Miq. Fl. Ind. Bat. 2 (1858) 975; Hook. f. Fl. Brit. Ind. 4 (1885) 672; F.-Vill. Novis. App. (1880) 165; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 214.

Phlomis indica Blanco Fl. Filip. (1837) 474, ed. 2 (1845) 330, ed. 3, 2 (1878) 247, non Forsk.

In most or all islands and provinces, in waste places, borders of thickets, etc., in the settled areas at low and medium altitudes; certainly introduced. India to China and Malaya.

Local names: Kabling-laláke (Tag.); kadlíng-párang (Tag.); lilitan (Ilk.); litalit (Ilk.); sauang-sauang (Mbo.); subusuba (Ilk.); talingharap (Tag.).

EXCLUDED SPECIES

ANISOMELES MALABARICA R. Br.; F.-Vill. Novis. App. (1880) 165.

13. SALVIA Tournefort

SALVIA PLEBEIA R. Br. Prodr. (1810) 501; Benth. in DC. Prodr. 12 (1848) 355; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 214; F.-Vill. Novis. App. (1880) 165; Merr. Sp. Blancoanae (1918) 337.

? *Salvia violacea* Blanco Fl. Filip. (1845) 14, ed. 3, 1 (1877) 27, non Ruiz & Pav.

Luzon (Cagayan), *Cuming 1347*. Probably occurring as a weed in and about towns at low altitudes. India to China, Malaya, and Australia.

SALVIA SCAPHIFORMIS Hance in Journ. Bot. 23 (1885) 368; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 228.

Luzon (Ilocos Norte, Abra, Benguet, Nueva Vizcaya, Rizal, Tayabas), *B. S. 33145, 27184, 7206 Ramos, 29046, 29415 Ramos & Edaño, Elmer 8637, 5834, Merrill 174*. On boulders, mossy banks, etc., in ravines along small streams, altitude 400 to 1,500 m. Western China, Formosa.

EXCLUDED SPECIES

SALVIA OFFICINALIS Linn.; F.-Vill. Novis. App. (1880) 165.

14. MENTHA Tournefort

MENTHA ARVENSIS Linn. Sp. Pl. (1753) 577; Benth. in DC. Prodr. 12 (1848) 171; Hook. f. Fl. Brit. Ind. 4 (1885) 648; F.-Vill. Novis. App. (1880) 164; Merr. Fl. Manila (1912) 411, Sp. Blancoanae (1918) 337.

Mentha crispa Blanco Fl. Filip. (1837) 474, ed. 2 (1845) 330, ed. 3, 2 (1878) 246, non Linn.

Widely scattered in cultivation in the Philippines. Introduced by the Spaniards. I have never seen Philippine specimens in flower. A native of Europe, now cultivated or naturalized in most countries. Mint.

Local names: Ablebána (If.); yerba buena (Sp.).

MENTHA JAVANICA Blume Bijdr. (1826) 826; Benth. in DC. Prodr. 12 (1848) 173; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 213.

Marinduque, Samar, *Cuming 1718, Ireland*. Probably cultivated only. Ceylon, Malay Peninsula, Java.

Local names: Polihos (S. L. Bis.); polio (Tag.); corruptions of *Sp. poleo*.

15. MOSLA Hamilton

MOSLA FORMOSANA Maxim. in Bull. Acad. St. Pétersb. 29 (1883) 177.

Luzon (Bontoc), *B. S.* 37726, 37803 Ramos & Edaño. In open places along trails, altitude 1,000 to 1,600 m. Formosa.

16. POGOSTEMON Desfontaines

POGOSTEMON CABLIN (Blanco) Benth. in DC. Prodr. 12 (1848) 146; Miq. Fl. Ind. Bat. 2 (1858) 964; F.-Vill. Novis. App. (1880) 164; Vidal Rev. Pl. Vasc. Filip. (1886) 213; Prain in Journ. As. Soc. Beng. 74² (1907) 708, Kew Bull. (1908) 78; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 345, Fl. Manila (1912) 411, Sp. Blancoanae (1918) 337.

Mentha cablin Blanco Fl. Filip. (1837) 473.

Mentha auricularia Blanco op. cit. ed. 2 (1845) 329, ed. 3, 2 (1878) 245, non Linn.

Pogostemon patchouly Pellet. in Mém. Soc. Sci. Orléans 5 (1845) 277, t. 7; F.-Vill. Novis. App. (1880) 164.

Pogostemon patchouli Hook. in Kew Journ. Bot. 1 (1849) 328, t. 11.

Pogostemon patchouli Hook. var. *suavis* Hook. f. Fl. Brit. Ind. 4 (1885) 634.

Luzon (Cagayan, Bontoc, Rizal, Pampanga, Camarines), Leyte, Merrill 5025, *Sp. Blancoanae* 112, *Phil. Pl.* 299, *F. B.* 26192 Franco, 16470 Bacani, *B. S.* 2060, 5199 Ramos, 19292 Reillo. Occasionally planted in gardens, occurring also on steep talus slopes in areas remote from settlement, as though indigenous. Generally cultivated in tropical Asia and Malaya. Patchouli.

Local names: Kabilíng (Pamp.); kablín (Tag., Pamp., Ilk.); kablíng (Tag.); kadlíng (Tag., Bis.); kadlúm (Bik., S. L. Bis., Sul.); karlín (Tag.); katlúen (Bis.); sarok (Ig.).

POGOSTEMON HEYNEANUS Benth. in Wall. Pl. As. Rar. 2 (1831) 16, DC. Prodr. 12 (1848) 153; Wight. Ic. t. 1440; F.-Vill. Novis. App. (1880) 164; Prain in Journ. As. Soc. Beng. 74² (1917) 707; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 346.

Pogostemon patchowli Dalz. & Gibs. Bombay Fl. Addend. (1861) 66.

Palawan, Panay, Mindanao (Zamboanga, Lanao), Merrill 5467, 8238, *B. S.* 287 Bermejós, 30935, 36972 Ramos & Edaño. In thickets, coconut groves, old clearings, etc., and also along small streams in forests at low altitudes, but probably introduced. India, Ceylon, Malay Peninsula.

Local names: Kadlúm (P. Bis.); lagumtum (Sub.).

POGOSTEMON MEMBRANACEUS Merr. in Philip. Journ. Sci. 7 (1912) Bot. 347.

Luzon (Laguna, Bulacan), *B. S.* 16419, 16596 Ramos, Yoder 235. In thickets or forests along streams at low altitudes. Endemic.

POGOSTEMON NEPETOIDES Stapf in Kew Bull. (1908) 116; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 347.

Luzon (Ilocos Norte), *F. B.* 12479 Merritt & Darling. In forests, altitude about 300 m. Endemic.

Var. **GLANDULOSUS** Merr. l. c.

Luzon (Rizal), *B. S.* 1849, 2130, 13406 *Ramos*. In forests at medium altitudes. Endemic.

POGOSTEMON PHILIPPINENSIS Moore in *Journ. Bot.* 43 (1905) 146; Merr. in *Philip. Journ. Sci.* 5 (1910) Bot. 381.

Luzon (Ilocos Norte, Bontoc, Lepanto, Benguet), *Merrill* 4501, 6558, *B. S.* 33320, 4515 *Ramos*, 37640 *Ramos & Edaña*, 31792, 31703 *Santos*. In damp ravines and in the mossy forest, altitude 1,400 to 2,400 m. Endemic.

Local names: Legleg (Bon.); ñgiñgiyau (Bon.); pañga-ti-núang (Ilk.).

POGOSTEMON RETICULATUS Merr. in *Philip. Journ. Sci.* 7 (1912) Bot. 348.

Luzon (Rizal), *F. B.* 3395 *Ahern's collector*. In thickets or forests at low or medium altitudes. Endemic.

Local name: Kadling (Tag.).

POGOSTEMON VELATUS Benth. in *DC. Prodr.* 12 (1848) 155; *Miq. Fl. Ind. Bat.* 2 (1858) 964; *F.-Vill. Novis. App.* (1880) 164; *Vidal Phan. Cuming. Philip.* (1885) 136, *Rev. Pl. Vasc. Filip.* (1886) 213.

Luzon (Abra, Ilocos Sur, Lepanto, Bontoc, Benguet, Nueva Vizcaya, Pampanga), *Cuming* 1097, *Merrill* 4778, *Phil. Pl.* 477, *Williams* 1353, 1352, *Elmer* 5912, *F. B.* 16566, 16579 *Darling*, 15599 *Curran*, *B. S.* 11339 *McGregor*, 1984 *Foxworthy*, 5326, 8213 *Ramos*. In ravines, thickets, etc., altitude 1,200 to 1,800 m. Endemic.

Local names: Dila (Ilk.); opop (Ig.); sipan-ti-bayunġan (Bon.).

EXCLUDED SPECIES

POGOSTEMON PARVIFLORUS Benth.; *F.-Vill. Novis. App.* (1880) 164.

17. **DYSOPHYLLA** Blume

DYSOPHYLLA AURICULARIA (Linn.) Blume *Bijdr.* (1826) 826; Benth. in *DC. Prodr.* 12 (1848) 156; *Miq. Fl. Ind. Bat.* 2 (1858) 964; *Hook. f. Fl. Brit. Ind.* 4 (1885) 638; *F.-Vill. Novis. App.* (1880) 164; *Vidal Phan. Cuming. Philip.* (1885) 136, *Rev. Pl. Vasc. Filip.* (1886) 213.

Mentha auricularia Linn. *Mant.* 1 (1767) 81.

Mentha fœtida Burm. *f. Fl. Ind.* (1768) 126.

Northern Luzon (Cagayan), to Palawan and Mindanao. In open wet places at low and medium altitudes; locally abundant. India to southern China and Malaya.

DYSOPHYLLA QUADRIFOLIA (Roxb.) Benth. in *Wall. Pl. As. Rar.* 1 (1830) 30, *DC. Prodr.* 12 (1848) 157; *Hook. f. Fl. Brit. Ind.* 4 (1885) 639; *F.-Vill. Novis. App.* (1880) 164; *Vidal Phan. Cuming. Philip.* (1885) 136, *Rev. Pl. Vasc. Filip.* (1886) 213.

Mentha quadrifolia Roxb. *Hort. Beng.* (1814) 44, *nomen nudum*, *Fl. Ind. ed.* 2, 3 (1832) 4.

Luzon (Nueva Vizcaya), Mindanao (Davao), Panay, *Merrill* 314, *Copeland* 483, *B. S.* 11457 *McGregor*, 8277 *Ramos*. In open wet places at low and medium altitudes. India.

DYSOPHYLLA VERTICILLATA (Roxb.) Benth. in Wall. Pl. As. Rar. 1 (1830) 30, DC. Prodr. 12 (1848) 157; Hook. f. Fl. Brit. Ind. 4 (1885) 639; F.-Vill. Novis. App. (1880) 164; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 213.

Mentha verticillata Roxb. Hort. Beng. (1814) 44, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 5.

Mentha stellata Lour. Fl. Cochinch. (1790) 361, non *Dysophylla stellata* Benth.

Pogostemon verticillatus Miq. Fl. Ind. Bat. 2 (1858) 965.

Luzon (Camarines), Samar, *B. S. 24150 Ramos*. In open wet places, rice paddies, etc., at low altitudes. India to southern China through Malaya to tropical Australia.

18. HYPTIS Jacquin

HYPTIS BREVIPES Poir. in Ann. Mus. Paris 7 (1806) 465; Benth. in DC. Prodr. 12 (1848) 107; Miq. Fl. Ind. Bat. 2 (1858) 959; F.-Vill. Novis. App. (1880) 164; Vidal Phan. Cuming. Philip. (1885) 135, Rev. Pl. Vasc. Filip. (1886) 213; Hook. f. Fl. Brit. Ind. 4 (1885) 630; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 122, Fl. Manila (1912) 409, Sp. Blancoanae (1918) 338.

Thymus biserratus Blanco Fl. Filip. (1837) 478.

Pycnanthemum subulatum Blanco op. cit. ed. 2 (1845) 333, ed. 3, 2 (1878) 251, t. 204.

Hyptis brevipes Poir. var. *serrata* Briq. in Ann. Conserv. Jard. Bot. Genève 2 (1898) 227.

Northern Luzon (Cagayan) to Balabac and Mindanao. In all or most islands and provinces, a weed in open areas, fallow rice paddies, etc., at low and medium altitudes. A native of Mexico, now of general pantropic distribution.

Local names: Albáka (Sul.); kombar-kombáran (Tag.); lĩngalĩngáhan (Tag.); lubulan (Sub.); niog-niógan (Bik., P. Bis.); pansi-pansi (Tag.); pompul-pompúlan (Tag.); pulipul (If.).

HYPTIS CAPITATA Jacq. Ic. Rar. 1 (1781-86) t. 114; Benth. in DC. Prodr. 12 (1848) 106; Miq. Fl. Ind. Bat. 2 (1858) 958; F.-Vill. Novis. App. (1880) 164; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 213; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 381, 11 (1916) Bot. 311, Fl. Manila (1912) 409, Sp. Blancoanae (1918) 338.

Thymus virginicus Blanco Fl. Filip. (1837) 478, non Linn.

Pycnanthemum decurrens Blanco op. cit. ed. 2 (1845) 333, ed. 3, 2 (1878) 251, t. 294.

Northern Luzon (Cagayan) to Mindanao, in all or most islands and provinces; a weed in the settled areas, occurring in open waste places, fallow rice paddies, etc. Introduced from Mexico, now established also in the Marianne and Caroline Islands, Formosa, Java, and Amboina.

Briquet, Ann. Conserv. Jard. Bot. Genève 2 (1898) 225, considers that *Cuming 591*, which represents the common Philippine form, is *H. lanceolata* Poir. rather than *H. capitata* Jacq.

Local names: Bababañga (Bon.); kambali (Tag.); kombar-kombáran (Tag.); leng-leñga (Bon.); liñgaliñgáhan (Tag.); palapasagi (P. Bis.); palopalot (Ilk.); pansí-pansí (Bik.); tabáku-tabáku (Sul.); tetetei (Bon.); tarotabáko (Bik.); tultulisan (Ilk.); turukan (Tag.).

HYPTIS SPICIGERA Lam. *Encycl.* 3 (1789) 185; Benth. in DC. *Prodr.* 12 (1848) 87; Miq. *Fl. Ind. Bat.* 2 (1858) 958; F.-Vill. *Novis. App.* (1880) 164; Merr. in *Philip. Journ. Sci.* 1 (1906) Suppl. 122, *Fl. Manila* (1912) 409, *Sp. Blancoanae* (1918) 338.

Pycnanthemum elongatum Blanco *Fl. Filip.* ed. 2 (1845) 333, ed. 3, 2 (1878) 252.

Luzon (Bontoc, Pangasinan, Zambales, Bataan, Rizal), Mindoro, Palawan, Mindanao (Davao, Lanao), Basilan, *Merrill 3293*, *Sp. Blancoanae 108*, *B. S. 6655 Robinson*, *188 Bermejós*, *Copeland 540*. A weed in open waste places; locally abundant. Introduced from tropical America. Also in the Marianne Islands.

Local names: Ikugkuting (Sul.); kalu-ui (C. Bis.).

HYPTIS SUAVEOLENS Poir. in *Ann. Mus. Paris* 7 (1806) 472, *t. 29, f. 2*; Benth. in DC. *Prodr.* 12 (1848) 126; Miq. *Fl. Ind. Bat.* 2 (1858) 959; Walp. in *Nov. Act. Acad. Nat. Cur.* 19 (1843) Suppl. 1: 373; F.-Vill. *Novis. App.* (1880) 164; Vidal *Phan. Cuming. Philip.* (1885) 136, *Rev. Pl. Vasc. Filip.* (1886) 213; Hook. *f. Fl. Brit. Ind.* 4 (1885) 630; Merr. *Fl. Manila* (1812) 409, *Sp. Blancoanae* (1918) 338.

Marrubium indicum Blanco *Fl. Filip.* (1837) 477, ed. 2 (1845) 332, ed. 3, 2 (1878) 250, non *Burm. f.*

Throughout the Philippines. Very abundant in open waste places at low and medium altitudes. A native of tropical America, now a pantropic weed.

Local names: Amotan (Bik.); bangbangsit (Ilk.); bauing (Sul.); ka-blíng-kabáyo (Tag.); kolongkógong (Bik.); litalit (Ilk.); loko-lóko (Bis.); pansipansían (Tag.); pilodo (P. Bis.); suag-kabáyo (Tag.); suob-kabáyo (Tag.).

DOUBTFUL SPECIES

HYPTIS ATRORUBENS Poir. Walp. in *Nov. Act. Acad. Nat. Cur.* 19 (1843) Suppl. 1: 373.

This record is based on a specimen collected in Manila by Meyen. The specimen may have been erroneously identified; there is no evidence that this American species exists in the Philippines to-day.

HYPTIS PECTINATA Poir.; F.-Vill. *Novis. App.* (1880) 164.

HYPTIS SPICATA Poir.; Benth. in DC. *Prodr.* 12 (1848) 121; F.-Vill. *Novis. App.* (1880) 164.

This American species is recorded by Bentham as Philippine on the basis of specimens collected by Gaudichaud and by Chamisso. There is no evidence that the species exists in the Philippines to-day.

19. PLECTRANTHUS L'Héritier

PLECTRANTHUS DIFFUSUS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 235, 5 (1910) Bot. 382.

Luzon (Lepanto, Bontoc, Benguet), *Merrill 4554, Elmer 8406* as *Moschosma*, *B. S. 12921 Fénix, 5402, 5393, 5382 Ramos*. In thickets, in ravines, and on forested slopes, altitude 1,400 to 2,200 m. Endemic.

Local name: Bungbungtit (Ig.).

20. COLEUS Loureiro

COLEUS ACUMINATUS Benth. in Linnaea 6 (1831) 81, DC. Prodr. 12 (1848) 73; Miq. Fl. Ind. Bat. 2 (1858) 950; F.-Vill. Novis. App. (1880) 163; Vidal Phan. Cuming. Philip. (1885) 135, Rev. Pl. Vasc. Filip. (1886) 213.

Samar, *Cuming 1683*. I have not seen Chamisso's Luzon specimen cited by Benthams, but suspect that it probably does not represent the same species as *Cuming 1683*. Endemic.

COLEUS AMBOINICUS Lour. Fl. Cochinch. (1790) 372; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 344, Fl. Manila (1912) 410, Sp. Blancoanae (1918) 338, Interpret. Herb. Amb. (1917) 459.

Plectranthus aromaticus Roxb. Fl. Ind. ed. 2, 3 (1832) 22, non Hort. Beng. (1814) 45.

Coleus aromaticus Benth. in Wall. Pl. As. Rar. 2 (1831) 16, DC. Prodr. 12 (1848) 72; Hook. f. Fl. Brit. Ind. 4 (1885) 625; F.-Vill. Novis. App. (1880) 163.

Coleus suganda Blanco Fl. Filip. (1837) 438, ed. 2 (1845) 337, ed. 3, 2 (1878) 259; Benth. in DC. Prodr. 12 (1848) 71; Miq. Fl. Ind. Bat. 2 (1858) 948.

Cultivated here and there for its aromatic leaves, *Lete 55, Merrill 8370, 7568, Sp. Blancoanae 129, B. S. 36950 Ramos & Edaño*. I have seen no flowering specimens; introduced. India to Malaya.

Local names: Bildu (Sul.); latai (Sub.); orégano (Sp.); sugánda (Tag.); torongil de limón (Sp.).

COLEUS APOENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2694.

Mindanao (Davao), *Elmer 11601*. In thickets, altitude about 900 m. Endemic.

Local name: Kalalápo-bulan (Bag.).

COLEUS ATROPURPUREUS Benth. in Wall. Pl. As. Rar. 2 (1831) 16, Lab. Gen. Sp. (1832) 54, DC. Prodr. 12 (1848) 74; Walp. Repert. 3 (1845) 518; Miq. Fl. Ind. Bat. 2 (1858) 951; Hook. f. Fl. Brit. Ind. 4 (1885) 626; F.-Vill. Novis. App. (1880) 163.

Cultivated for ornamental purposes, but nowhere wild, *Merrill 7385, Sp. Blancoanae 786, B. S. 2065, 24104 Ramos*. Malay Peninsula and Archipelago to Polynesia, often, or usually, cultivated.

Local names: Badiara (Tag., Bis., Pamp.); lapunáya (Bis.); malaina (Tag., Bis., Pamp.); marayapa (Pamp.); mayána (Tag., Bis., Pamp.).

COLEUS BLUMEI Benth. Lab. Gen. Sp. (1832) 56, DC. Prodr. 12 (1848) 75; F.-Vill. Novis. App. (1880) 163; Merr. Fl. Manila (1912) 410, Sp. Blancoanae (1918) 339. - -.

Plectranthus scutellarioides Blume Bijdr. (1826) 837, non R. Br.

Coleus grandifolius Blanco Fl. Filip. (1837) 482, ed. 2 (1845) 336, ed. 3, 2 (1878) 258, t. 208, non Benth.

Coleus blancoi Benth. in DC. Prodr. 12 (1848) 79; Miq. Fl. Ind. Bat. 2 (1858) 957.

Cultivated for ornamental purposes; an introduced plant in the Philippines, and probably not specifically distinct from *C. atropurpureus* Benth., which has the same local names. A native of Java?, now cultivated in all warm countries.

Local names: Daponáya (Bis.); lapunáya (Bis.); malaína (Tag.); mayána (Bik., Tag.); saimayu (Sul.); tapónáya (Bis.).

COLEUS CRISPIPILUS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 382.

Coleus macranthus Merr. var. *crispipilus* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 234.

Luzon (Benguet, Nueva Vizcaya), Merrill 4780, 6553, B. S. 8896 McGregor, 8183 Ramos, F. B. 14446 Darling, 16066 Curran, Merritt, & Darling. In the mossy forest, altitude 2,000 to 2,500 m. Endemic.

COLEUS IGOLOTORUM Briq. in Ann. Conserv. Jard. Bot. Genève 2 (1898) 236.

Luzon (Cagayan, Abra, Bontoc, Benguet, Nueva Vizcaya, Pampanga, Tayabas, Laguna, Bataan, Rizal, Camarines, Sorsogon), Mindoro, Elmer 5765, 8342, 9170, 6720, 17693, Merrill 3911, 3833, 3741, 5128, B. S. 13494 Ramos, F. B. 1582, 2115, 3068 Borden, mostly identified as *C. multiflorus* Benth. Chiefly in the mossy forest, altitude 800 to 1,800 m, in Benguet occurring in ravines and in thickets; abundant. Endemic.

Local names: Bungbungtid (Ig.); pudpuda (If.); tuptup (Bon.).

COLEUS INTEGRIFOLIUS Elm. Leaf. Philip. Bot. 7 (1915) 2696.

Mindanao (Agusan), Elmer 13627, Weber. On talus slopes and steep shaded banks of streams, altitude 400 to 600 m. Endemic.

Local name: Harinayan (Mbo.).

COLEUS MACRANTHUS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 234, 5 (1910) Bot. 382.

Luzon (Benguet, Lepanto), Merrill 4502, 4505, 4483, 6604, B. S. 32034 Santos. In the mossy forest, altitude 2,000 to 2,400 m. Endemic.

Local name: Bungbungtit (Ig.).

COLEUS MULTIFLORUS Benth. Lab. Gen. Sp. (1832) 55, DC. Prodr. 12 (1848) 75; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 373, Repert. 3 (1845) 517; Miq. Fl. Ind. Bat. 2 (1858) 951; F.-Vill. Novis. App. (1880) 163.

Luzon (Apayao, Ilocos Norte, Cavite, Batangas, Tayabas), Merrill 10626, B. S. 28134 Félix, 1313 Mangubat, 33069, 22360 Ramos, 26558 Ramos & Edaño. In thickets, on banks, etc., altitude 300 to 800 m; local in occurrence. Endemic.

Most recently collected Philippine material, identified as *C. multiflorus* Benth., I now refer to *C. igolotorum* Briq.

Local names: Malamayána (Tag.); mayána-ligau (Tag.).

COLEUS PUBESCENS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 432.

Babuyan Islands, Luzon (Ilocos Norte), *B. S.* 3892 *Fénix*, 27296, 33206, 27660, 27496 *Ramos*. On boulders and dry open slopes at low altitudes. Botel Tobago, *Kanehira & Sasaki*, as *C. formosanus* Hayata.

COLEUS PUMILUS Blanco Fl. Filip. (1837) 482, ed. 2 (1845) 336, ed. 3, 2 (1878) 257; Benth. in DC. Prodr. 12 (1848) 78; Miq. Fl. Ind. Bat. 2 (1858) 956; Merr. Fl. Manila (1912) 410, Sp. Blancoanae (1918) 339.

Plectranthus monadelphus Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 105, non Roxb.

Coleus gaudichaudii Briq. in Ann. Conserv. Jard. Bot. Genève 2 (1898) 237.

Luzon (Ilocos Norte, Lepanto, Zambales, Rizal), *Merrill* 3940, 8017, Sp. Blancoanae 190, *Phil. Pl.* 447, *Loher* 4229, *B. S.* 22284 *Ramos*, 19228 *Reillo*, *F. B.* 3420 *Ahern's collector*. In thickets at low altitudes. Endemic.

Local name: Malamayána (Tag.).

COLEUS SPARSIFLORUS Elm. Leaf. Philip. Bot. 7 (1915) 2699.

Coleus scutellaroides Elm. op. cit. 2697, non Benth.

Mindanao (Agusan, Lanao, Bukidnon, Misamis, Davao), *Elmer* 11646, 13614, *Copeland*, *F. B.* 25245 *Alvarez*, *B. S.* 38672 *Ramos & Edaño*. In damp forests, altitude about 1,200 m. Endemic.

Local names: Manañgid-ta-usá (Bag.); nabioda (Mbo.).

COLEUS ZSCHOKKEI Merr. in Philip. Journ. Sci. 5 (1910) Bot. 382.

Luzon (Benguet), *Merrill* 6529, *F. B.* 16325 *Curran*, *Merritt*, & *Zschokke*, *B. S.* 2868 *Mearns*, 8432 *McGregor*. In stream depressions in the pine region, altitude about 1,500 m. Endemic.

EXCLUDED SPECIES

COLEUS CARNOSUS Hassk.; F.-Vill. Novis. App. (1880) 163.

COLEUS GRANDIFOLIUS Benth.; F.-Vill. l. c.

COLEUS INGRATUS Benth.; F.-Vill. l. c.

COLEUS SCUTELLARIOIDES Benth.; F.-Vill. l. c.

COLEUS TUBEROSUS Benth.; F.-Vill. l. c.

21. MESONA Blume

MESONA CLAUSA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 345.

Culion, *Merrill* 460, *B. S.* 41313 *Ramos*. In open damp places at low altitudes. Endemic.

MESONA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 7 (1912) 101.

Luzon (Ifugao, Bontoc, Lepanto), *Merrill* 4500, *Vanoverbergh* 601, 903, *Clemens* 9144, *B. S.* 19955 *McGregor*. On open grassy slopes in thin pine forests, altitude 1,300 to 2,000 m. Endemic.

22. ACROCEPHALUS Benth

ACROCEPHALUS INDICUS (Burm. f.) O. Kuntze Rev. Gen. Pl. (1891) 511; Merr. in Philip. Journ. Sci: 7 (1912) Bot. 101.

Prunella indica Burm. f. Fl. Ind. (1768) 130.

Ocimum capitellatum Linn. f. Suppl. (1781) 276.

Acrocephalus capitatus Benth. in Wall. Pl. As. Rar. 2 (1831) 18, DC.

Prodr. 12 (1848) 47; Hook. Ic. II, 1 (1842) t. 456; Hook. f. Fl.

Brit. Ind. 4 (1885) 611; F.-Vill. Novis. App. (1880) 163.

Luzon (Cagayan, Bontoc, Benguet, Tarlac, Nueva Vizcaya, Bulacan, Rizal, Laguna), Merrill 3622, 4384, Phil. Pl. 1996, 448, F. B. 19636 Curran, B. S. 13944, 5751, 10899 Ramos. In open grasslands at low and medium altitudes. India to Indo-China, Java, Sumatra, and Borneo.

ACROCEPHALUS SPICATUS C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 356.

Mindanao (Bukidnon, Lanao, Davao), Williams 2954, Clemens 741, B. S. 26115 Fénix, 38460 Ramos & Edaño. In open, rather wet places at low and medium altitudes. Endemic.

23. MOSCHOSMA Reichenbach

MOSCHOSMA POLYSTACHYUM (Linn.) Benth. in Wall. Pl. As. Rar. 2 (1831) 13, Prodr. 12 (1848) 48; Miq. Fl. Ind. Bat. 2 (1858) 942; Hook. f. Fl. Brit. Ind. 4 (1885) 612; F.-Vill. Novis. App. (1880) 163; Vidal Phan. Cuming. Philip. (1885) 135, Rev. Pl. Vasc. Filip. (1886) 212; Merr. Sp. Blancoanae (1918) 339.

Ocimum polystachyum Linn. Mant. 2 (1771) 567.

Ocimum tenuiflorum Burm. f. Fl. Ind. (1768) 129; Blanco Fl. Filip. (1837) 481, ed. 2 (1845) 335, ed. 3, 2 (1878) 255, non Linn.

Moschosma tenuiflora Heynh. Nomen. 1 (1840) 532; Merr. Fl. Manila (1912) 408.

Luzon (Ilocos Norte, Pampanga, Rizal, Bataan, Laguna, Tayabas), Mindanao (Cotabato). In open waste places, usually in wet or damp soil, widely scattered in the settled areas and probably an introduced weed. Tropical Africa and Asia through Malaya to tropical Australia.

Local names: Bauing (Mag.); lodokong (Pang.); loktokong (Pamp., Tag.); pansí-pánsi (Tag.).

24. OCIMUM Linnaeus

OCIMUM BASILICUM Linn. Sp. Pl. (1753) 597; Benth. in DC. Prodr. 12 (1848) 32; Miq. Fl. Ind. Bat. 2 (1858) 937; Hook. f. Fl. Brit. Ind. 4 (1885) 608; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 433, Fl. Manila (1912) 407, Sp. Blancoanae (1918) 340.

Ocimum americanum Blanco Fl. Filip. (1837) 480, ed. 2 (1845) 335, ed. 3, 2 (1878) 254, t. 407, non Linn.

Ocimum citriodorum Blanco op. cit. ed. 2 (1845) 591, ed. 3, 2 (1878) 256.

Throughout the Philippines in the settled areas at low and medium altitudes, sometimes planted; often spontaneous in open waste places. Certainly introduced. Tropical Asia to Polynesia.

Local names: Albaháka (Ibn., Tag.); balanoi (Tag.); bauing (Sul.); bidai (Ilk.); bouak (Bis.); kalu-ui (C. Bis.); kamañgi (P. Bis.); ruku-ruku (Sul.); samilig (Bik.); samirig (Bik.); solási (Tag., Pamp.); valanoi (Iv.).

OCIMUM SANCTUM Linn. Mant. 1 (1767) 85; Blanco Fl. Filip. (1837) 480, ed. 2 (1845) 334, ed. 3, 2 (1878) 254, *t.* 257; Benth. in DC. Prodr. 12 (1848) 38; Miq. Fl. Ind. Bat. 2 (1858) 939; Hook. f. Fl. Brit. Ind. 4 (1885) 609; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 373; F.-Vill. Novis. App. (1880) 162; Vidal. Phan. Cuming. Philip. (1885) 135, Rev. Pl. Vasc. Filip. (1886) 212; Merr. Fl. Manila (1912) 408, Sp. Blancoanae (1918) 340.

Ocimum album Blanco Fl. Filip. (1837) 479, non Linn.

Ocimum virgatum Blanco op. cit. ed. 2 (1845) 334, ed. 3, 2 (1878) 253, non Linn.

Ocimum flexuosum Blanco op. cit. 481, ed. 2, 335, ed. 3, 2: 255; Benth. in DC. Prodr. 12 (1848) 43; Miq. Fl. Ind. Bat. 2 (1858) 939, non Thunb.

Throughout the Philippines, habitat of the preceding species but much commoner. Pantropic, but probably a native of the Old World.

Local names: Albaháca (Sp.); balanoi (Tag.); bidai (Ilk.); kamangkau (Bik.); kamañgi (Bis.); katigau (C. Bis.); kolokóko (Bis.); kolon-kógon (Bis.); laluí (C. Bis.); loko-lóko (Pamp., Tag.); luku-luku (Sul.); magau (Mag.); malinau (Sub.).

EXCLUDED SPECIES

OCIMUM GRATISSIMUM Linn.; F.-Vill. Novis. App. (1880) 162.

OCIMUM CANUM Sims; Benth. in DC. Prodr. 12 (1848) 32; F.-Vill. Novis. App. (1880) 162; Hook. f. Fl. Brit. Ind. 4 (1885) 607.

The Philippine record is based on a specimen collected by Gaudichaud. I have seen no Philippine specimens that I would refer to this species.

25. ORTHOSIPHON Bentham

ORTHOSIPHON ARISTATUS (Blume) Miq. Fl. Ind. Bat. 2 (1858) 943.

Ocimum aristatum Blume Bijdr. (1826) 833.

Orthosiphon stamineus Benth. in Wall. Pl. As. Rar. 2 (1831) 15, DC. Prodr. 12 (1848) 52 (incl. var. *angustifolia* Benth.); Miq. Fl. Ind. Bat. 2 (1858) 944; Hook. f. Fl. Brit. Ind. 4 (1885) 615; F.-Vill. Novis. App. (1880) 163; Vidal. Phan. Cuming. Philip. (1885) 135, Rev. Pl. Vasc. Filip. (1886) 212.

Luzon (Cagayan, Isabela, Nueva Ecija, Pampanga, Bulacan, Rizal), Coron, Cuming 734, 1357, Merrill 146, Adduru 104, Bolster 189, B. S. 8059, 8062, 1103, 26214 Ramos, 26278 Ramos & Edaño. In thickets at low and medium altitudes, not common. India through Malaya to tropical parts of Australia.

EXCLUDED GENERA

MELISSA OFFICINALIS Linn.; F.-Vill. Novis. App. (1880) 165.

THYMUS VULGARIS Linn.; F.-Vill. l. c.

SOLANACEAE

1. *PHYSALIS* Linnaeus

PHYSALIS ANGULATA Linn. Sp. Pl. (1753) 183; Dunal in DC. Prodr. 13¹ (1852) 448; Miq. Fl. Ind. Bat. 2 (1857) 664; F.-Vill. Novis. App. (1880) 144; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 433, Fl. Manila (1912) 419.

Northern Luzon to Mindanao, *Merrill* 29, 398, *Williams* 2100, *B. S.* 31395 *Ramos & Edaño*. Widely scattered in open waste places in and near settlements. A native of tropical America, now pantropic.

Local names: Asisiu (Bis.); kugut (Bon.); potókan (Tag.); sisiu (Tag.); tutulakak (Tag.).

PHYSALIS LANCEIFOLIA Nees in Linnaea 6 (1831) 473; Dunal in DC. Prodr. 13¹ (1852) 447; Merr. Sp. Blancoanae (1918) 341.

Solanum serratum Blanco Fl. Filip. (1837) 136, ed. 2 (1845) 97, ed. 3, 1 (1877) 179, t. 50; Dunal in DC. Prodr. 13¹ (1852) 374.

Luzon (Pangasinan, Pampanga, Zambales, Bulacan, Rizal, Batangas), Mindoro, Catanduanes, Panay, Negros, Mindanao (Zamboanga, Cotabato), *Merrill* Sp. Blancoanae 730, *Phil. Pl.* 202, *B. S.* 1416, 5215, 22241, 30168, 39679 *Ramos*. In open waste places in and about towns at low altitudes. Introduced from Mexico, also occurring in the Marianne Islands.

Local names: Putókan (Tag.); putúkan (Tag.); sakabun (Mag.); takla (Sub.).

PHYSALIS MINIMA Linn. Sp. Pl. (1753) 183; Dunal in DC. Prodr. 13¹ (1852) 445; F.-Vill. Novis. App. (1880) 144, C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 238; Merr. Fl. Manila (1912) 419, Sp. Blancoanae (1918) 341.

Physalis pubescens Blanco Fl. Filip. (1837) 138, ed. 2 (1845) 98, ed. 3, 1 (1877) 181; Dunal in DC. Prodr. 13¹ (1852) 446, quoad Philip.; F.-Vill. Novis. App. (1880) 144, non Linn.

Babuyan Islands and northern Luzon to Mindanao and Palawan. Common in open waste places at low altitudes, ascending to 1,600 m. A pantropic weed.

Local names: Amansit (Ilk.); amanti-ti-ugsa (Bon.); itlog-gagamba (Tag.); lapak-lapak (Sul.); pantug-pantúgan (Tag.); takla (Sub.); tullaki (Ilk.); unti-untían (Tag.).

PHYSALIS PERUVIANA Linn. Sp. Pl. ed. 2 (1763) 1670; Dunal in DC. Prodr. 13¹ (1852) 440; Blanco Fl. Filip. (1837) 138, ed. 2 (1845) 98, ed. 3, 1 (1877) 180; F.-Vill. Novis. App. (1880) 144; Merr. Sp. Blancoanae (1918) 341.

Luzon (Lepanto, Benguet), *Merrill* 8002, *Sp. Blancoanae* 463, *B. S.* 31942 *Santos*, 38101 *Ramos & Edaño*. Thoroughly established in open waste places. A native of tropical America.

Local names: Bayas (Ig.); pulet (Ig.).

2. *CAPSICUM* Tournefort

CAPSICUM ANNUUM Linn. Sp. Pl. (1753) 188; Dunal in DC. Prodr. 13¹ (1852) 412; F.-Vill. Novis. App. (1880) 145; Irish in Rept. Mo. Bot. Gard. 9 (1898) 65, t. 10-28; Merr. Fl. Manila (1912) 418 (incl. var. *longum* Sendt. et *grossum* Sendt.).

Capsicum tetragonum Mill. Gard. Dict. ed. 8 (1768) No. 3; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 1112.

Capsicum grossum Linn. Mant. 1 (1767) 47; Nees in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 392; F.-Vill. Novis. App. (1880) 145.

Capsicum chamaecerasus Nees in Trans. Linn. Soc. 17 (1832) 65; Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 392.

Commonly cultivated in various forms or varieties for its edible fruits, but nowhere spontaneous. A native of tropical America.

Local names: Kalubeñgan (Bon.); kalubsengan (Bon.); sili (Ilk., Tag., Bik.).

CAPSICUM ANOMALUM Franch. & Sav. Enum. Pl. Jap. 2 (1879) 452; Bitter in Fedde Repert. 15 (1917) 93.

Solanum philippinense Merr. in Philip. Journ. Sci. 7 (1912) Bot. 351.

Luzon (Benguet, Laguna), Palawan, Mindanao (Zamboanga), Merrill 8003, 8164, Williams 1275, Elmer 6561, Weber 1570, B. S. 5406 Ramos. In Benguet in the mossy forest, altitude 1,800 to 2,200 m, in other regions along streams in shaded ravines at low and medium altitudes. Assam, Tibet, Quelpaert Island, Japan, Formosa.

CAPSICUM FRUTESCENS Linn. Sp. Pl. (1753) 271; Dunal in DC. Prodr. 13¹ (1852) 413; Irish in Rept. Mo. Bot. Gard. 9 (1898) 97; F.-Vill. Novis. App. (1880) 145; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 123, 3 (1908) Bot. 433, Fl. Manila (1912) 418, Sp. Blancoanae (1918) 340.

Capsicum minimum Rob. Fl. Ind. ed. 2, 1 (1832) 574; Blanco Fl. Filip. (1837) 133, ed. 2 (1845) 95, ed. 3, 1 (1877) 174, t. 47; F.-Vill. Novis. App. (1880) 145; Vidal Sinopsis Atlas (1883) 34, t. 72, f. B, non Mill.

Capsicum fastigiatum Blume Bijdr. (1825) 705; Nees in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 392.

Throughout the Philippines, planted here and there about dwellings, but also thoroughly established in open waste places in the settled areas. Pantropic; a native of tropical America.

Local names: Chile (Sp.); chileng-búndok (Tag.); kasíra (Mag.); katumbal (Bis.); kitikot (Bis.); lada (Sul., Bik.); lara (Sul.); paktiu (If.); pasítis (Tag.); rimo-rímo (Bik.); sili (most dialects); siling-labúyo (Tag.); siling-pálai (Tag.); silit-diablo (Ilk.).

Fernandez-Villar, Novis. App. (1880) 145, credits the species listed below to the Philippines. Most of them are forms or varieties of *Capsicum annum* Linn., but some are probably referable to *C. frutescens* Linn. There is little reason for considering that many of these forms ever occurred in the Philippines: *Capsicum baccatum* Linn., *C. bicolor* Jacq., *C. cerasiforme* Willd., *C. ceratocarpum* Fingerh., *C. conoides* Mill., *C. cordiforme* Mill., *C. dulce* Hort., *C. longum* D.C., *C. pyramidale* Mill., *C. tetragonum* Mill.

3. SOLANUM Tournefort

SOLANUM ANGATHII Elm. Leaf. Philip. Bot. 2 (1910) 731.

Mindanao (Davao), Elmer 10762. Epiphytic in damp forests, altitude about 1,100 m. Endemic.

Local name: Laumus (Bag.).

SOLANUM APOENSE Elm. Leaf. Philip. Bot. 2 (1910) 730.

Mindanao (Bukidnon, Davao), *Elmer 11599, B. S. 39152 Ramos & Edaña*. In damp forested ravines, altitude about 1,500 m. Endemic.

SOLANUM ATHROANTHUM Dunal in DC. Prodr. 13¹ (1852) 208; Merr. Fl. Manila (1912) 417.

Luzon (Manila), *Loher 4373, B. S. 9561 Robinson*. In hedges about houses, rare. Introduced from Java.

Local names: Trambúlo (Tag.); trambúlong-laláki (Tag.); tubang-manók (Tag.).

SOLANUM BANAHAENSE Elm. Leaf. Philip. Bot. 1 (1908) 341.

Luzon (Tayabas), *Elmer 7492, 9208*. In forested ravines along streams, altitude about 900 m; probably not distinct from *S. lagunense* Elm. Endemic.

SOLANUM BIFLORUM Lour. Fl. Cochinch. (1790) 129; Dunal in DC. Prodr. 13¹ (1852) 232; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 232; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 433.

Solanum mindanaense Elm. Leaf. Philip. Bot. 8 (1915) 2832.

Batan Islands, Luzon (Benguet, Rizal, Laguna, Sorsogon), Catanduanes, Palawan, Mindanao (Agusan, Misamis, Lanao, Zamboanga), *F. B. 24889 Mabesa, B. S. 3838 Fénix, 30357, 23438, 30519, 4648 Ramos, Merrill 9525, 8266, Clemens 716, Elmer 13881, 13828, 16996, 17592*. In ravines on forested ridges, and in thickets, altitude 600 to 2,000 m; variable. India to southern China and Malaya.

Local name: Bagan-bagan (Mbo.).

SOLANUM CRASSIPETALUM Wall. in Roxb. Fl. Ind. 2 (1824) 256; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 232; Ceron Cat. Pl. Herb. Manila (1892) 124; Elm. Leaf. Philip. Bot. 2 (1910) 730.

Luzon (Bontoc, Benguet), *Elmer 6565, Williams 1334, B. S. 5460 Ramos, F. B. 5029 Curran*. In thickets on the summit of higher mountains, altitude about 2,200 m. India.

SOLANUM CUMINGII Dunal in DC. Prodr. 13¹ (1852) 363; Miq. Fl. Ind. Bat. 2 (1857) 657; Vidal Sinopsis Atlas (1883) 34, t. 72, f. A; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 123, 3 (1908) Bot. 433, Fl. Manila (1912) 416, Sp. Blancoanae (1918) 342.

Solanum coagulans Blanco Fl. Filip. (1837) 135, ed. 2 (1845) 97, ed. 3, 1 (1877) 177, t. 49, non Jacq.

Solanum sanctum F.-Vill. Novis. App. (1880) 144, non Linn.

Throughout the Philippines at low and medium altitudes. In waste places. Endemic.

Local names: Balbalúsa (Ilk.); malvalúsa (Ibn.); tabulak (Bang.); tabulali (Pang.); taling-táling (Yak.); talong-talónġan (Tag.); tarambúlo (Tag.); tarong-ti-aso (Ilk.); tarangbúlong-aso (Tag.); vahúsa (Iv.).

SOLANUM DIPHYLLUM Linn. Sp. Pl. (1753) 184; Dunal in DC. Prodr. 13¹ (1852) 144.

Luzon (Manila), *Merrill 8498*. A native of tropical America, of recent introduction in the Philippines, but now established in waste places.

SOLANUM EPIPHYTICUM Merr. in Philip. Journ. Sci. 7 (1912) Bot. 350.

Solanum blumei Rolfe in Journ. Bot. 23 (1885) 214; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 198, non Nees.

Solanum parasiticum Merr. in Philip. Journ. Sci. 2 (1907) Bot. 299, non Blume.

Lycianthes parasitica Bitt. subsp. *epiphytica* Bitt. var. *pluriflora* Bitt. in Fedde Repert. 18 (1922) 321.

Northern Luzon (Cagayan) to Balabac and Mindanao. In most islands and provinces, epiphytic in damp primary forests at low and medium altitudes. Endemic.

Local names: Araka (Neg.); kolumbai (C. Bis.); sisumbidan (Mbo.).

SOLANUM FEROX Linn. Sp. Pl. ed. 2 (1762) 267; Dunal in DC. Prodr. 13¹ (1852) 255; Miq. Fl. Ind. Bat. 2 (1857) 646; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 233; F.-Vill. Novis. App. (1880) 143; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 198; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 123, 3 (1908) Bot. 433, Sp. Blancoanae (1918) 342.

Solanum zeilanicum Blanco Fl. Filip. (1837) 136, ed. 2 (1845) 97, ed. 3, 1 (1877) 178, non Scop.

Solanum lasiocarpum Dunal Solan. (1813) 222, DC. Prodr. 13¹ (1852) 252 (incl. var. *velutinum* Dunal).

Throughout the Philippines, in waste places, old clearings, etc., at low and medium altitudes, ascending to 2,000 m. India to southern China and Malaya.

Local names: Balbalusañgi (Ilk.); basula (Ibn.); dabútung (Sul.); dagútung (Sul.); kamadaka (Iv.); tagatum (P. Bis.); tálong-ayam (Bik.); talóng-gúbat (Tag.); tálong-tálong (Tag.); tarambólo (Tag.); tárong-tárong (S. L. Bis.); trambúlo (Tag.); tugutong (Bis.).

SOLANUM INAEQUILATERALE Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 236, 5 (1910) Bot. 383.

Luzon (Abra, Benguet, Bontoc), Mindanao (Lanao), Merrill 4807, Phil. Pl. 856, Elmer 6204, B. S. 27004 Ramos, 37835, 37875 Ramos & Edaña, 31700 Santos, 8525, 19741 McGregor In thickets, chiefly in or near the mossy forest, altitude 1,300 to 2,400 m. Endemic.

SOLANUM INDICUM Linn. Sp. Pl. (1753) 187; Dunal in DC. Prodr. 13¹ (1852) 309; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 234; F.-Vill. Novis. App. (1880) 143; Vidal Rev. Pl. Vasc. Filip. (1886) 198.

Mindanao (Davao), Copeland 634. On a rocky bluff near the seashore. India to southern China and Malaya.

Cuming 2261 referred here by Dunal was from Malacca, not from the Philippines.

SOLANUM LAGUNENSE Elm. Leaf. Philip. Bot. 1 (1908) 341.

Solanum anisophyllum Elm. Leaf. Philip. Bot. 8 (1915) 2830.

Luzon (Cagayan, Abra, Ilocos Norte, Nueva Vizcaya, Laguna, Tayabas, Sorsogon), Mindoro, Masbate, Leyte, Samar, Siargao, Mindanao (Surigao, Agusan, Zamboanga, Davao), Elmer 13887, 8274, Merrill 3046, Phil. Pl.

1646, Williams 2300, 2334, 2760, Wenzel 219, B. S. 27477, 32716, 23536, 7252, 7637, 7716, 27368, 33099 Ramos, 34850, 34952, 34392, 34798 Ramos & Pascasio, 36650 Ramos & Edaño. In primary forests at low and medium altitudes. Endemic.

Doubtfully distinct from *S. banahaense* Elm.

Local names: Garanggadong (Sub.); kohodon (Mbo.); saligau (Ilk.).

SOLANUM LIANOIDES Elm. Leaf. Philip. Bot. 2 (1910) 733.

Mindanao (Zamboanga, Davao), *Elmer* 10752, *Piper* 480, *F. B.* 9233 Whitford & Hutchinson, B. S. 11805 Robinson. In forests at low and medium altitudes, ascending to 1,100 m. Endemic.

Local name: Togotong (Bag.).

SOLANUM LUZONIENSE Merr. in Philip. Journ. Sci. 13 (1918) Bot. 58.

Luzon (Cagayan, Isabela, Ilocos Norte, Lepanto, Nueva Ecija, Pangasinan, Zambales), Panay, B. S. 26487 Ramos & Edaño, 32186, 8091 Ramos, 17710 Otones, Adduru 62. In thickets and waste places at low altitudes. Endemic.

Var. **GLABRUM** Merr. op. cit. 59.

Luzon (Pampanga, Tarlac, Laguna), *Merrill* 4237, *Elmer* 18123. In waste places in and about settlements. Endemic.

Local name: Sili-sili (Ilk.).

SOLANUM MAMMOSUM Linn. Sp. Pl. (1753) 187; Dunal in DC. Prodr. 13¹ (1852) 250.

Leyte, Mindanao (Zamboanga), Jolo, *F. B.* 26190 Franco, 37462 Ramos & Edaño. In thickets and waste places along roads at low altitudes. Introduced from tropical America.

Local name: Tagotong (S. L. Bis.).

SOLANUM MANUCALING Elm. Leaf. Philip. Bot. 2 (1910) 732.

Mindanao (Agusan, Davao), *Elmer* 11693, 10489, 13782. In the mossy forest, altitude about 1,200 m. Endemic.

Closely allied to *S. lagunense* Elm., but scandent.

Local names: Manukaling (Bag.); masogiang (Mbo.).

SOLANUM MELONGENA Linn. Sp. Pl. (1753) 186; Blanco Fl. Filip. (1837) 135, ed. 2 (1845) 96, ed. 3, 1 (1877) t. 265; Miq. Fl. Ind. Bat. 2 (1857) 653; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 235; F.-Vill. Novis. App. (1880) 144; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 197; Merr. Fl. Manila (1912) 416, Sp. Blancoanae (1918) 342.

Cultivated throughout the Philippines for its edible fruit, but nowhere spontaneous. Cultivated in all warm countries. Egg plant or brinjal.

Local names: Berengéna (Sp.); talóng (Bik., Bon., Bis., Tag.); taróng (Ilk.); tolung (Sul.).

SOLANUM NIGRUM Linn. Sp. Pl. (1753) 186; Blanco Fl. Filip. (1837) 134, ed. 2 (1845) 96, ed. 3, 1 (1877) 175; Dunal in DC. Prodr. 13¹ (1852) 150; Miq. Fl. Ind. Bat. 2 (1857) 636; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 229; F.-Vill. Novis. App. (1880) 143; Vidal Rev. Pl. Vasc. Filip. (1886) 198, Phan. Cuming. Philip. (1885) 130; Merr. in Philip. Journ. Sci. 1 (1906) 123, 3 (1908)

Bot. 433, 5 (1910) Bot. 383, Fl. Manila (1912) 416, Sp. Blancoanae (1918) 342.

Solanum nodiflorum Jacq. var. *macrophyllum* Dunal in DC. Prodr. 13¹ (1852) 46.

Solanum rubrum Nees in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 392.

Throughout the Philippines in open waste places, recently disturbed soil, etc., from sea level to an altitude of 2,000 m. Cosmopolitan.

Local names: Amti (Bon., If.); anti (Bon., Tag.); bolagtab (Bis.); gamagamatisan (Tag.); hulablub (Bis.); kamkamatisan (Tag.); kamátes-manúk (S. L. Bis.); konti (Tag.); kunti (Tag.); kuti (Bik.); lagkakum (Bis.); lubi-lubi (Tag., Bik., Bis.); malasili (S. L. Bis.); muti (Sul., Buk.); natang-ni-aso (Ig.); nateng (Iv.); onti (Tag.).

SOLANUM RETRORSUM Elm. Leaf. Philip. Bot. 1 (1908) 342; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 383.

Luzon (Benguet, Nueva Vizcaya, Tayabas), Mindoro, *Elmer* 8719, 6073, *Merrill* 7754, 9665, *Williams* 1074, *Whitford* 980, *B. S.* 12934 *Fénix*, 5362 *Ramos*, 20128 *McGregor*. In thickets, altitude 1,000 to 1,600 m. Endemic.

Local names: Bulasañgi (Ig.); sabit (Ig.).

SOLANUM SCHIZOCALYX Merr. in Philip. Journ. Sci. 5 (1910) Bot. 383.

Luzon (Benguet), *Merrill* 4548, 6588, *Phil. Pl.* 1719 as *S. biflorum* Lour., *B. S.* 8814, 8393 *McGregor*, 32023 *Santos*. In damp ravines and in the mossy forest, altitude 1,300 to 2,400 m. Endemic.

Perhaps better considered as a narrow-leaved glabrous form of *S. biflorum* Lour.

Local name: Ampti (Ig.).

SOLANUM SPARSIFLORUM Elm. Leaf. Philip. Bot. 5 (1913) 1836.

Palawan, Mindanao (Zamboanga), *Elmer* 13157, *B. S.* 36583 *Ramos & Edaña*. In thickets near forests, altitude about 2,000 m. Endemic.

Local name: Lamáti (Sub.).

SOLANUM TORVUM Sev. Prodr. (1788) 47, Fl. Ind. Occ. 1 (1797) 456; Dunal in DC. Prodr. 13¹ (1852) 260; Miq. Fl. Ind. Bat. 2 (1857) 648; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 234; F.-Vill. Novis. App. (1880) 143; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 123, Fl. Manila (1912) 417.

In most islands and provinces, occurring in open waste places at low and medium altitudes; *Merrill* 3406, *Phil. Pl.* 1820 have white flowers and appear to be the typical form. Pantropic.

Local names: Balbalúsa (Bon.); batuang (Ig.); dagútung (Sul.); gambol (Sub.); talampoi (Tag.); talimbólo (Tag.); talóñgon (Tag.); talong-talóñgan (Tag.); talunkia (Sul.); tandang-aso (Tag.); taogotan (P. Bis.).

SOLANUM TUBEROSUM Linn. Sp. Pl. (1753) 185; Blanco Fl. Filip. ed. 2 (1845) 97, ed. 3, 1 (1877) 179; Dunal in DC. Prodr. 13¹ (1852) 31; Miq. Fl. Ind. Bat. 2 (1857) 657; F.-Vill. Novis. App. (1880) 144; Merr. Sp. Blancoanae (1918) 343.

Solanum sinense Blanco Fl. Filip. (1837) 137; Dunal in DC. Prodr. 13¹ (1852) 38.

Cultivated at higher altitudes, especially in the Mountain Province, Luzon, and in the Lanao region in Mindanao. Introduced from tropical America. Potato; patátas (Sp.).

SOLANUM VERBASCIFOLIUM Linn. Sp. Pl. (1753) 184; Dunal in DC. Prodr. 13¹ (1852) 114; Miq. Fl. Ind. Bat. 2 (1857) 640; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 230; F.-Vill. Novis. App. (1880) 143; Vidal Phan. Cuming. Philip. (1885) 130; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 123, Fl. Manila (1912) 416, Sp. Blancoanae (1918) 342.

Solanum mauritianum Blanco Fl. Filip. (1837) 134, ed. 2 (1845) 96, ed. 3, 1 (1877) 176, t. 86, non Willd.

Throughout the Philippines in thickets and secondary forests at low and medium altitudes. Pantropic.

Local names: Kasungog (Bag.); kayok (Bag.); liuangkag (Buk.); malatabáko (Tag.); malatálong (Tag.); noog-noog (C. Bis.); pañgau (Ilk.); tálong-aso (Tag.); ungali (Bis.).

DOUBTFUL AND EXCLUDED SPECIES

SOLANUM AETHIOPICUM Linn.; F.-Vill. Novis. App. (1880) 144.

SOLANUM CERASIFERUM Dunal; F.-Vill. l. c.

SOLANUM SANCTUM Linn.; Usteri Beitr. Ken. Philip. Veg. (1905) 122.

The specimen in all probability will prove to be a form of *Solanum melongena* Linn.

SOLANUM TRILOBATUM Linn.; Dunal in DC. Prodr. 13¹ (1852) 287; F.-Vill. Novis. App. (1880) 144.

The reference was based on *Cuming 2342*, which was from Malacca.

SOLANUM UNDATUM Lam.; F.-Vill. l. c.

SOLANUM WENDLANDII Hook. f.; Merr. Fl. Manila (1912) 417.

An introduced and cultivated form which may persist.

4. LYCOPERSICUM Miller

LYCOPERSICUM ESCULENTUM Mill. Gard. Dict. ed. 8 (1768) No. 2; Nees in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 392; Miq. Fl. Ind. Bat. 2 (1857) 635; F.-Vill. Novis. App. (1880) 143; Merr. Fl. Manila (1912) 418, Sp. Blancoanae (1918) 341.

Lycopersicum cerasiforme Dunal Solan. (1816) 113; F.-Vill. Novis. App. (1880) 143.

Solanum lycopersicum Linn. Sp. Pl. (1753) 185; Blanco Fl. Filip. (1837) 134, ed. 2 (1845) 96, ed. 3, 1 (1877) 176, t. 43.

Throughout the Philippines, thoroughly established in old clearings, waste places, etc., the original form with small fruits. Improved forms are extensively cultivated. A native of tropical America, now pantropic. Tomato.

Local names: Kamátis (Tag., Bik., Sul., Ilk., Ig.); kamátis-búndok (Tag.); tomate (Sp.); umli (If.).

5. *DATURA* Linnaeus

DATURA METEL Linn. Sp. Pl. (1753) 179; Blanco Fl. Filip. (1837) 98, ed. 2 (1845) 72, ed. 3, 1 (1877) 136, *t.* 34; Safford in Journ. Wash. Acad. Sci. 11 (1921) 178, *f.* 2.

Datura fastuosa Linn. Syst. ed. 10 (1759) 932; Blanco Fl. Filip. (1837) 100, ed. 2 (1845) 73, ed. 3, 1 (1877) 136, *t.* 35; Dunal in DC. Prodr. 13¹ (1852) 542; F.-Vill. Novis. App. (1880) 145; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 243; Merr. Sp. Blancoanae (1918) 343.

Datura alba Nees in Trans. Linn. Soc. 17 (1834) 73; Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 392; Dunal in DC. Prodr. 13¹ (1852) 542; F.-Vill. Novis. App. (1880) 145; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 434, Fl. Manila (1912) 414.

Datura fastuosa Linn. var. *alba* C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1883) 243; Merr. Interpret. Herb. Amb. (1917) 465; Sp. Blancoanae (1918) 343.

In open waste places in and about settlements, sometimes planted (the double-flowered form). A native of tropical Asia, now pantropic.

Local names: Kamkamaulau (Ilk.); katchibong (Bis.); katchóbong (P. Bis.); kachúbung (Sul.); katiábon (S. L. Bis.); salanpúne (Pamp.); siva (Iv.); susupan (Ibn.); talampúnai (Pamp., Tag.); talongpúnai (Bik., Tag.); tarampúnai (Tag.); tatchúbong (Bis.); taubibong (Bis.); tram-púnai (Tag.).

EXCLUDED SPECIES

DATURA BOJERI Del.; F.-Vill. Novis. App. (1880) 145.

DATURA FEROX Linn.; F.-Vill. l. c.

DATURA NILHUMMATU Dunal; F.-Vill. op. cit. 145.

DATURA STRAMONIUM Linn.; F.-Vill. l. c.

6. *CESTRUM* Linnaeus

CESTRUM NOCTURNUM Linn. Sp. Pl. (1753) 191; Dunal in DC. Prodr. 13¹ (1852) 631; F.-Vill. Novis. App. (1880) 146; Naves in Blanco Fl. Filip. ed. 3 (1877-83) *t.* 151; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 434, Fl. Manila (1912) 414.

? *Cestrum parqui* Usteri Beitr. Ken. Philip. Veg. (1905) 122, non L'Hér.

Widely cultivated in the Philippines for its flowers, which are very fragrant at night. Introduced from tropical America.

Local name: Dama de noche (Sp.).

Cestrum diurnum Linn. is occasionally cultivated in Manila; a very recent introduction.

7. *NICOTIANA* Linnaeus

NICOTIANA TABACUM Linn. Sp. Pl. (1753) 180; Miq. Fl. Ind. Bat. 2 (1857) 670; Blanco Fl. Filip. (1837) 101, ed. 2 (1845) 74, ed. 3, 1 (1877) 138, *t.* 36; F.-Vill. Novis. App. (1880) 146; Comes Monog. Nicotiana (1899) 16 (var. *havannensis* Comes); Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 123, 5 (1910) Bot. 384, Fl. Manila (1912) 415, Sp. Blancoanae (1918) 344.

Cultivated throughout the Philippines; in some provinces it is the major commercial crop. A native of tropical America, now planted in all warm countries. Universally known in the Philippines by its Spanish name, *tabáco*; Sulu *tabaku*.

DOUBTFUL AND EXCLUDED SPECIES

NICOTIANA FRUTICOSA Linn.; F.-Vill. Novis. App. (1880) 146.

NICOTIANA LANCIFOLIA Willd.; Fl.-Vill. l. c.

NICOTIANA PETIOLARIS Schl.; F.-Vill. l. c.

NICOTIANA RUSTICA Linn.; F.-Vill. l. c.

NICOTIANA PUSILLA Blanco Fl. Filip. (1837) 100, ed. 2 (1845) 74, ed. 3, 1 (1877) 137, Merr. Sp. Blancoanae (1918) 344, non Linn.

The status of the form Blanco described is indeterminable from the very imperfect description.

NICOTIANA FRUTESCENS Blanco Fl. Filip. (1837) 101; Merr. Sp. Blancoanae (1918) 344.

Nicotiana fruticosa Blanco op. cit. ed. 2 (1845) 74, ed. 3, 1 (1877) 138, non Linn.

There is no description or other data from which the form can be determined; there is no evidence that it is even a solanaceous plant.

8. *BRUNFELSIA* Plumier

BRUNFELSIA ACUMINATA (Pohl) Benth. in DC. Prodr. 10 (1846) 199; Merr. Fl. Manila (1912) 414.

Franciscea acuminata Pohl Pl. Bras. Ic. 1 (1827) 4, t. 3.

Occasionally cultivated in Manila and in other large towns for ornamental purposes but nowhere spontaneous. A native of tropical America.

BRUNFELSIA AMERICANA Linn. Sp. Pl. (1753) 191; Benth. in DC. Prodr. 10 (1846) 200; Merr. Fl. Manila (1912) 414.

Like the preceding species, occasionally cultivated in Manila and in other large towns for ornamental purposes. Introduced from tropical America.

EXCLUDED GENUS

PETUNIA PROPINQUA Miers; F.-Vill. Novis. App. (1883) 354.

PETUNIA VIOLACEA Lindl.; F.-Vill. l. c.

SCROPHULARIACEAE

1. *RUSSELIA* Jacquin

RUSSELIA JUNCEA Zucc. in Flora 15 (1832) Beibl. 99; Benth. in DC. Prodr. 10 (1846) 332; F.-Vill. Novis. App. (1880) 146; Naves in Blanco Fl. Filip. ed. 3 (1877-82) t. 461; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 221; Merr. Fl. Manila (1912) 421.

Chiefly cultivated for ornamental purposes, but occasionally spontaneous on damp stone walls in towns. A native of Mexico.

Local name: Corales (Sp.).

2. MAZUS Loureiro

MAZUS JAPONICUS (Thunb.) O. Kuntze Rev. Gen. Pl. (1891) 462; Merr. Fl. Manila (1912) 423.

Lindernia japonica Thunb. Fl. Jap. (1784) 253.

Mazus rugosus Lour. Fl. Cochinch. (1790) 385; Benth. in DC: Prodr. 10 (1846) 375; Hook. f. Fl. Brit. Ind. 4 (1884) 259; F.-Vill. Novis. App. (1880) 146.

Luzon (Cagayan, Bontoc, Lepanto, Benguet, Rizal, Laguna, Sorsogon), Negros, Mindanao (Davao, Bukidnon, Misamis). On cliffs, banks of streams, etc., from sea level to an altitude of 2,200 m; rather local in the Philippines and usually not abundant. Afghanistan to Japan southward to Java.

Local name: Banauan (Bag.).

3. LINDENBERGIA Lehmann

LINDENBERGIA PHILIPPENSIS (Cham.) Benth. in DC. Prodr. 10 (1846) 377; Miq. Fl. Ind. Bat. 2 (1857) 677; F.-Vill. Novis. App. (1880) 147; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 198; Hook. f. Fl. Brit. Ind. 4 (1884) 261; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 384, Fl. Manila (1912) 422, Sp. Blancoanae (1918) 344.

Stemodia philippensis Cham. in Linnaea 3 (1828) 5.

Stemodia ruderalis Blanco Fl. Filip. (1837) 498, ed. 2 (1845) 348, ed. 3, 2 (1878) 281, t. 378, non Retz.

Luzon (Benguet, Apayao, Bontoc, Lepanto, Nueva Vizcaya, Union, Pangasinan, Zambales, Nueva Ecija, Bulacan, Rizal, Laguna, Batangas), Mindoro. On cliffs, talus slopes, etc., and in towns on old stone walls; sea level to an altitude of 1,600 m, often abundant. India to Siam and southern China.

Local names: Sabug (Ig.); tibañgon (Ibn.).

EXCLUDED SPECIES

LINDENBERGIA MACROSTACHYA Benth.; F.-Vill. Novis. App. (1880) 147.

LINDERBERGIA URTICAEOFOLIA Lehm.; F.-Vill. l. c.

4. LIMNOPHILA R. Brown

LIMNOPHILA AROMATICA (Lam.) Merr. Interpret. Herb. Amb. (1917) 466.

Ambulia aromatica Lam. Encycl. 1 (1783) 128.

Gratiola aromatica Pers. Syn. 1 (1805) 14.

Limnophila punctata Blume Bijdr. (1826) 750; Benth. in DC. Prodr. 10 (1846) 388 (incl. var. *subracemosa* Benth.); F.-Vill. Novis. App. (1880) 147.

Limnophila gratissima Blume Bijdr. (1826) 749; Benth. in DC. Prodr. 10 (1846) 388; Hook. f. Fl. Brit. Ind. 4 (1884) 268; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 198; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 123.

Luzon (Ilocos Norte, Bontoc, Benguet, Nueva Vizcaya, Camarines), Busuanga, Palawan, Polillo, Mindanao (Davao), Cuming 1461, Merrill 7689, 9193, Phil. Pl. 1221, B. S. 27627 Ramos, 11486 McGregor, 33595 Ramos &

Edaño, 9032 Robinson. In marshes and open wet places at low and medium altitudes, ascending to 1,600 m. India to Formosa southward through Malaya to tropical Australia.

Local name: *Anganggi* (Bon.).

LIMNOPHILA CHINENSIS (Osbeck) Merr. in Am. Journ. Bot. 3 (1916) 581.

Columnnea chinensis Osbeck Dagbok Ostind. Resa (1757) 230.

Limnophila hirsuta Benth. in DC. Prodr. 10 (1846) 388; Hook. f. Fl. Brit. Ind. 4 (1884) 268; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 124.

Stemodia hirsuta Heyne in Wall. Cat. (1831) No. 3930, *nomen nudum*; Benth. Scroph. Ind. (1835) 24.

Mindanao (Lanao, Davao), *Clemens, Copeland 426.* In open swampy places at low and medium altitudes. India to southern China and Borneo.

LIMNOPHILA FRAGRANS (Forst. f.) Seem. Fl. Vit. (1865) 180; Merr. Fl. Manila (1912) 423.

Ruellia fragrans Forst. f. Prodr. (1786) 44.

Limnophila serrata Gaudich. Bot. Freyc. Voy. (1826) 448, t. 57, f. 2; F.-Vill. Novis. App. (1880) 147; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 221.

Polillo, *B. S. 9025 Robinson.* In rice paddies at low altitudes. Malay Archipelago to tropical Australia and Polynesia.

LIMNOPHILA INDICA (Linn.) Druce Bot. Exch. Club (February, 1914) 420; Merr. in Philip. Journ. Sci. 9 (June, 1914) 140.

Hottonia indica Linn. Syst. ed. 10 (1759) 909.

Limnophila gratioides R. Br. Prodr. (1810) 442; Benth. in DC. Prodr. 10 (1846) 389; Hook. f. Fl. Brit. Ind. 4 (1884) 271; F.-Vill. Novis. App. (1880) 147; Merr. Sp. Blancoanae (1918) 345.

Limnophila myriophylloides Llanos Frag. Pl. Filip. (1851) 78; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 60, non Roth.

Limnophila sessiliflora Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 124, non Blume.

Luzon (Cagayan, Ilocos Norte, Bontoc, Benguet, Pangasinan, Nueva Ecija, Rizal, Laguna), Leyte, Mindanao (Bukidnon, Davao, Lanao). In shallow slow streams at low and medium altitudes, ascending to 1,500 m. India to Japan through Malaya to tropical Australia.

Earlier collections were identified as *L. sessiliflora* Blume, some later ones as *L. demersa* Merr.

LIMNOPHILA MANILENSIS Merr. in Philip. Journ. Sci. 7 (1912) Bot. 246, Fl. Manila (1912) 423.

? *Limnophila diffusa* F.-Vill. Novis. App. (1880) 147; Ceron Cat. Pl. Herb. Manila (1892) 125, non Benth.

Luzon (Rizal, Bulacan), *Baker 600, Merrill 7432, Phil. Pl. 464, B. S. 19197 Reillo.* In wet fallow rice paddies at low altitudes. Endemic.

LIMNOPHILA OBOVATA Merr. in Philip. Journ. Sci. 20 (1922) 439.

Palawan, *Merrill 7227.* Along small streams, often in shallow water, in shaded places at low altitudes. Borneo.

- LIMNOPHILA RUGOSA** (Roth) Merr. Interpret. Herb. Amb. (1917) 466, Sp. Blancoanae (1918) 345.
Herpestis rugosa Roth Nov. Pl. Sp. (1821) 290.
Capraria gratissima Roxb. Hort. Beng. (1814) 47, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 92.
Stemodia menthastrum Benth. Scroph. Ind. (1835) 23.
Limnophila roxburghii G. Don Gen. Syst. 4 (1838) 543; Hook. f. Fl. Brit. Ind. 4 (1884) 265; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 198.
Limnophila menthastrum Benth. in DC. Prodr. 10 (1846) 386; Miq. Fl. Ind. Bat. 2 (1857) 680; F.-Vill. Novis. App. (1880) 147.
Tala odorata Blanco Fl. Filip. (1837) 485, ed. 2 (1845) 388, ed. 3, 2 (1878) 262; Benth. in DC. Prodr. 10 (1846) 586; Miq. Fl. Ind. Bat. 2 (1858) 708.

Luzon (Lepanto, Nueva Vizcaya, Pampanga, Bulacan, Camarines, Sorsogon), Palawan, Panay, Negros, Mindanao (Zamboanga), *B. S. 33643, 31006, 36945 Ramos & Edaño, Cuming 741, Merrill 9752, Sp. Blancoanae 626, Elmer 15502*. In open wet places at low altitudes. India to Malaya and Polynesia.

Local names: Bintugo (Sub.); kalao (Bik.); patalatála (Pamp.); tála (Tag., Bik.); tala-tála (Pang.); tara-tára (Ilk.); taram-hapan (Tag.).

- LIMNOPHILA STOLONIFERA** (Blanco) Merr. Sp. Blancoanae (1918) 345.
Diceros stoloniferus Blanco Fl. Filip. ed. 2 (1845) 349, ed. 3, 2 (1878) 282.

Limnophila repens F.-Vill. Novis. App. (1880) 147, non Benth.

Luzon (Rizal), *Merrill Sp. Blancoanae 201, B. S. 19287 Reillo*. In fallow rice paddies at low altitudes. Endemic.

Local name: Orégano (Sp.).

EXCLUDED SPECIES

LIMNOPHILA JAVANICA A. DC.; F.-Vill. Novis. App. (1880) 147.

LIMNOPHILA RACEMOSA Benth.; F.-Vill. l. c.

5. ADENOSMA R. Brown

ADENOSMA BILABIATUM (Roxb.) comb. nov.

Erinus bilabiatum Roxb. Hort. Beng. (1814) 47, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 92.

Stemodia capitata Benth. in Wall. Cat. (1831) No. 3926, *nomen nudum*, Bot. Reg. sub. t. 1470.

Pterostigma capitatum Benth. Scroph. Ind. (1835) 21, DC. Prodr. 10 (1846) 380.

Adenosma capitatum Benth. in Hook. f. Fl. Brit. Ind. 4 (1884) 264.

Luzon (Nueva Vizcaya, Rizal), Palawan, Mindanao (Bukidnon), *Merrill 9203, B. S. 26090 Fénix, 8274, 3380, 22249 Ramos, 38461 Ramos & Edaño*. In thickets at low and medium altitudes. India to Malaya.

ADENOSMA JAVANICUM (Blume) Koord. Exkursfl. Java 3 (1912) 175; Merr. in Philip. Journ. Sci. 11 (1916) Bot. 312.

Herpestis javanica Blume Bijdr. (1826) 748.

Herpestis ovata Benth. Scroph. Ind. (1835) 30.

Adenosma ovata Benth. in Hook. f. Fl. Brit. Ind. 4 (1884) 263.

Luzon (Pangasinan, Bulacan, Rizal, Laguna), Samar, Panay, Mindanao (Surigao, Lanao), *B. S.* 17785 *Otanes*, 31305, 34083 *Ramos & Edaño*, 2653, 24244 *Ramos*, 34733 *Ramos & Pascasio*, *Clemens* 1165, *Baker* 3164. Along small streams in forests at low and medium altitudes. Burma and Indo-China through Malaya to the Moluccas.

6. DOPATRIUM Hamilton

DOPATRIUM JUNCEUM (Roxb.) Ham. ex Benth. Scroph. Ind. (1835) 31, DC. Prodr. 10 (1846) 407; Miq. Fl. Ind. Bat. 2 (1857) 686; Hook. f. Fl. Brit. Ind. 4 (1884) 274; F.-Vill. Novis. App. (1880) 147; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 198; Merr. Fl. Manila (1912) 426, Sp. Blancoanae (1918) 346.

Gratiola juncea Roxb. Pl. Coromandel 2 (1798) 16, t. 129.

Kyrtandra aristata Blanco Fl. Filip. (1837) 18; C. B. Clarke in DC. Monog. Phan. 5 (1883) 287.

Cyrtandra aristata Blanco op. cit. ed. 2 (1845) 13, ed. 3, 1 (1877) 24.

Dopatrium aristatum Hassk. in Flora 47 (1864) 56.

Didymocarpus aristatus F.-Vill. Novis. App. (1880) 150.

Luzon (Rizal), Panay, *Cuming* 1654, *Merrill* 3668, 9786, *B. S.* 10889. In old rice paddies at low altitudes; very local in the Philippines. India to southern China through Malaya to tropical Australia.

Local name: Ubot-úbot (Tag.).

7. BACOPA Aublet

BACOPA FLORIBUNDA (R. Br.) Wettst. in Engl. & Prantl Nat. Pflanzenfam. 4^{3b} (1891) 76; Merr. Fl. Manila (1912) 422.

Herpestis floribunda R. Br. Prodr. (1810) 442; Benth. in DC. Prodr. 10 (1846) 400; F.-Vill. Novis. App. (1880) 147; Hook. f. Fl. Brit. Ind. 4 (1884) 273.

Luzon (Ilocos Norte, Zambales, Rizal), *Merrill* 7358, 9802, *Phil. Pl.* 7, *B. S.* 27520, 5065, 24074, 22290 *Ramos*. A characteristic rice-paddy weed. Tropical Africa, India, Java, and tropical Australia.

BACOPA MONNIERIA (Linn.) Wettst. in Engl. & Prantl Nat. Pflanzenfam. 4^{3b} (1891) 77; Merr. Fl. Manila (1912) 422, Sp. Blancoanae (1918) 344.

Gratiola monniera Linn. Cent. Pl. 2 (1756) No. 120 Amoen. Acad. 4 (1759) 306.

Herpestis monniera HBK. Nov. Gen. Sp. Pl. 2 (1817) 366; Benth. in DC. Prodr. 10 (1846) 400; Miq. Fl. Ind. Bat. 2 (1857) 685; F.-Vill. Novis. App. (1880) 147; Hook. f. Fl. Brit. Ind. 4 (1804) 272; Merr. Fl. Manila (1912) 422, Sp. Blancoanae (1918) 344.

Thunbergia stolonifera Blanco Fl. Filip. (1837) 517.

Calyptriplex obovata Blanco op. cit. ed. 2 (1845) 361, ed. 3, 2 (1878) 302, t. 230, non Ruiz & Pav.

Luzon (Cagayan, Ilocos Norte, Rizal, Laguna), Cebu, *F. B.* 17140 *Curran*, *B. S.* 7458, 27468 *Ramos*, 2329 *Mearns*, *Merrill* Sp. Blancoanae 239, *Elmer* 18124, *Williams* 2062. In open wet places at low altitudes chiefly within the influence of salt or brackish water. Pantropic.

Local name: Olasímang-aso (Tag.).

8. BYTHOPHYTON Hooker f.

BYTHOPHYTON INDICUM (Hook. f. & Th.) Hook. f. Fl. Brit. Ind. 4 (1884) 286; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 229.

Micranthemum indicum Hook. f. & Th. in Hook. Journ. Bot. Kew Miscel. 9 (1857) 245, t. 7.

Luzon (Lepanto), *Merrill* 4519. In shallow water, and along the marshy borders of a small pond, on Mt. Data, altitude about 2,200 m. India (Khasia Mountains).

9. MICROCARPAEA R. Brown

MICROCARPAEA MINIMA (Koenig) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 100.

Paederota minima Koenig in Retz. Obs. 5 (1789) 10.

Microcarpaea muscosa R. Br. Prodr. (1810) 436; Benth. in DC. Prodr. 10 (1846) 433; Hook. f. Fl. Brit. Ind. 4 (1884) 287.

Microcarpaea alterniflora Blume Bijdr. (1826) 744.

Luzon (Bontoc), *Vanoverbergh* 939. In rice paddies, altitude about 1,200 m. India to southern China southward through Malaya to tropical Australia.

10. ARTANEMA D. Don

ARTANEMA LONGIFOLIA (Linn.) comb. nov.

Columnea longifolia Linn. Mant. 1 (1767) 90.

Archimenes sesamoides Vahl Symb. 2 (1791) 71.

Artanema sesamoides Benth. Scroph. Ind. (1835) 39, DC. Prodr. 10 (1846) 408; Hook. f. Fl. Brit. Ind. 4 (1884) 274; F.-Vill. Novis. App. (1880) 148; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 199.

Artanema longiflora Wettst. in Engl. & Prantl Nat. Pflanzenfam. 4^{3b} (1891) 79.

Luzon (Cagayan), *Cuming* 1273. Tropical Asia and Malaya.

11. TORENIA Linnaeus

TORENIA BLANCOI Merr. Sp. Blancoanae (1918) 346.

Vandellia multiflora Blanco Fl. Filip. (1837) 505, non G. Don.

Torenia asiatica F.-Vill. Novis. App. (1880) 148, non Linn.

Luzon (Tarlac, Rizal), *Merrill* 3636, *Sp. Blancoanae* 157. On boulders in bamboo thickets and in recently cleared land at low altitudes; rare. Endemic.

TORENIA CONCOLOR Lindl. Bot. Reg. (1846) t. 62; Merr. Fl. Manila (1912) 425.

Occasionally cultivated for ornamental purposes but nowhere established. A native of China.

TORENIA PEDUNCULARIS Benth. in Wall. Cat. (1831) No. 3956, *nomen nudum*; Hook. f. Fl. Brit. Ind. 4 (1884) 276; Rolfe in Journ. Bot. 23 (1885) 214; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 199; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 123, *Sp. Blancoanae* (1918) 347.

Torenia edentula Benth. in DC. Prodr. 10 (1846) 410; F.-Vill. Novis. App. (1880) 148, non Griff.

Minulus violaceus Azaola ex Blanco Fl. Filip. ed. 2 (1845) 357, ed. 3, 2 (1878) 296.

Luzon (Abra, Laguna), Palawan, Mindanao (Agusan, Zamboanga, Davao), Jolo, *Cuming* 578, *Merrill* 5251, *Baker* 111, *Weber* 1060, *Williams* 2798, *B. S.* 7294 *Ramos*, 12433, 12343 *McGregor*. In thickets, banks of streams, old rice paddies, etc., at low and medium altitudes. India to Java.

Local names: Taknasi (Sul.); titiakang (Sub.).

TORENIA POLYGONOIDES Benth. Scroph. Ind. (1835) 39, DC. Prodr. 10 (1846) 409; Hook. f. Fl. Brit. Ind. 4 (1884) 276; F.-Vill. Novis. App. (1880) 148; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 199; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 300, Sp. Blancoanae (1918) 347.

Torenia cardiosepala Benth. in DC. Prodr. 10 (1846) 409; Miq. Fl. Ind. Bat. 2 (1857) 688; F.-Vill. Novis. App. (1880) 148 p. p. quoad *Cuming* 872.

Legazpia triptera Blanco Fl. Filip. ed. 2 (1845) 339, ed. 3, 2 (1878) 264.

Northern Luzon to Palawan and Mindanao. In most islands and provinces, chiefly in forests, old clearings, etc., at low and medium altitudes. India to the Malay Peninsula and Borneo.

Local names: Lalagang (Sub.); monko (Mbo.).

EXCLUDED SPECIES

TORENIA CILIATA Sm.; F.-Vill. Novis. App. (1880) 148.

TORENIA FLAVA Ham.; F.-Vill. l. c.

TORENIA PARVIFLORA Ham.; F.-Vill. l. c.

12. LINDERNIA Allioni

LINDERNIA CORDIFOLIA (Colsm.) comb. nov.

Gratiola cordifolia Colsm. Prodr. Descr. Grat. (1793) 15; Vahl Enum. 1 (1804) 97.

Vandellia cordifolia G. Don. Gen. Hist. 4 (1838) 549; Merr. Fl. Manila (1912) 425.

Vandellia pedunculata Benth. Scroph. Ind. (1835) 37, DC. Prodr. 10 (1846) 416; Hook. f. Fl. Brit. Ind. 4 (1884) 282.

Lindernia pedunculata Wettst. in Engl. & Prantl Nat. Pflanzenfam. 4^{3b} (1891) 79.

Babuyan Islands and northern Luzon to Mindanao, *B. S.* 3960 *Fénix*, 11481, 10398, 18686, 22979, 23049 *McGregor*, 10014 *Ramos*, *Merrill* 7706, 408, *Weber* 1061. In damp open places, old rice paddies, seepage slopes, etc., from sea level to an altitude of 1,600 m. India to China and Malaya.

Local name: Lamlamsit (Bon.).

LINDERNIA CRUSTACEA (Linn.) F. Muell. Census (1882) 97; Merr. Interpret. Herb. Amb. (1917) 468, Sp. Blancoanae (1918) 347.

Capraria crustacea Linn. Mant. 1 (1767) 87.

Vandellia crustacea Benth. Scroph. Ind. (1835) 35, DC. Prodr. 10 (1846) 413; Miq. Fl. Ind. Bat. 2 (1857) 690; Hook. f. Fl. Brit. Ind. 4 (1884) 279; F.-Vill. Novis. App. (1880) 148; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 119; Merr.

in Philip. Journ. Sci. 1 (1906) Suppl. 124, Fl. Manila (1912) 425, Sp. Blancoanae (1918) 347.

Torenia paniculata Blanco Fl. Filip. (1837) 486, ed. 2 (1845) 339, ed. 3, 2 (1878) 265; Benth. in DC. Prodr. 10 (1846) 411; Miq. Fl. Ind. Bat. 2 (1857) 690; F.-Vill. Novis. App. (1880) 148.

A common weed throughout the settled areas of the Philippines in open places, rice paddies, and disturbed soil generally, at low and medium altitudes, including *Elmer 15165* as *Vandellia irosinensis* Elm. Throughout the Old World Tropics, introduced in the New World.

LINDERNIA GRANDIFLORA (Merr.) comb. nov.

Vandellia grandiflora Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 237, 2 (1907) Bot. 300.

Luzon (Lepanto, Bontoc, Benguet), Mindoro, *Merrill 4359, 4572, 4735, 7655, 7652, 7764, B. S. 8427 McGregor, 5785 Ramos, F. B. 4401 Merritt*. On banks and cliffs and in open places along trails, altitude 1,800 to 2,400 m. Endemic.

Local name: Tagtagu (Ig.).

LINDERNIA PYXIDARIA All. Misc. Taur. 3 (1755) 178; Benth. in DC. Prodr. 10 (1846) 418; Merr. Sp. Blancoanae (1918) 348.

Vandellia pyxidaria Maxim. in Bull. Acad. St. Pétersb. 20 (1875) 449.

Torenia quinquenervis Llanos Frag. Pl. Filip. (1851) 76; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 59.

Vandellia erecta Benth. Scroph. Ind. (1835) 36, DC. Prodr. 10 (1846) 415.

Luzon (Nueva Vizcaya, Rizal, Laguna), *Merrill Sp. Blancoanae 777, Baker 4281, B. S. 11406 McGregor*. In rice paddies, open wet places, etc., at low and medium altitudes; very local in the Philippines. Southern Europe to Japan southward to India, Malaya, and Polynesia.

LINDERNIA PUSILLA (Thunb.) Merr. in Philip. Journ. Sci. 11 (1916) Bot. 312, Sp. Blancoanae (1918) 347.

Selago pusilla Thunb. Prodr. Pl. Cap. (1794-1800) 99.

Gratiola pusilla Willd. Sp. Pl. 1 (1797) 105.

Vandellia scabra Benth. Scroph. Ind. (1835) 36, DC. Prodr. 10 (1846) 414; Miq. Fl. Ind. Bat. 2 (1857) 692; Hook. f. Fl. Brit. Ind. 4 (1884) 281; F.-Vill. Novis. App. (1880) 148; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 199; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 124.

Vandellia soriana Blanco Fl. Filip. (1837) 506; Benth. in DC. Prodr. 10 (1846) 415; Miq. Fl. Ind. Bat. 2 (1857) 693; F.-Vill. Novis. App. (1880) 148.

Torenia soriana Blanco op. cit. ed. 2 (1845) 340, ed. 3, 2 (1878) 266.

Torenia hirta Cham. & Schlecht. in Linnaea 2 (1827) 571.

Vandellia diffusa Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 368 bis (upper figure), non Blanco.

Lindernia scabra Wettst. in Engl. & Prantl Nat. Pflanzenfam. 4^{ab} (1891) 79.

Vandellia pusilla Merr. in Philip. Journ. Sci. 7 (1912) Bot. 246, Fl. Manila (1912) 424.

Throughout the Philippines at low and medium altitudes, a common weed in cultivated soil, rice paddies, etc. India to Africa, China, Malaya, and Polynesia.

LINDERNIA VISCOSA (Willd.) comb. nov.

Hornemannia viscosa Willd. Enum. (1809) 654.

Vandellia hirsuta Ham. ex Benth. Scroph. Ind. (1835) 36, DC. Prodr. 10 (1846) 414; Hook. f. Fl. Brit. Ind. 4 (1884) 280; F.-Vill. Novis. App. (1880) 148; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 368 bis; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 199.

Lindernia hirsuta Wettst. in Engl. & Prantl Nat. Pflanzenfam. 4^{ab} (1891) 79.

Vandellia viscosa Merr. in Philip. Journ. Sci. 7 (1912) Bot. 246, Fl. Manila (1912) 424.

Throughout the Philippines, a weed in cultivated soil, along banks of streams, etc., but much less common than the two preceding species. India to China and Malaya.

EXCLUDED SPECIES

VANDELLIA NERVOSA Benth.; F.-Vill. Novis. App. (1880) 148.

13. **CURANGA** Jussieu

CURANGA FEL-TERRAE (Lour.) Merr. Interpret. Herb. Amb. (1917) 467.

Picria fel-terrae Lour. Fl. Cochinch. (1790) 393.

Caranga amara Vahl Enum. 1 (1804) 100.

Curanga amara Juss. in Ann. Mus. Hist. Nat. Paris 9 (1807) 319; Benth. in DC. Prodr. 10 (1846) 408; F.-Vill. Novis. App. (1880) 148; Hook. f. Fl. Brit. Ind. 4 (1884) 275; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 199.

Curania amara R. & S. Syst. 1 (1817) 138.

Gratiola amara Roxb. Hort. Beng. (1814) 80, *nomen nudum*, Fl. Ind. 1 (1820) 136.

Torenia cardiosepala Benth. in DC. Prodr. 10 (1846) 409, p. p., quoad Cuming 579.

Luzon (Cagayan, Kalinga, Laguna), Mindanao (Zamboanga), Merrill 8283, B. S. 7806 Ramos, 37533 Ramos & Edaño, F. B. 25003 Mabesa. On forested slopes at low altitudes, ascending to 400 m; rare and local. India to Indo-China through Malaya to the Moluccas.

Local name: Sagai-uak (Sul.).

14. **ILYSANTHES** Rafinesque

ILYSANTHES ANTIPODA (Linn.) Merr. Interpret. Herb. Amb. (1917) 467, Sp. Blancoanae (1918) 349.

Ruellia antipoda Linn. Sp. Pl. (1753) 635.

Ruellia anagallis Burm. f. Fl. Ind. (1768) 135.

Gratiola veronicaefolia Retz. Obs. 4 (1786) 8.

Bonnaya veronicaefolia Spreng. Syst. 1 (1825) 41; Benth. in DC. Prodr. 10 (1846) 421; Hook. f. Fl. Brit. Ind. 4 (1884) 285; F.-Vill. Novis. App. (1880) 149; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 199; Merr. Fl. Manila (1912) 426.

Bonnaya grandiflora Spreng. Syst. 1 (1825) 41; Benth. in DC. Prodr. 10 (1846) 421; Miq. Fl. Ind. Bat. 2 (1857) 697; Hassk. in Flora 47 (1864) 51; F.-Vill. Novis. App. (1880) 149.

Kyrtandra serrata Blanco Fl. Filip. (1837) 18; C. B. Clarke in DC. Monog. Phan. 5 (1883) 287.

Kyrtandra capsularis Blanco op. cit. 17.

Cyrtandra glaberrima Blanco op. cit. ed. 2 (1845) 12, ed. 3, 1 (1877) 23.

Didymocarpus blancoi Hassk. in Flora 47 (1864) 55; C. B. Clarke in DC. Monog. Phan. 5 (1883) 109.

Bonnaya antipoda Druce Bot. Exch. Club (1914) 415.

Throughout the Philippines. A characteristic rice paddy weed, usually very common. India to China through Malaya to the Moluccas.

ILYSANTHES CILIATA (Colsm.) O. Kuntze Rev. Gen. Pl. (1891) 461.

Gratiola ciliata Colsm. Prodr. Descr. Grat. (1793) 14; Vahl Enum. 1 (1804) 97.

Gratiola reptans Roxb. Fl. Ind. 1 (1820) 140.

Bonnaya reptans Spreng. Syst. 1 (1825) 41; Miq. Fl. Ind. Bat. 2 (1857) 696; Benth. in DC. Prodr. 10 (1846) 420; Hook. f. Fl. Brit. Ind. 4 (1884) 284; F.-Vill. Novis. App. (1880) 148; Vidal Phan. Cuming. Philip. (1885) 130, Rev. Pl. Vasc. Filip. (1886) 199.

Luzon (Pangasinan, Bulacan, Laguna), Mindanao (Zamboanga), *B. S.* 29988 *Fénix*, 17796 *Otanes*, *Merrill* 8220, *Elmer* 17900. Chiefly along streams and in open places in forests at low and medium altitudes. India to Java.

ILYSANTHES SERRATA (Roxb.) Urb. in Ber. Deutsch. Gesellsch. 2 (1884) 436; Merr. Sp. Blancoanae (1918) 348.

Gratiola serrata Roxb. Fl. Ind. 1 (1820) 140.

Bonnaya brachiata Link & Otto Ic. Pl. Sel. (1820-28) 25, *t. 11*; Benth. in DC. Prodr. 10 (1846) 420; Hook. f. Fl. Brit. Ind. 4 (1884) 284; Miq. Fl. Ind. Bat. 2 (1857) 695; F.-Vill. Novis. App. (1880) 148; Merr. Fl. Manila (1912) 426, Sp. Blancoanae (1918) 348.

Kyrtandra personata Blanco Fl. Filip. (1837) 18; C. B. Clarke in DC. Monog. Phan. 5 (1883) 287.

Gratiola hyssopioides Blanco op. cit. 11.

Cyrtandra personata Blanco op. cit. ed. 2 (1845) 13, ed. 3, 1 (1877) 25.

Bonnaya personata Hassk. in Flora 47 (1864) 56.

Northern Luzon to Mindanao. In most islands and provinces at low and medium altitudes in the settled areas, in meadows, fallow rice paddies, etc. India to southern China and Java.

Local names: Kabat-lupa (Tag.); pugu-pugúan (Tag.).

EXCLUDED SPECIES

BONNAYA VERBENAEFOLIA Spreng.; F.-Vill. Novis. App. (1880) 149.

15. ELLISIOPHYLLUM Maximowicz

- ELLISIOPHYLLUM PINNATUM** (Wall.) Makino in Bot. Mag. Tokyo 20 (1906) 91, *t.* 5; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 386.
Mazus pinnatus Wall. Cat. (1831) No. 3915, *nomen nudum*.
Ourisia pinnata Wall. ex Benth. Scroph. Ind. (1835) 47.
Hornemannia pinnata Benth. in DC. Prodr. 10 (1846) 428.
Sibthorpia pinnata Benth. ex Hook. f. Fl. Brit. Ind. 4 (1884) 288.
Moseleya pinnata Hemsl. in Hook. Ic. Pl. 26 (1898) *t.* 2592.
Ellisiophyllum reptans Maxim. in Bull. Acad. St. Pétersb. 16 (1871) 223; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 228.

Luzon (Benguet), *Loher 5153, Merrill 4738, 6594, Phil. Pl. 823, B. S. 8330* McGregor, *31977 Santos*. In the mossy forests on the highest mountains, altitude 2,000 to 2,400 m. India to Japan southward to Formosa.
 Local name: Kakasiag (Ig.).

16. HEMIPHRAKMA Wallich

- HEMIPHRAKMA HETEROPHYLLUM** Wall. Tent. Fl. Nepal. (1824) 16, *t.* 8; Benth. in DC. Prodr. 10 (1846) 429; Hook. f. Fl. Brit. Ind. 4 (1884) 289; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 124; Merr. op. cit. 5 (1910) Bot. 384.
Nertera dentata Elm. Leaf. Philip. Bot. 1 (1906) 15.

Luzon (Lepanto, Benguet), *Merrill 4510, Phil. Pl. 867, Elmer 6239, B. S. 32048 Santos, 8407 McGregor, 5452 Ramos*. In open grasslands, marshy borders of slow streams, etc., on the highest mountains, altitude 2,200 to 2,600 m. India, China, Formosa.

Local name: Kanipa (Ig.).

17. SCOPARIA Linnaeus

- SCOPARIA DULCIS** Linn. Sp. Pl. (1753) 116; Benth. in DC. Prodr. 10 (1846) 431; Blanco Fl. Filip. (1837) 55, ed. 2 (1845) 37, ed. 3, 1 (1877) 69, *t.* 19; Hook. f. Fl. Brit. Ind. 4 (1884) 289; F.-Vill. Novis. App. (1880) 149; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 199; Merr. Fl. Manila (1912) 420, Sp. Blancoanae (1918) 349.

A ubiquitous weed in and about towns throughout the settled areas at low and medium altitudes. A native of tropical America, now pantropic.

Local names: Isisa (Ilk.); kabug (C. Bis.); mala-anís (Pamp.); saangkabáyo (Tag.); sampalókan (Tag.); tachin-karnéro (Iv.).

18. VERONICA Linnaeus

- VERONICA MONANTHA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 385.

Luzon (Benguet), *Merrill 6593*. In the mossy forest on Mt. Pulog, altitude about 2,600 m. Endemic.

19. ALECTRA Thunberg

- ALECTRA ARVENSIS** (Benth.) Merr. in Philip. Journ. Sci. 12 (1917) Bot. 109.

Glossostylis arvensis Benth. Scroph. Ind. (1835) 49.

Hymenospermum dentatum Benth. in Wall. Cat. (1831) No. 3964, *nomen nudum*.

Alectra indica Benth. in DC. Prodr. 10 (1846) 339; Hook. f. Fl. Brit. Ind. 4 (1884) 297.

Alectra dentata O. Kuntze Rev. Gen. Pl. (1891) 458; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 236.

Luzon (Lepanto, Bontoc, Benguet), *Merrill 4350, Elmer 8491, Williams 918, B. S. 5324 Ramos, 37477, 38039 Ramos & Edaño, F. B. 5717 Klemme*. On open grassy slopes in thin pine forests, altitude 1,400 to 1,800 m. India to southern China and Mauritius.

Local name: Opop (Ig.).

20. SOPUBIA Hamilton

SOPUBIA TRIFIDA Ham. in Don Prodr. Fl. Nepal. (1825) 88; Benth. in DC. Prodr. 10 (1846) 522; Hook. f. Fl. Brit. Ind. 4 (1884) 302; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 237, 5 (1910) Bot. 385.

Luzon (Bontoc, Benguet, Pangasinan), Mindoro, Mindanao (Bukidnon), *Merrill Phil. Pl. 826, Elmer 6518, Williams 1051, B. S. 21388 Escritor, 25000 Fénix, 37728, 39212 Ramos & Edaño, 32003 Santos*. On open grassy slopes chiefly between 1,200 and 2,000 m, rarely at lower altitudes. Tropical Africa, India, China, Celebes.

Local names: Kutkutil (Ig.); mama (Ig.); tuchukau (Ilk.).

21. CENTRANTHERA R. Brown

CENTRANTHERA HISPIDA R. Br. Prodr. (1810) 438; Benth. in DC. Prodr. 10 (1846) 525; Hook. f. Fl. Brit. Ind. 4 (1884) 301; F.-Vill. Novis. App. (1880) 149; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 200; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 434, Fl. Manila (1912) 421.

Batan Islands and northern Luzon to Mindanao. In most or all islands and provinces, occurring in open grasslands at low and medium altitudes, ascending to 1,400 m. India through Malaya to Australia.

22. BUCHNERA Linnaeus

BUCHNERA URTICIFOLIA R. Br. Prodr. (1810) 437; Benth. in DC. Prodr. 10 (1846) 496; Rolfe in Journ. Bot. 23 (1885) 978; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 200; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 386.

Buchnera gracilis R. Br. var. ? *glabrior* Benth. in DC. Prodr. 10 (1846) 497; F.-Vill. Novis. App. (1880) 149.

Luzon (Ilocos Norte, Ilocos Sur, Lepanto, Bontoc, Benguet, Union, Nueva Vizcaya, Pangasinan, Pampanga, Bulacan), Mindoro, Culion, Mindanao (Bukidnon, Lanao). In dry open grasslands at low and medium altitudes, ascending to 1,400 m. Tropical Australia.

23. STRIGA Loureiro

STRIGA ASIATICA (Linn.) O. Kuntze Rev. Gen. Pl. (1891) 466.

Buchnera asiatica Linn. Sp. Pl. (1753) 630, pro maiore parte.

Striga lutea Lour. Fl. Cochinch. (1790) 22; Hook. f. Fl. Brit. Ind. 4 (1884) 299; Rolfe in Journ. Bot. 23 (1885) 214; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 200.

Luzon (Bontoc, Benguet, Nueva Vizcaya, Zambales, Laguna, Tayabas, Sorsogon), Biliran, *Merrill 161, Elmer 7420, 14347, B. S. 15084 Ramos.*

In open grasslands, parasitic on grass roots (*Imperata* etc.), chiefly at medium altitudes. Tropical Africa, Asia, and Malaya.

STRIGA MASURIA (Ham.) Benth. in Hook. Comp. Bot. Mag. 1 (1835) 364, DC. Prodr. 10 (1846) 503; Miq. Fl. Ind. Bat. 2 (1857) 706; Hook. f. Fl. Brit. Ind. 4 (1884) 300; F.-Vill. Novis. App. (1880) 149; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 200.

Buchnera masuria Ham. in Benth. Scroph. Ind. (1835) 41.

Luzon (Cagayan, Isabela, Ilocos Norte, Bontoc, Nueva Vizcaya, Pangasinan), *Cuming 1359, Loher 4360, Merrill 136, Vanoverbergh 1243, B. S. 7853, 32798, 32749, 32869 Ramos, 17741 Otanes, 11310 McGregor.* In open grasslands at low and medium altitudes. India to southern China.

STRIGA MULTIFLORA Benth. in Hook. Comp. Bot. Mag. 1 (1835) 363, DC. Prodr. 10 (1846) 501; Miq. Fl. Ind. Bat. 2 (1857) 704; F.-Vill. Novis. App. (1880) 149.

Luzon (Cagayan, Isabela, Bontoc, Nueva Vizcaya, Rizal), *Merrill 160, Vanoverbergh 360, B. S. 1399, 7819, 7887, 8129 Ramos.* In open grasslands at low and medium altitudes, parasitic on the rhizomes or roots of *Themeda* and other grasses. Moluccas, tropical Australia.

24. EUPHRASIA Linnaeus

EUPHRASIA BORNEENSIS Stapf in Trans. Linn. Soc. Bot. 4 (1894) 210, t. 16, f. 10-16; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 236, 5 (1910) Bot. 385.

Luzon (Bontoc, Benguet), *Merrill 6491, 4722, 4720, Phil. Pl. 709, B. S. 31840 Santos, 8416, 8886 McGregor, 4450, 4351 Mearns.* On exposed ridges in open places, altitude 2,200 to 2,700 m. Formosa, Borneo.

EXCLUDED GENUS

MIMULUS TENELLUS Bunge; Walp. & Schauer in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 394.

This record was based on a specimen from Jala Jala, Laguna Province, Luzon, collected by Meyen. It has been removed from *Mimulus* in the Berlin herbarium. It is probably an erroneous identification of a *Torenia*.

BIGNONIACEAE

1. NYCTICALOS Teysmann and Binnendyk

NYCTICALOS CUSPIDATUM (Blume) Miq. Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 249, t. 8, f. B; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 237; C. B. Rob. op. cit. 6 (1911) Bot. 211.

Tecoma cuspidata Blume Rumphia 4 (1848) 35.

Luzon (Rizal, Laguna, Cavite, Batangas, Camarines, Sorsogon), Polillo, Palawan, Biliran, Mindanao (Surigao, Misamis, Zamboanga), Basilan, *F. B. 25015, 28024 Mabesa, 23718 Alvarez, B. S. 254 Bermejós, 18557, 10396 McGregor, 34460 Ramos & Pascasio, Elmer 14426.* In primary forests at low and medium altitudes. Celebes, Moluccas.

2. OROXYLUM Ventenat

OROXYLUM INDICUM (Linn.) Vent. Dec. Gen. Nov. (1808) 8; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 378; F.-Vill. Novis. App. (1880) 151; Vidal Sinopsis Atlas (1883) 35, *t.* 73, *f.* B, Rev. Pl. Vasc. Filip. (1886) 202; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 124, Fl. Manila (1912) 428, Sp. Blancoanae (1918) 350.

Bignonia indica Linn. Sp. Pl. (1753) 629.

Calosanthus indica Blume Bijdr. (1826) 760; DC. Prodr. 9 (1845) 177.

Bignonia quadripinnata Blanco Fl. Filip. (1837) 499, ed. 2 (1845) 349, ed. 3, 2 (1878) 283, *t.* 219.

Northern Luzon (Cagayan), to Palawan and Mindanao, in most or all islands and provinces, occurring in thickets and secondary forests at low and medium altitudes. India to Indo-China, the Malay Peninsula, and Java.

Local names: Abang-abang (P. Bis.); abong-abong (Bis.); balay-uak (Sul.); balilang-uak (Tag.); baliuag (C. Bis.); banloi (Sub.); baraṅgau (Ilk.); bunglui (Sul.); bungoi (C. Bis.); kamkampilan (Ilk.); kampilan (Neg.); maidbaid (Bik.); pingka-píngka (Tag.); pingka-pinkáhan (Tag.); taghilau (Tag.).

3. JACARANDA Jussieu

JACARANDA OVALIFOLIA R. Br. in Curtis's Bot. Mag. (1822) *t.* 2327; Merr. Fl. Manila (1912) 427.

Jacaranda mimosaeifolia D. Don in Edinb. Philos. Journ. (1823) 264, Bot. Reg. (1832) *t.* 631; DC. Prodr. 9 (1845) 229.

Occasionally cultivated for ornamental purposes; of recent introduction from tropical America.

4. STENOLOBIUM D. Don

STENOLOBIUM STANS (Linn.) D. Don in Edinb. Philos. Journ. 9 (1823) 88.

Bignonia stans Linn. Sp. Pl. ed. 2 (1763) 871.

Tecoma stans Juss. Gen. (1789) 139; DC. Prodr. 9 (1845) 224; F.-Vill. Novis. App. (1880) 151; Merr. Fl. Manila (1912) 428.

Rather widely distributed in cultivation although scarcely naturalized. A native of tropical America.

EXCLUDED GENERA

KIGELIA AFRICANA (Lam.) Benth.; Merr. Fl. Manila (1912) 430.

This African species is represented by a single tree cultivated in the old Botanic Garden in Manila; also cultivated at Los Baños.

MILLINGTONIA HORTENSIS Linn. f.; F.-Vill. Novis. App. (1880) 150.

PAJANELIA MULTIJUGA DC.; F.-Vill. op. cit. 151.

5. DOLICHANDRONE Fenzl

DOLICHANDRONE SPATHACEA (Linn. f.) K. Schum. Fl. Kaiser Wilhelms Land (1889) 123; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 52, Fl. Manila (1912) 429; Interpret. Herb. Amb. (1917) 469, Sp. Blancoanae (1918) 349.

Bignonia spathacea Linn. f. Suppl. (1781) 283; Blanco Fl. Filip. (1837) 499.

Spathodea rheedii Wall. Cat. (1832) No. 6516; DC. Prodr. 9 (1845) 206; Miq. Fl. Ind. Bat. 2 (1858) 754.

Spathodea luzonica Blanco Fl. Filip. ed. 2 (1845) 350, ed. 3, 2 (1878) 284, t. 242.

Dolichandrone rheedii Seem. in Journ. Bot. 8 (1870) 380; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 379; F.-Vill. Novis. App. (1880) 151; Vidal Sinopsis Atlas (1883) 35, t. 73, f. D.

Bignonia longissima Lour. Fl. Cochinch. (1790) 380.

Dolichandrone longissima K. Schum. in Engl. & Prantl Nat. Pflanzenfam. 4^{2b} (1894) 240, f. 92, B-D.

Along the seashore and tidal streams from Union Province, Luzon, to Palawan, Mindanao, and the Sulu Archipelago. India, through Malaya to New Guinea.

Local names: Pata (Ilk.); tañgás (Tagb.); tanhás (C. Bis.); tanghás (P. Bis.); tewi (Mbo.); tiwí (Tag., Bik., C. Bis.); tua (Tag.); tui (Tag.).

EXCLUDED SPECIES

DOLICHANDRONE FALCATA Seem.; F.-Vill. Novis. App. (1880) 151.

DOLICHANDRONE TULIPIFERA Benth.; F.-Vill. l. c.

6. RADERMACHERA Hasskarl

RADERMACHERA ACUMINATA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 335.

Luzon (Pangasinan, Zambales, Pampanga), Guimaras, Masbate, Panay, Cebu, Camiguin de Misamis, Mindanao (Butuan), *F. B. 277 Gammill, B. S. 11029, 14464, 32367 Ramos, 21495 Escritor, 32367 McGregor*. On forested slopes at low and medium altitudes. Endemic.

Local name: Banai-banai (C. Bis.).

RADERMACHERA BITERNATA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 238, 3 (1908) Bot. 334.

Culion, Palawan, *Merrill 568, 9602, Elmer 12836, F. B. 3491 Curran*. In open grassy valleys and in secondary forests at low altitudes, ascending to 500 m. Endemic.

RADERMACHERA CORIACEA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 333.

Luzon (Tayabas, east coast), *Merrill 1099*. In forests at low altitudes. Endemic.

Local name: Bitbit-párang (Tag.).

RADERMACHERA ELLIPTICA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 334.

Luzon (Bulacan, Rizal), *Merrill 9823, B. S. 29412 Ramos, F. B. 11114 Aguilar*. In thickets on and about cliffs at low altitudes. Endemic.

RADERMACHERA ELMERI Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 48, Philip. Journ. Sci. 3 (1908) Bot. 334.

Luzon (Cagayan, Bontoc, Benguet, Ilocos Sur), *Elmer 6179, B. S. 5370 Ramos, 37903 Ramos & Edaño, 21833 Leaño*. In forested ravines, altitude 400 to 1,600 m. Endemic.

Var. **FRAGRANS** Elm. Leaf. Philip. Bot. 7 (1915) 2561.

Palawan, *Elmer* 12681, *B. S.* 584 *Foxworthy*, *F. B.* 5190 *Manalo*. In forests along streams and swamps at low altitudes. Endemic.

Local names: Agtap (Tagb.); barangau-a-nalabága (Ilk.); pamaya-bayen (Ilk.); sayo (Ig.); tantañgan (Tagb.).

RADERMACHERA FENICIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 335, 434.

Batan and Babuyan Islands, Luzon (Ilocos Norte, Tayabas), Mindoro, *B. S.* 3583 *Fénix*, 10194, 10124 *McGregor*, 32868, 27510 *Ramos*, *F. B.* 9750 *Merritt*. On slopes at low altitudes, in thickets or forests. Endemic.

Local names: Pamayubayen (Ilk.); valaváyan (Iv.).

RADERMACHERA MINDORENSIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 338.

Mindoro, *B. S.* 15166 *Fénix*, 39650 *Ramos*, *F. B.* 3731 *Merritt*, *Merrill* 893, 2240, 2473, *Whitford* 1387, *McGregor* 257. In secondary forests at low altitudes; perhaps better reduced to *R. pinnata* Seem.

Local name: Banai-bánai (Tag., P. Bis.).

RADERMACHERA PALAWANENSIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 336.

Palawan, *B. S.* *Foxworthy*. On rocky slopes along streams, altitude about 1,000 m. Endemic.

RADERMACHERA PINNATA (Blanco) Seem. in Journ. Bot. 8 (1870) 147; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 336, Sp. Blancoanae (1918) 350.

Millingtonia pinnata Blanco Fl. Filip. (1837) 501, ed. 2 (1845) 351, ed. 3, 2 (1878) 285; DC. Prodr. 9 (1845) 182; Miq. Fl. Ind. Bat. 2 (1858) 753.

Millingtonia quadripinnata Blanco op. cit. 501, ed. 2, 351, ed. 3, 2: 286, t. 252; DC. Prodr. 9 (1845) 183; Miq. Fl. Ind. Bat. 2 (1858) 753.

Radermachera banaibana Bureau in Adansonia 2 (1861) 194.

Stereospermum pinnatum F.-Vill. Novis. App. (1880) 151; Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 314; Vidal Phan. Cuming. Philip. (1885) 132, Rev. Pl. Vasc. Filip. (1886) 203.

Stereospermum quadripinnatum F.-Vill. Novis. App. (1880) 151; Vidal Sinopsis Atlas (1883) 35, t. 73, f. A; Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 313; Vidal Phan. Cuming. Philip. (1885) 132, Rev. Pl. Vasc. Filip. (1886) 202.

Stereospermum banaibana Rolfe in Journ. Linn. Soc. Bot. 23 (1884) 314; Vidal Phan. Cuming. Philip. (1885) 132, Rev. Pl. Vasc. Filip. (1886) 203; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 124.

Stereospermum seemannii Rolfe in Journ. Linn. Soc. Bot. 23 (1884) 314; Vidal Phan. Cuming. Philip. (1885) 132, Rev. Pl. Vasc. Filip. (1886) 203.

Radermachera quadripinna Seem. in Journ. Bot. 8 (1870) 147.

Luzon (Cagayan to Camarines), Mindoro, Samar, Biliran, Negros, Camiguin de Misamis, Mindanao. In secondary and primary forests at low and medium altitudes; common. Endemic.

Local names: Anagep (Ibn.); ansohan (Bis.); atiatip (Ig.); badlan (Bis.); banai-bánai (Tag., Bik., S. L. Bis.); banai-banai-laláki (Tag.); banai-bayan (Pang.); bani-báni (Tag., Sbl.); barañgauan (Ilk.); bunlai (Mbo.); kalapuing (Tag.); lanunisi (Ibñ.); lasilak (Ibn.); pagalayan (Bon.); paitan (Pang.); paling-uák (Bik.); pata (Pang.); salai (Tag.); tuing-huló (Tag.); ulimbabon (Tag.); yabang-yábang (Tag.).

Var. **GLABRA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 337.

Range and habitat of the species. Endemic.

RADERMACHERA SIBUYANENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1485.

Sibuyan, *Elmer 12060*. In forests along streams, altitude about 150 m; very closely allied to *R. palawanensis* Merr. Endemic.

RADERMACHERA WHITFORDII Merr. in Philip. Journ. Sci. 7 (1912) 352.

Mindanao (Bukidnon, Davao, Cotabato, Lanao, Zamboanga), *F. B. 11817 Whitford, 23367 Ponce, 25686 Somonte, B. S. 37386 Ramos & Edaño, Wester 112*. In thickets, borders of forests, etc., at low and medium altitudes. Endemic.

Local names: Banoi-banoi (Bag.); bunglai (Buk.); hali-háli (Sul.); kutokong (Sub.); labayanan (C. Bis.).

7. **SPATHODEA** Beauvois

SPATHODEA CAMPANULATA Beauv. Fl. Oware Benin 1 (1804) 47, *t. 27*; DC. Prodr. 9 (1845) 208; Merr. Fl. Manila (1912) 429.

Cultivated in Manila for ornamental purposes; a native of tropical Africa, now pantropic in cultivation.

8. **CRESCENTIA** Linnaeus

CRESCENTIA ALATA HBK. Nov. Gen. Sp. Pl. 3 (1818) 158; Seem. in Trans. Linn. Soc. 23 (1860) 21; F.-Vill. Novis. App. (1880) 151; Vidal Sinopsis Atlas (1883) 35, *t. 73, f. C*; Merr. Fl. Manila (1912) 430, *Sp. Blancoanae* (1918) 350.

Crecentia trifolia Blanco Fl. Filip. (1837) 489, ed. 2 (1845) 343, ed. 3, 2 (1878) 271, *t. 327*; DC. Prodr. 9 (1845) 247.

Otophora paradoxa Blume Rumphia 3 (1847) 146.

Luzon (Rizal, Tayabas), *Merrill Sp. Blancoanae 515, Reyes, Guerrero*. Rarely cultivated for ornamental purposes; introduced from Mexico at an early date by the Spaniards.

Local names: Cruz-cruzan (Tag.); hoja cruz. (Sp.).

CRESCENTIA CUJETE Linn. Sp. Pl. (1753) 626; Seem. in Trans. Linn. Soc. 23 (1860) 20; Miers op. cit. 26 (1868) 167; Merr. Fl. Manila (1912) 430.

Occasionally cultivated for ornamental purposes; of recent introduction from tropical America. Calabash tree.

PEDALIACEAE

1. *SESAMUM* Linnaeus

SESAMUM ORIENTALE Linn. Sp. Pl. (1753) 634; Merr. Fl. Manila (1912) 431, Interpret. Herb. Amb. (1917) 469, Sp. Blancoanae (1918) 351. *Sesamum indicum* Linn. l. c.; Blanco Fl. Filip. (1837) 507, ed. 2 (1845) 353, ed. 3, 2 (1878) 290, t. 273; DC. Prodr. 9 (1845) 250; Miq. Fl. Ind. Bat. 2 (1858) 760; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 387; F.-Vill. Novis. App. (1880) 152; Vidal Phan. Cuming. Philip. (1885) 132, Rev. Pl. Vasc. Filip. (1886) 203; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 124.

Cultivated here and there throughout the Philippines, often occurring in open waste places as an escape. Now of pantropic distribution, a native of tropical Asia. Sesame.

Local names: Ajonjolí (Sp.); laṅgá (Bik., Tag., Ibn., Bis.); laṅgis (Pamp.); leṅgá (Ilk.); liṅgá (Tag., Sbl.); liṅgó (Tag.); loṅgis (If.); luṅgá (Bis., Sul.).

OROBANCHACEAE

1. *AEGINETIA* Linnaeus

AEGINETIA INDICA Linn. Sp. Pl. (1753) 632; Roxb. Pl. Coromandel 1 (1795) 63, t. 91; Reuter in DC. Prodr. 11 (1847) 43; Blanco Fl. Filip. ed. 2 (1845) 342, ed. 3, 2 (1878) 270; Miq. Fil. Ind. Bat. 2 (1857) 712; Hook. f. Fl. Brit. Ind. 4 (1884) 320; F.-Vill. Novis. App. (1880) 149; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 200; Merr. Sp. Blancoanae (1918) 351. *Aeginetia abbreviata* Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 400; F.-Vill. Novis. App. (1880) 149. *Aeginetia pedunculata* F.-Vill. Novis. App. (1880) 149, non Wall.

Luzon (Cagayan to Sorsogon, in all or most provinces), Leyte, Panay. A root parasite on various coarse grasses, sometimes a pest in sugar plantations, occurring at low altitudes on sugar cane; on wild grasses chiefly at medium altitudes. India to Japan, Burma, and China.

Local names: Bangbaṅgan-ti-kiuing (Bon.); dagatan (Tag.); kola (Pamp.); lapó (Ibn.); suako-ti-uak (Ilk.).

2. *CHRISTISONIA* Gardiner

CHRISTISONIA WIGHTII Elm. Leaf. Philip. Bot. 8 (1915) 2793.

Luzon (Laguna, Bataan), Negros, Mindanao (Lanao), *Elmer 9510*, *B. S. 6173 Robinson*, *12472 McGregor*, *Clemens 1011*, *Brown*. In primary forests, altitude 400 to 800 m. Endemic.

GESNERIACEAE

1. *BOEA* Commerson

BOEA PHILIPPINENSIS C. B. Clarke in DC. Monog. Phan. 5 (1883) 146; Rolfe in Journ. Bot. 23 (1885) 215; Vidal Phan. Cuming. Philip. (1885) 132, Rev. Pl. Vasc. Filip. (1886) 202.

Luzon (Benguet, Batangas, Sorsogon), Mindoro, Mindanao (Bukidnon, Davao), *B. S. 22390 Ramos*, *21395 Escritor*, *Copeland*, *Elmer 17398* as *C. pseudoglandulosa* Elm. In shaded places by small streams and on forested slopes at low and medium altitudes. Endemic.

BOEA SWINHOU Hance in Ann. Sci. Nat. Bot. V 5 (1866) 231; C. B. Clarke in DC. Monog. Phan. 5 (1883) 142; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 65.

Luzon (Ilocos Norte, Bontoc, Benguet, Pampanga, Rizal), *Loher* 6671, 1552, *Merrill* 4209, 3928, *Phil. Pl.* 1754, *Williams* 938, *B. S.* 19147 *Reillo*, 29289 *Ramos & Edaño*, 24076, 33147 *Ramos*. On and about bowlders and ledges on forested slopes, altitude 300 to 1,400 m. Formosa, Borneo, Java.

2. PARABOEA Ridley

PARABOEA LUZONIENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 225.

Luzon (Cavite), *Merrill* 4178. On cliffs in ravines, altitude about 1,000 m. Endemic.

PARABOEA RIDLEYI Elm. Leaf. Philip. Bot. 3 (1910) 949.

Mindanao (Bukidnon, Zamboanga, Cotabato, Davao), *Elmer* 11145, *Merrill* 5472, 8150, *Weber* 1515, *B. S.* 16451, 16513 *Reillo*, 15780, 24945 *Fénix*. On cliffs, banks of streams, etc., altitude 100 to 800 m. Endemic.

Local name: Alem (Buk.).

3. TRICHOSPORUM D. Don

(*Aeschynanthus* R. Brown)

TRICHOSPORUM ASCLEPIOIDES Elm. Leaf. Philip. Bot. 3 (1910) 952. *Aeschynanthus stenocalyx* Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 166.

Luzon (Rizal, Laguna, Tayabas), Mindoro, Leyte, Panay, Mindanao (Agusan, Davao), *Elmer* 10492, 14049, *Merrill* *Phil. Pl.* 1484 as *T. dolichosepalum* Merr., *Wenzel* 631, *Williams* 2683, *B. S.* 30767 *Ramos & Edaño*, 20609, 21991 *Ramos*, 19282 *Reillo*, *F. B.* 13087 *Curran*. In damp primary forests, altitude 500 to 1,200 m. Endemic.

Local names: Kulili (Bag.); manharom (Mbo.).

TRICHOSPORUM BAKERI Merr. in Philip. Journ. Sci. 10 (1915) Bot. 340.

Luzon (Laguna, Tayabas), *F. B.* 7819 *Curran & Merritt*, *Baker* 3714, 3719, *B. S.* 28714, 29103 *Ramos & Edaño*, 16889 *Serviñas*. On trees in primary forests at medium altitudes. Endemic.

Local name: Sarik-sarik (Tag.).

TRICHOSPORUM BRACHYSEPALUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 81.

Mindoro, Basilan, *B. S.* 16163 *Reillo*, 39496 *Ramos*. In primary forests at low or medium altitudes. Endemic.

TRICHOSPORUM BREVIFLORUM Moore in Journ. Bot. 37 (1899) 173; K. Schum. in Just Bot. Jahresber. 27¹ (1901) 534.

Trichosporum mindorense Merr. in Philip. Journ. Sci. 10 (1915) Bot. 83.

Mindoro, Panay, Leyte, *Merrill* 6141, *F. B.* 4379, 9761 *Merritt*, *B. S.* 30818, 40637 *Ramos & Edaño*, 32410, 32469, 32457 *McGregor*. In the mossy forest, altitude 1,000 to 1,500 m. Endemic.

Local name: Agas (Mang.).

TRICHOSPORUM CARDINALE Copel. ex Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 46, Philip. Journ. Sci. 3 (1908) Bot. 434; Elm. Leaf. Philip. Bot. 3 (1910) 952.

Aeschynanthus cardinalis Schltr. in Engl. Bot. Jahrb. 58 (1923) 264.

Babuyan Islands, Luzon (Albay), Leyte, Mindanao (Surigao, Agusan, Lanao, Davao), *Copeland* 997, *Wenzel* 512; *Elmer* 13603, *B. S.* 4139 *Fénix*, 6466 *Robinson*, 15279, 15211 *Ramos*. In primary forests at medium altitudes, ascending to 1,400 m. Endemic.

Local names: Kolili (Bag.); tilag (Mbo.).

TRICHOSPORUM COPELANDII Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 227.

Aeschynanthus camiguinensis Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 164.

Aeschynanthus serpens Kränzl. op. cit. 166.

Aeschynanthus copelandii Schltr. in Engl. Bot. Jahrb. 58 (1923) 264.

Camiguin de Misamis, Mindanao (Zamboanga), *Copeland* 1619, *Merrill* 8260, *B. S.* 14491 *Ramos*. On boulders and tree trunks in primary forests at low altitudes. Endemic.

TRICHOSPORUM CRASSIFOLIUM Elm. Leaf. Philip. Bot. 1 (1908) 343, 2 (1908) Bot. 565.

Aeschynanthus glomeriflora Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 312.

Aeschynanthus foxworthy Kränzl. op. cit. 163.

Aeschynanthus polillensis Kränzl. op. cit. 314.

Aeschynanthus crassifolius Schltr. in Engl. Bot. Jahrb. 58 (1923) 264.

Luzon (Cagayan, Rizal, Laguna, Tayabas, Sorsogon), Polillo, *Elmer* 9211, 18048, 13624, 15549, 17142, *F. B.* 5257 *Klemme*, 9561 *Curran*, *B. S.* 13766 *Ramos*, 13200 *Foxworthy & Ramos*. In primary forests at low and medium altitudes. Endemic.

Local name: Hagtoñgan (Mbo.).

TRICHOSPORUM CUERNOSENSE Elm. Leaf. Philip. Bot. 2 (1908) 566.

Aeschynanthus cuernosensis Schltr. in Engl. Bot. Jahrb. 58 (1923) 264.

Negros, *Elmer* 9522. In ravines, altitude about 800 m. Endemic.

TRICHOSPORUM EVERETTIANUM (Kränzl.) comb. nov.

Aeschynanthus everettiana Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 311.

Negros, Panay, *F. B.* 5585 *Everett*, *B. S.* 31113 *Ramos & Edaño*. In forests along streams at low altitudes. Endemic.

TRICHOSPORUM FIRMUM (Kränzl.) comb. nov.

Aeschynanthus firmus Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 311.

Mindanao (Lanao), *Clemens*. In forests, altitude at or above 500 m. Endemic.

TRICHOSPORUM GRANDIFLORUM Elm. Leaf. Philip. Bot. 7 (1915) 2667.

Mindanao (Agusan), *Elmer 14154*. On exposed peaks, altitude about 1,500 m. Endemic.

Local name: Babairanon (Mbo.).

TRICHOSPORUM IRIGAENSE Merr. in Philip. Journ. Sci. 10 (1910) Bot. 84.

Luzon (Camarines, Sorsogon), Catanduanes, Mindanao (Agusan), *B. S. 22211, 30315 Ramos, Elmer 13827, 16536* as *T. bulusanense* Elm. On forested ridges and peaks, altitude 1,000 m or higher. Endemic.

TRICHOSPORUM LEUCOTHAMNOS (Kränzl.) comb. nov.

Aeschynanthus leucothamnus Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 165.

Leyte, Samar, Mindanao (Misamis, Lanao), *Wenzel 291, 1701, Elmer 7150, Clemens 737, F. B. 19518 Klemme, B. S. 17416 Ramos*, several of the specimens distributed as *T. clementis* Merr. In primary forests at low and medium altitudes. Endemic.

TRICHOSPORUM LITTORALE Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 226.

Aeschynanthus littoralis Schltr. in Engl. Bot. Jahrb. 58 (1923) 264.

Mindanao (Davao), *Copeland 647*. On trees overhanging the seashore. Endemic.

TRICHOSPORUM LOHERI (Kränzl.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 341.

Aeschynanthus loheri Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 165.

Luzon (Bulacan, Nueva Vizcaya, Rizal, Camarines), Samar, *Loher 6663, Merrill Phil. Pl. 1483, F. B. 11175 Aguilar, 23737 Alvarez, B. S. 24232 Ramos*. In primary forests at medium altitudes. Endemic.

TRICHOSPORUM MACGREGORII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 81.

Luzon (Nueva Vizcaya), *B. S. 20075 McGregor*. Probably from forests at an altitude of 800 m or more. Endemic.

TRICHOSPORUM MALINDANGENSE Merr. in Philip. Journ. Sci. 10 (1915) Bot. 83.

Mindanao (Misamis), *F. B. 4660 Mearns & Hutchinson*. In primary forests, altitude about 900 m. Endemic.

TRICHOSPORUM MINDANAENSE Merr. in Philip. Journ. Sci. 20 (1922) 440.

Mindanao (Bukidnon), *B. S. 38869, 38922 Ramos & Edaña*. In the mossy forest, altitude 1,100 to 1,800 m. Endemic.

TRICHOSPORUM MINIATUM Elm. Leaf. Philip. Bot. 7 (1915) 2668.

Mindanao (Agusan), *Elmer 13529*. On forested ridges, altitude about 900 m; very closely allied to *T. crassifolium* Elm. Endemic.

Local name: Pamingkauan (Mbo.).

TRICHOSPORUM NERVOSUM Elm. Leaf. Philip. Bot. 1 (1908) 344; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 386.

Aeschynanthus nervosus Schltr. in Engl. Bot. Jahrb. 58 (1923) 264.

Luzon (Bontoc, Lepanto, Benguet), *Williams 1550, 5981, Elmer 8607, B. S. 31910 Santos, 5765, 5471 Ramos, 37841 Ramos & Edaño, 8468, 8861 McGregor*. In damp shaded ravines and in the mossy forest, altitude 1,400 to 2,400 m. Endemic.

Local name: Chila (Ig.).

TRICHOSPORUM OVATUM Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 226.

Aeschynanthus ovatus Schltr. in Engl. Bot. Jahrb. 58 (1923) 264.

Mindanao (Lanao), *Clemens 316*. In forests, altitude about 600 m. Endemic.

TRICHOSPORUM PERGRACILE (Kränzl.) comb. nov.

Aeschynanthus pergracilis Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 313.

Negros, *Merrill 7047*. In primary forests, altitude about 1,200 m. Endemic.

TRICHOSPORUM PANAYENSE Merr. in Philip. Journ. Sci. 17 (1920) 316.

Panay, *B. S. 35720, 35535, 35588, 35392, 35678 Martelino & Edaño*. In forests along streams, ascending to 600 m. Endemic.

TRICHOSPORUM PHILIPPINENSE (C. B. Clarke) O. Kuntze Rev. Gen. Pl. (1791) 478; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 124, 5 (1910) Bot. 386; Elm. Leaf. Philip. Bot. 3 (1910) 952.

Aeschynanthus philippinensis C. B. Clarke in DC. Monog. Phan. 5 (1883) 39; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 201.

Luzon (Ifugao, Bontoc, Benguet, Bataan, Rizal, Laguna, Tayabas). In the mossy forest, altitude 1,000 to 2,200 m; represented by numerous collections. Endemic.

Local name: Tapal (Bag.).

TRICHOSPORUM RIZALENSE Merr. in Philip. Journ. Sci. 10 (1915) Bot. 82.

Luzon (Rizal), *B. S. 13775 Ramos, 29708 Ramos & Edaño*. In the mossy forest at or above 1,000 m altitude. Endemic.

TRICHOSPORUM TRUNCATUM Elm. Leaf. Philip. Bot. 2 (1908) 567.

Aeschynanthus truncatus Schltr. in Engl. Bot. Jahrb. 58 (1923) 264.

Negros, *Elmer 9426*. In forested ravines, altitude about 800 m. Endemic.

TRICHOSPORUM URDANETENSE Elm. Leaf. Philip. Bot. 7 (1915) 2670.

Mindanao (Agusan), *Elmer 14115*. In primary forests, altitude about 1,200 m; closely allied to *T. copelandii* Merr. Endemic.

Local name: Simankoyong (Mbo.).

TRICHOSPORUM ZAMBOANGENSE (Kränzl.) comb. nov.

Aeschynanthus zamboangensis Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 313.

Mindanao (Zamboanga), *Copeland*. In forests, altitude about 200 m; closely allied to *T. crassifolium* Elm. Endemic.

EXCLUDED SPECIES

AESCHYNANTHUS PARVIFLORA G. Don; F.-Vill. Novis. App. (1880) 150.

4. *DICHROTRICHUM* Reinwardt

DICHROTRICHUM BIFLORUM Elm. Leaf. Philip. Bot. 5 (1913) 1784.

Palawan, *Elmer* 13210. In mossy thickets on Mt. Pulgar, altitude about 1,150 m. Endemic.

In the type specimen the stamens are four, not two as described; a true *Dichrotrichum*.

DICHROTRICHUM CALELANENSE Elm. Leaf. Philip. Bot. 3 (1910) 955.

Mindanao (Davao), *Elmer* 11347. In the mossy forest, altitude about 2,500 m; closely allied to *D. chorisepalum* C. B. Clarke. Endemic.

Local name: Tasik-sa-lomot (Bag.).

DICHROTRICHUM CHORISEPALUM C. B. Clarke in DC. Monog. Phan. 5 (1883) 53; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 201; Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 47, Philip. Journ. Sci. 2 (1907) Bot. 300; Elm. Leaf. Philip. Bot. 2 (1908) 562.

Dichrotrichum elongatum F.-Vill. Novis. App. (1880) 150, non *Tromsdorffia elongata* Blume.

Dichrotrichum minus Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 314.

Luzon (Cagayan, Laguna, Tayabas, Sorsogon), Mindoro, Biliran, Leyte, Panay, Negros, Camiguin de Misamis, Mindanao (Lanao, Agusan, Misamis, Zamboanga). In damp primary forests, extending into the mossy forest, altitude 800 to 1,800 m. Endemic.

Local name: Igka (Mbo.).

DICHROTRICHUM CORIACEUM Merr. in Philip. Journ. Sci. 20 (1922) 439.

Mindanao (Bukidnon), *B. S.* 38924 *Ramos & Edaña*. In the mossy forest, altitude 1,600 m. Endemic.

DICHROTRICHUM GLABRUM Copel. ex Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 46; Elm. Leaf. Philip. Bot. 3 (1910) 953.

Mindanao (Bukidnon, Davao), *Copeland* 998, *Williams* 2557, *De Vore & Hoover* 297, *B. S.* 26159 *Fénix*. In forests along streams, altitude about 1,800 m. Endemic.

Local name: Talaupong (Bag.).

DICHROTRICHUM PAUCIFLORUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 80.

Palawan, *Merrill* 9497. In the mossy forest on Mt. Capoas, altitude about 950 m; closely allied to *D. biflorum* Elm. Endemic.

5. *TETRADEMA* Schlechter

TETRADEMA CLARKEI (Elm.) comb. nov.

Dichrotrichum clarkei Elm. Leaf. Philip. Bot. 1 (1908) 345, 3 (1910) 954.

Dichrotrichum crassicaule Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 169.

Dichrotrichum praelongum Kränzl. op. cit. 170.

Tetradema praelongum Schltr. in Notizbl. Bot. Gart. Berlin 7 (1920) 18.

Luzon (Ifugao, Bontoc, Kalinga, Rizal, Laguna, Tayabas, Sorsogon), Biliran, Leyte, Panay, Mindanao (Davao), *Elmer* 7499, 10701, 16377, *Merrill* 7518, 8621, *Wenzel* 612, *B. S.* 19751, 18737 *McGregor*, 2464 *Foxworthy*, 28771, 30783, 37540, 37864 *Ramos & Edaño*, 23570 *Ramos*. In damp primary forests, altitude 500 to 1,500 m. Endemic.

TETRADEMA RUBRUM (Merr.) Schltr. in Notizbl. Bot. Gart. Berlin 7 (1920) 17.

Trichosporum rubrum Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 227, 2 (1907) Bot. 300.

Luzon (Bontoc, Ifugao, Lepanto, Benguet, Nueva Ecija, Tayabas), Mindoro, Negros, Panay. In the mossy forest on the higher mountains, altitude 1,300 to 2,400 m. Endemic.

Local names: Amoging (Ig.); sangyat (Bon.).

TETRADEMA URDANETENSE (Elm.) comb. nov.

Dichrotrichum urdanetense Elm. Leaf. Philip. Bot. 7 (1915) 2665.

Mindanao (Agusan), *Elmer* 13710. In the mossy forest, altitude about 1,800 m; closely allied to *T. rubrum* Schltr. Endemic.

Local name: Balibadon (Mbo.).

The two other known species of the genus are *T. tuberculatum* Schltr. of Borneo and *T. asperifolium* Schltr. of Java and Sumatra.

6. RHYNCHOGLOSSUM Blume

RHYNCHOGLOSSUM KLUGIOIDES C. B. Clarke in DC. Monog. Phan. 5 (1883) 163; Rolfe in Journ. Bot. 23 (1885) 215; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 202; Elm. Leaf. Philip. Bot. 3 (1910) 948.

Luzon (Bontoc, Ifugao, Benguet, Laguna, Tayabas, Sorsogon), Catanduanes, Mindoro, Samar, Biliran, Leyte, Mindanao (Agusan, Misamis, Lanao, Zamboanga). In very damp forested ravines at low and medium altitudes, ascending to 2,000 m. Endemic.

Local names: Kabid-daga (Bag.); pampañgod (Mbo.).

RHYNCHOGLOSSUM MERRILLIAE Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 168.

Luzon (Benguet), Mindanao (Zamboanga), *Merrill* 8187, *F. B.* 10912 *Curran*. In very damp shaded ravines, altitude 1,000 to 1,400 m. Endemic.

This corresponds to *R. klugioides* C. B. Clarke as *R. spumosum* Elm. corresponds to *R. obliquum* Blume. The flowers in *Elmer's* species are 1 cm long, in the present one 2 cm in length.

RHYNCHOGLOSSUM OBLIQUUM Blume Bijdr. (1826) 741; C. B. Clarke in DC. Monog. Phan. 5 (1883) 161; F.-Vill. Novis. App. (1880) 150; Elm. Leaf. Philip. Bot. 2 (1908) 564; Merr. Fl. Manila (1912) 432.

Rhynchoglossum blumei DC. Prodr. 9 (1845) 274.

Lorotis obliqua R. Br. in Benn. Pl. Jav. Rar. (1838) 102, t. 24.

Luzon (Cagayan, Bontoc, Lepanto, Benguet, Nueva Ecija, Bataan, Rizal, Laguna, Batangas), Negros, Mindanao (Bukidnon, Davao, Zamboanga).

In damp shaded ravines along streams, on damp cliffs, etc., at low and medium altitudes. India through Malaya to the Moluccas.

Local name: Handulumog (C. Bis.).

RHYNCHOGLOSSUM SPUMOSUM Elm. Leaf. Philip. Bot. 2 (1908) 564.

Negros, Panay, *Elmer 9929, B. S. 18083 Robinson*. In damp cliffs about waterfalls, altitude about 900 m. Endemic.

This resembles *R. obliquum* Blume, but is greatly dwarfed.

7. RHYNCHOTECHUM Blume

RHYNCHOTECHUM COPELANDII (Elm.) Elm. comb. nov. in herb.

Cyrtandra copelandii Elm. Leaf. Philip. Bot. 7 (1915) 2661.

Mindanao (Agusan), *Elmer 13716*. In humid forests, altitude about 1,100 m. Endemic.

Local name: Panabdog (Mbo.).

8. ISANTHERA Nees

ISANTHERA DISCOLOR Maxim. in Bull. Acad. Pétersb. 19 (1874) 523;

C. B. Clarke in DC. Monog. Phan. 5 (1883) 192; Vidal Phan.

Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 201;

Elm. Leaf. Philip. Bot. 2 (1908) 563, 3 (1910) 948.

Isanthera dimorpha Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 332.

Rhynchotechum ? tenue C. B. Clarke in DC. Monog. Phan. 5 (1883) 199.

Luzon (Cagayan to Sorsogon, most or all provinces), Alabat, Samar, Leyte, Mindanao (Lanao, Bukidnon, Davao, Zamboanga). In damp shaded ravines at low and medium altitudes, often common. Riu Kiu Islands. Formosa.

Local names: Gugulpu (If.); hamoan (Ig.); handalomog (C. Bis.); kabing (Bon.); kamara (Buk.); tabis (Bag.); tindakal (Mbo.); tuktukilang (Bon.).

9. STAURANTHERA Bentham

STAURANTHERA CAERULEA (Blume) comb. nov.

Miquelia caerulea Blume in Bull. Sci. Phys. Nat. Néerl. 1 (1830) 94, Ann. Sci. Nat. II 10 (1838) 256.

Stauranthera ecalcarata R. Br. in Benn. Pl. Jav. Rar. (1840) 121,

Ann. Sci. Nat. II 13 (1840) 167; C. B. Clarke in DC. Monog. Phan. 5 (1883) 190.

Miquelia azurea Blume Rumphia 4 (1848) 34.

Quintilia caerulea DC. Prodr. 9 (1845) 278.

Stauranthera philippinensis Elm. Leaf. Philip. Bot. 3 (1910) 950.

Mindanao (Davao), *Elmer 11145, Weber 1438*. On damp cliffs and along streams in shaded ravines, altitude 550 to 1,000 m. Java.

Local name: Tumbakai (Bag.).

10. MONOPHYLLAEA R. Brown

MONOPHYLLAEA LONGIPES Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 168.

Luzon (Cagayan, Apayao), *B. S. 13869 Ramos, 28091 Fénix, F. B. 19600 Curran*. On cliffs in damp shaded ravines at low altitudes. Endemic.

MONOPHYLLAEA MERRILLIANA Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 168.

Monophyllaea lowei Merr. op. cit. 1 (1906) Suppl. 225, non C. B. Clarke.

Samar, Mindanao (Agusan, Surigao, Zamboanga), *Merrill 8110, Copeland 1565, Elmer 13781, B. S. 34351 Ramos & Pascasio, 24343 Ramos*. On damp cliffs along small streams in forested ravines at low and medium altitudes, ascending to 800 m. Endemic.

Local name: Saboñgaiahon (Mbo.).

11. EPITHEMA Blume

EPITHEMA BENTHAMII C. B. Clarke in DC. Monog. Phan. 5 (1883) 180; Rolfe in Journ. Bot. 23 (1885) 215; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 201; Elm. Leaf. Philip. Bot. 2 (1908) 563.

Luzon (Cagayan, Ilocos Norte, Ifugao, Benguet, Laguna, Sorsogon), Mindanao (Agusan, Lanao), *B. S. 19951 McGregor, 21452 Escritor, 32892 Ramos, Elmer 6626, 18283, 15877, 13470, 8318, Merrill 5106, Weber 1440*. On cliffs and on banks of small streams in shaded ravines at low and medium altitudes; scarcely more than a variety of the next species. New Guinea.

EPITHEMA BRUNONIS Decne. in Nouv. Ann. Mus. Paris 3 (1834) 404 var. **FASCICULATA** C. B. Clarke in DC. Monog. Phan. 5 (1883) 179; Rolfe in Journ. Bot. 23 (1885) 215; Vidal Rev. Pl. Vasc. Filip. (1886) 202, Phan. Cuming. Philip. (1885) 131.

Throughout the Philippines, on damp cliffs and along small streams in forested ravines, at low and medium altitudes. Indo-China and the Nicobar Islands to Java, Timor, and Celebes.

12. CYRTANDRA Forster

CYRTANDRA AGUSANENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2658.

Mindanao (Surigao, Agusan), *Elmer 13497, B. S. 34451 Ramos & Pascasio*. In forests along streams at low altitudes, ascending to 225 m; allied to *C. livida* Kränzl., but the dentation of the leaves is very different. Endemic.

Local name: Buñgagitan (Mbo.).

CYRTANDRA ACLADA Merr. in Philip. Journ. Sci. 20 (1922) 443.

Mindanao (Zamboanga), *B. S. 36616, 36907 Ramos & Edaño*. In damp forests at low and medium altitudes. Endemic.

CYRTANDRA ALVAREZII Merr. in Philip. Journ. Sci. 13 (1918) Bot. 326.

Mindanao (Lanao), *F. B. 25214 Alvarez*. In primary forests, altitude about 1,000 m. Endemic.

CYRTANDRA ANTONIANA Elm. Leaf. Philip. Bot. 2 (1908) 561.

Negros, *Elmer 9542, Merrill Phil. Pl. 226*. In the mossy forest, altitude about 1,800 m. Endemic.

Local name: Handulumog (C. Bis.).

CYRTANDRA APOENSIS Elm. Leaf. Philip. Bot. 3 (1910) 962.

Mindanao (Davao), *Elmer 11557*. On cliffs along small streams, altitude 1,700 m and above. Endemic.

Local name: Katibangbang (Bag.).

CYRTANDRA ATROPURPUREA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 75.

Luzon (Ifugao), *B. S. 19852 McGregor*. On Mt. Polis, probably from the mossy forest above an altitude of 2,000 m. Endemic.

CYRTANDRA ATTENUATA Elm. Leaf. Philip. Bot. 2 (1908) 558.

Cyrtandra stenophylla Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 325.

Negros, Panay, *Elmer 9623, Merrill 7008, B. S. 32560, 32491 McGregor, F. B. 4259 Everett*. On wet cliffs along streams, and in the mossy forest, altitude 750 to 1,200 m; closely allied to *C. humilis* Elm. Endemic.

Local name: Dulagmog (C. Bis.).

CYRTANDRA AURICULATA C. B. Clarke in DC. Monog. Phan. 5 (1883) 251; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 201.

Luzon (Cagayan, Ilocos Norte, Nueva Vizcaya), *Cuming 1328, B. S. 8175, 33108 Ramos, 11175, 20125 McGregor*. In primary forests along small streams. Endemic.

CYRTANDRA BARNESII Merr. in Philip. Journ. Sci. 20 (1922) 444.

Luzon (Kalinga, Bontoc, Benguet), *Merrill 7801, B. S. 37541, 37800 Ramos & Edaño, F. B. 920 Barnes*. In damp shaded ravines, altitude about 2,000 m. Endemic.

CYRTANDRA BATAANENSIS Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 330.

Luzon (Bataan), Mindoro, *F. B. 20035 Topacio, B. S. 39616, 39627, 39707 Ramos*. In primary forests along streams, altitude about 100 m. Endemic.

CYRTANDRA BENGUETIANA Kränzl. in Journ. Linn. Soc. Bot. 37 (1906) 281.

Luzon (Lepanto, Benguet), Negros, *Vidal 1821, Elmer 6198, 8859* as *C. laxa* Elm., *Merrill 4475, 7038, Copeland*. In damp shaded ravines, altitude 900 to 1,700 m. Endemic.

CYRTANDRA CALLICARPIFOLIA Elm. Leaf. Philip. Bot. 3 (1910) 966.

Cyrtandra miserrima Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 316.

Luzon (Sorsogon), Mindanao (Davao), *Elmer 11497, 15127, 16453, 16673* as *C. bulusanensis* Elm., *De Vore & Hoover 317*. On forested banks of streams, altitude about 1,750 m. Endemic.

Local name: Managchilau (Bag.).

CYRTANDRA CASTANEA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 326.

Luzon (Tayabas), *B. S. 26606 Ramos & Edaño*. On slopes in primary forests at low or medium altitudes. Endemic.

CYRTANDRA CAULIFLORA Merr. in Philip. Journ. Sci. 17 (1920) 315.

Panay, *B. S.* 30911 *Ramos & Edaño*, 35342 *Martelino & Edaño*. Along streams in primary forests at low altitudes. Endemic.

CYRTANDRA CHIRITOIDES Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 327.

Polillo, *B. S.* 10257 *McGregor*. In forests at low altitudes. Endemic.

CYRTANDRA CONSTRICTA Elm. Leaf. Philip. Bot. 7 (1915) 2660.

Mindanao (Agusan), *Elmer* 14196. In the mossy forest, altitude about 1,800 m. Endemic.

Local name: Aninohan (Mbo.).

CYRTANDRA COPELANDII nom. nov.

Didymocarpus pallida Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 167, non *Cyrtandra pallida* Elm.

Mindanao (Zamboanga), *Merrill* 8224, *Copeland s. n.*, *B. S.* 37227 *Ramos & Edaño*. On damp banks in shaded ravines, altitude 400 to 800 m. Endemic.

Additional material with flowers and fruits shows this to be a true *Cyrtandra*, not a *Didymocarpus*.

Local name: Kunap-kúnap (Sub.).

CYRTANDRA CUMINGII C. B. Clarke in DC. Monog. Phan. 5 (1883) 263; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 201; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 300, 3 (1908) Bot. 434; Elm. Leaf. Philip. Bot. 2 (1908) 554.

Batan Islands, Luzon (Cagayan, Benguet, Rizal, Laguna, Tayabas, Camarines, Mindoro, Panay, Mindanao (Bukidnon)). In primary forests along streams at medium altitudes, especially common on Mt. Banahao, the type locality. Endemic.

Local names: Katcha (Ig.); tabdabácho (Ig.); tuol-tuol (Buk.).

CYRTANDRA CYCLOPUM Kränzl. in Philip. Journ. Sci. 8 (1913) 317.

Negros, *Banks*. In primary forests on Mt. Canlaon, probably at medium altitudes. Endemic.

CYRTANDRA DAVAOENSIS Elm. Leaf. Philip. Bot. 3 (1910) 968.

Cyrtandra scandens Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 319.

Mindanao (Agusan, Bukidnon, Davao), *Elmer* 10595, 13794, *Bolster* 326. In primary forests at low and medium altitudes, ascending to 1,200 m. Endemic.

Local names: Magamamo (Bag.); tonan (Mbo.).

CYRTANDRA DECUSSATA Elm. Leaf. Philip. Bot. 3 (1910) 961.

Mindanao (Davao, Lanao), *Elmer* 11704, *Clemens*. In wet mossy forests, altitude about 1,200 m. Endemic.

CYRTANDRA ELATOSTEMMOIDES Elm. Leaf. Philip. Bot. 5 (1913) 1781.

Cyrtandra kränzlinii Merr. in Philip. Journ. Sci. 10 (1915) Bot. 76.

Palawan, *Elmer* 13207, *Merrill* 7274. In primary forests from sea level to about 750 m altitude. Endemic.

CYRTANDRA FERRUGINEA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 75.

Luzon (Camarines, Sorsogon), Catanduanes, *Merrill Phil. Pl. 1548, Elmer 16074, B. S. 23554, 30218, 30288 Ramos*. In very damp forests, probably at medium altitudes. Endemic.

Local name: Tinamo (Bik.).

CYRTANDRA FLORENTULA Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 173.

Luzon (Bontoc, Benguet), *Vanoverbergh 855, Bur. Sci. 12603 Fénix*. In shaded ravines along streams, altitude about 1300 m. Endemic.

CYRTANDRA FUSCONERVIA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 389.

Leyte, Panay, *Wenzel 88, B. S. 30886 Ramos & Edaño*. In primary forests, chiefly along small streams at low altitudes. Endemic.

CYRTANDRA GEANTHA Kränzl. in Philip. Journ. Sci. 8 (1913) 323.

Mindanao (Zamboanga, Bukidnon, Lanao), *Clemens B. S. 37270, 39111 Ramos & Edaño*. In forests, altitude about 650 m. Endemic.

Local name: Guluñgog (Sub.).

CYRTANDRA GITINGENSIS Elm. Leaf. Philip. Bot. 3 (1910) 956.

Sibuyan, *Elmer 12369*. On forested banks along streams, altitude about 525 m; very similar to *C. cumingii* Clarke, but the leaves sessile or subsessile. Endemic.

CYRTANDRA GLABRIFOLIA Merr. nom. nov.

Cyrtandra glabra Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 317, non Jack.

Mindoro, Panay, *Merrill 5770, B. S. 30752 Ramos & Edaño*. In the mossy forest, altitude about 1,300 m. Endemic.

CYRTANDRA GRANDIFOLIA Elm. Leaf. Philip. Bot. 7 (1915) 2663.

Mindanao (Agusan), *Elmer 13711*. In damp primary forests, altitude about 1,050 m. Endemic.

Local name: Intai (Mbo.).

CYRTANDRA HUMILIS Elm. Leaf. Philip. Bot. 1 (1908) 345.

Cyrtandra arbuscula Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 326.

Cyrtandra pallidifolia Kränzl. op. cit. 172.

Cyrtandra glaucescens Kränzl. op. cit. 328.

Luzon (Cagayan, Benguet, Laguna, Tayabas, Camarines), Mindoro, Biliran, Samar, Panay, Dinagat, Mindanao (Agusan). In primary forests in damp shaded ravines along streams at low and medium altitudes. Endemic.

Local names: Kalkalimog (Buk.); malakarosong (S. L. Bis.); tungtungpalanas (S. L. Bis.).

CYRTANDRA HYPOCHRYSEA Kränzl. in Journ. Sci. Bot. 37 (1906) 276.

Luzon (Bontoc, Kalinga, Benguet), *Loher 4233, Vanoverbergh 180, 3085, B. S. 37542, 37604, 37677 Ramos & Edaño*. In damp forested ravines, altitude about 1,400 m. Endemic.

CYRTANDRA HYPOCHRYSOIDES Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 319.

Luzon (Zambales), Palawan, *B. S.* 650, 687, 2543 *Foxworthy*, *F. B.* 3888 *Curran*. In the mossy forest, altitude 1,000 to 1,700 m. Endemic.

CYRTANDRA HYPOLEUCA Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 171.

Mindanao (Zamboanga), Basilan, *Merrill* 8107, 8249, *B. S.* 16117 *Reillo*. In the mossy forest, altitude about 1,000 m. Endemic.

CYRTANDRA ILICIFOLIA Kränzl. in Journ. Linn. Soc. Bot. 37 (1906) 282.

Luzon (Benguet), *Loher* 4236, *Merrill* 7804, 7745. In thickets in damp ravines, altitude about 1,500 m. Endemic.

CYRTANDRA ILOCANA Merr. in Philip. Journ. Sci. 14 (1919) 452.

Luzon (Ilocos Norte), *B. S.* 33370 *Ramos*. In mossy forest, altitude about 1,000 m.

CYRTANDRA INAEQUIFOLIA Elm. Leaf. Philip. Bot. 5 (1913) 1782.

Palawan, *Elmer* 13092. On seepage slopes in forests along streams, altitude about 225 m. Endemic.

CYRTANDRA INCISA C. B. Clarke in DC. Monog. Phan. 5 (1883) 250; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 200; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 125.

Cyrtandra philippinensis C. B. Clarke op. cit. 250; Vidal Rev. Pl. Vasc. Filip. (1886) 201.

Luzon (Pangasinan, Bulacan, Bataan, Rizal, Laguna, Camarines, Sorsogon), Mindoro. In primary forests at low and medium altitudes; often common. Endemic.

Cyrtandra philippinensis C. B. Clarke cannot be distinguished from *C. incisa* C. B. Clarke.

Local names: Dilang-butiki (Tag.); katagpas (Tag.).

CYRTANDRA INFANTAE Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 327.

Luzon (Tayabas, east coast), *B. S.* 9320 *Robinson*. On ledges along rivers at low altitudes. Endemic.

CYRTANDRA LAGUNAE Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 175.

Cyrtandra maquilingensis Elm. Leaf. Philip. Bot. 8 (1919) 3083.

Luzon (Laguna), Panay, *Merrill* 7499, *Elmer* 17813, *Wenzel* 484, 685, *Baker* 3494, *F. B.* 25370 *Mabesa*, 21307 *Foxworthy* & *Catalan*. In the mossy forest, altitude 900 to 1,800 m. Endemic.

CYRTANDRA LANCIFOLIA Merr. in Philip. Journ. Sci. 14 (1919) 454.

Luzon (Cagayan, Ilocos Norte, Tayabas, east coast), *B. S.* 7378, 13960, 33078 *Ramos*, 29055 *Ramos* & *Edaño*. Along streams in primary forests at low altitudes. Endemic.

CYRTANDRA LIMNOPHILA Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 323.

Luzon (Pampanga, Sorsogon), Catanduanes, *B. S.* 1988 *Foxworthy*, 30565 *Ramos*, *Elmer* 15349, 16537 as *C. umbrina* Elm. In the mossy forest, altitude about 1,400 m. Closely allied to *C. humilis* Elm. Endemic.

CYRTANDRA LIVIDA Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 322.

Palawan, *B. S.* 781 *Foxworthy*. In ravines, altitude about 150 m. Endemic.

CYRTANDRA LOBBII C. B. Clarke in DC. Monog. Phan. 5 (1883) 282, t. 32; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 201; Elm. Leaf. Philip. Bot. 2 (1908) 555.

Cyrtandra curranii Kränzl. in Philip. Journ. Sci. 8 (1913) 176.

Cyrtandra ramosii Kränzl. op. cit. 177.

Cyrtandra wenzelii Merr. op. cit. 9 (1914) Bot. 385.

Luzon (Laguna, Tayabas, Camarines, Sorsogon), Catanduanes, *Cuming* 1458, *Elmer* 15911, 7889, 16183, 14880, 17150, *Whitford* 1005, *Wenzel* 665, *B. S.* 10976, 19373, 20425, 10012, 23545, 30448, 30491 *Ramos*, 28740 *Ramos & Edaño*, *F. B.* 25120 *Amarillas*, 10166, 13189 *Curran*, 7880 *Curran & Merritt*, 26779 *Mabesa*. In primary forests, altitude 300 to 1,000 m. Endemic.

Local names: Bunabunaan (Tag.); dilang-butiki (Tag.); handulungog (C. Bis.); lagapak (Tag.).

CYRTANDRA LONGIPES Merr. in Philip. Journ. Sci. 13 (1918) Bot. 329.

Catanduanes, *B. S.* 30353 *Ramos*. In primary forests at low altitudes. Endemic.

CYRTANDRA MACRODISCUS Kränzl. in Journ. Linn. Soc. Bot. 37 (1906) 279.

Cyrtandra grossedentata Elm. Leaf. Philip. Bot. 1 (1908) 346.

Luzon (Cagayan, Bontoc, Benguet, Nueva Vizcaya, Laguna, Rizal), *F. B.* 921 *Barnes* p. p. (p. p. *C. parviflora* C. B. Clarke), *Merrill* 7802, *Elmer* 8864, 17757, 18148, *Merrill Phil. Pl.* 1912 as *C. incisa*, *B. S.* 29284, 27941 *Ramos & Edaño*, *Baker* 2422, *F. B.* 8005 *Curran & Merritt*. In thickets, damp ravines and forests, altitude 800 to 1,500 m; closely allied to *C. incisa* C. B. Clarke. Endemic.

CYRTANDRA MAESIFOLIA Elm. Leaf. Philip. Bot. 2 (1908) 556.

Cyrtandra chavis-insectorum Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 318.

Cyrtandra nervosa Kränzl. op. cit. 178.

Cyrtandra williamsii Kränzl. op. cit. 315.

Negros, Biliran, Samar, Leyte, Mindanao (Bukidnon, Surigao, Lanao, Davao, Zamboanga), Basilan, *Elmer* 11899, 11223, *Merrill* 8126, *Wenzel* 865, *Clemens* 650, *Williams* 2087, *F. B.* 13676 *Curran*, 18934 *Miranda*, *B. S.* 34820, 34553 *Ramos & Pascasio*, 37075, 38835, 39161, 36960, 36883 *Ramos & Edaño*, 18857, 18746 *McGregor*, 24321 *Ramos*, 15740 *Fénix*. In primary forests at medium altitudes, ascending to 1,200 m. Endemic.

Local names: Pamagtingan (Bag.); segup (Buk.).

CYRTANDRA MCGREGORII Kränzl. in Leaf. Philip. Bot. 8 (1913) Bot. 328.

Luzon (Cagayan east coast), *B. S.* 10576 *McGregor*. In forests at low altitudes. Endemic.

CYRTANDRA MEMBRANIFOLIA Elm. Leaf. Philip. Bot. 3 (1910) 963.

Mindanao (Davao), *Elmer* 11273. In primary forests, altitude about 850 m. Endemic.

CYRTANDRA MICROPHYLLA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 328.

Luzon (Bontoc, Nueva Ecija), *B. S.* 26250, 37843 *Ramos & Edaño*. In primary forests, altitude about 350 m. Endemic.

Local name: Maramaklet (Neg.).

CYRTANDRA MINDANAENSIS Elm. Leaf. Philip. Bot. 3 (1910) 958.

Mindanao (Davao), *Elmer* 11711. In primary forests, altitude about 1,200 m. Endemic.

Local name: Pasong-pasong (Bag.).

CYRTANDRA MIRABILIS Kränzl. in Philip. Journ. Sci. 8 (1918) Bot. 321.

Cyrtandra strongiana Kränzl. op. cit. 325.

Leyte, Mindanao (Lanao, Davao, Agusan, Bukidnon), *Clemens* 1091, *Williams* 3012, *Weber* 1425, *Elmer* 13712, *B. S.* 15717 *Fénix*, 38990, 39098, 39141 *Ramos & Edaño*. In primary forests at medium altitudes. Endemic.

Local names: Panupad (Buk.); yodan (Mbo.).

CYRTANDRA MULTIFOLIA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 327.

Luzon (Nueva Ecija, Tayabas), *B. S.* 28814, 26459 *Ramos & Edaño*. On forested slopes, altitude about 400 m. Endemic.

Local name: Maraklit (Neg.).

CYRTANDRA NANA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 79.

Mindanao (Bukidnon), *B. S.* 21462 *Escritor*. Probably from medium altitudes. Endemic.

CYRTANDRA OBLONGATA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 78.

Luzon (Bontoc, Laguna, Tayabas), *Merrill* 7515, *Whitford* 931, 1008, *Lcher* 6650, *Quisumbing* 1258, 1309, 1315, *B. S.* 37610 *Ramos & Edaño*. In the mossy forest, altitude about 1,800 m on Mt. Banahao. Endemic.

CYRTANDRA OBLONGIFOLIA (Blume) Benth. & Hook. f. ex C. B. Clarke in DC. Monog. Phan. 5 (1883) 206, t. 24 (incl. var. *nervosa* C. B. Clarke); Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 201.

Whitia oblongifolia Blume Cat. Gew. Buitenz. (1823) 17.

Cyrtandra angularis Elm. Leaf. Philip. Bot. 3 (1910) 960.

Luzon (Camarines), Mindoro, Catanduanes, Samar, Leyte, Mindanao (Agusan, Lanao, Bukidnon, Davao, Zamboanga), *Elmer* 10698, *Copeland* 1272, *McGregor* 242, *Wenzel* 513, *Clemens* 418, *Williams* 2680, 2333, *Merrill* 8095, 8173, *B. S.* 22041, 30245, 24120 *Ramos*, 39051, 36866 *Ramos & Edaño*, *F. B.* 25227 *Alvarez*. In primary forests at low and medium altitudes, ascending to 1,100 m. Sumatra, Java, Borneo.

Local names: Balingkogai (Bag.); manampat (Sub.).

CYRTANDRA PACHYNEURA Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 175.

Cyrtandra alnifolia Kränzl. op. cit. 329.

Luzon (Ifugao, Lepanto, Benguet), *B. S.* 31794 *Santos*, 8350, 19767, 19851 *McGregor*, 4367 *Mearns*, *Merrill* 4551, 7800, 9662, *Phil. Pl.* 1794. In damp shaded ravines and in the mossy forest, altitude 1,500 to 2,400 m. Endemic.

CYRTANDRA PACHYPHYLLA Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 316.

Luzon (Albay), *B. S.* 2928 *Mearns*. On Mt. Mayon, probably from forests below 1,000 m altitude. Endemic.

CYRTANDRA PALLIDA Elm. Leaf. Philip. Bot. 2 (1908) 559.

Cyrtandra laxa Elm. op. cit. 3 (1910) 325.

Negros, Mindanao (Davao), *Elmer* 9518, 11585, 11490. In damp primary forests, altitude 900 to 1,800 m altitude. Endemic.

Local names: Halauhau (C. Bis.); tarinagub (Bag.).

CYRTANDRA PANAYENSIS Merr. in Philip. Journ. Sci. 14 (1919) 452.

Panay, *B. S.* 32241, 32411 *McGregor*, 35716, 35742 *Martelino & Edaño*. In the mossy forest, altitude about 1,000 m. Endemic.

CYRTANDRA PARVA Merr. in Philip. Journ. Sci. 20 (1922) 446.

Mindanao (Zamboanga), *B. S.* 36833, 37248 *Ramos & Edaño*. Along streams in forests at low altitudes. Endemic.

CYRTANDRA PARVIFLORA C. B. Clarke in DC. Monog. Phan. 5 (1883) 283.

Cyrtandra micrantha Kränzl. in Journ. Linn. Soc. Bot. 37 (1906) 280.

Luzon (Ifugao, Benguet), *Elmer* 8643 as *C. laxa* Elm., 5962, 14271, *Merrill* 7803, *Phil. Pl.* 1777, *F. B.* 15934 *Bacani*, 923 *Barnes*, *B. S.* 32014 *Santos*, 19750 *McGregor*. In damp shaded ravines and in the mossy forest, altitude 1,500 to 2,200 m. Endemic.

Local name: Musiñgan (Ig.).

CYRTANDRA PARVIFOLIA Merr. in Philip. Journ. Sci. 2 (1907) Bot. 300.

Cyrtandra fragilis Elm. Leaf. Philip. Bot. 2 (1908) 557.

Mindoro, Panay, Negros, Mindanao (Agusan, Bukidnon, Misamis), *Merrill* 5718, 5777, *Phil. Pl.* 225, *Elmer* 9917, 9205, 13789, *B. S.* 30670, 38548, 40375 *Ramos & Edaño*, *F. B.* 4753 *Mearns & Hutchinson*. In the mossy forest, altitude 1,000 to 1,800. Endemic.

Local name: Sumbidan (Mbo.).

CYRTANDRA PLECTRANTHIFLORA Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 332.

Luzon (Cagayan, Ilocos Norte, Lepanto, Bontoc, Benguet), *B. S.* 5945, 7362, 33211 *Ramos*, 31938 *Santos*, 37804, 40241 *Ramos & Edaño*. In the mossy forest, ascending to 2,200 m. Endemic.

Local name: Buñgugan (Ig.).

CYRTANDRA RAMIFLORA Elm. Leaf. Philip. Bot. 3 (1910) 964.

Mindanao (Davao), *Elmer* 10681. In primary forests, altitude about 1,100 m. Endemic.

Local name: Baliñgog (Bag.).

CYRTANDRA ROSEO-ALBA Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 178.

Luzon (Laguna), *B. S.* 10048, 10923, 20487 *Ramos*. In damp primary forests at low or medium altitudes. Endemic.

CYRTANDRA RUFOTRICHA Merr. in Philip. Journ. Sci. 20 (1922) 442.

Mindanao (Zamboanga), *B. S.* 36655, 36689 *Ramos & Edaño*. In forests along streams at low altitudes. Endemic.

CYRTANDRA RUPICOLA Elm. Leaf. Philip. Bot. 5 (1913) 1784.

Palawan, *Elmer* 13213. On rocky banks of small streams in primary forests, altitude about 750 m. Endemic.

CYRTANDRA SALIGNA Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 324.

Mindanao (Zamboanga), *Merrill* 5480. At the base of cliffs in shaded ravines, altitude about 100 m. Endemic.

CYRTANDRA SANTOSII Merr. in Philip. Journ. Sci. 14 (1919) 453.

Luzon (Bontoc, Benguet), *B. S.* 32071 *Santos*, 37699 *Ramos & Edaño*. In the mossy forest, altitude about 2,000 m. Endemic.

CYRTANDRA SIBUYANENSIS Elm. Leaf. Philip. Bot. 3 (1910) 969.

Mindoro, Sibuyan, Panay, *Elmer* 12529, *F. B.* 4350 *Merritt*, *B. S.* 31206, 31286, 40631, 40713 *Ramos & Edaño*. In primary forests along streams, altitude 500 to 900 m. Endemic.

CYRTANDRA SORSOGONENSIS Merr. in Philip. Journ. Sci. 11 (1916) Bot. 31.

Luzon (Sorsogon), *B. S.* 23318 *Ramos*. In forests, altitude probably above 1,000 m. Endemic.

CYRTANDRA SUBGLABRA Merr. in Philip. Journ. Sci. 20 (1922) 447.

Mindanao (Zamboanga), *B. S.* 36937, 36742 *Ramos & Edaño*. Along streams in forests at low altitudes. Endemic.

CYRTANDRA TAGALEURUM Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 176.

Camiguin de Misamis, Mindanao (Bukidnon), *B. S.* 14462 *Ramos*, 38704 *Ramos & Edaño*. In the mossy forest, altitude at or above 1,000 m. Endemic.

CYRTANDRA TAYABENSIS Elm. Leaf. Philip. Bot. 1 (1908) 347, 2 (1908) 555; Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 320.

Luzon (Tayabas), *Elmer* 9238. In forests along streams, altitude about 600 m. Endemic.

CYRTANDRA TECOMIFLORA Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 322.

Mindanao (Zamboanga), *F. B.* 9264, 9327 *Whitford & Hutchinson*. In ravines in forests at low altitudes. Endemic.

CYRTANDRA TENUIPES Merr. in Philip. Journ. Sci. 13 (1918) Bot. 330.

Cyrtandra longipedunculata Merr. in Philip. Journ. Sci. 10 (1915) Bot. 77, non Rechinger.

Luzon (Ifugao, Tayabas, east coast), *B. S.* 19664, 19796 *McGregor*, 29024, 28784 *Ramos & Edaño*. In damp primary forests at medium altitudes. Endemic.

CYRTANDRA TRIVIALIS Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 331.

Luzon (Isabela, Ifugao), *B. S.* 8003 *Ramos*, 20008 *McGregor*. In primary forests along streams at low or medium altitudes. Endemic.

CYRTANDRA UMBELLATA Kränzl. in Philip Journ. Sci. 8 (1913) Bot. 330.

Luzon (Benguet), *F. B. 15900 Bacani*. Probably from forested ravines, altitude about 1,200 m. Endemic.

CYRTANDRA UMBELLIFERA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 435.

Batan Islands (Batan), *F. B. 3785 Fénix*. Near the summit of Mt. Iraya. Endemic.

CYRTANDRA URDANETENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2664.

Mindanao (Agusan), *Elmer 13882*. In primary forests along streams, altitude about 600 m; closely allied to *C. incisa* C. B. Clarke. Endemic.

Local name: Pagumpugan (Mbo.).

CYRTANDRA VANOVERBERGHII Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 174.

Luzon (Bontoc), *Vanoverbergh 512*. In forests, altitude about 1,600 m. Endemic.

CYRTANDRA VILLOSISSIMA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 225; Elm. Leaf. Philip. Bot. 2 (1908) 555.

Slackia philippinensis Kränzl. in Philip. Journ. Sci. 8 (1913) Bot. 171.

Palawan, Mindanao (Zamboanga, Bukidnon, Lanao), Jolo, *Merrill 8295, 9500, Clemens 51, 9356, B. S. 581 Foxworthy, 38649 Ramos & Edaño*. In damp forests, altitude 550 to 900 m. Endemic.

Local names: Lupa (Tagb.); noog-noog (C. Bis.).

CYRTANDRA ZAMBOANGENSIS Merr. in Philip. Journ. Sci. 20 (1922) 445.

Mindanao (Zamboanga), *B. S. 37249, 36685 Ramos & Edaño*. On forested slopes at low altitudes. Endemic.

EXCLUDED SPECIES

CYRTANDRA PENDULA Blume; *F.-Vill. Novis. App.* (1880) 150.

CYRTANDRA RUBIGINOSA Jack; *F.-Vill. l. c.*

CYRTANDRA SULCATA Blume; *F.-Vill. l. c.*

DOUBTFUL AND EXCLUDED GENERA

CYRTANDROMAEA sp.; *Vidal Rev. Pl. Vasc. Filip.* (1886) 202.

This reference is based on *Vidal 841* from Albay Province, Luzon; I have seen no Philippine representatives of the genus.

OREOCHARIS ? NOTHA C. B. Clarke in *DC. Monog. Phan.* 5 (1883) 64.

"Manille ? (Barthe in h. Paris)." C. B. Clarke *l. c.*

There is no evidence that this was from the Philippines. The printed label on the type specimen reads "Herb. Mus. Paris Manille M. Barthe," but there is a question mark added after Manille and on the label is written "*Napaeanthus* ex hb. Bn. A. S.-H. [ex herb. Baillon, A. Saint Hilaire] Brasilia!"

DIDYMOCARPUS MARGINATA C. B. Clarke in *DC. Monog. Phan.* 5 (1883) 96.

"Malacca (Lobb, n. 184 h. Kew); Ins. Philippinicae; Luzon ? (Lobb, in h. Kew, habitatio autem dubia)."

Ridley thinks this species may be a form of *Didymocarpus reptans* Jack; Lobb's specimen, so labeled, safely did not come from the Philippines, but in all probability from the Malay Peninsula.

DIDYMOCARPUS REPTANS Jack; F.-Vill. Novis. App. (1880) 150.

LENTIBULARIACEAE

1. *UTRICULARIA* Linnaeus

UTRICULARIA BIFIDA Linn. Sp. Pl. (1753) 18; A. DC. Prodr. 8 (1844) 21; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 332; F.-Vill. Novis. App. (1880) 150; Merr. Fl. Manila (1912) 433.

Utricularia brevicaulis Benj. in Linnaea 20 (1847) 303; Walp. Ann. 1 (1848) 489; F.-Vill. Novis. App. (1880) 150.

Luzon (Lepanto, Benguet, Bulacan, Rizal, Bataan), Culion, *Merrill 466, 7356, 8042, Phil. Pl. 1454, B. S. 13752 Ramos*. In rice paddies, open wet places, etc., from sea level to 1,500 m altitude; not common. India to Japan, Malaya, and the Marianne and Caroline Islands.

UTRICULARIA EXOLETA R. Br. Prodr. (1810) 430; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 329; Prain in Journ. As. Soc. Beng. 74² (1905) 368; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 102.

Luzon (Bontoc, Nueva Vizcaya), *Vanoverbergh 663, B. S. 11488 McGregor*. In rice paddies at medium altitudes, ascending to 1,300 m. India to southern China, Malaya, and tropical Australia.

UTRICULARIA FLEXUOSA Vahl Enum. 1 (1804) 198; A. DC. Prodr. 8 (1844) 24; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 329; F.-Vill. Novis. App. (1880) 149; Merr. Fl. Manila (1912) 432, Sp. Blancoanae (1918) 351.

Utricularia calumpitensis Llanos Frag. Pl. Filip. (1851) 11; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 6.

Northern Luzon (Cagayan) to Palawan and Mindanao, *Merrill 909, 9491, Phil. Pl. 422, Baker 646, F. B. 11623, 17139, 19278 Curran*. Widely scattered in shallow lake margins, slow streams, swamps, etc., at low and medium altitudes. India to China through Malaya to tropical Australia.

Local name: Ináta (Tag.).

UTRICULARIA HETEROSEPALA Benj. in Linnaea 20 (1847) 310; Walp. Ann. 1 (1848) 490; Miq. Fl. Ind. Bat. 2 (1859) 1000; F.-Vill. Novis. App. (1880) 150; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 200.

Luzon (Ilocos Norte, Ilocos Sur, Zambales), Sibuyan, Palawan, *Cuming 1117, Elmer 12566, 13127, Merrill 756, 2085, B. S. 865, 902 Foxworthy, 26833 Edaña, F. B. 5846 Curran*. In wet places along streams at low and medium altitudes. Endemic.

UTRICULARIA NIVEA Vahl Enum. 1 (1804) 203; Trimen Fl. Ceyl. 3 (1895) 270; Kurz in Journ. Bot. 12 (1874) 53; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 247, Fl. Manila (1912) 433.

Luzon (Rizal), Guimaras, *Merrill 8038, Phil. Pl. 761, B. S. 18011 Robinson*. In open wet grasslands at low altitudes; rare and local. India to southern China and Malaya.

UTRICULARIA ORBICULATA Wall. Cat. (1829) No. 1500, *nomen nudum*;
A. DC. Prodr. 8 (1844) 18; C. B. Clarke in Hook. f. Fl. Brit. Ind.
4 (1884) 334; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 301.

Luzon (Bontoc, Benguet, Pangasinan, Pampanga, Rizal, Batangas, Laguna), Mindoro, Palawan, Panay, *Elmer 6416, Merrill 5547, 6168, 6317, Williams 927, B. S. 8809 McGregor, 29869 Fénix, 18242, 17095 Robinson, 22321 Ramos*. On very wet shaded cliffs, sometimes also on trees in the mossy forest, altitude 200 to 1,500 m. India to southern China and Malaya.

UTRICULARIA ROSULATA Benj. in Linnaea 20 (1847) 310; Walp. Ann. 1 (1848) 490; Miq. Fl. Ind. Bat. 2 (1859) 1000; F.-Vill. Novis. App. (1880) 149; Vidal Phan. Cuming. Philip. (1885) 131, Rev. Pl. Vasc. Filip. (1886) 200.

Mindanao (Misamis), (*Cuming 1651*). This may perhaps be the same as the Philippine form above referred to *U. orbiculata* Wall. Endemic.

UTRICULARIA TENERRIMA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 247, Fl. Manila (1912) 433.

Utricularia scandens Oliv. in Journ. Linn. Soc. Bot. 3 (1859) 181;
C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 332, non Benj.

Luzon (Rizal), *Merrill 8041*. In open wet grasslands at low altitudes; very rare and local. India.

ACANTHACEAE

1. STAUROGYNE Wallich

STAUROGYNE CILIATA Elm. Leaf. Philip. Bot. 7 (1915) 2548.

Luzon (Cagayan, Laguna, Camarines), Busuanga, Palawan, Samar, Mindanao (Agusan), *Elmer 13843, Merrill 7225, Phil. Pl. 1215, B. S. 7401, 20481, 17534, 41189 Ramos, 30918, 33819 Ramos & Edaño*. In forests at low and medium altitudes, ascending to 1,400 m altitude. Endemic, but scarcely more than a variety of the next species.

Local name: Sagbut (Mbo.).

STAUROGYNE DEBILIS (T. Anders.) C. B. Clarke ex Merr. in Philip. Journ. Sci. 2 (1907) Bot. 302; C. B. Rob. op. cit. 6 (1911) Bot. 222.

Ebermaiera debilis T. Anders. in Journ. Linn. Soc. Bot. 9 (1867) 452;
Vidal Phan. Cuming. Philip. (1885) 132.

Erythracanthus elongatus Nees in DC. Prodr. 11 (1847) 79 quoad
var. *foliis angustioribus*.

Ebermaiera elongata F.-Vill. Novis. App. (1880) 152, non Miq.

Luzon (Apayao, Benguet, Bulacan, Rizal, Laguna, Tayabas, Sorsogon), Polillo, Alabat, Catanduanes, Palawan, Mindoro, Samar, Leyte, Panay, Negros, Mindanao, Basilan, *Merrill 5063, 7238, 5554, 10462, Phil. Pl. 2007, Elmer 8708, 14738, 15354, F. B. 6879, 6864, 6877, 6845, 6833 Merritt, B. S. 24505, 30252 Ramos, 2056, 34155, 30922, 30996, 28535, 29340, 37245, 37396, 38358, 39144 Ramos & Edaño, 28063 Fénix*. Chiefly along streams in shaded ravines at low and medium altitudes. Endemic.

STAUROGYNE NEESII (Vidal) comb. nov.

Ebermaiera neesii Vidal Phan. Cuming. Philip. (1885) 34.

Ebermaiera spatulata Nees in DC. Prodr. 11 (1847) 74; Miq. Fl. Ind. Bat. 2 (1858) 772; F.-Vill. Novis. App. (1880) 152; Vidal Phan. Cuming. Philip. (1885) 132, Rev. Pl. Vasc. Filip. (1886) 203, non Hassk.

Luzon (Zambales), *Cuming 1083*, *B. S. 26848* *Edaño*. Along streams at low altitudes. Endemic.

STAUROGYNE OPHIORRHIZOIDES Elm. Leaf. Philip. Bot. 4 (1912) 1488.

Sibuyan, *Elmer 12364*. In forested ravines, altitude about 500 m. Endemic, but scarcely more than a large-leaved form of *S. ciliata* Elm.

STAUROGYNE RIVULARIS Merr. in Philip. Journ. Sci. 7 (1912) Bot. 248, Fl. Manila (1912) 441.

Luzon (Rizal), *Merrill 7396*, *Phil. Pl. 755*. On ledges along small streams at low altitudes. Endemic.

2. ELYTRARIA L. C. Richard**ELYTRARIA IMBRICATA** (Vahl) Pers. Syn. 1 (1805) 23.

Justicia imbricata Vahl Ecl. 1 (1796) 1.

Elytraria tridentata Vahl Enum. 1 (1804) 107; Nees in DC. Prodr. 11 (1847) 64; Merr. Fl. Manila (1912) 435, *Sp. Blancoanae* (1918) 351.

Elytraria crenata F.-Vill. Novis. App. (1880) 152, non Vahl.

Elytraria fasciculata F.-Vill. l. c., non HBK.

Elytraria amara Blanco Fl. Filip. ed. 2 (1845) 8, ed. 3, 1 (1877) 15.

Elytraria squamosa Lindau in Perk. Frag. Fl. Philip. (1904) 38, non *Verbena squamosa* Jacq.

Luzon (Ilocos Norte, Pampanga, Rizal, Cavite, Batangas, Camarines). In open waste places, dry thickets, etc., in and about towns at low altitudes. Introduced from tropical America.

3. THUNBERGIA Linnaeus**THUNBERGIA ALATA** Boj. ex Sims Bot. Mag. t. 2591, Hook. Exot. Fl. (1823-27) t. 77; Nees in DC. Prodr. 11 (1847) 58; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 426, Fl. Manila (1912) 440.

Luzon (Bataan, Rizal). Thoroughly naturalized in waste places and thickets at low altitudes. A native of tropical Africa; now pantropic; cultivated and naturalized.

THUNBERGIA ERECTA (Benth.) T. Anders. in Journ. Linn. Soc. Bot. 7 (1864) 18; Merr. Fl. Manila (1912) 440.

Meyenia erecta Benth. Niger Fl. (1849) 476.

Cultivated for ornamental purposes, but nowhere spontaneous. A native of tropical Africa, introduced into the Philippines since 1900.

THUNBERGIA FRAGRANS Roxb. Fl. Coromandel 1 (1795) 47, t. 67; Nees in DC. Prodr. 11 (1847) 57 (incl. var. *fol. angustioribus* et var. *truncata* Nees); Blanco Fl. Filip. ed. 2 (1847) 360, ed. 3, 2 (1878) 301; Miq. Fl. Ind. Bat. 2 (1858) 768; F.-Vill. Novis. App. (1880) 152; T. Anders. in Journ. Linn. Soc. Bot. 9 (1865) 448; Vidal Phan. Cuming. Philip. (1885) 132, Rev. Pl. Vasc. Filip. (1886)

203; Merr. Fl. Manila (1912) 440, Sp. Blancoanae (1918) 352; Elm. Leaf. Philip. Bot. 5 (1913) 1685.

Thunbergia subsagittata Blanco Fl. Filip. (1837) 518.

Thunbergia javanica Gaertn. Fruct. 3 (1807) 22, t. 183; Nees in DC. Prodr. 11 (1847) 56; F.-Vill. Novis. App. (1880) 152.

Thunbergia hastata Decne. in Nuov. Ann. Mus. Paris 3 (1834) 388; Nees in DC. Prodr. 11 (1847) 56; F.-Vill. Novis. App. (1880) 152; Lindau in Perk. Frag. Fl. Philip. (1904) 38.

Throughout the Philippines at low and medium altitudes, occurring in thickets at low and medium altitudes in most or all islands and provinces; variable in vegetative characters. India to Australia.

Local names: Kalkalaoag (Ilk.); sinto-nagayan (Ibn.); tuka-uak (Sul.); yankong-yangkong (Bis.).

THUNBERGIA GRANDIFLORA Roxb. Hort. Beng. (1814) 45, Fl. Ind. ed. 2, 3 (1832) 34; Nees in DC. Prodr. 11 (1847) 54; F.-Vill. Novis. App. (1880) 152; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 229; Merr. Fl. Manila (1912) 439.

Flemingia grandiflora Roxb. ex Rottl. in Ges. Naturf. Fr. Neue Schrift. 4 (1803) 202.

Commonly planted in Manila and other large towns for ornamental purposes. It has never been observed in fruit in the Philippines. Native of India.

THUNBERGIA LAURIFOLIA Lindl. in Gard. Chron. (1856) 260; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 392, et ex King & Gamble in Journ. As. Soc. Beng. 74² (1907) 631.

Occasionally planted for ornamental purposes; a recent introduction. Malay Peninsula.

4. HYGROPHILA R. Brown

HYGROPHILA PHLOMOIDES Nees in Wall. Pl. As. Rar. 3 (1832) 80, DC. Prodr. 11 (1847) 90; Landau in Perk. Frag. Fl. Philip. (1904) 38; C. B. Clarke in Govt. Lab. Publ. (Philip.) 35 (1904) 91 (var. *roxburghii* C. B. Clarke); Merr. Fl. Manila (1912) 442, Sp. Blancoanae (1918) 352 (var. *roxburghii* C. B. Clarke).

Antirrhinum molle Blanco Fl. Filip. (1837) 503, ed. 2 (1845) 353, ed. 3, 2 (1878) 288, non Linn.

Hygrophila undulata F.-Vill. Novis. App. (1880) 153, non Blume.

Luzon (Pangasinan, Zambales, Bulacan, Rizal, Laguna), Merrill 3941, Sp. Blancoanae 753, Phil. Pl. 330, Cuming 992. In open grasslands, fallow rice paddies; etc., at low altitudes. India to the Malay Peninsula and Java.

HYGROPHILA QUADRIALVIS Nees in Wall. Pl. As. Rar. 3 (1832) 80, DC. Prodr. 11 (1847) 89; Miq. Fl. Ind. Bat. 2 (1858) 778; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 408, et ex King & Gamble in Journ. As. Soc. Beng. 74² (1907) 645.

Luzon (Bulacan, Rizal), Merrill 396, 645, 9775, B. S. 2071 Ramos. In open grasslands, fallow rice paddies, etc., at low and medium altitudes; apparently very close to *H. phlomoides* Nees. India to Indo-China, Malay Peninsula, Java, and Borneo.

- HYGROPHILA SALIFOLIA** (Vahl) Nees in Wall. Pl. As. Rar. 3 (1832) 81, DC. Prodr. 11 (1847) 92 (incl. var. *linearis* Nees); Miq. Fl. Ind. Bat. 2 (1858) 778; T. Anders. in Journ. Linn. Soc. Bot. 9 (1865) 456; F.-Vill. Novis. App. (1880) 153; Vidal Phan. Cuming. Philip. (1885) 132 var. *assurgens* C. B. Clarke, Rev. Pl. Vasc. Filip. (1886) 203; Merr. Sp. Blancoanae (1918) 352.
- Ruellia salicifolia* Vahl Symb. 3 (1794) 84.
- Antirrhinum comintanum* Blanco Fl. Filip. (1837) 502, ed. 2 (1845) 352, ed. 3, 2 (1878) 287, t. 363.
- Hygrophila assurgens* Nees in DC. Prodr. 11 (1847) 90.
- Hygrophila obovata* Nees in Wall. Pl. As. Rar. 3 (1832) 81, DC. Prodr. 11 (1847) 91; F.-Vill. Novis. App. (1880) 153; Usteri Beitr. Ken. Philip. Veg. (1905) 123.
- Hygrophila angustifolia* R. Br. Prodr. (1810) 479; Merr. Fl. Manila (1912) 442.

Throughout the Philippines in open wet places, especially near the sea. India to China, Japan, and Malaya.

Local names: Binakag (Ilk.); kaṅgon-kaṅgon (Tag.); mamitik (Tag.); tala-talaan (Tag.).

DOUBTFUL SPECIES

- HYGROPHILA SAXATILIS** Ridl. in Trans. Linn. Soc. Bot. 3 (1893) 333; C. B. Clarke ex King & Gamble in Journ. As. Soc. Beng. 74² (1907) 645; Gibbs in Journ. Linn. Soc. Bot. 42 (1914) 119.

This has been credited to the Philippines by C. B. Clarke l. c.; I have seen no specimens. It may be included in my conception of *H. salicifolia* Nees.

5. NOMAPHILA Blume

- NOMAPHILA CORYMBOSA** Blume Bijdr. (1826) 804; Nees in DC. Prodr. 11 (1847) 84.
- Nomaphila stricta* Nees in DC. Prodr. 11 (1847) 84, saltem quoad Philip., excl. syn.; F.-Vill. Novis. App. (1880) 153; Vidal Phan. Cuming. Philip. (1885) 132, Rev. Pl. Vasc. Filip. (1886) 204.
- Cryptophragmium axillare* Nees in DC. Prodr. 11 (1847) 96, quoad Cuming 1631; Miq. Fl. Ind. Bat. 2 (1857) 780, quoad Cuming 1631.
- Gymnostachyum axillare* F.-Vill. Novis. App. (1880) 155.
- Hygrophila corymbosa* Lindau in Engl. & Prantl Nat. Pflanzenfam. 4^{3b} (1895) 297, Perk. Frag. Fl. Philip. (1904) 38.

Luzon (Pampanga), Samar, Mindanao (Misamis), Cuming 1631, Merrill 1455, B. S. 17580 Ramos, F. B. 21062 Sherfesees, Cenabre, & Cortes. In open rather wet places, apparently rare and local in the Philippines. Malay Peninsula and Archipelago.

Local names: Haṅgut-na-babáe (Tag.); salingságing (S. L. Bis.).

EXCLUDED SPECIES

- NOMAPHILA PETIOLATA** Decne.; F.-Vill. Novis. App. (1880) 153.

6. **BLECHUM** P. Browne

BLECHUM BROWNEI Juss. in Ann. Mus. Hist. Nat. Paris 9 (1807) 270; Nees in DC. Prodr. 11 (1847) 466; Miq. Fl. Ind. Bat. 2 (1858) 839; F.-Vill. Novis. App. (1880) 153; Vidal Phan. Cuming. Philip. (1885) 132, Rev. Pl. Vasc. Filip. (1886) 204; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 125, 3 (1908) Bot. 435, Fl. Manila (1912) 444, Sp. Blancoanae (1918) 353.

Ruellia uliginosa Blanco Fl. Filip. (1837) 494, ed. 2 (1845) 346, ed. 3, 2 (1878) 277, non Linn. f.

Blechum luzonicum Nees in DC. Prodr. 11 (1847) 466, in syn.

Blechum haenkei Nees op. cit. 467; F.-Vill. Novis. App. (1880) 153.

Batan Islands, Luzon (Cagayan to Sorsogon), Polillo, Mindoro, Leyte, Negros, Cebu, Mindanao (Misamis, Lanao). In waste places, open thickets, on and about old walls, etc., in and about towns at low altitudes; usually common. Introduced from Mexico, also naturalized in Formosa and in the Marianne Islands.

Local names: Bumburia (Ilk.); dayang (Tag.); karibusuk (Ilk.); kopsis-kopsis (Ilk.); sapin-sápin (Tag.); tari-tári (Ilk.).

7. **HEMIGRAPHIS** Nees

HEMIGRAPHIS BAKERI Merr. in Philip. Journ. Sci. 10 (1915) Bot. 348.

Luzon (Tayabas), Samar, *Baker 3272, F. B. 21081 Sherfesees, Cenabre, & Cortes*. In forests along streams at low altitudes. Endemic.

Local name: Panauataua (S. L. Bis.).

HEMIGRAPHIS BARACTANENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2543.

Mindanao (Davao), *Elmer 11070*. In forested ravines, altitude about 450 m. Endemic.

Local name: Dalingding-busó (Bag.).

HEMIGRAPHIS COLORATA (Blume) Hallier f. in Nov. Act. Acad. Nat. Cur. 70 (1897) 199, t. 9, f. 1; Merr. Fl. Manila (1912) 443.

Ruellia colorata Blume Bijdr. (1826) 795.

Cultivated in Manila and other large towns, *Merrill 4086, 7387, Piper 158*. A native of Java, now widely distributed in cultivation.

HEMIGRAPHIS CUMINGIANA (Nees) F.-Vill. Novis. App. (1880) 153; Vidal Phan. Cuming. Philip. (1885) 132, Rev. Pl. Vasc. Filip. (1886) 204.

Ruellia cumingiana Nees in DC. Prodr. 11 (1847) 148; Miq. Fl. Ind. Bat. 2 (1858) 791.

Luzon (Cagayan, Ilocos Norte, Apayao, Tayabas), Panay, *Cuming 1310, F. B. 19642, 19643 Curran, B. S. 13864 Ramos, 28122 Fénix, 31062 Ramos & Edaño*. In primary forests at low altitudes. Reported also from Celebes.

HEMIGRAPHIS DECIPIENS (Nees) F.-Vill. Novis. App. (1880) 153.

Ruellia decipiens Nees in DC. Prodr. 11 (1847) 151; Miq. Fl. Ind. Bat. 2 (1858) 790.

"Ad Sarzagona [Sorsogon] ins. Luzon (Haenke)." I have seen no specimens that I can definitely refer to this species. Known to me only by the description. Endemic.

HEMIGRAPHIS FRUTICULOSA C. B. Clarke in Philip. Journ. Sci. 1 (1906) Suppl. 247.

Luzon (Cagayan, Ilocos Norte, Lepanto, Benguet, Bulacan, Rizal), *Merrill* 4465, *Williams* 1382, *B. S.* 2114, 7427, 27361 *Ramos*, 34040 *Ramos* & *Edaño*, 12635 *Fénix*. On cliffs, on steep banks, and in ravines at low and medium altitudes. Endemic.

HEMIGRAPHIS HIRSUTA (Vahl) T. Anders. in Journ. Agr. Hort. Soc. Ind. II 1 (1868) 270; C. B. Clarke in Philip. Journ. Sci. 1 (1906) Suppl. 247; Elm. Leaf. Philip. Bot. 5 (1913) 1693, incl. var. *crenata* Elm. l. c.

Justicia hirsuta Vahl Symb. 2 (1791) 3.

Nelsonia hirsuta R. & S. Syst. 1 (1817) 172.

Luzon (Benguet, Nueva Vizcaya, Tayabas), Palawan, *Elmer* 12671, 12678, *Merrill* 9510, *B. S.* 290 *Bermejos*, 25433 *Yates*, 13353, 13283, 13342 *Ramos*. In forests at low and medium altitudes. Malay Peninsula, Java, Borneo.

Local names: Limokong (Tagb.); panisig (Tagb.).

HEMIGRAPHIS HIRSUTISSIMA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 60.

Luzon (Ilocos Norte), *B. S.* 27258 *Ramos*. On and about boulders along streams at low altitudes. Endemic.

HEMIGRAPHIS LANCEOLATA Merr. in Philip. Journ. Sci. 20 (1922) 452.

Negros, Balut, *Merrill* 5413, *B. S.* 7330 *Celestino*. On open steep slopes in cultivated places at low and medium altitudes. Endemic.

HEMIGRAPHIS LUZONA (Nees) F.-Vill. Novis. App. (1880) 153.

Ruellia luzona Nees in DC. Prodr. 11 (1847) 151; Miq. Fl. Ind. Bat. 2 (1858) 790.

"In insula Luzona (Haenke)" Nees l. c. This is known to me only by the description.

HEMIGRAPHIS NUMMULARIFOLIA Merr. in Philip. Journ. Sci. 14 (1919) 455.

Luzon (Ilocos Norte), *B. S.* 27679, 33031, 32974 *Ramos*. In open dry places at low altitudes. Endemic.

HEMIGRAPHIS OBLONGIFOLIA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 204.

Samar, *B. S.* 24185, 24301, 24240 *Ramos*. In primary forests at low altitudes. Endemic.

HEMIGRAPHIS PACHYPHYLLA Merr. in Philip. Journ. Sci. 20 (1922) 453.

Luzon (Camarines), *B. S.* 33794, 33647, 33477 *Ramos* & *Edaño*. In thickets and in recent clearings at low altitudes. Endemic.

HEMIGRAPHIS PARABOLICA (Nees) F.-Vill. Novis. App. (1880) 153; Vidal Phan. Cuming. Philip. (1885) 132, Rev. Pl. Vasc. Filip. (1886) 204; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 125.

Ruellia parabolica Nees in DC. Prodr. 11 (1847) 144; Miq. Fl. Ind. Bat. 2 (1858) 786.

Hemigraphis reptans T. Anders. var. *gracilis* Hallier f. in Nov. Act. Acad. Nat. Cur. 79 (1897) 209.

Luzon (Apayao, Zambales, Bataan, Rizal, Laguna, Tayabas), Samar, Negros, Cebu, Mindanao. Common on banks of small streams in forests, on shaded cliffs, etc., at low and medium altitudes; variable and scarcely distinguishable from *H. reptans* T. Anders. Celebes, Waighiou.

The type is *Cuming* 571 from Laguna Province; typical specimens are *Whitford* 495, *B. S.* 26914, 24794 *Edaño*, 23155, 32409 *McGregor*, etc.

HEMIGRAPHIS PAUCIFLORA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 61.

Luzon (Ilocos Norte), *B. S.* 27543 *Ramos*. In forests along streams at low altitudes. Endemic.

HEMIGRAPHIS PRIMULAEFOLIA (Nees) F.-Vill. Novis. App. (1880) 153.

Ruellia primulaefolia Nees in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 382, DC. Prodr. 11 (1847) 144.

Hemigraphis reptans K. Schum. var. *primulifolia* Hallier f. in Nov. Act. Acad. Nat. Cur. 17 (1897) 208; Merr. Fl. Manila (1912) 443.

Babuyan Islands, Luzon (Cagayan, Lepanto, Nueva Vizcaya, Pangasinan, Pampanga, Rizal, Laguna, Tayabas, Sorsogon), Alabat, Balabac, Panay, Mindanao. In ravines along mountain streams, on cliffs, in old clearings, etc., at low and medium altitudes; very close to *H. reptans* T. Anders. Ceram, Ceram Laut, Key, New Guinea.

Local name: Kisul-amu (Sul.).

HEMIGRAPHIS RAPIFERA Hallier f. Koord. in Meded. Lands Plant. 19 (1898) 555; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 125.

Luzon (Pangasinan, Zambales, Nueva Ecija, Bataan, Cavite, Tayabas), Samar, Negros, Panay, Mindanao, *Merrill* 3150, *Elmer* 6667, *B. S.* 17558 *Ramos*, 30091 *Fénix*, 28974, 26292 *Ramos & Edaño*. In forests along streams. Celebes.

Perhaps not specifically distinct from the preceding species and *H. reptans* T. Anders. I have followed C. B. Clarke in adopting the above specific name, although no description has been published.

Local names: Dapagan-a-kayapkap (Pang.); kuyanap (C. Bis.); lusai-lusai (P. Bis.).

HEMIGRAPHIS RHYTIPHYLLA (Nees) F.-Vill. Novis. App. (1880) 153; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 204.

Ruellia rhytiphylla Nees in DC. Prodr. 11 (1847) 150; Miq. Fl. Ind. Bat. 2 (1858) 789.

Luzon (Ilocos Norte, Ilocos Sur, Abra, Benguet, Union, Pangasinan), *Cuming* 1016, *Elmer* 5553, *Merrill* 4302, 4418, *Williams* 1329, *F. B.* 15690, 15511, 15502, 15529 *Merritt & Darling*, 16560 *Darling*, *B. S.* 27402, 7081 *Ramos*. In open places, steep banks, thickets, etc., at low and medium altitudes, ascending to 1,000 m. Endemic.

Local names: Ngarsaangis (Ilk.); pulpulto (Ilk.).

HEMIGRAPHIS SETOSA Elm. Leaf. Philip. Bot. 1 (1908) 348.

Leyte, Samar, Panay, *Elmer* 7248, *B. S.* 24230 *Ramos*, 35499 *Martelino & Edaño*. In forests and along streams at low altitudes. Endemic.

Local names: Likis-ang-kuíau (S. L. Bis.); mala-ang-karusong (S. L. Bis.).

HEMIGRAPHIS STRIGOSA (Nees) F.-Vill. Novis. App. (1880) 153; Vidal Phán. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 204; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 222; Merr. Sp. Blancoanae (1918) 353.

Ruellia strigosa Nees in DC. Prodr. 11 (1847) 148; Miq. Fl. Ind. Bat. 2 (1858) 791.

Ruellia repens Blanco Fl. Filip. (1837) 493, ed. 2 (1845) 345, ed. 3, 2 (1878) 276; Nees in DC. Prodr. 11 (1847) 153; Miq. Fl. Ind. Bat. 2 (1858) 791, non Linn.

Hemigraphis repens F.-Vill. Novis. App. (1880) 154.

Luzon (Bontoc, Nueva Vizcaya, Rizal, Pangasinan, Laguna, Tayabas), Polillo, Alabat, Catanduanes, Panay, Negros, Mindanao, *Merrill* 2878, 10453, 6696, *Elmer* 18282, *B. S.* 20480, 20392, 13432, 20581 *Ramos*, 26950 *Edaño*, 6995 *Robinson*, 31390, 31300 *Ramos & Edaño*, *F. B.* 12056 *Merritt*, some distributed as *H. lanceolata* C. B. Clarke (*Merrill* 2897, type) which cannot be distinguished from *H. strigosa* F.-Vill., as all intergrades occur. In forests at low and medium altitudes. Endemic.

Local names: Mataoyabang (Mbo.); palad-pálad (Bis.); poot (Bon.).

HEMIGRAPHIS SUBLOBATA Elm. Leaf. Philip. Bot. 2 (1909) 591.

Negros, Samar, Mindanao (Surigao, Zamboanga, Lanao), *Elmer* 9665, *Clemens* 408, *Piper* 232, *Merrill* 7040, *B. S.* 37250, 37260 *Ramos & Edaño*. In forests along streams up to 900 m altitude. Endemic.

Local name: Lalamba (Sub.).

HEMIGRAPHIS VIRIDIS Merr. in Philip. Journ. Sci. 13 (1918) Bot. 59.

Luzon (Ilocos Norte), *B. S.* 27587 *Ramos*. In forests at low altitudes. Endemic.

Local name: Karibuso (Ilk.).

EXCLUDED SPECIES

HEMIGRAPHIS CONFINIS T. Anders. in Journ. Linn. Soc. Bot. 9 (1865) 463.

The Philippine reference was based on *Cuming* 2354, which was from Malacca.

HEMIGRAPHIS REPTANS (Forst.) T. Anders.; Lindau in Perk. Frag. Fl. Philip. (1904) 39.

The Jolo specimen cited probably represents *H. primulifolia* F.-Vill. or *H. parabolica* F.-Vill.

HEMIGRAPHIS ALTERNATA T. Anders.; Gibbs in Journ. Linn. Soc. Bot. 42 (1914) 120.

I do not know this as a Philippine species.

8. STROBILANTHES Blume

STROBILANTHES APOENSIS (Elm.) comb. nov.

Hypoestes apoensis Elm. Leaf. Philip. Bot. 7 (1915) 2544.

Mindanao (Davao), *Elmer 10722*. In primary forests, altitude about 1,100 m. Endemic.

Local name: Pamagitan (Bag.).

STROBILANTHES ANTONII Elm. Leaf. Philip. Bot. 7 (1915) 2550.

Mindanao (Bukidnon, Agusan), *Elmer 13610*, *B. S. 38782*, *39183 Ramos & Edaño*. In primary forests, altitude about 1,050 m. Endemic.

Local name: Tayuñgung (Mbo.).

STROBILANTHES CINCINNALIS C. B. Clarke in Philip. Journ. Sci. 1 (1906) Suppl. 249.

Luzon (Lepanto, Benguet), *Merrill 4574*, *F. B. 14436 Darling*, *B. S. 8470 McGregor*. In the mossy forest, altitude 2,000 to 2,400 m. Endemic.

STROBILANTHES HALCONENSIS Merr. in Philip. Journ. Sci. 2 (1907) Bot. 302.

Mindoro, *Merrill 5586*, *F. B. 4370 Merritt*. In primary forests, altitude about 900 m. Endemic.

STROBILANTHES MEARNsii Merr. in Philip. Journ. Sci. 4 (1909) Bot. 322.

Luzon (Bontoc, Lepanto, Benguet), *Mearns, Bona 139*, *Vanoverbergh 963*, *B. S. 5727 Ramos*, *F. B. 15920 Bacani*. In wet thickets and forests, altitude 1,400 to 2,000 m. Endemic.

STROBILANTHES MERRILLII C. B. Clarke in Govt. Lab. Publ. (Philip.) 35 (1906) 92; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 125.

Luzon (Bataan), *Merrill 3713*, *Williams 744*, *Elmer 6815*, *Whitford 155*, *F. B. 1581*, *2094 Borden*. On ridges in the mossy forest on Mt. Mariveles, altitude 1,000 to 1,300 m. Endemic.

STROBILANTHES PACHYS C. B. Clarke ex Merr. in Philip. Journ. Sci. 20 (1922) 456.

Luzon (Nueva Vizcaya, Tayabas), *Vidal 3412*, *B. S. 14378 McGregor*, *26545 Ramos & Edaño*. In forests, altitude about 900 m. Endemic.

STROBILANTHES PALAWANENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1686.

Palawan, *Elmer 13249*, *Merrill 745*. In primary forests, altitude 200 to 500 m. Endemic.

STROBILANTHES PLURIFORMIS C. B. Clarke in Govt. Lab. Publ. (Philip.) 35 (1906) 93; Merr. Philip. Journ. Sci. 1 (1906) Suppl. 125, 5 (1910) Bot. 386.

Strobilanthes penstemonoides Rendle in Journ. Bot. 34 (1896) 355, non T. Anders.

Luzon (Ifugao, Bontoc, Benguet, Pampanga, Bataan, Rizal, Laguna, Tayabas, Batangas), Mindoro. Common in the mossy forest on the higher mountains, altitude 1,000 to 2,200 m. Endemic.

Local names: Kalimugsu (Tag.); tuhod-manók (Tag.).

9. RUELLIA Plumier

RUELLIA NUDISPICA C. B. Clarke in Philip. Journ. Sci. 1 (1906) Suppl. 248.

Gymnostachyum nudispicum Elm. Leaf. Philip. Bot. 5 (1913) 1700.

Palawan, Merrill 9429, Elmer 12794, B. S. 351 Bermejós. In thickets and forests at low altitudes. Endemic.

RUELLIA PANAYENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 347.

Mindoro, Panay, B. S. 21236 Escritor, 39400 Ramos. Probably in thickets at low altitudes. Endemic.

RUELLIA PHILIPPINENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1690.

Palawan, Basilan, Elmer 12922, Hallier. In thickets on the banks of streams at low altitudes. Endemic.

RUELLIA REPENS Linn. Mant. 1 (1767) 89; Burm. f. Fl. Ind. (1768) 135, t. 41, f. 2; F.-Vill. Novis. App. (1880) 153; Vidal Phan. Cuming. Philip. (1885) 132, Rev. Pl. Vasc. Filip. (1886) 204; Lindau in Perk. Frag. Fl. Philip. (1904) 39; Merr. Fl. Manila (1912) 443.

Dipteracanthus lanceolatus Nees in Wall. Pl. As. Rar. 3 (1832) 82, DC. Prodr. 11 (1847) 124; Miq. Fl. Ind. Bat. 2 (1858) 782.

Northern Luzon (Cagayan) to Mindanao, in most islands and provinces. In open grasslands, borders of thickets, rice-paddy banks, etc., at low and medium altitudes. Burma to China and Malaya.

Local names: Lagbat (Bag.); silisilihan (Tag.); ubat-ugam (Sul.).

10. LEPIDAGATHIS Willdenow

LEPIDAGATHIS AMARANTHOIDES Elm. Leaf. Philip. Bot. 5 (1913) 1695.

Palawan, Elmer 12615. In forests at low altitudes. Endemic.

Local name: Tiagang (Tagb.).

LEPIDAGATHIS CINEREA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 387.

Luzon (Bontoc, Benguet), Merrill 4395, B. S. 5912 Ramos, 31950 Santos, F. B. 16078 Curran, Merritt, & Zschokke. On open grassy slopes, altitude 1,000 to 2,000 m. Endemic.

LEPIDAGATHIS CLARKEI Merr. in Philip. Journ. Sci. 10 (1915) Bot. 344.

Lepidagathis incurva Merr. op. cit. 1 (1906) Suppl. 125, non D. Don.

Luzon (Bataan), Merrill 3119, Williams 37, Whitford 493. In shaded places along mountain streams, altitude 100 to 400 m. Endemic.

LEPIDAGATHIS DISPAR C. B. Clarke ex Merr. in Philip. Journ. Sci. 5 (1910) Bot. 386.

? *Lepidagathis javanica* Ceron Cat. Pl. Herb. Manila (1892) 129, non Blume.

Luzon (Benguet, Bontoc, Nueva Ecija, Rizal), Elmer 6059, Topping 82, Merrill 285, 7061, B. S. 2053 Ramos, 37918 Ramos & Edaña, F. B. 2697 Ahern's collector. In open places, in thickets, and along streams at low and medium altitudes. Endemic.

Local name: Kabural (Ig.).

LEPIDAGATHIS HUMILIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 346.

Luzon (Ilocos Norte), Samar, Leyte, Mindanao (Davao), *Williams 2955*, *Wenzel 207*, *B. S. 24563, 33027 Ramos*. In forests at low altitudes. Endemic.

LEPIDAGATHIS INCURVA D. Don Prodr. Fl. Nepal. (1825) 119; C. B. Clarke ex King & Gamble in Journ. As. Soc. Beng. 74² (1907) 672. *Lepidagathis hyalina* Nees in Wall. Pl. As. Rar. 3 (1832) 95, DC. Prodr. 11 (1847) 252; F.-Vill. Novis. App. (1880) 155; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 521; Lindau in Perk. Frag. Fl. Philip. (1904) 39.

Lepidagathis riparia Nees in DC. Prodr. 11 (1847) 253; Rolfe in Journ. Bot. 23 (1885) 215; Vidal Rev. Pl. Vasc. Filip. (1886) 205.

Luzon (Ilocos Sur, Rizal, Laguna), Palawan, Balabac, *Merrill 5057, 728, 9533*, *B. S. 444 Mangubat, 289 Bermejos, 743 Foxworthy*. In forests and thickets at low and medium altitudes. India to China and Malaya.

LEPIDAGATHIS INAEQUALIS C. B. Clarke ex Elm. Leaf. Philip. Bot. 5 (1913) 1695.

Lepidagathis parviflora Nees in DC. Prodr. 11 (1847) 250, p. p. quoad Philip.; F.-Vill. Novis. App. (1880) 155; Vidal Phan. Cuming. Philip. (1885) 113, Rev. Pl. Vasc. Filip. (1886) 206, non Blume.

Luzon (Bulacan, Laguna, Sorsogon), *Cuming 497*, *Baker 202*, *B. S. 9887, 14146 Robinson*, *F. B. 20882 Villamil*. No proper description of this has been published, Clarke's type in herb. Kew being *Cuming 497* from Laguna Province, Luzon; I do not think that *Elmer 13028* is the same. Endemic.

LEPIDAGATHIS LAXA Nees in DC. Prodr. 11 (1847) 251; Miq. Fl. Ind. Bat. 2 (1858) 815; F.-Vill. Novis. App. (1880) 155; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 206.

Mindoro, Catanduanes, Samar, *Cuming 1717*, *B. S. 24473, 30246 Ramos*, *F. B. 6199 Merritt*. In forests at low altitudes. Endemic.

LEPIDAGATHIS MACGREGORII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 346.

Mindoro, *McGregor 128*. In forests at low altitudes. Endemic.

LEPIDAGATHIS MICROPHYLLA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 63.

Luzon (Ilocos Norte), *B. S. 27518 Ramos*. On dry open slopes at low altitudes. Endemic.

LEPIDAGATHIS MINDORENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 343.

Mindoro, *B. S. 6702 Robinson*. In sandy soil along streams at low altitudes. Endemic.

LEPIDAGATHIS PALAWANENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 342.

Palawan, *Merrill 9760*. In thickets at low altitudes. Endemic.

LEPIDAGATHIS PSILANTHA Nees in DC. Prodr. 11 (1847) 251; Miq. Fl. Ind. Bat. 2 (1858) 814; F.-Vill. Novis. App. (1880) 155; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 206.

Luzon (Pangasinan), *Cuming 1013*. Probably in thickets or forests at low altitudes. Endemic.

LEPIDAGATHIS SECUNDA (Blanco) Nees in DC. Prodr. 11 (1847) 259; Miq. Fl. Ind. Bat. 2 (1858) 817; F.-Vill. Novis. App. (1880) 155; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 206; Merr. Fl. Manila (1912) 442, Sp. Blancoanae (1918) 353.

Ruellia secunda Blanco Fl. Filip. (1837) 495, ed. 2 (1845) 346, ed. 3, 2 (1878) 278.

Lepidagathis luzona Nees in DC. Prodr. 11 (1847) 259; Miq. Fl. Ind. Bat. 2 (1858) 817; F.-Vill. Novis. App. (1880) 155; Lindau in Perk. Frag. Fl. Philip. (1904) 39.

Lepidagathis mucronata Nees in DC. Prodr. 11 (1847) 250, p. p., quoad Philip.; F.-Vill. Novis. App. (1880) 155; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 206.

Luzon (Ilocos Norte, Ilocos Sur, Union, Pangasinan, Pampanga, Bulacan, Rizal, Laguna), *Cuming 1141*, *Merrill 5016*, *1452*, *Sp. Blancoanae 702*, *Elmer 5716*, *Didrichsen 3144*, *B. S. 17997 Otañes*, *2047 Ramos*. In dry thickets, open dry places, etc., at low altitudes. Endemic.

Local name: Sipsipan (Tag.).

LEPIDAGATHIS SPICIFERA Elm. Leaf. Philip. Bot. 7 (1915) 2547 (*specifer*).

Mindanao (Agusan), *Elmer 13383*. In shaded places along streams, altitude about 350 m. Endemic.

Local name: Malitogo (Mbo.).

LEPIDAGATHIS SUBGLABRA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 103.

Bontoc, *Vanoverbergh 507*. In forests, altitude about 1,600 m. Endemic.

Var. **LANCIFOLIA** var. nov.

A typo differt foliis multo majoribus, lanceolatis, 4 ad 12 cm longis, 5 ad 15 mm latis.

Luzon (Abra, Bontoc), *B. S. 27028 Ramos*, *Vanoverbergh 1042*. In forests, altitude 300 to 1,600 m. Endemic.

LEPIDAGATHIS SUBINTERRUPTA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 345.

Luzon (Isabela), *B. S. 8024 Ramos*. On bowlders along shaded streams at low or medium altitudes. Endemic.

LEPIDAGATHIS TENUIS C. B. Clarke in Govt. Lab. Publ. (Philip.) 35 (1906) 92.

Luzon (Benguet, Ifugao, Nueva Vizcaya), Mindanao (Lanao, Davao, Zamboanga), *Elmer 6212*, *8901*, *Merrill 8163*, *Copeland 623*, *Clemens 243*, *B. S. 11429*, *19965 McGregor*. In ravines along small streams, at low and medium altitudes, ascending to 1,400 m. Endemic.

Local names: Adot (Ig.); karíkutrikut (Bag.).

11. **BARLERIA** Linnaeus

BARLERIA CRISTATA Linn. Sp. Pl. (1753) 636; Miq. Fl. Ind. Bat. 2 (1858) 808; Nees in DC. Prodr. 11 (1847) 229; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 488; Merr. Fl. Manila (1912) 437, Sp. Blancoanae (1918) 354.

Barreliera cristata Blanco Fl. Filip. (1837) 492, ed. 2 (1845) 344, ed. 3, 2 (1878) 273, t. 214.

Barleria ciliata Roxb. Fl. Ind. ed. 2, 3 (1832) 38; F.-Vill. Novis. App. (1880) 154.

Rather widely cultivated for ornamental purposes, but so far not known to produce seeds in the Philippines. India, China (native), and Malaya (introduced and cultivated).

Local name: Violeta (Sp.).

BARLERIA PRIONITIS Linn. Sp. Pl. (1753) 636; Nees in DC. Prodr. 11 (1847) 237; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 482; F.-Vill. Novis. App. (1880) 154; Vidal Rev. Pl. Vasc. Filip. (1886) 205; Perk. Frag. Fl. Philip. (1904) 39; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 125, Fl. Manila (1912) 437, Interpret. Herb. Amb. (1917) 472, Sp. Blancoanae (1918) 354.

Barreliera prionitis Blanco Fl. Filip. (1837) 491, ed. 2 (1845) 343, ed. 3, 2 (1878) 272, t. 214.

Barleria hystrix Linn. Mant. 1 (1767) 89.

Prionitis hystrix Miq. Fl. Ind. Bat. 2 (1858) 809.

Luzon (Bulacan, Bataan, Rizal, Laguna), Mindoro, Cuyo. In thickets and waste places in and about towns at low altitudes; certainly introduced. Tropical Africa, Asia, and Malaya.

Local names: Kokong-manók (Tag.); kolínta (Tag.); korínta (Tag.); kulánta (Tag.); kuránta (P. Bis.).

EXCLUDED SPECIES

BARLERIA LUPULINA Lindl.; Merr. Fl. Manila (1912) 436.

This recently introduced form shows no indication of persisting either in cultivation or otherwise.

12. **ACANTHUS** Tournefort

ACANTHUS EBRACTEATUS Vahl Symb. 2 (1791) 75, t. 40; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 481; Merr. Interpret. Herb. Amb. (1917) 474.

Dilivaria ebracteata Pers. Syn. 2 (1807) 179; Nees in DC. Prodr. 11 (1847) 269.

Luzon (Tayabas), Mindoro, Palawan, Negros, Panay, Leyte, Mindanao, Merrill 2422, 1262, Phil. Pl. 1384, Wenzel 1420, Weber 1035, Whitford 593, F. B. 18628 Darling, 5326 Merritt, 4218 Everett, B. S. 6961 Robinson, 31509 Ramos & Edaña. Along tidal streams, inland borders of mangrove swamps, etc., within the influence of salt or brackish water. Andaman Islands to Indo-China, Malay Peninsula and Archipelago to New Guinea and the Palau Islands; often confused with the next species.

Local names: Dagudib (Tag.); diliuáriu (Tag.); duluáriu (Tag.); galúra (Tag.); gregório (P. Bis.); lagoloi (C. Bis.); lagoyuoi (P. Bis.); tapilak (Sul.); tindoi (Tag.); tinlui (Tag.).

ACANTHUS ILICIFOLIUS Linn. Sp. Pl. (1753) 639; Blanco Fl. Filip. ed. 2 (1845) 341, ed. 3, 2 (1878) 267, *t.* 153; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 481; F.-Vill. Novis. App. (1880) 154; Vidal Sinopsis Atlas (1883) 35, *t.* 57, *f.* E, Rev. Pl. Vasc. Filip. (1886) 205; Perk. Frag. Fl. Philip. (1904) 39; Merr. Fl. Manila (1912) 441, Sp. Blancoanae (1918) 354.

Dilivaria ilicifolia Nees in Wall. Pl. As. Rar. 3 (1832) 98, DC. Prodr. 11 (1847) 268; Miq. Fl. Ind. Bat. 2 (1858) 820.

Acanthus doloariu Blanco Fl. Filip. (1837) 487.

Luzon (Union, Pampanga, Bulacan, Rizal, Bataan), *Elmer* 5504, 5648, *Merrill* 58, Sp. Blancoanae 636, *F. B.* 2232 *Meyer*. In brackish swamps along the seashore and tidal streams. Tropical Asia and Africa through Malaya to Polynesia.

Local names: Daguari (Tag.); daluari (Tag.); diluáriu (Tag.); dula-uári (Pamp.); duluáriu (Tag.); galúra (Tag.); kasumba (Ilk.); lagiúriu (P. Bis.); lagiu-lagiu (Tag.); santing (Sul.); takislakis (Tag.); tindoí (Tag.); tinlui (Tag.); tinglui (Tag.); tinglog (Tag.); titio (Bis.).

ACANTHUS VOLUBILIS Wall. Pl. As. Rar. 2 (1831) 56, *t.* 172; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 481, et ex King & Gamble in Journ. As. Soc. Beng. 74² (1907) 660.

Dilivaria volubilis Nees in Wall. Pl. As. Rar. 3 (1832) 98.

Dilivaria scandens Nees in DC. Prodr. 11 (1847) 98.

Mindoro, Sibuyan, Panay, Basilan, *B. S.* 31506 *Ramos & Edaña*, *F. B.* 3965 *Hutchinson*, 6470 *Everett*, 7150, 5322 *Merritt*, *Elmer* 12408. Habitat of the preceding species. India through Malaya to tropical Australia.

Local names: Santing-santing (Yak.); lagiuíiu (P. Bis.).

13. ASYSTASIA Blume

ASYSTASIA GANGETICA (Linn.) T. Anders. in Thwaites Enum. Pl. Zeyl. (1859-64) 235; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 341.

Justicia gangetica Linn. Amoen. Acad. 4 (1759) 299.

Asystasia coromandelina Nees in Wall. Pl. As. Rar. 3 (1832) 89, DC. Prodr. 11 (1847) 165; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1884) 493; F.-Vill. Novis. App. (1880) 154.

Luzon (Isabela), *F. B.* 7981 *Ramos*. In thickets near towns at low altitudes; also represented by *Merrill* 8613, *F. B.* 20858 *Villamil*, *B. S.* 17282 *Robinson & Foxworthy* from plants cultivated in Manila and Los Baños grown from seeds from northern Luzon. Tropical Africa, Asia, and Malaya.

14. GYMNOSTACHYUM Nees

GYMNOSTACHYUM AFFINE Nees in DC. Prodr. 11 (1847) 94; Miq. Fl. Ind. Bat. 2 (1858) 779; F.-Vill. Novis. App. (1880) 155; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 205.

Samar, *Cuming* 1719, *B. S.* 24231 *Ramos*. In forests at low altitudes. Endemic.

Var. **LOHERI** C. B. Clarke.

Luzon (Abra, Ifugao, Pangasinan, Pampanga, Bulacan, Bataan), Mindanao (Lanao, Zamboanga, Basilan), *Merrill* 5015, 1427, 8053, *B. S.* 26977

Ramos, 19972 McGregor, 18319 Otanes, 34165 Ramos & Edaña, F. B. 2732 Borden. In primary forests at low altitudes. Endemic.

Local name: Dilang-aso (Pamp.).

GYMNOSTACHYUM CUMINGIANUM Nees in DC. Prodr. 11 (1847) 94; Miq. Fl. Ind. Bat. 2 (1858) 779; F.-Vill. Novis. App. (1880) 155; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 205.

Luzon (Laguna), *B. S. 17132 Robinson, Cuming 589.* In forests, altitude up to 300 m; apparently very rare and local. Endemic.

GYMNOSTACHYUM LONGISPICATUM Merr. in Philip. Journ. Sci. 17 (1920) 314.

Siargao, *B. S. 34999 Ramos & Pascasio.* In thickets or forests at low altitudes. Endemic.

GYMNOSTACHYUM PALAWANENSE Elm. Leaf. Philip. Bot. 5 (1913) 1701.

Palawan, *Elmer 12741.* In open deforested areas at low altitudes. Endemic.

GYMNOSTACHYUM PICTUM Elm. Leaf. Philip. Bot. 5 (1913) 1700.

Palawan, *Elmer 13182.* In forested ravines along streams, altitude about 750 m. Endemic.

GYMNOSTACHYUM SPICIFORME (Elm.) Merr. in Philip. Journ. Sci. 17 (1920) 314.

Justicia spiciformis Elm. Leaf. Philip. Bot. 1 (1908) 349.

Negros, *Elmer 7347.* In forests at low altitudes. Endemic.

GYMNOSTACHYUM SUBCORDATUM Elm. Leaf. Philip. Bot. 5 (1913) 1703.

Palawan, *Elmer 12729.* In forests along streams at low altitudes. Endemic.

15. **GRAPTOPHYLLUM** Nees

GRAPTOPHYLLUM PICTUM (Linn.) Griff. Notul. 4 (1854) 139; Lindau in Perk. Frag. Fl. Philip. (1904) 39; Merr. Fl. Manila (1912) 439, Interpret. Herb. Amb. (1917) 474, Sp. Blancoanae (1918) 354.

Justicia picta Linn. Sp. Pl. ed. 2 (1762) 21; Blanco Fl. Filip. (1837) 12, ed. 2 (1845) 9, ed. 3, 1 (1877) 18, t. 8.

Graptophyllum hortense Nees in Wall. Pl. As. Rar. 3 (1832) 102, DC. Prodr. 11 (1847) 328; Miq. Fl. Ind. Bat. 2 (1858) 824; F.-Vill. Novis. App. (1880) 156; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 206.

Justicia ecbolium Blanco Fl. Filip. (1837) 13, ed. 2 (1845) 10, ed. 3, 1 (1877) 18, t. 7, non Linn.

Widely planted in hedges, etc. Two forms occur, one with dark purple leaves, one with green leaves blotched with white; neither is known to produce seeds in the Philippines. Old World Tropics, introduced in the New World.

Local names: Antolang (Tag.); atai-atai (Sul., C. Bis.); balasbas (Tag., Bis.); balasbas-malomai (Bis.); kalpueng (Tag.); moráda (Sp.). morádong-maputí (Tag.); sarasara (Tag.); ternáte (Tag.).

16. PSEUDERANTHEMUM Radlkofer

PSEUDERANTHEMUM CURTATUM (C. B. Clarke) Merr. Interpret. Herb. Amb. (1917) 475.

Eranthemum curtatum C. B. Clarke in Govt. Lab. Publ. (Philip.) 35 (1906) 89; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 126, 2 (1907) Bot. 302, 3 (1908) Bot. 435.

Eranthemum malabaricum Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 205, non C. B. Clarke.

Pseuderanthemum malaccense Lindau in Perk. Frag. Fl. Philip. (1904) 40, non *Eranthemum malaccense* C. B. Clarke.

Batan and Babuyan Islands to Palawan and Mindanao, in most islands and provinces. In primary forests at low and medium altitudes. Endemic.

Local names: Malasiki-singklau (S. L. Bis.); ruprukrupo (Tagb.); sili-sili (S. L. Bis.); taghui (C. Bis.); tamban-tamban (Sul.).

PSEUDERANTHEMUM DEPAUPERATUM Merr. in Philip. Journ. Sci. 11 (1916) Bot. 315.

Palmas, *Merrill* 5346. On cliffs at low altitudes. Amboina.

Palmas Island is really a part of the Dutch East Indies, but as it is in sight of the southeast coast of Mindanao (Cape San Augustin) the species is assumed to occur also in the Philippines proper.

PSEUDERANTHEMUM FRUTICOSUM (Elm.) comb. nov.

Eranthemum fruticosum Elm. Leaf. Philip. Bot. 2 (1909) 590.

Negros, Mindanao (Davao), *Elmer* 9619, 10662. In forested ravines, altitude about 750 m. Endemic.

Local names: Bangkoro (C. Bis.); lambu (Bag.).

PSEUDERANTHEMUM MINUTIFLORUM (Elm.) comb. nov.

Eranthemum minutiflorum Elm. Leaf. Philip. Bot. 5 (1913) 1687.

Palawan, *Elmer* 13084. In secondary forests along streams at low altitudes. Endemic. Possibly not a representative of this genus.

PSEUDERANTHEMUM PULCHELLUM (Hort.) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 248, Fl. Manila (1912) 438, Interpret. Herb. Amb. (1917) 475, Sp. Blancoanae (1918) 355.

Eranthemum pulchellum Hort. in Gartenmag. (1810) 176, t. 17.

Eranthemum bicolor Schrank Hort. Monac. (1819) t. 9; Nees in DC. Prodr. 11 (1847) 456; Miq. Fl. Ind. Bat. 2 (1858) 838; F.-Vill. Novis. App. (1880) 154; Vidal Phan. Cuming. Philip. (1886) 205; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 126; Elm. Leaf. Philip. Bot. 5 (1913) 1686.

Justicia gendarussa Blanco Fl. Filip. (1837) 14, ed. 2 (1845) 10, ed. 3, 1 (1877) 19, t. 9, non Linn.

Eranthemum haenkeanum Nees in DC. Prodr. 11 (1847) 457.

Justicia fasciculata Nees l. c. in syn.

Pseuderanthemum bicolor Radlk. in Engl. & Prantl Nat. Pflanzenfam. 4^{3b} (1895) 330; Lindau in Perk. Frag. Fl. Philip. (1904) 39.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces. In thickets at low altitudes, often common. Malay Archipelago, introduced in other tropical countries.

Local names: Aliopiop (Bis.); atai-atai (Bis.); boian (Tagb.); cinco llagas (Sp.); kinatuluan (Tag.); kublít (Bik.); limang-súgat (Tag.); maladósdos (Bis.); mañgauhái (Mbo.); mandalusa (C. Bis.); mopio (Bis.); panatun (Tag.); pasioki (Tag.); podol (Mbo.); pulpulto (Ilk.) tihol-tihol (Bis.); tulangmanók (P. Bis.); tamban-tamban (Sul.).

PSEUDERANTHEMUM sp.

Odontonema nitidum Merr. Fl. Manila (1912) 437, non O. Kuntze.

Commonly cultivated for ornamental purposes in Manila and in other large towns, but not known to produce seeds in the Philippines, *Merrill 7092, 6345, 7091, Wenzel 1068*. Exotic so far as the Philippines are concerned, but its origin doubtful; pantropic in cultivation.

I have not been able to determine the proper specific designation for this species on account of the brief descriptions of numerous horticultural forms. There are three forms common in the Philippines, one with dark purple leaves and branchlets (probably *Eranthemum purpureum* Hort.); one with pale green leaves blotched and mottled with gray or white (probably *Eranthemum albo-marginatum* Hort.); and one with somewhat larger leaves than the other two, varying from pale green to yellowish green and more or less reticulate (possibly *Pseuderanthemum reticulatum* Radlk.). The floral characters are the same in all three of these forms.

EXCLUDED SPECIES

ERANTHEMUM PUNCTATUM Nees; F.-Vill. Novis. App. (1880) 154.

ERANTHEMUM ZOLLINGERIANUM Nees in DC. Prodr. 11 (1847) 455; F.-Vill. Novis. App. (1880) 154.

"In insulis Philippinis (Zollinger !)" Nees l. c.

The locality is unquestionably an error, apparently for Java; Zollinger never visited the Philippines.

17. **HALLIERACANTHA** Stapf

HALLIERACANTHA ADDISONIENSIS (Elm.) Merr. in Philip. Journ. Sci. 20 (1922) 457.

Hypoestes addisoniensis Elm. Leaf. Philip. Bot. 5 (1913) 1697.

Polytrema addisoniensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 341.

Palawan, *Elmer 12715, Merrill 7235*. In thickets and in damp ravines along streams at low altitudes. Endemic.

HALLIERACANTHA AEQUIFOLIA (C. B. Clarke) Merr. in Philip. Journ. Sci. 20 (1922) 457.

Polytrema aequifolium C. B. Clarke ex Merr. in Philip. Journ. Sci. 10 (1915) Bot. 343.

Palawan, *B. S. 357 Bermejós*. In forests at low altitudes. Endemic.

HALLIERACANTHA BREVIPETIOLATA Merr. in Philip. Journ. Sci. 20 (1922) 457.

Mindoro, Luzon (Laguna), *B. S. 39761 Ramos*. In dry forests at low altitudes. Endemic.

HALLIERACANTHA ELMERI Merr. in Philip. Journ. Sci. 20 (1922) 457.

Hypoestes pulgarensis Elm. Leaf. Philip. Bot. 5 (1913) 1698, non *Hallieracantha pulgarensis* Elm.

Polytrema pulgarens Merr. in Philip. Journ. Sci. 10 (1915) Bot. 342.

Palawan, *Elmer* 12785. In forests at low altitudes. Endemic.

HALLIERACANTHA PHILIPPINENSIS Stapf. in Journ. Linn. Soc. Bot. 38 (1907) 14.

Mindanao (Zamboanga, Basilan), *Merrill* 8168, 8146, *B. S.* 36993 *Ramos & Edaño*, *F. B.* 9095 *Whitford & Hutchinson*, *Hallier*. In shaded ravines and forests at low altitudes, ascending to 600 m. Endemic.

HALLIERACANTHA PULGARENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1692.

Palawan, *Elmer* 13061, *Merrill* 737, 7240, *F. B.* 3900 *Curran*. In forests at low and medium altitudes, ascending to 700 m. Endemic.

18. PERISTROPHE Nees

PERISTROPHE BIVALVIS (Linn.) Merr. Interpret. Herb. Amb. (1917) 476, Sp. Blancoanae (1918) 355.

Justicia bivalvis Linn. Amoen. Acad. 4 (1759) 134, Syst. ed. 10 (1759) 850.

Justicia tinctoria Roxb. Fl. Ind. 1 (1820) 124.

Peristrophe tinctoria Nees in Wall. Pl. As. Rar. 3 (1832) 113, DC. Prodr. 11 (1847) 493; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 556; F.-Vill. Novis. App. (1880) 156; Hallier f. in Bull. Herb. Boiss. 6 (1898) 348, t. 8; Lindau in Perk. Frag. Fl. Philip. (1904) 40.

Justicia dalaora Blanco Fl. Filip. (1837) 14, ed. 2 (1845) 10, ed. 3, 1 (1877) 20; Nees in DC. Prodr. 11 (1847) 499; Hassk. in Flora 47 (1864) 53.

Justicia dichotoma F.-Vill. Novis. App. (1880) 155, non Blume.

Luzon (Bontoc, Benguet), Coron, Palawan, Cabesa, Leyte, Bohol, Mindanao (Surigao, Lanao), Sulu Archipelago (Siassi), *Merrill* 838, 5308, *Piper* 564, *Clemens* 1200, *Elmer* 8462, *B. S.* 331 *Bermejós*, 41346 *Lopez*, *F. B.* 27328 *Reyes*, 26986 *Ponce*. In coconut groves and thickets at low and medium altitudes, often cultivated or semicultivated in the southern Philippines, in Benguet ascending to 1,600 m. India to China and Malaya.

Local names: Dalaóra (C. Bis.); dalaúda (S. L. Bis.); daóda (Bik., S. L. Bis.); daúra (S. L. Bis.); daúsa (C. Bis.); deóra (Bis.); galaúa (Mag.); galaóra (Buk.); kaladúda (Lan.); kalaróra (Buk.); teóda (Mbo.); tiaóra (C. Bis.); taóda (Mbo.).

PERISTROPHE CORDATIBRACTEA Merr. in Philip. Journ. Sci. 20 (1922) 455.

Mindoro, *B. S.* 39392 *Ramos*. Along streams in primary forests at low altitudes. Endemic.

PERISTROPHE LANCIFOLIA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 229.

Luzon (Zambales, Bataan, Tayabas), *F. B.* 19258 *Curran*, *B. S.* 13244 *Ramos*, *Gonzales*. In forests at low altitudes. Endemic.

PERISTROPHE SIBULANENSIS (Elm.) comb. nov.

Hypoestes sibulanensis Elm. Leaf. Philip. Bot. 7 (1915) 2546.

Mindanao (Davao), *Elmer 11152*. In thickets in ravines along streams, altitude about 500 m. Endemic.

Local name: Ras-ras (Bag.).

DOUBTFUL AND EXCLUDED SPECIES

PERISTROPHE ACUMINATA Nees; Lindau in Perk. Frag. Fl. Philip. (1904) 40.

The reference is based on *Warburg 15015* from Jolo. The species is otherwise Indian; I have seen no specimens.

PERISTROPHE BICALYCOLATA Nees; F.-Vill. Novis. App. (1880) 156.

Justicia bicalyculata Vahl; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 100.

PERISTROPHE FRAGILIS Nees; F.-Vill. l. c.

19. **RUNGIA** Nees

RUNGIA DIVERSIFORMIS Nees in DC. Prodr. 11 (1847) 472; Miq. Fl. Ind. Bat. 2 (1858) 842; F.-Vill. Novis. App. (1880) 156; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 207.

Luzon (Pangasinan, Zambales, Bulacan, Rizal, Bataan, Laguna), Palawan, *Cuming 1080*, *Merrill 5051, 9550, 9181*, *Phil. Pl. 1963*, *B. S. 29977 Fénix, 13025, 1763, 22287, 1762, 34149, 34074, 34027 Ramos*. In thickets and along streams in ravines at low and medium altitudes. Endemic.

RUNGIA LEPIDA C. B. Clarke in Philip. Journ. Sci. 1 (1906) Suppl. 248.

Luzon (Abra, Amburayan, Lepanto, Bontoc, Ilocos Sur, Pangasinan), *Merrill 4450*, *Vanoverbergh 1798, 3817*, *B. S. 4842, 7228 Ramos*. On banks and in open grasslands at low and medium altitudes, ascending to 1,200 m. Endemic.

RUNGIA MEMBRANACEA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 205.

Samar, *B. S. 24515 Ramos*. In forests at low altitudes. Endemic.

RUNGIA PARVIFLORA Nees in Wall. Pl. As. Rar. 3 (1832) 110, DC. Prodr. 11 (1847) 469; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 388.

Luzon (Bontoc, Lepanto, Benguet), *Merrill 4557*, *Vanoverbergh 836*, *F. B. 16080 Curran, Merritt, & Zschokke*, *B. S. 37916 Ramos & Edaña*. On open grassy slopes, altitude 1,500 to 1,900 m. India to China and Malaya.

RUNGIA PHILIPPINENSIS C. B. Clarke in Govt. Lab. Publ. (Philip.) 35 (1906) 92.

Rungia longifolia Nees in DC. Prodr. 11 (1847) 471, quoad Philip.; Miq. Fl. Ind. Bat. 2 (1858) 841; F.-Vill. Novis. App. (1880) 156; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 207, non Nees & Arn.

Luzon (Cagayan, Benguet, Nueva Vizcaya), Mindanao, (Lanao), *Cuming 1276*, *Elmer 6000*, *Merrill 157*, *B. S. 5848, 8027 Ramos, 11293 McGregor*. In forests and thickets, chiefly at medium altitudes. Endemic.

EXCLUDED SPECIES

RUNGIA REPENS (Linn.) Nees; Lindau in Perk. Frag. Fl. Philip. (1904) 40.

Of the specimens cited *Merrill 157* is *R. philippinensis* C. B. Clarke, while *Merrill 495* and *789* are forms of *R. diversiformis* Nees. I do not know *R. repens* Nees as a Philippine species.

20. DICLIPTERA Jussieu

DICLIPTERA CLARKEI Elm. Leaf. Philip. Bot. 5 (1913) 1689.

Palawan, *Elmer 12585*, *Merrill 9529*, *Phil. Pl. 1377*, as *Peristrophe*. On forested ridges and along trails through primary forests up to an altitude of 800 m. Endemic.

Local name: Lalatok (Tagb.).

DICLIPTERA CONTORTA (Blanco) Merr. Sp. Blancoanae (1918) 355.

Ruellia contorta Blanco Fl. Filip. (1837) 496, ed. 2 (1845) 347, ed. 3, 2 (1878) 278.

Peristrophe contorta F.-Vill. Novis. App. (1880) 157.

Hypoestes contorta Nees in DC. Prodr. 11 (1847) 156.

Luzon (Pangasinan, Zambales, Bulacan, Batangas), Guimaras, Siquijor, Mindanao (Zamboanga), *Merrill Sp. Blancoanae 802*, *Phil. Pl. 219*, *Piper 386*, *Williams 2342*, *B. S. 34039 Ramos & Edaño*. In thickets at low altitudes; earlier collections were identified, after the late C. B. Clarke, as *D. glabra* Decne. Endemic.

Local name: Sapin-sápin (Tag.).

DICLIPTERA LEONOTIS Dalz. ex C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 553; Merr. Fl. Manila (1912) 435.

Luzon (Ilocos Norte, Bontoc, Pangasinan, Rizal), *B. S. 27535 Ramos*, *116 Foxworthy* (det. C. B. Clarke), *19269 Reillo*. In thickets at low altitudes, ascending to 1,200 m. India.

The form credited to the Philippines as *D. burmanni* Nees by Usteri, Beitr. Ken. Philip. Veg. (1905) 123, probably belongs here or with the preceding species.

21. HYPOESTES R. Brown

HYPOESTES AXILLARIS Merr. in Philip. Journ. Sci. 20 (1922) 449.

Mindanao (Zamboanga), *Merrill 5473*, *B. S. 16384*, *16503 Reillo*, *F. B. 9231 Whitford & Hutchinson*. In shaded ravines at low altitudes. Endemic.

HYPOESTES CINEREA C. B. Clarke in Govt. Lab. Publ. (Philip.) 35 (1906) 89; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 126, Sp. Blancoanae (1918) 356.

Justicia viridis Blanco Fl. Filip. (1837) 15, ed. 2 (1845) 11, ed. 3, 1 (1877) 21, non Forsk.

Dicliptera viridis Hassk. in Flora 47 (1864) 54.

Hypoestes rosea F.-Vill. Novis. App. (1880) 157; Vidal Sinopsis Atlas (1883) 34, t. 72, f. *D*, non Nees.

Hypoestes malaccensis Lindau in Perk. Frag. Fl. Philip. (1904) 40, non Wight.

Luzon (Benguet, Nueva Vizcaya, Pangasinan, Pampanga, Bulacan, Bataan, Rizal), Mindoro, *Merrill 1418*, *1451*, *1717*, *4674*, *5017*, *Phil. Pl. 1939*,

796, *Sp. Blancoanae* 722, *B. S.* 11197 *McGregor*, 34171 *Ramos & Edaño*, 39722 *Ramos*, *F. B.* 2292 *Meyer*. In primary forests at low and medium altitudes, ascending to 1,200 m. Endemic.

Local name: Pansi-pánsi (Tag.).

HYPOESTES CONFERTIFLORA Merr. in *Philip. Journ. Sci.* 20 (1922) 451.

Luzon (Zambales), *B. S.* 4756 *Ramos*. In open places at low altitudes. Endemic.

HYPOESTES CUMINGIANA (Nees) F.-Vill. *Novis. App.* (1880) 157; *Vidal Phan. Cuming. Philip.* (1885) 133, *Rev. Pl. Vasc. Filip.* (1886) 207. *Peristrophe cumingiana* Nees in *DC. Prodr.* 11 (1847) 498; *Miq. Fl. Ind. Bat.* 2 (1858) 847.

Hypoestes linearis Elm. *Leaf. Philip. Bot.* 2 (1908) 517.

Luzon (Ilocos Norte, Union, Abra, Bontoc, Benguet, Pangasinan, Rizal, Laguna), *Cuming* 1015, *Elmer* 7830, 5608, *B. S.* 27170, 27588, 27392, 7298 *Ramos*, *Lete* 473, 494. In thickets and forests, often along streams, at low and medium altitudes. Formosa.

Local names: Pulpulto (Ilk.); solsolapa (Ilk.); tagimunau (Neg.).

HYPOESTES FLORIBUNDA R. Br. *Prodr.* (1810) 474; Nees in *DC. Prodr.* 11 (1847) 509; F.-Vill. *Novis. App.* (1880) 157; Merr. in *Philip. Journ. Sci.* 5 (1910) *Bot.* 388.

Luzon (Cagayan, Ilocos Norte, Ifugao, Benguet, Bontoc, Lepanto), *Elmer* 5877, *Williams* 1389, *F. B.* 19576 *Curran*, 12486 *Merritt & Darling*, 5690 *Klemme*, *B. S.* 27560 *Ramos*, 37511, 37754 *Ramos & Edaño*, 20032 *McGregor*, 31733 *Santos*. In thickets and forests chiefly along streams mostly at medium altitudes, ascending to 1,800 m. Malaya and tropical Australia.

C. B. Clarke notes on *Elmer* 5877 that it differs less from *H. floribunda* R. Br. than the numerous varieties of this species differ among themselves.

Local names: Padiing (Bon.); sili-sili (Bon.); sudak (Ig.).

HYPOESTES LAXIFLORA Nees in *DC. Prodr.* 11 (1847) 508; *Miq. Fl. Ind. Bat.* 2 (1858) 851; F.-Vill. *Novis. App.* (1880) 157; *Vidal Phan. Cuming. Philip.* (1885) 133, *Rev. Pl. Vasc. Filip.* (1886) 207.

Luzon (Abra, Lepanto, Union, Zambales, Rizal), *Cuming* 1019, *Bona* 366, *Vanoverbergh* 1428, *B. S.* 19150 *Reillo*, *B. S.* 1781, 7244 *Ramos*. In thickets and forests at low and medium altitudes. Java, Moluccas, and tropical Australia.

HYPOESTES MERRILLII C. B. Clarke ex Elm. *Leaf. Philip. Bot.* 5 (1913) 1697.

Palawan, *Merrill* 794, *Elmer* 12680, *B. S.* 837 *Foxworthy*. In forests at low altitudes. Endemic.

No proper description of this has been published. Clarke's type is *Merrill* 794, which as he notes, in herb., presents the superficial characters of *H. floribunda* R. Br. but differs in the involucre of which the two bracts are only coalescent a short way.

Local name: Panisip (Tagb.).

HYPOESTES MINDORENSIS Merr. in *Philip. Journ. Sci.* 20 (1922) 448.

Mindoro, *B. S.* 39702 *Ramos*. In dry forests at low altitudes. Endemic.

HYPOESTES PALAWANENSIS C. B. Clarke in Philip. Journ. Sci. 1 (1906) Suppl. 248.

Luzon (Cagayan), Palawan, *B. S.* 316 *Bermejós*, 597 *Foxworthy*, *Merrill* 9513, 9506, *F. B.* 16686 *Bacani*. On forested talus slopes, forested ridges, etc., at low and medium altitudes, ascending to 800 m. Endemic.

Local name: Tuarung (Tagb.).

HYPOESTES SUBCAPITATA C. B. Clarke in Govt. Lab. Publ. (Philip.) 35 (1906) 90; *Merr.* in Philip. Journ. Sci. 1 (1906) Suppl. 126.

Luzon (Pangasinan, Zambales, Bataan), *F. B.* 751, 2367, 2561 *Borden*, 173 *Barnes*, 2288 *Meyer*, 17839 *Otanés*, *B. S.* 4717, 5059 *Ramos*, *Williams* 501. In primary forests along streams at low altitudes. Endemic.

Local name: Sili-silihan (Tag.).

HYPOESTES TENUIS *Merr.* in Philip. Journ. Sci. 20 (1922) 450.

Luzon (Cagayan), *F. B.* 16693 *Bacani*. Near the seashore. Endemic.

HYPOESTES VIDALII C. B. Clarke in Govt. Lab. Publ. (Philip.) 35 (1906) 90.

Hypoestes acutior C. B. Clarke in Philip. Journ. Sci. 1 (1906) Suppl. 247.

Luzon (Cagayan, Rizal, Nueva Ecija, Laguna, Tayabas), Mindoro, Mindanao (Lanao, Zamboanga), *F. B.* 2156 *Ahern's collector*, 26772 *Mabesa*, 19644 *Curran*, 6738 *Merritt*, *B. S.* 62, 2421, 12306 *Foxworthy*, 1827, 20485 *Ramos*, 19281 *Reillo*, *Clemens* 276, *Williams* 2166. In primary forests at low and medium altitudes. Endemic.

EXCLUDED SPECIES

HYPOESTES DECAISNEANA *Nees*; *F.-Vill. Novis. App.* (1880) 157.

HYPOESTES PURPUREA *R. Br.*; *Nees* in *DC. Prodr.* 11 (1847) 509; *Miq. Fl. Ind. Bat.* 2 (1858) 851; *F.-Vill. Novis. App.* (1880) 157.

It is suspected that *Chamisso's* Luzon specimen referred here by *Nees* represents *H. vidalii* C. B. Clarke.

22. RHINACANTHUS *Nees*

RHINACANTHUS NASUTA (*Linn.*) *Kurz* in *Journ. As. Soc. Beng.* 39² (1870) 79; *Merr. Fl. Manila* (1912) 438, *Interpret. Herb. Amb.* (1917) 477, *Sp. Blancoanae* (1918) 356.

Justicia nasuta *Linn. Sp. Pl.* (1753) 16; *Blanco Fl. Filip.* (1837) 14, ed. 2 (1845) 10, ed. 3, 1 (1877) 19, *t.* 10.

Rhinacanthus communis *Nees* in *Wall. Pl. As. Rar.* 3 (1832) 109, *DC. Prodr.* 11 (1847) 442; C. B. Clarke in *Hook. f. Fl. Brit. Ind.* 4 (1885) 541; *F.-Vill. Novis. App.* (1880) 156; *Vidal Sinopsis Atlas* (1883) 34, *t.* 72, *f.* C.

Luzon (Rizal, Cavite, Laguna). In thickets, hedges, and waste places in and about towns, certainly introduced, but now often common. India to Malaya, probably a native of India.

Local names: Parajito (Sp.); tagak-tagak (Tag.).

23. *JUSTICIA* Linnaeus

JUSTICIA DISPAR Merr. in Philip. Journ. Sci. 13 (1918) Bot. 62.

Luzon (Nueva Ecija), Panay, *B. S.* 26499, 30762 Ramos & Edaño, 32543 McGregor, 35283, 35483, 35717, 35677 Martelino & Edaño. In forests at low and medium altitudes. Endemic.

JUSTICIA GENDARUSSA Burm. f. Fl. Ind. (1768) 10; T. Anders. in Journ. Linn. Soc. Bot. 9 (1865) 513; F.-Vill. Novis. App. (1880) 155; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 206; Perk. Frag. Fl. Philip. (1904) 40; Merr. Fl. Manila (1912) 436, Sp. Blancoanae (1918) 356, Interpret. Herb. Amb. (1917) 478.

Gendarussa vulgaris Nees in Wall. Pl. As. Rar. 3 (1832) 104, DC. Prodr. 11 (1847) 410; Miq. Fl. Ind. Bat. 2 (1858) 831.

Dianthera subserrata Blanco Fl. Filip. (1837) 16, ed. 2 (1845) 11, ed. 3, 1 (1877) 22, t. 80.

Adhatoda subserrata Nees in DC. Prodr. 11 (1847) 409; Hassk. in Flora 47 (1864) 54.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most islands and provinces. Chiefly along streams at low and medium altitudes in both secondary and primary forests, sometimes in thickets in and about towns, rarely planted. India to Malaya, but in many regions planted only.

Local names: Bugnan (Tagb.); bunlau (Bis.); hi-ig (If.); handal-usa (C. Bis.); holingbañgon (Sul.); kadpaayan (Ilk.); kapanitulot (Tag.); malabúlak (Tag.); padil (Ting.); paritulot (Tag.); puli (Bik.); pulpulto (Ibn.); salingbañgon (Sub.); sinambágun (Sul.); tagpaya (Ilk.); tuhod-manók (Tag.).

JUSTICIA GLABRA Koenig ex Roxb. Hort. Beng. (1814) 4, *nomen nudum*, Fl. Ind. 1 (1820) 132; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 535; Usteri Beitr. Ken. Philip. Veg. (1905) 123.

Luzon (Ilocos Norte, Laguna, Tayabas), Guimaras, Panay, Whitford 762, Merrill Phil. Pl. 218, *B. S.* 33208 Ramos, 32505 McGregor. In thickets and forests at low and medium altitudes. India, Ceylon, Java.

JUSTICIA LOHERI C. B. Clarke in Govt. Lab. Publ. (Philip.) 35 (1906) 91.

Luzon (Cagayan, Benguet, Pangasinan, Bulacan, Rizal, Tayabas, Camarines), Samar, Panay, Elmer 6530, 8394, Williams 1314, Merrill 4837, 4400, Phil. Pl. 54, *B. S.* 13817, 7807, 26204, 24467 Ramos, 30959 Ramos & Edaño. In damp shaded ravines along small streams at low and medium altitudes and in the mossy forest up to 2,000 m altitude. Endemic.

JUSTICIA LUZONENSIS C. B. Clarke in Govt. Lab. Publ. (Philip.) 35 (1906) 91; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 126, 2 (1907) Bot. 301.

Rhaphidospora dichotoma Nees in DC. Prodr. 11 (1847) 500, p. p., quoad Philip.

Dianthera wallichii F.-Vill. Novis. App. (1880) 156; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 206, quoad Philip.

Leptostachya wallichii Nees in DC. Prodr. 11 (1847) 379, p. p., quoad *Cuming* 548.

Luzon (Zambales, Bataan, Rizal, Laguna, Tayabas, Sorsogon), Mindoro, Catanduanes, Samar, Leyte, Panay, *Cuming* 548, *Merrill* 1778, 3252, 3117, 5068, 5622, *Whitford* 831, *Elmer* 6727, 14505, 15338, *McGregor* 156, *B. S.* 26786 *Edaño*, 28827, 28550 *Ramos & Edaño*, 9342 *Robinson*, 22789 *McGregor*, 30247, 24235, 24192, 40815 *Ramos*, *F. B.* 3414 *Ahern's collector*. In forests at low and medium altitudes, often along small streams. Endemic.

Local name: Tuhod-manók (Tag.).

JUSTICIA PROCUMBENS Linn. Sp. Pl. (1753) 15; T. Anders. in Journ. Linn. Soc. Bot. 9 (1865) 511; C. B. Clarke in Hook. f. Fl. Brit. Ind. 4 (1885) 539; F.-Vill. Novis. App. (1880) 155; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 206; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 435, 5 (1910) Bot. 388, Fl. Manila (1912) 436, Sp. Blancoanae (1918) 357.

Rostellularia procumbens Nees in Wall. Pl. As. Rar. 3 (1832) 101, DC. Prodr. 11 (1847) 371; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 126.

Dianthera americana Blanco Fl. Filip. (1837) 16, non Linn.

Dianthera ciliata Blanco op. cit. ed. 2 (1845) 12, ed. 3, 1 (1877) 22, non Ruiz & Pav.

Rostellularia blancoi Hassk. in Flora 47 (1864) 54.

Rostellularia mollissima Nees in Wall. Pl. As. Rar. 3 (1832) 101, DC. Prodr. 11 (1847) 373; Miq. Fl. Ind. Bat. 2 (1858) 827.

Justicia mollissima Wall. Cat. (1830) No. 2445; F.-Vill. Novis. App. (1880) 155.

Batan Islands and northern Luzon to Mindanao, in most islands and provinces. In open places at low and medium altitudes. India to China southward to Australia.

JUSTICIA TENUIS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 321.

Luzon (Ilocos Norte), *B. S.* 2312 *Mearns*, *F. B.* 15507, 15536 *Merritt & Darling*. In open places at low altitudes. Endemic.

JUSTICIA VIDALII C. B. Clarke in Philip. Journ. Sci. 1 (1906) Suppl. 248.

Palawan, Balabac, *B. S.* 498 *Mangubat*, 288 *Bermejós*, *Merrill* 807. In forests at low altitudes. Endemic.

Local name: Mutliñgato (Sul.).

DOUBTFUL AND EXCLUDED SPECIES

JUSTICIA DIFFUSA Willd.; F.-Vill. Novis. App. (1880) 155.

JUSTICIA SALICIFOLIA T. Anders.; Lindau in Perk. Frag. Fl. Philip. (1904) 41.

This reference is based on *Warburg* 12250 from Cagayan Province, Luzon. The species is an Indian one, and I suspect the identification of Warburg's specimen is wrong; not seen.

24. ADHATODA Nees

ADHATODA ASPERA Nees in DC. Prodr. 11 (1847) 397; Miq. Fl. Ind. Bat. 2 (1858) 830; F.-Vill. Novis. App. (1880) 156; Vidal Phan. Cuming. Philip. (1885) 133, Rev. Pl. Vasc. Filip. (1886) 206.

"? In Philippinis (Cuming ! n 1403) ex parte in h. Bentham." Nees. This number in most herbaria is a *Jasminum*. Nees had only a fragmentary specimen, and his description is very short and imperfect. Endemic?

EXCLUDED SPECIES

ADHATODA VASICA Nees; F.-Vill. Novis. App. (1880) 156.

EXCLUDED GENERA

ANDROGRAPHIS PANICULATA Nees; F.-Vill. Novis. App. (1880) 155.

CARDANTHERA ULIGINOSA Ham.; F.-Vill. op. cit. 153.

CROSSANDRA INFUNDIBULIFORMIS Nees; F.-Vill. op. cit. 154.

ECBOLIUM sp.; F.-Vill. op. cit. 156.

JACOBINIA COCCINEA Benth.; F.-Vill. l. c.

NELSONIA TOMENTOSA Willd. F.-Vill. op. cit. 152.

PHAYLOPSIS PARVIFLORA Willd.; Usteri Veg. Beitr. Ken. Philip. (1905) 123.

Usteri's specimen is almost certainly misidentified both to the genus and species. I suspect that it may prove to be *Blechnum brownei* Juss.

PHYSIOGLOTTIS RADICOSA Usteri Beitr. Ken. Philip. Veg. (1905) 123.

This is a misprint for *Ptyssiglottis radicata* T. Anders., a species known only from Ceylon; I suspect that Usteri's specimen will prove to be a *Hallieracantha*.

PLANTAGINACEAE

1. PLANTAGO Linnaeus

PLANTAGO LANCEOLATA Linn. Sp. Pl. (1753) 113; F.-Vill. Novis. App. (1880) 166; Hook. f. Fl. Brit. Ind. 4 (1885) 706.

Luzon (Benguet), *B. S.* 31869 Santos. In gardens, altitude about 2,200 m at Pauai. A weed of European or Asiatic origin, now widely distributed in most temperate and subtemperate regions.

PLANTAGO MAJOR Linn. Sp. Pl. (1753) 112; F.-Vill. Novis. App. (1880) 166; Hook. f. Fl. Brit. Ind. 4 (1885) 705; Merr. Fl. Manila (1912) 444, Sp. Blancoanae (1918) 357.

Plantago erosa Wall. in Roxb. Fl. Ind. 1 (1820) 423; Miq. Fl. Ind. Bat. 2 (1857) 710; F.-Vill. Novis. App. (1880) 166.

Plantago crenata Blanco Fl. Filip. (1837) 56.

Plantago media Blanco op. cit. ed. 2 (1845) 38, ed. 3, 1 (1877) 70, t. 20, non Linn.

Occasional in waste places in and about towns, at medium altitudes thoroughly naturalized. Probably introduced from Europe. A weed in most or all warm countries.

Pilger* refers *B. S.* 6538 Robinson, from Laguna Province, Luzon, to *Plantago major* Linn., var. *paludosa* Bég., subvar. *brevibracteata* Pilger, the variety widely distributed in southern Europe, the subvariety otherwise known only from southeastern China.

Local names: Lanting (Tag.); llantin (Sp.).

* Notizbl. Bot. Gart. Berlin 8 (1922) 115.

EXCLUDED SPECIES

PLANTAGO PHILIPPICA Cav. Ic. 4 (1797) 35, *t. 359, f. 2*.

This was supposed to have come from Santa Cruz, Laguna Province, Luzon, but it is certainly no Philippine plant; probably from South America or Mexico, erroneously localized as Philippine.

RUBIACEAE

1. **BIKKIA** Reinwardt

BIKKIA PHILIPPINENSIS Val. in Philip. Journ. Sci. 23 (1923) No. 6.

Bikkia grandiflora Merr. in Philip. Journ. Sci. 2 (1907) Bot. 427; Elm. Leaf. Philip. Bot. 3 (1911) 973, non Reinw.

Cebu, Mindanao (Surigao), Sulu Archipelago (Sibutu), *Merrill 5297*, *Elmer 12025*, *B. S. 34438, 34583 Ramos & Pascasio*. In thickets along the seashore. Endemic.

2. **DENTELLA** Forster

DENTELLA REPENS (Linn.) Forst. Char. Gen. (1776) 26, *t. 13*; DC. Prodr. 4 (1830) 419; Blanco Fl. Filip. (1837) 146, ed. 2 (1845) 103, ed. 3, 1 (1877) 190; Miq. Fl. Ind. Bat. 2 (1857) 196; Hook. f. Fl. Brit. Ind. 3 (1880) 42; F.-Vill. Novis. App. (1880) 106; Elm. Leaf. Philip. Bot. 1 (1906) 4; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 435, Fl. Manila (1912) 447, Sp. Blancoanae (1918) 357.

Oldenlandia repens Linn. Mant. 1 (1767) 40.

Throughout the Philippines in open waste places in and about towns at low and medium altitudes. India to southern China through Malaya to tropical Australia and Polynesia. Introduced in Mexico.

Local name: Dilang-butiki (Tag.).

3. **XANTHOPHYTUM** Blume

XANTHOPHYTUM FRUTICULOSUM Reinw. ex Blume Bijdr. (1826) 989; DC. Prodr. 4 (1830) 413; F.-Vill. Novis. App. (1880) 106; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 328; C. B. Rob. op. cit. 6 (1911) Bot. 227; Elm. Leaf. Philip. Bot. 3 (1911) 973, 5 (1913) 1905; Valetton in Ic. Bogor. 4 (1912) 157 (var *brevipes* Valetton).

Metabolus ferrugineus Bartl. ex DC. Prodr. 4 (1830) 436.

Xanthophytum villarii Vidal Rev. Pl. Vasc. Filip. (1886) 150.

Luzon (Ilocos Norte, Laguna, Tayabas, Camarines, Sorsogon), Polillo, Leyte, Panay, Bucas Grande, Mindanao (Agusan, Surigao), *Haenke!*, *Vidal 392!*, *Warburg 12964*, *Merrill 6695*, *Loher 6324*, *Elmer 13721, 17000*, *Wenzel 879*, *B. S. 32984, 20590, 10971 Ramos, 28527, 28985, 31058, 33737, 35414, 31108 Ramos & Edaño, 35113, 34390 Ramos & Pascasio*. In damp primary forests at low and medium altitudes. Java, Borneo.

Local name: Ludlud (Mbo.).

4. **OLDENLANDIA** Linnaeus

OLDENLANDIA BIFLORA Linn. Sp. Pl. (1753) 119; DC. Prodr. 4 (1830) 426; Trimen Fl. Ceyl. 2 (1894) 317; Merr. Fl. Manila (1912) 447, Sp. Blancoanae (1918) 357.

Oldenlandia paniculata Linn. Sp. Pl. ed. 2 (1763) 1667, p. p.; Burm. f. Fl. Ind. (1768) 38, *t. 15, f. 1*; DC. Prodr. 4 (1830) 427; Blanco Fl. Filip. (1837) 61, ed. 2 (1845) 44, ed. 3, 1 (1877) 82; Miq. Fl.

Ind. Bat. 2 (1857) 191; Hook. f. Fl. Brit. Ind. 3 (1880) 69; F.-Vill. Novis. App. (1880) 107; Vidal Phan. Cuming. Philip. (1885) 118, Rev. Pl. Vasc. Filip. (1886) 151; Elm. Leaf. Philip. Bot. 1 (1906) 20, 4 (1912) 1342; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 127, 3 (1908) Bot. 436.

Hedyotis media Cav. Ic. 5 (1801) 53, t. 574, f. 1.

Hedyotis dichotoma Cav. op. cit. 53, t. 573, f. 2.

Oldenlandia crassifolia DC. Prodr. 4 (1830) 427; Miq. Fl. Ind. Bat. 2 (1857) 192; F.-Vill. Novis. App. (1880) 107.

Throughout the Philippines, a common weed in waste places, cultivated soil, etc., at low and medium altitudes. India to China, Malaya, and Polynesia.

Local names: Dalumpang (Sub.); kaddok-na-kaliṅga (Ibn.); palarapdap (S. L. Bis.); pisek (Iv.).

OLDENLANDIA CILIATA Elm. Leaf. Philip. Bot. 1 (1906) 20.

Luzon (Bontoc, Benguet), *Elmer* 6615, *Merrill* 4774, *Williams* 958, *Vanoverbergh* 832, *F. B.* 4934 *Curran*, *B. S.* 40486 *Ramos & Edaño*. About limestone boulders and ledges, on recent slides, etc., altitude 1,200 to 1,600 m. Endemic.

OLDENLANDIA CORYMBOSA Linn. Sp. Pl. (1753) 119; DC. Prodr. 4 (1830) 426; Hook. f. Fl. Brit. Ind. 3 (1880) 64; F.-Vill. Novis. App. (1880) 107; Vidal Phan. Cuming. Philip. (1885) 118, Rev. Pl. Vasc. Filip. (1886) 151; Elm. Leaf. Philip. Bot. 1 (1906) 21; Merr. Fl. Manila (1912) 447, Sp. Blancoanae (1918) 358.

Oldenlandia affinis Blanco Fl. Filip. ed. 2 (1845) 44, ed. 3, 1 (1877) 83, non DC.

Oldenlandia burmanniana G. Don Gen. Syst. 3 (1834) 529; Miq. Fl. Ind. Bat. 2 (1857) 189.

Throughout the Philippines. Often common in and about towns, in waste places, gardens, etc. Pantropic, but probably a native of the Old World.

OLDENLANDIA DIFFUSA (Willd.) Roxb. Hort. Beng. (1814) 11, Fl. Ind. 1 (1820) 444; Hook. f. Fl. Brit. Ind. 3 (1880) 65; F.-Vill. Novis. App. (1880) 107; Merr. Fl. Manila (1912) 447, Sp. Blancoanae (1918) 358.

Hedyotis diffusa Willd. Sp. Pl. 1 (1797) 566.

Oldenlandia brachypoda DC. Prodr. 4 (1830) 424; Miq. Fl. Ind. Bat. 2 (1857) 187, excl. syn. Bartl.

Oldenlandia capensis Blanco Fl. Filip. (1837) 62, ed. 2 (1845) 45, ed. 3, 1 (1877) 83, non Linn. f.

Throughout the Philippines, habitat and occurrence of the preceding species. India to Japan and Malaya.

Local name: Daniri (Bis.).

OLDENLANDIA HERBACEA (Linn.) Roxb. Fl. Ind. 1 (1820) 445; Trimen Fl. Ceyl. 2 (1894) 315; Merr. Fl. Manila (1912) 448.

Hedyotis herbacea Linn. Sp. Pl. (1753) 102.

Oldenlandia heynii G. Don Gen. Syst. 3 (1834) 531; Hook. f. Fl. Brit. Ind. 3 (1880) 65; F.-Vill. Novis. App. (1880) 107; Elm. Leaf. Philip. Bot. 1 (1906) 21.

Luzon (Cagayan, Nueva Vizcaya, Zambales, Bulacan, Rizal), Guimaras, *Merrill 207*, *B. S. 7886 Ramos, 18010 Robinson, F. B. 5866 Curran*. On grassy slopes at low and medium altitudes; not common. Tropical Africa and Asia to Malaya.

OLDENLANDIA HORNERIANA Miq. Fl. Ind. Bat. 2 (1857) 190; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 118, Rev. Pl. Vasc. Filip. (1886) 151; Elm. Leaf. Philip. Bot. 1 (1906) 21.

Luzon (Pangasinan), (*Cuming 974*). A species known to me only by the original description. Sumatra.

OLDENLANDIA OVATIFOLIA (Cav.) DC. Prodr. 4 (1830) 427; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 46.

Hedyotis ovatifolia Cav. Ic. 6 (1801) 52, t. 573, f. 1.

Oldenlandia nudicaulis Roth. Nov. Pl. Sp. (1821) 95; Hook. f. Fl. Brit. Ind. 3 (1880) 70; F.-Vill. Novis. App. (1880) 107; Elm. Leaf. Philip. Bot. 1 (1906) 20; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 127.

Luzon (Bulacan, Bataan, Laguna), Mindanao (Davao), *Merrill 3303*, *Phil. Pl. 1490*, *Williams 65, 124*, *Elmer 11052*. In open grasslands, old clearings, etc., at low altitudes. India to Java.

OLDENLANDIA PTERITA (Blume) Miq. Fl. Ind. Bat. 2 (1857) 193; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 243; Elm. Leaf. Philip. Bot. 3 (1911) 974.

Hedyotis pterita Blume Bijdr. (1826) 972.

Gonothea blumei DC. Prodr. 4 (1830) 429.

Oldenlandia alata Hook. f. Fl. Brit. Ind. 3 (1880) 70; F.-Vill. Novis. App. (1880) 107, non Koenig (*Oldenlandia alata* Koenig = *O. biflora* Linn.).

Luzon (Cagayan), Palawan, Negros, Mindanao (Davao, Zamboanga), *Merrill 6730*, *Warburg 14246*, *De Vore & Hoover 124*, *Copeland 596*, *B. S. 7824 Ramos, 213 Bermejos*. In clearings, plantations, etc., at low altitudes, but either rare or local. India to Malaya.

Local name: Bulag-bulag (Sul.).

OLDENLANDIA STENOPHYLLA Merr. in Philip. Journ. Sci. 17 (1920) 439.

Luzon (Cavite), *B. S. 22591 Ramos & Deroy*. On rocks along streams, altitude about 600 m. Endemic.

DOUBTFUL AND EXCLUDED SPECIES

OLDENLANDIA LINEATA Elm. Leaf. Philip. Bot. 1 (1906) 20.

This was apparently intended as a transfer of *Spermacoce lineata* Roxb. The specimen cited, *Elmer 6611*, is juvenile and indeterminable with certainty but may be referable to *Knoxia corymbosa* Willd. It has nothing to do with Roxburgh's species.

OLDENLANDIA STRIGULOSA Bartl.; F.-Vill. Novis. App. (1880) 107.

OLDENLANDIA MULTIFLORA Cav.; DC. Prodr. 4 (1830) 427; Miq. Fl. Ind. Bat. 2 (1857) 192.

Cavanilles definitely states "Habitat in Amicorum insula Babao" [Vavao, Friendly Islands] a group visited by the Malaspina Expedition. I do not

know the basis of de Candolle's statement: "circa Manillam in ins. Philippinīs nec in Amicorum insula ut incaute scripserunt Poiret et Roemer." At any rate the species is manifestly nothing but a luxuriant form of *Oldenlandia biflora* Linn.

5. HEDYOTIS Linnaeus

HEDYOTIS APOENSIS Elm. Leaf. Philip. Bot. 3 (1911) 976.

Oldenlandia apoensis Elm. op. cit. 1 (1906) 17.

Leyte, Mindanao (Misamis, Bukidnon, Davao), *Warburg 14249, Copeland 1131, De Vore & Hoover 302, F. B. 16901 Rosenbluth, 4618 Mearns & Hutchinson, B. S. 15376 Ramos, 38817 Ramos & Edaño*. In forests, altitude 1,200 to 1,800 m. Endemic.

Local name: Rapanis (Bag.).

HEDYOTIS ASPERRIMA (Merr.) comb. nov.

Hedyotis philippinensis Merr. var. *asperrima* Merr. in Philip. Journ. Sci. 8 (1913) Bot. 38.

Luzon (Pangasinan, Bulacan), Culion, Busuanga, Palawan, *Merrill 487, 535, 7252, B. S. 41247 Ramos, 34116, 34108, 34115 Ramos & Edaño, 29980 Fénix*. In dry thickets at low altitudes. Endemic.

HEDYOTIS ATROPURPUREA Merr. in Philip. Journ. Sci. 17 (1920) 426.

Luzon (Tayabas, east coast), *B. S. 28578 Ramos & Edaño*. In forests, altitude about 1,000 m. Endemic.

HEDYOTIS AURICULARIA Linn. Sp. Pl. (1753) 101; DC. Prodr. 4 (1830) 420; Hook. f. Fl. Brit. Ind. 3 (1880) 58; F.-Vill. Novis. App. (1880) 106.

Oldenlandia auricularia F.-Muell. Census (1882) 74; Elm. Leaf. Philip. Bot. 1 (1906) 20.

Luzon (Ilocos Norte, Benguet, Bulacan, Rizal, Camarines, Albay, Mindanao (Surigao, Zamboanga, Lanao), *B. S. 33495, 34065, 36752 Ramos & Edaño, 1376 Ramos, 2890 Mearns*. In open places and thickets at low and medium altitudes. India to southern China through Malaya to Australia.

HEDYOTIS BAMBUSETORUM Merr. in Philip. Journ. Sci. 20 (1922) 469.

Palawan, *Merrill 9214*. Along trails in bamboo thickets at low altitudes. Endemic.

HEDYOTIS BANKSII Elm. Leaf. Philip. Bot. 3 (1911) 976.

Oldenlandia banksii Elm. op. cit. 1 (1906) 19.

Luzon (Rizal, Laguna, Tayabas, Camarines, Albay, Sorsogon), Panay, Leyte, Negros, *Banks, Merrill 7004, 7497, Phil. Pl. 252, F. B. 13678 Curran, 7871 Curran & Merritt, 4230 Everett, 883 Klemme, B. S. 6489, 6570, 9422 Robinson, 28756, 26258, 30661, 26563, 29169 Ramos & Edaño, 22067, 15378 Ramos*. In the mossy forest, altitude 1,400 to 1,800 m; very closely allied to *H. yoderi* Elm. and *H. elmeri* Merr. Endemic.

HEDYOTIS BARTLINGII Merr. in Philip. Journ. Sci. 5 (1910) Bot. 388.

Metabolus angustifolius DC. Prodr. 4 (1830) 436; Elm. Leaf. Philip. Bot. 3 (1911) 980.

Hedyotis angustifolius Miq. Fl. Ind. Bat. 2 (1857) 182; F.-Vill. Novis. App. (1880) 107, non C. & S.

Luzon (Bontoc, Benguet, Bulacan, Tayabas), Mindoro, Panay, *Haenke!* *F. B.* 16214 *Curran, Merritt, & Zschokke, B. S.* 29193, 30709 *Ramos & Edaño, 39612 Ramos, Williams 1080, Yoder 247.* In open places at low and medium altitudes, ascending to 1,300 m. Endemic.

HEDYOTIS BENGUETENSIS Elm. Leaf. Philip. Bot. 3 (1911) 976.

Oldenlandia benguetensis Elm. op. cit. 1 (1906) 18.

Luzon (Ilocos Norte, Abra, Lepanto, Bontoc, Benguet), *Elmer 6243, 14281, Williams 1315, 1214, F. B.* 5045 *Curran, 11087, 11086 Whitford, 16572 Darling, B. S.* 5946, 5400, 33322, 33245, 33250 *Ramos, 37613, 37666, 40239, 40446 Ramos & Edaño.* In the mossy forest, altitude 1,400 to 2,400 m. Endemic.

Local name: Padut (Ting.).

HEDYOTIS BRACHYANTHA Merr. in Philip. Journ. Sci. 17 (1920) 427.

Luzon (Tayabas, east coast), *B. S.* 28769 *Ramos & Edaño.* On forested slopes, altitude about 200 m. Endemic.

HEDYOTIS BURUENSIS (Miq.) Valetton in herb.

Spermacoce buruensis Miq. Ann. Mus. Bot. Lugd.-Bat. 4 (1869) 261.

Hedyotis parva Merr. in Philip. Journ. Sci. 3 (1908) Bot. 162; Elm.

Leaf. Philip. Bot. 3 (1911) 975.

Catanduanes, Sibuyan, Biliran, Negros, Panay, Mindanao (Misamis, Lanao), *F. B.* 4576 *Mearns & Hutchinson, 4234 Everett, 13631 Curran & Foxworthy, 17354 Curran, B. S.* 30635 *Ramos & Edaño, 18906, 32536 McGregor, 30545 Ramos, Elmer 12356, Whitford 1519.* In the mossy forest, altitude 1,200 to 1,500 m. Moluccas (Buru, Amboina).

HEDYOTIS CAGAYANENSIS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 231; Elm. Leaf. Philip. Bot. 3 (1911) 975.

Luzon (Cagayan, Apayao), *B. S.* 7502 *Ramos, 28238 Fénix.* In forests at low altitudes. Endemic.

HEDYOTIS CAMARINENSIS Merr. in Philip. Journ. Sci. 20 (1922) 468.

Luzon (Camarines), *B. S.* 33604 *Ramos & Edaño.* In damp soil of new clearings near thickets. Endemic.

HEDYOTIS CATANDUANENSIS Merr. in Philip. Journ. Sci. 17 (1920) 428.

Catanduanes, *B. S.* 30443 *Ramos.* In primary forests at low altitudes. Endemic.

HEDYOTIS CAUDATA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 33.

Luzon (probably Rizal), *Loher 6419,* without data. Probably from forests at medium altitudes. Endemic.

HEDYOTIS CONNATA Wall. Cat. (1828) No. 856, *nomen nudum*; Hook. f. Fl. Brit. Ind. 3 (1880) 62; King & Gamble in Journ. As. Soc. Beng. 72² (1903) 163

Luzon (Pangasinan, Nueva Ecija, Bataan, Rizal, Laguna), Mindanao (Davao), *Whitford 494, Williams 200, Elmer 17717, Warburg 14248, B. S.* 17784 *Otanes, B. S.* 21340 *Ramos, 26279 Ramos & Edaño,* mostly distributed

sub *Spermacoce*. Along streams in forests at low altitudes. Burma, Malaya Peninsula.

HEDYOTIS COSTATA (Roxb.) Kurz in Journ. As. Soc. Beng. 45² (1876) 135; Merr. in Philip. Journ. Sci. 8² (1913) Bot. 38.

Spermacoce costata Roxb. Hort. Beng. (1814) 10, *nomen nudum*, Fl. Ind. 1 (1820) 376.

Metabolus lineatus Bartl. in DC. Prodr. 4 (1830) 435.

Hedyotis vestita R. Br. in Wall. Cat. (1829) 847, *nomen nudum*; G. Don Gen. Syst. 3 (1834) 526; Hook. f. Fl. Brit. Ind. 3 (1880) 58; F.-Vill. Novis. App. (1880) 106; Vidal Phan. Cuming. Philip. (1885) 118, Rev. Pl. Vasc. Filip. (1886) 151; Elm. Leaf. Philip. Bot. 3 (1911) 975.

Metabolus caeruleus Blume Bijdr. (1826) 992.

Luzon (Rizal, Laguna, Camarines, Sorsogon), Culion, Busuanga, Palawan, Mindanao (Surigao, Bukidnon, Lanao), *Merrill 541, 5248, Loher 6349, Elmer 15792, 17158, B. S. 3352, 5209, 10991, 41277 Ramos, 15725 Fénix, 33582 Ramos & Edaño*. In open grasslands and thickets at low altitudes. India, through Malaya to the Moluccas.

HEDYOTIS DIFFUSISSIMA Merr. in Philip. Journ. Sci. 17 (1920) 429.

Luzon (Ilocos Norte, Apayao), *B. S. 28387 Fénix, 33292 Ramos*. In primary forests, altitude about 1,000 m. Endemic.

HEDYOTIS ELMERI Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 127, 2 (1907) Bot. 302; Elm. Leaf. Philip. Bot. 3 (1911) 974.

Oldenlandia stylosa Elm. Leaf. Philip. Bot. 1 (1906) 19, non R. Br.

Luzon (Zambales, Bataan, Laguna, Tayabas), *Elmer 6834, 6979, 9198, Merrill 3227, Phil. Pl. 786, Whitford 964, 151, B. S. 2531, 2557, 2554, 2532 Foxworthy, F. B. 2113, 793 Borden, 2210 Meyer*. In the mossy forest, altitude 1,000 to 2,200 m. Endemic.

HEDYOTIS EUCAPITATA Merr. in Philip. Journ. Sci. 2 (1907) Bot. 303; Elm. Leaf. Philip. Bot. 3 (1911) 974.

Mindoro, *Merrill 5726, F. B. 4417, 4430 Merritt*. In the mossy forest, altitude 1,500 to 1,800 m. Endemic.

HEDYOTIS FILIFOLIA (Elm.) comb. nov.

Oldenlandia filifolia Elm. Leaf. Philip. Bot. 1 (1906) 64; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 126.

Luzon (Bataan), *Merrill 3295*. On bluffs along the seashore. Endemic.

HEDYOTIS GITINGENSIS Elm. Leaf. Philip. Bot. 3 (1911) 979.

Sibuyan, Panay, *Elmer 12434, B. S. 35329, 35385 Martelino & Edaño*. In primary forests at low or medium altitudes, ascending to 800 m; scarcely more than a narrow-leaved form of *H. rigida* Miq. Endemic?

HEDYOTIS HUMILIS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 33; Elm. Leaf. Philip. Bot. 5 (1913) 1859.

Camiguin de Misamis, Mindanao (Agusan), *B. S. 14691, 14497 Ramos, Elmer 14093, 14159*. In the mossy forest above 1,000 m altitude. Endemic.

Local name: Bagtong (Mbo.).

HEDYOTIS KINGIANA Elm. Leaf. Philip. Bot. 4 (1912) 1334.

Oldenlandia prainiana Elm. op. cit. 1 (1906) 17, non *Hedyotis prainiana* King.

Palawan, *Merrill* 796, *Elmer* 12716. In thickets and among coarse grasses at low altitudes; closely allied to the Malayan *H. capitellata* Wall. Endemic.

HEDYOTIS LAXIFLORA Merr. in Philip. Journ. Sci. 17 (1920) 430.

Catanduanes, *B. S.* 30313 *Ramos*. In forested ravines, altitude about 400 m. Endemic.

HEDYOTIS LONGIPEDUNCULATA Merr. in Philip. Journ. Sci. 17 (1920) 430.

Catanduanes, *B. S.* 30551 *Ramos*. In forests along streams at low altitudes. Endemic.

HEDYOTIS LUZONIENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 160.

Luzon (Bontoc, Tayabas, east coast), *B. S.* 26580, 37706 *Ramos & Edaño*. In forests, altitude at least 300 m. Endemic.

Local name: Mikitkit (Neg.).

HEDYOTIS MACGREGORII Merr. in Philip. Journ. Sci. 5 (1910) Bot. 231; Elm. Leaf. Philip. Bot. 3 (1911) 975.

Luzon (Benguet), *B. S.* 8490 *McGregor*, 4473 *Mearns*, 31701 *Santos*. In the mossy forest at Pauai, altitude about 2,400 m. Endemic.

HEDYOTIS MAGALLANENSIS Elm. Leaf. Philip. Bot. 3 (1911) 976.

Sibuyan, Panay, *Elmer* 12205, *B. S.* 31209 *Ramos & Edaño*, 23565 *Martelino & Edaño*. In forests at low altitudes, ascending to 400 m. Endemic.

HEDYOTIS MICROPHYLLA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 239, 5 (1910) Bot. 389; Elm. Leaf. Philip. Bot. 3 (1911) 974.

Luzon (Ifugao, Bontoc, Benguet), *Merrill* 4693, 4736, 6551, *Vanoverbergh* 697, 951, 1250, *B. S.* 19644, 8379, 8341 *McGregor*, 4366, 4281 *Mearns*, 40322 *Ramos & Edaño*, *F. B.* 5039 *Curran*. In the mossy forest, altitude 2,000 to 2,600 m. Endemic.

Local name: Dagiangan (Ig.).

HEDYOTIS MONTANA Merr. in Philip. Journ. Sci. 2 (1907) Bot. 304; Elm. Leaf. Philip. Bot. 3 (1911) 975.

Mindoro, *Merrill* 5782. In open heaths, altitude about 2,400 m. Endemic.

HEDYOTIS OLIGANTHA Merr. in Philip. Journ. Sci. 17 (1920) 431.

Luzon (Ilocos Norte, Pampanga, Rizal, Bataan), *B. S.* 29425 *Ramos & Edaño*, 33227 *Ramos*, *Merrill* 4220. On shaded banks in forests, altitude 300 to 900 m. Endemic.

HEDYOTIS PERHISPIDA Elm. Leaf. Philip. Bot. 4 (1912) 1333.

Lasianthus hispidus Elm. op. cit. 1 (1906) 10, non *Hedyotis hispida* Retz.

Palawan, *Merrill* 767, *Elmer* 12735. In thickets, along streams, etc., at low altitudes. Endemic.

HEDYOTIS PHANEROPHLEBIA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 34.

Mindanao (Misamis), *F. B. 4552 Mearns & Hutchinson*. In forests, altitude about 1,700 m. Endemic.

HEDYOTIS PHILIPPENSIS (Willd.) Merr. ex C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 222, 8 (1913) Bot. 37.

Spermacoce philippensis Willd. ex R. & S. Syst. 1 (1825) 401; DC. Prodr. 4 (1830) 556; Miq. Fl. Ind. Bat. 2 (1857) 333; F.-Vill. Novis. App. (1880) 113; Elm. Leaf. Philip. Bot. 3 (1911) 981.

Metabolus laevigatus DC. Prodr. 4 (1830) 436.

Hedyotis laevigata Miq. Fl. Ind. Bat. 2 (1857) 178; F.-Vill. Novis. App. (1880) 106.

Hedyotis congesta R. Br. in Wall. Cat. (1829) No. 844, *nomen nudum*; F.-Vill. Novis. App. (1880) 107; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 127, 2 (1907) Bot. 303.

Knoxia corymbosa Elm. Leaf. Philip. Bot. 1 (1906) 9, non Willd.

Metabolus prostratus Blume Bijdr. (1826) 991.

Hedyotis prostrata Korth. in Nederl. Kruidk. Arch. 2 (1851) 160; Valetton in Engl. Bot. Jahrb. 44 (1909) 544; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 36, t. 1.

Northern Luzon (Cagayan) to Mindanao and Basilan, in most islands and provinces. In forests, chiefly at low and medium altitudes; often common. Malay Peninsula and Archipelago.

Local names: Dilang-butiki (Tag.); magdadakan (S. L. Bis.); malantúbas (S. L. Bis.); pulapasagit (P. Bis.).

Var. **MEYENIANA** (Walp.) Merr. in Philip. Journ. Sci. 8 (1913) Bot. 38.

Spermacoce meyeniana Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 353, Repert. 6 (1846) 29; F.-Vill. Novis. App. (1880) 113; Elm. Leaf. Philip. Bot. 3 (1911) 981, 4 (1912) 1356.

Range and habitat of the species in the Philippines, and scarcely distinguishable from it.

HEDYOTIS PILOSISSIMA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 232; Elm. Leaf. Philip. Bot. 3 (1911) 975.

Luzon (Bulacan, Laguna, Tayabas, Camarines, Albay), Catanduanes, Samar, Panay, Mindanao (Agusan, Surigao), *Merrill 6704, 7290, Wenzel 1885, B. S. 13350, 10918, 20478, 30391, 17597 Ramos, 28481, 34142, 33609, 33815, 31059, 31459 Ramos & Edaño, 22947, 22969 McGregor*. In forests and in damp shaded ravines at low altitudes. Endemic.

HEDYOTIS PULGARENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1333.

Palawan, *Elmer 13212*. On forested ridges, altitude about 900 m; closely allied to *H. philippensis* (Willd.) Merr.

HEDYOTIS RADICANS (DC.) Miq. Fl. Ind. Bat. 2 (1857) 181; F.-Vill. Novis. App. (1880) 107; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 436; Elm. Leaf. Philip. Bot. 5 (1913) 1859.

Metabolus radicans DC. Prodr. 4 (1830) 435; Elm. Leaf. Philip. Bot. 3 (1911) 980.

Batan Islands, Luzon (Cagayan, Camarines, Sorsogon), Panay, Negros, Mindanao (Surigao, Agusan), *Haenke!, B. S. 3799 Fénix, 13989, 23647*

Ramos, 31289 *Ramos & Edaño*, 34552 *Ramos & Pascasio*, *Elmer* 16979, 14122, *Merrill* 6984. In forests at low altitudes. Endemic.

Local name: Agagud (Neg.).

HEDYOTIS RAMOSII Merr. in Philip. Journ. Sci. 8 (1913) Bot. 35.

Luzon (Pangasinan, Bulacan, Rizal, Tayabas), Catanduanes, Samar, Leyte, Mindanao (Surigao), *B. S.* 15337, 30559, 24237, 24548 *Ramos*, 29985, 29996, 29938 *Fénix*, 34119, 39658, 28592 *Ramos & Edaño*, 34393 *Ramos & Pascasio*, *Wenzel* 1824. In forests at low altitudes. Endemic.

HEDYOTIS RIGIDA (Blume) Miq. Fl. Ind. Bat. 2 (1857) 181; Valetton Engl. Bot. Jahrb. 44 (1909) 544.

Metabolus rigidus Blume Bijdr. (1826) 992.

Oldenlandia rigida Valetton in Nova Guinea 8 (1911) 438.

Hedyotis leucocarpa Elm. Leaf. Philip. Bot. 2 (1908) 524, 3 (1911) 974.

Mindoro, Sibuyan, Negros, Camiguin de Misamis, *Elmer* 9434, 12490, *Merrill* 5531, *B. S.* 14662, 14614 *Ramos*. In forests, altitude 700 to 1,000 m. Malay Peninsula, Sumatra, Java, Borneo, New Guinea.

Local name: Gusukan (C. Bis.).

HEDYOTIS SCABERRIMA Merr. in Philip. Journ. Sci. 17 (1920) 432.

Panay, *B. S.* 30940 *Ramos & Edaño*. In thickets along streams at low altitudes. Endemic.

HEDYOTIS SIBUYANENSIS Elm. Leaf. Philip. Bot. 3 (1911) 977.

Sibuyan, *Elmer* 12311. On forested ridges, altitude about 450 m. Endemic.

Local name: Libatra (P. Bis.).

HEDYOTIS SIMPLEX Merr. in Philip. Journ. Sci. 17 (1920) 433.

Catanduanes, Biliran, Mindanao (Zamboanga) *B. S.* 30389, 30242 *Ramos*, 36835, 37094 *Ramos & Edaño*, 18745, 18914 *McGregor*. In primary forests, altitude 300 to 600 m. Endemic.

HEDYOTIS SUBEVENOSA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 36.

Luzon (Cagayan), *Weber* 1563, *F. B.* 19619 *Curran*, *B. S.* 14503 *Ramos*. In forests at low and medium altitudes. Endemic.

Local name: Maragata (Neg.).

HEDYOTIS SUBVELUTINA Elm. Leaf. Philip. Bot. 3 (1911) 978.

Sibuyan, *Elmer* 12441. In thickets along streams, altitude about 225 m. Endemic.

Local name: Tomau (P. Bis.).

HEDYOTIS TENELLIFLORA Blume Bijdr. (1826) 971; Hook. f. Fl. Brit. Ind. 3 (1880) 60; F.-Vill. Novis. App. (1880) 106.

Hedyotis angustifolia Cham. & Schlecht. in Linnaea 4 (1829) 153; DC. Prodr. 4 (1830) 419.

? *Hedyotis pauciflora* Bartl. ex DC. Prodr. 4 (1830) 419; F.-Vill. Novis. App. (1880) 107, ex descr.

Oldenlandia angustifolia Benth. Fl. Hongk. (1861) 151.

? *Scleromitron pauciflorum* Miq. Fl. Ind. Bat. 2 (1857) 187.

Oldenlandia tenelliflora Elm. Leaf. Philip. Bot. 1 (1906) 21.

Luzon (Ilocos Norte, Benguet, Sorsogon), Panay, Mindoro, Leyte, Mindanao, *Elmer* 6502, 15155, *Merrill Phil. Pl.* 889, *McGregor* 219, *B. S.* 33230, 27615 *Ramos*, 3461, 3532 *Mearns*, 14043 *Robinson*, *B. S.* 31364, 30665, 37213 *Ramos & Edaño*. Along streams, in old clearings, etc., at low and medium altitudes, ascending to 1,500 m. Malay Peninsula and Archipelago.

Local name: Katud (Ilk.).

HEDYOTIS VERTICILLATA (Linn.) Lam. Tabl. Encycl. 1 (1791) 271; Merr. Interpret. Herb. Amb. (1917) 479.

Oldenlandia verticillata Linn. Mant. 1 (1767) 40.

Hedyotis hispida Retz. Obs. 4 (1786) 23; DC. Prodr. 4 (1830) 420; Hook. f. Fl. Brit. Ind. 3 (1880) 61; F.-Vill. Novis. App. (1880) 107; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 302; Elm. Leaf. Philip. Bot. 3 (1911) 974, 5 (1913) 1859.

Northern Luzon to Mindanao, in most islands and provinces, *B. S.* 1108, 13572, 39649 *Ramos*, 34188, 34091 *Ramos & Edaño*, *Merrill* 5694, *Elmer* 13517. In open places, old clearings, thickets, etc., at low altitudes. India to southern China and Malaya.

Local names: Boñgat (Mbo.); bosiñgau (Ilk.); manaal (Sub.); sala-sik-lupa (Tag.).

HEDYOTIS WHITEHEADII Merr. in Philip. Journ. Sci. 2 (1907) Bot. 303; Elm. Leaf. Philip. Bot. 3 (1911) 975.

Mindoro, *Merrill* 5783. In dense mossy thickets on exposed ridges, altitude about 2,400 m. Endemic.

HEDYOTIS YODERI Elm. Leaf. Philip. Bot. 3 (1911) 976.

Oldenlandia yoderi Elm. op. cit. 1 (1906) 17.

Panay, *Yoder*, *B. S.* 32300 *McGregor*, 30801 *Ramos & Edaño*. In the mossy forest at and above 1,000 m altitude. Endemic.

EXCLUDED SPECIES

HEDYOTIS OBSCURA Thw.; F.-Vill. Novis. App. (1880) 106.

HEDYOTIS PRUINOSA W. & A.; F.-Vill. l. c.

HEDYOTIS STYLOSA R. Br.; F.-Vill. l. c.

6. OPHIORRHIZA Linnaeus

OPHIORRHIZA ACUMINATA DC. Prodr. 4 (1830) 416; Miq. Fl. Ind. Bat. 2 (1857) 168; F.-Vill. Novis. App. (1880) 107; Elm. Leaf. Philip. Bot. 1 (1906) 22.

Oldenlandia subumbellata Bartl. ex DC. l. c. in syn., non Forst.

The type is a specimen collected at Sorsogon, Luzon, by Haenke. I know the species only by description. Endemic.

OPHIORRHIZA BIFLORA Elm. Leaf. Philip. Bot. 1 (1906) 21, 3 (1911) 973.

Negros, Mindanao (Davao), *Copeland*, *Merrill Phil. Pl.* 229, *Elmer* 10188. In the mossy forest, altitude about 1,800 m. Endemic.

OPHIORRHIZA CAESPITULOSA Elm. Leaf. Philip. Bot. 2 (1908) 523, incl. var. *fulva* Elm. op. cit. 5 (1913) 1880.

Negros, Panay, Mindanao (Agusan), *Elmer 10332, 14306, Merrill 7039, B. S. 32472 McGregor*. In damp primary forests, altitude 900 to 1,300 m. Endemic.

OPHIORRHIZA CURTIFLORA Elm. Leaf. Philip. Bot. 5 (1913) 1882.

Mindanao (Agusan), *Elmer 14208*. In primary forests, altitude about 1,050 m. Endemic.

OPHIORRHIZA DOLICHOPHYLLA Merr. in Philip. Journ. Sci. 20 (1922) 470.

Mindanao (Zamboanga), *B. S. 36565 Ramos & Edaño*. On boulders along small streams at low altitudes. Endemic.

OPHIORRHIZA INVOLUCRATA Elm. Leaf. Philip. Bot. 1 (1908) 351, 3 (1911) 973; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 224.

Luzon (Apayao, Tayabas), Polillo, *Elmer 7603, B. S. 9316, 6833 Robinson, 28274 Félix*. In forests along streams at low and medium altitudes, ascending to 750 m. Endemic.

OPHIORRHIZA LINEARIFOLIA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 99.

Basilan, *B. S. 16109 Reillo*. In forests at low altitudes, apparently along streams. Endemic.

OPHIORRHIZA MACGREGORII Merr. in Philip. Journ. Sci. 17 (1920) 437.

Luzon (Laguna, Tayabas), *B. S. 23024 McGregor, 29214, 29124 Ramos & Edaño, 16594 Ramos, Elmer 18030*. In primary forests, altitude 200 to 300 m. Endemic.

OPHIORRHIZA MUNGOS Linn. Sp. Pl. (1753) 150; Hook. f. Fl. Brit. Ind. 3 (1880) 77; F.-Vill. Novis. App. (1880) 107; Miq. Fl. Ind. Bat. 2 (1857) 166; Elm. Leaf. Philip. Bot. 1 (1906) 22; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 436; C. B. Rob. op. cit. 6 (1911) Bot. 224.

Ophiorrhiza camiguinensis Elm. Leaf. Philip. Bot. 5 (1913) 1881.

Batan and Babuyan Islands and northern Luzon to Palawan and Mindanao. In thickets and forests at low altitudes. India to Malaya. It is not certain that this is strictly the Linnean species; *O. communis* Ridl. is to be compared. The plant is always characteristically purplish when dry.

Local names: Kayotimokan (Bag.); lumai (Bik.); payang-payang-gúbat (Tag.).

OPHIORRHIZA OBLONGIFOLIA DC. Prodr. 4 (1830) 415; Blanco Fl. Filip. ed. 2 (1845) 64, ed. 3, 1 (1877) 121; F.-Vill. Novis. App. (1880) 107; Elm. Leaf. Philip. Bot. 1 (1906) 22; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 127, 2 (1907) Bot. 307.

? *Hydrocotyle monopetala* Blanco Fl. Filip. (1837) 213.

? *Ophiorrhiza triandra* Blanco op. cit. ed. 2 (1845) 65, ed. 3, 1 (1877) 122.

? *Epithema triandrum* F.-Vill. Novis. App. (1880) 150.

Luzon (Isabela to Sorsogon), Mindoro, Palawan, Polillo, Biliran, Panay, Negros, Mindanao. In forests, chiefly along streams at low and medium altitudes. Endemic.

Local names: Asis-máya (Tag.); papait (Sub.); tagolinau (Tag.).

OPHIORRHIZA OBLONGILIMBA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 164.

Luzon (Ilocos Norte), *B. S. 27139, 27335 Ramos*. In forests along streams at low altitudes. Endemic.

OPHIORRHIZA OVATA Merr. in Philip. Journ. Sci. 17 (1920) 438.

Luzon (Laguna, Tayabas), *B. S. 23163 McGregor, 29226 Ramos & Edaño*. In forests along rocky banks of streams at low and medium altitudes. Endemic.

OPHIORRHIZA PUBESCENS Elm. Leaf. Philip. Bot. 1 (1906) 68, 5 (1913) 1884.

Luzon (Laguna, Sorsogon), Samar, Mindanao (Agusan), *Elmer 14971, 14033, 17568, B. S. 24283, 21971 Ramos*. In open grasslands and along streams at low and medium altitudes. Endemic.

Local name: Huas-nabaga (S. L. Bis.).

OPHIORRHIZA PUBIFLORA Merr. in Philip. Journ. Sci. 17 (1920) 438.

Luzon (Rizal), *B. S. 29253, 29355 Ramos & Edaño*. In forests, altitude about 3,000 m. Endemic.

OPHIORRHIZA PULGARENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1342.

Palawan, *Elmer 12949*. In forests up to 450 m altitude. Endemic.

OPHIORRHIZA TENUIS Merr. in Philip. Journ. Sci. 17 (1920) 440.

Luzon (Rizal), *B. S. 29785 Ramos & Edaño*. In forests, apparently at an altitude of about 1,000 m. Endemic.

OPHIORRHIZA UNDULATA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 46.

Mindanao (Zamboanga, Davao), *Weber 1445, B. S. 37287 Ramos & Edaño*. Along small streams in bamboo forests, altitude about 550 m. Endemic.

OPHIORRHIZA VENOSA Merr. in Philip. Journ. Sci. 2 (1907) Bot. 304; Elm. Leaf. Philip. Bot. 3 (1911) 973.

Mindoro, Sibuyan, Panay, Siargao, *Merrill 5628, F. B. 6878 Merritt, Elmer 12373, F. B. 32453 McGregor, 34994 Ramos & Pascasio, 40568 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

EXCLUDED SPECIES

OPHIORRHIZA HARRISIANA Heyne; Elm. Leaf. Philip. Bot. 1 (1906) 22.

The specimens so named by Mr. Elmer I consider referable to *O. oblongifolia* DC,

7. ARGOSTEMMA Wallich

ARGOSTEMMA NEESIANUM Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 349, Repert. 6 (1846) 72; Miq. Fl. Ind. Bat. 2 (1857) 163; F.-Vill. Novis. App. (1880) 106; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 128; Elm. Leaf. Philip. Bot. 1 (1906) 3.

Luzon (Pangasinan, Laguna, Rizal, Bataan), *F. B. 3368 Ahern's collector, 29868 Fénix, Williams 19, Elmer 6657*. On damp shaded ledges and banks along small streams at low altitudes. Endemic.

ARGOSTEMMA ARACHNOSUM Merr. in Philip. Journ. Sci. 20 (1922) 465.

Mindanao (Zamboanga), *B. S. 36830, 37331 Ramos & Edaño*. Along small streams at low altitudes. Endemic.

ARGOSTEMMA QUADRIPETALUM Elm. Leaf. Philip. Bot. 1 (1908) 361.

Argostemma quadripetiolata Elm. op. cit. 1 (1906) 63, sphalm.

Luzon (Tayabas), Leyte, Mindanao (Agusan), *Elmer 7944, Whitford 791, Wenzel 540, B. S. 9325 Robinson, 29095 Ramos & Edaño, 20546 Ramos*. Along shaded streams and in dense forests at medium altitudes, ascending to 1,200 m. Endemic.

Local name: Tasig-ta-pong pang (Bag.).

ARGOSTEMMA SOLANIFLORUM Elm. Leaf. Philip. Bot. 1 (1906) 2, 5 (1913) 1885; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 305, 3 (1908) Bot. 436.

Argostemma montanum F.-Vill. Novis. App. (1880) 106; Ceron Cat. Pl. Herb. Manila (1912) 93, non (?) Blume.

Batan Islands and northern Luzon to Mindanao and the Sulu Archipelago. Chiefly in the mossy forest at and above an altitude of 900 m, but also along mountain streams at lower altitudes. Endemic? Not certainly distinct from the Malayan *A. montanum* Blume.

Local names: Anonapong (Mbo.); kiputau (S. L. Bis.).

ARGOSTEMMA STENOPHYLLUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 100.

Luzon (Laguna), Catanduanes, *B. S. 20566, 30547 Ramos, 29191 Ramos & Edaño*. On damp banks along shaded streams at low or medium altitudes. Endemic.

ARGOSTEMMA WALLICHII Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 350, Repert. 6 (1846) 72; Miq. Fl. Ind. Bat. 2 (1857) 162; F.-Vill. Novis. App. (1880) 106; Elm. Leaf. Philip. Bot. 1 (1906) 3.

Luzon (Benguet, Bulacan, Batangas, Rizal, Laguna), *Elmer 6580, Meyen in herb. Berol., Merrill Phil. Pl. 430, Baker 205, B. S. 1100, 22361, 21757, 22393 Ramos, 16858 Serviñas*. On damp banks and cliffs along small shaded streams at low altitudes. Endemic.

8. GREENIOPSIS Merrill

GREENIOPSIS DISCOLOR Merr. in Philip. Journ. Sci. 12 (1917) Bot. 163.

Luzon (Nueva Ecija), *B. S. 26448 Ramos & Edaño*. In primary forests at or above 300 m altitude. Endemic.

Local name: Pañgalimánan (Neg.).

GREENIOPSIS EUPHLEBIA Merr. in Philip. Journ. Sci. 17 (1920) 319.

Bucas Grande, *B. S. 35134 Ramos & Pascasio*. In open forests at low altitudes. Endemic.

GREENIOPSIS MEGALANTHA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 164.

Mindanao (Surigao), *F. B. 26004 Mallonga*, *B. S. 34587 Ramos & Pascasio*. In forests at low and medium altitudes. Endemic.

GREENIOPSIS MULTIFLORA (Elm.) Merr. in Philip. Journ. Sci. 4 (1909) Bot. 325; Elm. Leaf. Philip. Bot. 3 (1911) 981.

Mussaendiopsis multiflora Elm. Leaf. Philip. Bot. 1 (1906) 14.

Greeniopsis sibuyanensis Elm. Leaf. Philip. Bot. 3 (1911) 982.

Luzon (Camarines, Sorsogon), Samar, Leyte, Dinagat, Mindanao (Surigao), *Ahern 490*, *Elmer 12073*, *Cuming 1713*, *Wenzel 1445*, *F. B. 27229 Palma*, *25054 Phasis*, *26271 Mallonga*, *18829 Franco*, *10580 Curran*, *18725 Darling*, *21178 Alvarez*, *23529 Cenabre*, *12836 Rosenbluth*, *B. S. 23668 Ramos & Edaño*, *23360*, *24193 Ramos*, *6402 Robinson*. In forests at low altitudes. Endemic.

Local names: Buyon-búyon (C. Bis.); buhon-búhon (C. Bis.); hamagos (C. Bis.); malaísad (S. L. Bis.); maloybalod-sa-dáгат (S. L. Bis.); mangkau-bulas (Tag.); palúai (S. L. Bis.); salunsiu (Bik.); tuban-hanulot (S. L. Bis.).

GREENIOPSIS PHILIPPINENSIS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 324; Elm. Leaf. Philip. Bot. 3 (1911) 981.

Luzon (Sorsogon), Samar, *Merrill 5216*, *Elmer 15344*, *14850*, *Sablaya 4*. In forests at low altitudes. Endemic.

GREENIOPSIS PUBESCENS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 230; Elm. Leaf. Philip. Bot. 3 (1911) 982.

Luzon (Cagayan, Isabela, east coast), *B. S. 10659 McGregor*, *F. B. 28886 Cenabre & Aguilar*. In forests at low altitudes. Endemic.

9. WENDLANDIA Bartling

WENDLANDIA BRACHYANTHA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 128, 3 (1908) Bot. 436; Elm. Leaf. Philip. Bot. 3 (1911) 983.

Luzon (Bataan), *Whitford 449*. On ridges in the mossy forest on Mt. Mariveles, altitude about 1,050 m; other Philippine material identified as this species apparently represents other species. Endemic.

WENDLANDIA GLABRATA DC. Prodr. 4 (1830) 411; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 389; Elm. Leaf. Philip. Bot. 3 (1911) 983.

Babuyan Islands, Luzon (Abra, Ilocos Norte, Ilocos Sur, Bontoc, Benguet, Nueva Vizcaya, Zambales, Pampanga, Rizal, Camarines, Sorsogon), Mindoro, Sibuyan, *Merrill 4409*, *3834*, *Elmer 12345*, *F. B. 25462 Paraiso*, *B. S. 5754*, *23325*, *27448 Ramos*, *26841 Edaño*. In forests at medium altitudes, ascending to 2,100 m. India to Formosa and Malaya.

Local names: Karimbaboi (Ilk.); lanipa (Ilk.); sana-añgan (Ig.).

WENDLANDIA LUZONIENSIS DC. Prodr. 4 (1830) 412; Miq. Fl. Ind. Bat. 2 (1857) 159; Vidal Phan. Cuming. Philip. (1885) 118, Rev. Pl. Vasc. Filip. (1886) 150; Elm. Leaf. Philip. Bot. 1 (1906) 41; Merr. Sp. Blancoanae (1918) 359.

Wendlandia multiflora Bartl. ex DC. l. c. in syn.

Rondeletia asiatica Blanco Fl. Filip. (1837) 146, non Linn.

Wendlandia exserta Blanco op. cit. ed. 2 (1845) 104, ed. 3, 1 (1877) 191, t. 302, non DC.

Wendlandia paniculata F.-Vill. Novis. App. (1880) 106; Vidal Sinopsis Atlas (1883) 29, t. 56, f. A; Elm. Leaf. Philip. Bot. 1 (1906) 41, non DC.

Batan Islands, Luzon (Pangasinan, Union, Zambales, Bataan, Rizal, Laguna, Camarines), Culion, Palawan, Camiguin de Misamis, Mindanao (Davao), *Haenkel*, *Merrill* 662, *Elmer* 12748, *B. S.* 3208, 3139 *Mearns*, 3723, 29908 *Fénix*, 2179 *Ramos*, *F. B.* 26872 *Ablaza*. In forests at low and medium altitudes; very close to *W. paniculata* DC. Endemic.

Local names: Barenkokorong (Sbl.); daram (Ig.); gañgu (Buk.); kasilan (Bon.); ladko (Ig.); loddo (If.); manboi (Tagb.); mariango (Ig.); rado (Ig.).

WENDLANDIA MEMBRANIFOLIA Elm. Leaf. Philip. Bot. 1 (1908) 357.

Luzon (Cagayan, Abra, Lepanto, Benguet, Nueva Vizcaya, Pangasinan, Nueva Ecija, Bulacan, Rizal), Mindanao (Bukidnon), *Elmer* 8946, *Merrill* 1309, *F. B.* 23968 *Maneja*, 27161 *Mariano*, 11142 *Aguilar*, 6370 *Curran*, 1142, 2881 *Ahern's collector*. In forests at low and medium altitudes; scarcely more than a pubescent form of the preceding species. Endemic.

Local names: Busili (Pang.); daro (Ig.).

WENDLANDIA NERVOSA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 263; Elm. Leaf. Philip. Bot. 3 (1911) 984.

Luzon (Zambales), *B. S.* 5007 *Ramos*. In forests, probably above 1,000 m altitude. Endemic.

WENDLANDIA UVARIIFOLIA Hance in Journ. Bot. 8 (1870) 73.

Luzon (Cagayan, Ilocos Sur), *Warburg* 12068, 12070, *F. B.* 24690 *de la Peña*. In thickets and second-growth forests at low altitudes. Southern China.

Hance's species is currently reduced to *Wendlandia paniculata* DC., which I consider to be an erroneous disposition of it.

WENDLANDIA WILLIAMSII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 101.

Mindanao (Zamboanga), *Williams* 2084, 2341, *Ahern* 564. In forests at low altitudes. Endemic.

Local name: Lasalia (Sul.).

EXCLUDED SPECIES

WENDLANDIA DASYTHYRSA Miq.; F.-Vill. Novis. App. (1880) 106.

10. HYMENODICTYON Wallich

HYMENODICTYON EXCELSUM (Roxb.) Wall. in Roxb. Fl. Ind. 2 (1824) 149; DC. Prodr. 4 (1830) 358; Hook. f. Fl. Brit. Ind. 3 (1880) 33; F.-Vill. Novis. App. (1880) 105; Vidal Sinopsis Atlas (1883) 29, t. 56, f. F, Rev. Pl. Vasc. Filip. (1886) 150; Koord. & Val. Bijdr.

Boom. Java 8 (1902) 50; Elm. Leaf. Philip. Bot. 1 (1906) 7; Merr. Sp. Blancoanae (1918) 359.

Cinchona excelsa Roxb. Pl. Coromandel 2 (1798) 3, t. 106.

Exostemma philippicum Blanco Fl. Filip. ed. 2 (1845) 113, ed. 3, 1 (1877) 203, t. 106, non R. & S.

Hymenodictyon obovatum F.-Vill. Novis. App. (1880) 105, non Wall.

Luzon (Abra, Ilocos Sur, Pangasinan, Nueva Ecija, Tarlac, Pampanga, Bulacan, Rizal), Palawan, Guimaras, Mindanao (Davao), Basilan. Chiefly in secondary forests at low altitudes, often about cliffs near the sea. India to Burma and Java.

Local names: Abar (Ilk.); aligánggo (Tag.); aligpági (Sul.); balangkóri (Tag.); kukun-banuk (P. Bis.); hibau (Tag.); haligángga (Tag.); huligángga (Tag.); kamatolong (Yak.); magtalísai (P. Bis.); tubo-bató (Tagb.).

11. DOLICHOLOBIUM A. Gray

DOLICHOLOBIUM PHILIPPINENSE Trelease in Leaf. Philip. Bot. 3 (1911) 984.

Luzon (Camarines, Sorsogon), Sibuyan, Samar, *Elmer* 12252, 15261, *Merrill Phil. Pl.* 1538, *B. S.* 23366, 24328 *Ramos*. In primary forests along mountain streams at medium altitudes. Endemic.

The few other species of the genus in New Guinea, Solomon Islands, and Fiji.

Local name: Tun̄gau-tun̄gau (Bik.).

12. COPTOSAPELTA Korthals

COPTOSAPELTA OLACIFORMIS (Merr.) Elm. Leaf. Philip. Bot. 5 (1913) 1856.

Randia olaciformis Merr. in Philip. Journ. Sci. 3 (1908) Bot. 163.

Coptosapelta flavescens Merr. in Philip. Journ. Sci. 4 (1909) Bot. 163; Elm. Leaf. Philip. Bot. 3 (1911) 986, non Korth.

Luzon (Laguna, Tayabas, Sorsogon), Leyte, Mindanao (Agusan, Bukidnon, Lanao), *Clemens* 1220, *Elmer* 13355, 16262, 15243, *Merrill Phil. Pl.* 396, *B. S.* 28972, 38471 *Ramos & Edaño*, *F. B.* 3877 *Miranda*. In primary forests at low and medium altitudes. Endemic.

Local name: Talotagdung (Mbo.).

13. ADINA Salisbury

ADINA MULTIFOLIA Havil. in Journ. Linn. Soc. Bot. 33 (1897) 45.

Adina polycephala F.-Vill. Novis. App. (1880) 104, non Benth.

Adina multiflora Elm. Leaf. Philip. Bot. 1 (1906) 2 (sphalm).

Adina garciae Elm. op. cit. 3 (1911) 986.

Luzon (Cagayan, Ilocos Norte, Nueva Ecija, Laguna, Tayabas, Camarines, Albay, Sorsogon), Mindoro, Sibuyan, Ticao, Samar, Mindanao (Davao). In forests at low and medium altitudes. Endemic.

Local names: Alintatau (S. L. Bis.); damilig (Ilk.); d unpilan (C. Bis.); kabislak (Sul.); kanhakang (Ibn.); kolilisiáu (Tag.); kulilisiáu (Tag.); magbibingao (Tag.); rapok (Ilk.); tingting-manok (Bik.); unisok (Tag.).

ADINA ZSCHOKKEI Elm. Leaf. Philip. Bot. 3 (1911) 987.

Palawan, Sibuyan, *Elmer* 12176, *Merrill* 9383. In thickets at low altitudes. Endemic.

14. MITRAGYNA Korthals

MITRAGYNA ROTUNDIFOLIA (Roxb.) O. Kuntze Rev. Gen. Pl. (1891) 289; Merr. Fl. Manila (1912) 446, Sp. Blancoanae (1918) 360.

Nauclea rotundifolia Roxb. Fl. Ind. 2 (1824) 124.

Stephegyne diversifolia Hook. f. Fl. Brit. Ind. 3 (1880) 26; F.-Vill. Novis. App. (1880) 104; Vidal Phan. Cuming. Philip. (1885) 117, Rev. Pl. Vasc. Filip. (1886) 148.

Nauclea diversifolia Wall. Cat. (1832) No. 6096, *nomen nudum*; G. Don Gen. Syst. 3 (1832) 467.

Mamboga capitata Blanco Fl. Filip. (1837) 140.

Nauclea luzoniensis Blanco op. cit. ed. 2 (1845) 102, ed. 3, 1 (1877) 187, non D. Dietr.

Nauclea adina Blanco op. cit. ed. 2 (1845) 102, ed. 3, 1 (1877) 188, t. 131, non Sm.

Stephegyne parvifolia F.-Vill. Novis. App. (1880) 104; Vidal Sinopsis Atlas (1883) 28, t. 56, f. A, non Korth.

Mitragyna diversifolia Havil. in Journ. Linn. Soc. Bot. 33 (1897) 71; King & Gamble in Journ. As. Soc. Beng. 72² (1903) 118; Elm. Leaf. Philip. Bot. 1 (1906) 12.

Luzon (Abra, Benguet, Nueva Vizcaya, Pangasinan, Zambales, Nueva Ecija, Pampanga, Bulacan, Bataan, Batangas, Rizal), Mindoro, Masbate, Guimaras. In dry thickets at low and medium altitudes. Burma to the Malay Peninsula and Java.

Local names: Kalapíni (Ilk.); mambáng (Tag.); mambóg (Pang., Sbl., Pamp., Tag., P. Bis.); mambók (Tag.); mangbúg (Tag.); manbág (Ilk.).

MITRAGYNA SPECIOSA Korth. Obs. Naocl. Ind. (1839) 19; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 69; King & Gamble in Journ. As. Soc. Beng. 72² (1903) 119; Elm. Leaf. Philip. Bot. 1 (1906) 12.

Stephegyne speciosa Korth. Verh. Nat. Gesch. Bot. (1839-43) 160; F.-Vill. Novis. App. (1880) 105.

Nauclea speciosa Miq. Fl. Ind. Bat. 2 (1857) 140.

Luzon (Cagayan), Mindoro, Mindanao (Agusan, Davao), Merrill 2577, F. B. 18434 Alvarez, 20502 Rafael & Ponce, 27606 De Mesa. In forests at low altitudes. Borneo, New Guinea.

Local names: Lugúb (Mand.); mambóg (Tag.); polapupot (Ibn.).

EXCLUDED SPECIES

STEPHEGYNE TUBULOSA Hook. f.; F.-Vill. Novis. App. (1880) 104.

15. UNCARIA Schreber

UNCARIA ACIDA (Hunter) Roxb. Hort. Beng. (1814) 86, Fl. Ind. 2 (1824) 129, ed. 2, 1 (1832) 519; F.-Vill. Novis. App. (1880) 105; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 79.

Nauclea acida Hunter in Trans. Linn. Soc. 9 (1808) 223.

Uncaria ovalifolia Roxb. Hort. Beng. (1814) 86, *nomen nudum*, Fl. Ind. 2 (1824) 128, ed. 2, 1 (1832) 520; F.-Vill. Novis. App. (1880) 105; King & Gamble in Journ. As. Soc. Bengal 72² (1903) 132.

Romblon, Mindanao (Davao), Hallier, F. B. 28320 Fernando. In thickets at low altitudes. Burma, Malay Peninsula, Sumatra, Java, Borneo.

UNCARIA CANESCENS Korth. in Verh. Nat. Gesch. (1839-42) 172; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 80; F.-Vill. Novis. App. (1880) 105; Elm. Leaf. Philip. Bot. 1 (1906) 37.

Luzon (Rizal, Laguna, Tayabas), Mindoro, Masbate, Leyte, Mindanao (Davao), *Elmer* 8265, 10733, *Whitford* 1695, *Wenzel* 1038, *Merrill* 2278, *F. B.* 4057 *Merritt*. In forests at low and medium altitudes. Malay Peninsula, Sumatra, Borneo.

Local name: Kolilo (Bag.).

UNCARIA CORDATA (Lour.) Merr. Interpret. Herb. Amb. (1917) 479.

Restiaria cordata Lour. Fl. Cochinch. (1790) 639.

Uncaria pedicellata Roxb. Hort. Beng. (1814) 86, *nomen nudum*, Fl. Ind. 2 (1824) 128; DC. Prodr. 4 (1830) 348; F.-Vill. Novis. App. (1880) 105; Vidal Rev. Pl. Vasc. Filip. (1886) 149; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 77; Elm. Leaf. Philip. Bot. 1 (1906) 37.

Luzon (Rizal, Laguna), Negros, Biliran, *B. S.* 17895 *Ocampo*, 18708 *McGregor*, *F. B.* 1102 *Ahern's collector*, *Whitford* 1571. In forests at medium altitudes. Indo-China through Malaya to New Guinea.

UNCARIA INSIGNIS DC. Prodr. 4 (1830) 348; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 78.

Nauclea rotundifolia Bartl. ex DC. l. c. in syn.; Miq. Fl. Ind. Bat. 2 (1857) 140; F.-Vill. Novis. App. (1880) 105.

Nauclea haenkeana Steud. Nomencl. ed. 2, 2 (1841) 186.

Nauclea luzonensis D. Dietr. Syn. Pl. 1 (1839) 791.

Uncaria sclerophylla F.-Vill. Novis. App. (1880) 105; Vidal Phan. Cuming. Philip. (1885) 118, Rev. Pl. Vasc. Filip. (1886) 149; Elm. Leaf. Philip. Bot. 1 (1906) 37, non Roxb.

Luzon (Benguet, Rizal, Laguna, Tayabas, Sorsogon), Mindoro, Busuanga, *Elmer* 6162, 9150, 16826, *Warburg* 12972, *Merrill* 2682, *McGregor* 164, *B. S.* 14996, 39825, 41244 *Ramos*, 13084 *Ramos & Foxworthy*, *F. B.* 10288 *Curran*, 21397 *Villamil*. In primary forests at medium altitudes. Borneo.

Local name: Bungkaut (Tag.).

UNCARIA LAEVIFOLIA Elm. Leaf. Philip. Bot. 5 (1913) 1902.

Mindanao (Agusan), *Elmer* 14178. In primary forests, altitude about 1,050 m. Endemic.

Local name: Kauilan (Mbo.).

UNCARIA LONGIFLORA (Poir.) Merr. Interpret. Herb. Amb. (1917) 480.

Nauclea longiflora Poir. in Lam. Encycl. Suppl. 4 (1816) 63.

Uncaria pteropoda Miq. Fl. Ind. Bat. 2 (1857) 343; Elm. Leaf. Philip. Bot. 1 (1906) 37.

Uncaria pachyphylla Merr. in Philip. Journ. Sci. 10 (1915) Bot. 102.

Luzon (Nueva Vizcaya, Rizal, Laguna, Sorsogon), Negros, *Elmer* 14917 as *U. bilusanensis* Elm., *Warburg* 13797, *B. S.* 11378 *McGregor*, 16652, 13786, 23803, 23451 *Ramos*, *F. B.* 407 *Ahern's collector*, 19100, 19071 *Curran*. In forests at low and medium altitudes. Malay Peninsula, Sumatra, Java, Borneo, Moluccas.

Local name: Bangkil (Tag.).

UNCARIA NERVOSA Elm. Leaf. Philip. Bot. 3 (1911) 985.

Mindanao (Davao), *Elmer* 11794. In primary forests, altitude about 1,200 m. Endemic.

Local name: Kolilo (Bag.).

UNCARIA PERROTTETII (A. Rich.) Merr. in Philip. Journ. Sci. 8 (1913) Bot. 60.

Sabicea perrottetii Rich. in Mém. Soc. Hist. Nat. Paris 5 (1834) 228.

Ouroupartia perrottetii Baill. in Bull. Soc. Linn. Paris 1 (1879) 227.

Uncaria ferrea F.-Vill. Novis. App. (1880) 105, non DC.

Uncaria hookeri Vidal Phan. Cuming. Philip. (1885) 177, Rev. Pl.

Vasc. Filip. (1886) 149; Havil. in Journ. Linn. Soc. Bot. 33 (1897)

86, t. 4, f. 13-18; Elm. Leaf. Philip. Bot. 1 (1906) 37.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Lepanto, Union, Pangasinan, Pampanga, Bulacan, Rizal, Laguna), Mindanao (Davao, Lanao), *Cuming* 1128, *Warburg* 11905, *Merrill* 1830, 1586, *Phil. Pl.* 2031, 458, *Loher* 6321, *Elmer* 11615, 17868, *F. B.* 12481 *Merritt & Darling*, 1890 *Ahern's collector*, 26842 *Mabesa*, *B. S.* 29882 *Fénix*, 1970 *Foxworthy*, 34042 *Ramos & Edaño*, 2127 *Ramos*. In forests at low and medium altitudes. Borneo.

Local names: Baluklitu (Tag.); kanauai (Tag.); kaitkaúit (Ig.); kagit (Ig.); uakal (Ig.).

UNCARIA PHILIPPINENSIS Elm. Leaf. Philip. Bot. 1 (1906) 38, 5 (1913) 1903; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 305; C. B. Rob. op. cit. 6 (1911) Bot. 227.

Luzon (Ilocos Norte, Nueva Ecija, Laguna, Tayabas, Camarines, Albay, Sorsogon), Mindoro, Balabac, Polillo, Mindanao, incl. *Elmer* 14540 as *U. castellata* Elm. In forests at low and medium altitudes. Endemic.

Local names: Gilalan (Sub.); kauihag (Ig.); kolilo (Bag.); sabilan (Mbo.); sarasapak (Neg.); tañgula (Tag.).

UNCARIA SETILOBA Benth. in Hook. Lond. Journ. Bot. 2 (1843) 223; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 85; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 436, Interpret. Herb. Amb. (1917) 480.

Uncaria florida Vidal Phan. Cuming. Philip. (1885) 176, Rev. Pl.

Vasc. Filip. (1886) 149; Elm. Leaf. Philip. Bot. 1 (1906) 37.

Luzon (Rizal), Mindoro, Masbate, Mindanao (Davao), *Cuming* 1504, *Merrill* 3020, *Elmer* 11913, *B. S.* 29663 *Ramos & Edaño*. In forests at low and medium altitudes. Formosa, Moluccas.

UNCARIA VELUTINA Havil. in Journ. Linn. Soc. Bot. 33 (1897) 84; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 266; Elm. Leaf. Philip. Bot. 3 (1911) 985.

Nauclea canescens Bartl. ex DC. Prodr. 4 (1830) 346; F.-Vill. Novis. App. (1880) 105; Miq. Fl. Ind. Bat. 2 (1857) 140, non *Uncaria canescens* Korth.

Uncaria clavisepala Elm. Leaf. Philip. Bot. 1 (1908) 350.

Luzon (Isabela, Laguna), Mindoro, Leyte, *Cuming* 1503, *Elmer* 8262, *Wenzel* 1423. In forests at low and medium altitudes. Endemic.

Local name: Kilap (Tag.).

DOUBTFUL AND EXCLUDED SPECIES

UNCARIA ACIDA Roxb.; F.-Vill. Novis. App. (1880) 105.

UNCARIA GLABRATA DC.; F.-Vill. l. c.

UNCARIA OVALIFOLIA Roxb.; F.-Vill. l. c.

TAPOGOMEA RUBRA Blanco Fl. Filip. (1837) 145.

Cephaelis expaleacea Blanco op. cit. ed. 2 (1845) 103, ed. 3, 1 (1877) 189; Merr. Sp. Blancoanae (1918) 360.

This is perhaps an *Uncaria*, but Blanco's description is too imperfect to warrant its further identification.

16. NEONAUCLEA Merrill

(*Nauclea* auctt., non Linnaeus)

NEONAUCLEA ATEGII (Elm.) Merr. in Journ. Wash. Acad. Sci. 5 (1915) 539.

Nauclea ategii Elm. Leaf. Philip. Bot. 5 (1913) 1877.

Mindanao (Davao, Agusan), *Elmer* 13910, *F. B.* 28262, 28263 *Elumir*. In forests along streams up to 300 m altitude. Endemic.

Local name: Mahambolód (Mbo.).

NEONAUCLEA BARTLINGII (DC.) Merr. in Journ. Wash. Acad. Sci. 5 (1915) 539.

Nauclea bartlingii DC. Prodr. 4 (1830) 344; Elm. Leaf. Philip. Bot. 1 (1906) 16; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 61.

Nauclea mollis Bartl. ex DC. l. c. in syn., non Blume.

Sarcocephalus bartlingii Miq. Fl. Ind. Bat. 2 (1857) 133; F.-Vill. Novis. App. (1880) 104.

Nauclea cumingiana Vidal Phan. Cuming. Philip. (1885) 176, Rev. Pl. Vasc. Filip. (1886) 149; Elm. Leaf. Philip. Bot. 1 (1906) 16.

Luzon (Nueva Vizcaya, Pampanga, Bulacan, Rizal, Bataan, Laguna, Tayabas, Camarines, Albay), Mindoro, *Whitford* 868, *Merrill* 2012, 2358, *Ahern* 58, 808, *F. B.* 4088, 3694, 11459 *Merritt*, 5937, 10001 *Curran*, 3149, 3326 *Ahern's collector*, *B. S.* 24102 *Ramos & Deroy*. Chiefly in secondary forests at low and medium altitudes. Endemic.

Local names: Bansiu (Tag.); bansiu-na-laláki (Tag.); bulala (Ilk.); disak (Tag.); hambibalád (P. Bis.); kalamansánai (Tag.); lisak (Tag.); malabangkál (Tag.); maludbalud (Bik.); mambóg (Bik.); uisak (Tag.).

NEONAUCLEA BERNARDOI Merr. in Journ. Wash. Acad. Sci. 5 (1915) 539.

Nauclea bernardoi Merr. in Philip. Journ. Sci. 10 (1915) Bot. 101.

Luzon (Cagayan, Laguna, Camarines), Masbate, Samar, Leyte, Mindanao (Davao, Zamboanga), *F. B.* 20446, 12991 *Bernardo*, 23193 *Alejandro*, 21766 *Barros*, 7048 *Klemme*, 20197 *Villamil*, 25344 *Franco*, *B. S.* 24417 *Ramos*, *Merrill* 2613, 3073, *Phil. Pl.* 1707, *Elmer* 17652, *Ahern* 102, *Wenzel* 1661. Chiefly in primary forests at low altitudes. Endemic.

Local names: Agan (Neg.); bugas (P. Bis.); dulauan (Ibn.); himbabalúd (P. Bis.); kalumanóg (S. L. Bis.); kudkud (Neg.); ludek (Neg.); mambóg (Tag.); maragatan (Ibn.); putían (S. L. Bis.); uban (Bik.).

NEONAUCLEA CALYCINA (Bartl.) Merr. in Journ. Wash. Acad. Sci. 5 (1915) 539, Sp. Blancoanae (1918) 361.

Nauclea calycina Bartl. ex DC. Prodr. 4 (1830) 346; Blanco Fl. Filip. ed. 2 (1845) 101, ed. 3, 1 (1877) 186.

Nauclea glandulosa Blanco Fl. Filip. (1837) 143.

Nauclea lanceolata Blanco op. cit. 144, non Blume.

Nauclea glabra Blanco op. cit. ed. 2 (1845) 101, ed. 3, 1 (1877) 185, non Roxb.

Nauclea purpurascens Korth. Verh. Nat. Gesch. Bot. (1839-43) 158; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 58; Koord. & Val. Bijdr. Boom. Java 8 (1902) 24; Elm. Leaf. Philip. Bot. 1 (1906) 16, 4 (1912) 1342.

Nauclea blancoi Vidal Phan. Cuming. Philip. (1885) 175, Rev. Pl. Vasc. Filip. (1886) 149; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 53.

Luzon (Cagayan to Sorsogon, most provinces), Mindoro, Palawan, Polillo, Ticao, Masbate, Leyte, Panay, Negros, Mindanao, Basilan. In primary and secondary forests at low and medium altitudes. Endemic.

Local names: Alintatáu (Tag.); bagalaráu-na-itím (Tag.); bagariláu (Tag.); bano (Tag.); bangkál-búndok (Tag.); bansiu (Tag.); bonkai-nanamó (C. Bis.); bosili (Pang.); bugas (P. Bis.); bulala (Ilk.); busili (Ilk.); dalagutingnun (C. Bis.); himbabalúd (S. L. Bis.); hambabalúd (C. Bis.); kalamansánai (Tag., S. L. Bis.); kalomañgóg (P. Bis.); magabulan (Mag.); malatubik (Tag.); pangnangkaen (Ilk.); poponto (Pang.); uisak (Tag.).

NEONAUCLEA CORDATULA Merr. in Journ. Wash. Acad. Sci. 5 (1915) 539.

Nauclea cordatula Merr. in Philip. Journ. Sci. 8 (1913) 40.

Cebu, *F. B. 22219 Cenabre*. On ridges, altitude about 1,000 m. Endemic. Local name: Hambabalóg (C. Bis.).

NEONAUCLEA FORMICARIA (Elm.) comb. nov.

Nauclea formicaria Elm. Leaf. Philip. Bot. 3 (1911) 989.

Luzon (Laguna, Camarines, Sorsogon), Mindoro, Samar, Biliran, Leyte, Panay, Cebu, Guimaras, *B. S. 37055 Ramos & Edaño, F. B. 10636 Curran, 26045 Mabesa, Elmer 17144, 17846*, and numerous specimens from other places than Luzon distributed as *N. reticulata*. In forests at low and medium altitudes. Borneo.

Closely allied to *N. reticulata* Merr. and apparently the southern representative of it, differing in its longer petioles and glabrous leaves.

Local names: Ambabalód (C. Bis.); balúg (C. Bis.); bankalánan (C. Bis.); hambabalód (C. Bis.); hambabaód (P. Bis.); himbabalód (S. L. Bis.); mabalód (Bag.); marong-marong (C. Bis.); pantauan (Bik.); tanbabalút (P. Bis.).

NEONAUCLEA FORSTERI (Seem.) Merr. in Journ. Wash. Acad. Sci. 5 (1915) 540.

Nauclea forsteri Seem. Fl. Vit. (1865) 121; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 56; Elm. Leaf. Philip. Bot. 3 (1911) 988.

Luzon (Tayabas, Camarines, Albay), *Cuming 878, Elmer 9224, F. B. 20107 Agnis*. In forests at low altitudes. Polynesia.

The Philippine form referred, after Haviland, to Seeman's species is suspiciously similar to *N. calycina* Merr.

Local name: Hiruron (Bik.).

NEONAUCLEA GRACILIS (Vidal) Merr. in Journ. Wash. Acad. Sci. 5 (1915) 540.

Nauclea gracilis Vidal Phan. Cuming. Philip. (1885) 176, Rev. Pl. Vasc. Filip. (1886) 149; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 52; Elm. Leaf. Philip. Bot. 3 (1911) 988.

Neonauclea philippinensis Merr. in Journ. Wash. Acad. Sci. 5 (1915) 542.

Adina philippinensis Vidal Rev. Pl. Vasc. Filip. (1886) 148; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 52; Elm. Leaf. Philip. Bot. 1 (1906) 16, 3 (1911) 989, 5 (1913) 1879; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 53, Philip. Journ. Sci. 1 (1906) Suppl. 128.

Adina polycephala Vidal Sinopsis Atlas (1883) 28, t. 56, f. B, non Benth.

Luzon (Nueva Vizcaya, Bataan, Rizal, Laguna, Camarines, Albay, Sorsogon), Catanduanes, Mindoro, Samar, Leyte, Mindanao, *Cuming 835, Whitford 1158, Merrill Phil. Pl. 1526, Elmer 14940, 17119, 14056, 11220, F. B. 14887 Darling, 3272 Ahern's collector, 2625 Meyer, 26052 Mabesa, 10626 Curran, 11412 Merritt, 25761 Franco, B. S. 23665, 15373 Ramos, 15735 Fénix*. Chiefly in primary forests at low altitudes. Endemic.

Local names: Gimbalód (Buk.); limbáan (Sul.); mabalód (Tag.); malatagis (Bik.).

NEONAUCLEA JAGORI Merr. in Journ. Wash. Acad. Sci. 5 (1915) 540.

Nauclea jagori Merr. in Philip. Journ. Sci. 4 (1909) Bot. 326; Elm. Leaf. Philip. Bot. 3 (1911) 989.

Luzon (Camarines), Samar, *Jagor 987, F. B. 10635, 10777 Curran, 22796 Tabat*. On river banks at low altitudes. Endemic.

NEONAUCLEA KENTII Merr. in Journ. Wash. Acad. Sci. 5 (1915) 540.

Nauclea kentii Merr. in Philip. Journ. Sci. 8 (1913) Bot. 43.

Mindanao (Lanao, Zamboanga), Basilan, *B. S. 15440, 16137 Reillo, F. B. 21860 Villamil, 18929 Miranda, Clemens*. In forests, chiefly along streams at low altitudes. Endemic.

NEONAUCLEA MEDIA (Havil.) Merr. in Journ. Wash. Acad. Sci. 5 (1915) 541, Sp. Blancoanae (1918) 361.

Nauclea latifolia Blanco Fl. Filip. (1837) 144, non Sm.

Nauclea obtusa Blanco op. cit. ed. 2 (1845) 101, ed. 3, 1 (1877) 187; F.-Vill. Novis. App. (1880) 105, non Blume.

Nauclea media Havil. in Journ. Linn. Soc. Bot. 33 (1897) 56; Elm. Leaf. Philip. Bot. 1 (1906) 16, 5 (1913) 1879; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 128.

Luzon (Cagayan, Amburayan, Bataan, Rizal, Laguna, Tayabas, Batangas), Mindoro, Panay, Mindanao. Chiefly in primary forests at low altitudes. Endemic.

Local names: Balód (Tag.); bangkál (Ilk., Tag.); bangkalanág (P. Bis); bano (P. Bis.); bansiu (Tag.); behis (Ig.); bulala (Ilk.); kalamansánai (Tag.); maglorinok (C. Bis.); mambóg (Tag.); palauglitan (Mbo.); tandong (Tag.); uisak (Tag.).

NEONAUCLEA MINDANAENSIS Merr. in Journ. Wash. Acad. Sci. 5 (1915) 541.

Nauclea mindanaensis Merr. in Philip. Journ. Sci. 8 (1913) Bot. 44.

Mindanao (Zamboanga), Basilan, *Williams 2148, Copeland, F. B. 3972 Hutchinson, 13385 Foxworthy, De Mesa, & Villamil*. In forests along streams at low altitudes. Endemic.

Local name: Bonu-bonu (Yak.).

NEONAUCLEA MONOCEPHALA Merr. in Journ. Wash. Acad. Sci. 5 (1915) 541.

Nauclea monocephala Merr. in Philip. Journ. Sci. 8 (1913) Bot. 44.

Luzon (Zambales), *Merrill 2980*. In forests at low altitudes. Endemic.

NEONAUCLEA NITIDA (Havil.) Merr. in Journ. Wash. Acad. Sci. 5 (1915) 541.

Nauclea nitida Havil. in Journ. Linn. Soc. Bot. 33 (1897) 53.

Neonauclea kobbei Elm. Leaf. Philip. Bot. 8 (1919) 3100.

Luzon (Laguna, Tayabas), Negros, Mindanao (Zamboanga), *F. B. 6071 Kobbe, 13157 Curran, Calycosa, Tamesis, & Contreras*. In forests at low altitudes. Endemic.

NEONAUCLEA OLIGOPHLEBIA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 159.

Leyte, Mindanao (Bukidnon), *Wenzel 1608, B. S. 39113 Ramos & Edaña*. In forests at low altitudes; scarcely distinguishable from *N. gracilis* Merr. Endemic.

NEONAUCLEA OVATA Merr. in Journ. Wash. Acad. Sci. 5 (1915) 541.

Nauclea ovata Merr. in Philip. Journ. Sci. 8 (1913) Bot. 42.

Panay, Camiguin de Misamis, Mindanao (Zamboanga), *B. S. 14597 Ramos, 32446 McGregor, 16105, 18920 Reillo*. In forests up to 600 m altitude. Endemic.

NEONAUCLEA PUBERULA Merr. in Journ. Wash. Acad. Sci. 5 (1915) 542.

Nauclea puberula Merr. in Philip. Journ. Sci. 8 (1913) Bot. 41.

Luzon (Sorsogon), Mindoro, *Elmer 7319, F. B. 7355 unknown collector*. In forests at low altitudes. Endemic.

Local name: Bagodilau (Tag.).

NEONAUCLEA RETICULATA (Havil.) Merr. in Journ. Wash. Acad. Sci. 5 (1915) 542.

Nauclea reticulata Havil. in Journ. Linn. Soc. Bot. 33 (1897) 62;

Elm. Leaf. Philip. Bot. 1 (1906) 16; Merr. in Philip. Journ. Sci.

3 (1908) Bot. 437.

Batan and Babuyan Islands, Luzon (Cagayan, Abra, Benguet, Apayao, Bontoc, Ilocos Sur, Nueva Vizcaya, Zambales, Pangasinan, Nueva Ecija, Bulacan, Rizal), *Merrill 1662, Elmer 6107, Warburg 12066, 12067, F. B. 22721 Castillo, 14511 Darling, 5833, 6923, 8465, 17018 Curran, 24706 Leaño, 18418 Alvarez, 11184 Aguilar, 25992 Maneja, B. S. 7822, 7230 Ramos, 28267 Fénix, 11340 McGregor, 18323 Otañes*. In forested ravines and on slopes at low and medium altitudes. Endemic.

Local names: Bansiu-na-babáe (Tag.); bulala (Ibn.); lavuan (Gad.); tikem (Ilk.); tikum (Ilk.).

NEONAUCLEA VENOSA Merr. in Journ. Wash. Acad. Sci. 5 (1915) 542.

Nauclea venosa Merr. in Philip. Journ. Sci. 8 (1913) Bot. 45.

Mindanao (Zamboanga), *F. B. 9183 Whitford & Hutchinson*. In primary forests at low altitudes. Endemic.

NEONAUCLEA VIDALII (Elm.) Merr. in Journ. Wash. Acad. Sci. 5 (1915) 542.

Nauclea vidalii Elm. Leaf. Philip. Bot. 1 (1906) 16.

Luzon (Ilocos Norte, Ilocos Sur, Abra, Benguet, Lepanto, Bontoc, Nueva Vizcaya, Pangasinan, Pampanga, Rizal). In forests on slopes, etc., chiefly at medium altitudes, ascending to 2,100 m. Scarcely more than a glabrous or nearly glabrous form of *N. bartlingii* Merr. Endemic.

Local names: Balor (Tag.); garunyan (Ilk.); kalot (Ilk.); kaluntíngan (P. Bis.); kanabling (Bik.); kitim (Ting.); malanángu (Tag.); panabosoben (Ilk.); panglangtayen (Ilk.); tichum (Ig.); tikim (Ig., Bon.); tikum (Ting.); uisak (Tag.).

NEONAUCLEA WENZELII Merr. in Journ. Wash. Acad. Sci. 5 (1915) 542.

Nauclea wenzelii Merr. in Philip. Journ. Sci. 9 (1914) 386.

Leyte, *Wenzel 348*. In forests at low altitudes. Endemic.

DOUBTFUL AND EXCLUDED SPECIES

NAUCLEA HAGENII K. Schum. & Lauterb.; *Usteri* Beitr. Ken. Philip. Veg. (1905) 119.

It is suspected that *Usteri*'s Philippine specimen was wrongly identified.

NAUCLEA PARVIFOLIA Roxb. DC. Prodr. 4 (1830) 344 "et forte in insulis Philippinis."

Roxburgh's species is *Mitragyna parvifolia* Korth. of India; it does not occur in the Philippines.

NAUCLEA PURPUREA Roxb.; *F.-Vill. Novis. App.* (1880) 105.

NAUCLEA AFRICANA Cham. & Schlecht. in *Linnaea* 4 (1829) 148, non Schum., var. *luzoniensis* DC. Prodr. 4 (1830) 345.

The description is too short to warrant a definite identification of this variety.

17. **NAUCLEA** Linnaeus

(*Sarcocephalus* Afzelius)

NAUCLEA ELMERI Merr. in Journ. Wash. Acad. Sci. 5 (1915) 535.

Sarcocephalus ovatus Elm. Leaf. Philip. Bot. 1 (1906) 33, non *Nauclea ovata* Merr.

Luzon (Pangasinan, Rizal, Laguna), *F. B. 3150 Ahern's collector, B. S. 17958 Otanes, Merrill 2637, Quisumbing 1020*. In forests at low altitudes. Endemic.

Local name: Bangkál (Tag.).

NAUCLEA JUNGHUHNII (Miq.) Merr. in Journ. Wash. Acad. Sci. 5 (1915) 536.

Sarcocephalus jungghuhnii Miq. Fl. Ind. Bat. 2 (1857) 133; Hook. f. Fl. Brit. Ind. 3 (1880) 23; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 29; Elm. Leaf. Philip. Bot. 1 (1906) 32.

Sarcocephalus horsfieldii Elm. Leaf. Philip. Bot. 3 (1911) 990, non Miq.

Luzon (Isabela, Tayabas, Camarines, Sorsogon, Albay), Masbate, Leyte, Negros, Mindanao (Misamis, Lanao, Davao, Bukidnon, Zamboanga), Merrill 1050, Wenzel 993, 1537, Elmer 10886, 11611, F. B. 12826 Rosenbluth, 25786 Phasis, 22074 Tamesis, 11895 Miranda, 23374 Ponce, 22751 Nave, 9464, 9074 Whitford & Hutchinson, B. S. 38816 Ramos & Edaña. In primary forests at low altitudes. Indo-China, Malay Peninsula, Sumatra, Borneo.

Local names: Bangkál (Tag., S. L. Bis.); bulobankál (P. Bis.); kabak (S. L. Bis.); kalamansánai (Sul.); magalablab (Bag.); mambóg (Bik.); mamuloko (Bag.); nato (Ibn., Lan.); sapauan (Mand.); tiroron (Bik.).

NAUCLEA MULTICEPHALA (Elm.) Merr. in Journ. Wash. Acad. Sci. 5 (1915) 536.

Sarcocephalus multicephalus Elm. Leaf. Philip. Bot. 5 (1913) 1896.

Luzon (Laguna, Sorsogon), Samar, Negros, Mindanao (Surigao, Davao), Elmer 13877, B. S. 34791 Ramos & Pascasio, 23491, 23341 Ramos, F. B. 25755 De Mesa, 5557 Everett. In secondary and primary forests, ascending to 900 m. Endemic.

Local name: Kabak (Mbo.).

NAUCLEA ORIENTALIS Linn. Sp. Pl. ed. 2 (1762) 243; Merr. in Journ. Wash. Acad. Sci. 5 (1915) 536, Sp. Blancoanae (1918) 362.

Cephalanthus orientalis Linn. Sp. Pl. (1753) 95.

Cephalanthus chinensis Lam. Encycl. 1 (1785) 678, p. p., quoad Philip.

Nauclea lutea Blanco Fl. Filip. (1837) 141.

Nauclea glaberrima Bartl. in DC. Prodr. 4 (1830) 344; Blanco Fl. Filip. ed. 2 (1845) 100, ed. 3, 1 (1877) 184, t. 51; Merr. in Journ. Wash. Acad. Sci. 5 (1915) 535.

Sarcocephalus glaberrimus Miq. Fl. Ind. Bat. 2 (1857) 133; F.-Vill. Novis. App. (1880) 104; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 28.

Nauclea cordata Roxb. Fl. Ind. 2 (1824) 118.

Sarcocephalus cordatus Miq. Fl. Ind. Bat. 2 (1857) 133; Hook. f. Fl. Brit. Ind. 3 (1880) 22; F.-Vill. Novis. App. (1880) 104; Vidal Sinopsis Atlas (1883) 28, t. 56, f. D, Phan. Cuming. Philip. (1885) 117, Rev. Pl. Vasc. Filip. (1886) 147; Koord. & Val. Bijdr. Boom. Java 8 (1902) 13; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 27; Merr. Philip. Journ. Sci. 1 (1906) Suppl. 128; Elm. Leaf. Philip. Bot. 1 (1906) 32.

Sarcocephalus orientalis Merr. in Philip. Journ. Sci. 3 (1908) Bot. 436, Fl. Manila (1912) 446.

Batan Islands and northern Luzon to Mindanao, in most or all islands and provinces. Chiefly in secondary forests at low and medium altitudes; common. India to Malaya.

Local names: Balikakak (Mag.); bangkál (Tag., Mag., S. L. Bis., P. Bis., Mbo., Mag.); bulala (Ilk., Pang.); bulubangkál (Bis.); bulubitóan (P. Bis.); hambabalos (Bis.); kabag (Bis.); kabak (C. Bis.); mabalot (Tag.); malakabak (Bag.); mambóg (Bik.); malbóg (S. L. Bis.).

NAUCLEA ROBINSONII Merr. in Journ. Wash. Acad. Sci. 5 (1915) 537.

Sarcocephalus pubescens C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 225, non Valetón.

Polillo, Samar, Leyte, *B. S.* 6917 Robinson, 15339, 24420 Ramos, 12882 Rosenbluth, Wenzel 112, 800, 1052, 1165. In secondary forests at low altitudes. Endemic.

Local name: Malbóg (S. L. Bis.).

NAUCLEA UNDULATA Roxb. Hort. Beng. (1814) 14, *nomen nudum*, Fl. Ind. 2 (1824) 117; Merr. Interpret. Herb. Amb. (1917) 482.

Sarcocephalus undulatus Miq. Fl. Ind. Bat. 2 (1857) 133; F.-Vill. Novis. App. (1880) 104; Elm. Leaflet. Philip. Bot. 1 (1906) 32; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 28.

Luzon (Tayabas, Albay), Palawan, Ticao, Mindanao, *B. S.* 6254 Robinson, *F. B.* 1026 Clark, 11811 Whitford, 18295 Miranda. In secondary forests at low altitudes. Moluccas, New Guinea.

Scarcely separable from *N. orientalis* Linn.

EXCLUDED SPECIES

SARCOCEPHALUS SUBDITUS Miq.; F.-Vill. Novis. app. (1880) 104.

18. MYRMECONAUCLEA Merrill

MYRMECONAUCLEA STRIGOSA (Korth.) Merr. in Philip. Journ. Sci. 17 (1920) 375.

Nauclea strigosa Korth. Verh. Nat. Gesch. Bot. (1839-42) 157; Miq. Fl. Ind. Bat. 2 (1857) 138; Havil. in Journ. Linn. Soc. Bot. 33 (1897) 52, *t.* 2; Elm. Leaflet. Philip. Bot. 1 (1906) 15.

Neonauclea strigosa Merr. in Journ. Wash. Acad. Sci. 5 (1915) 542.

Sarcocephalus fluviatilis Elm. Leaflet. Philip. Bot. 4 (1912) 1357.

Palawan, Busuanga, Merrill 7234, Phil. Pl. 1201, Elmer 12848, *F. B.* 27289 Flores, 21587 Danao, *B. S.* 788 Foxworthy, 41191 Ramos. In beds and along banks of small streams in forests, sea level to an altitude of 300 m; a monotypic genus. Borneo.

Local name: Amontong (Tagb.).

19. ACRANTHERA Arnott

ACRANTHERA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 32.

Mindanao (Zamboanga, Lanao), Merrill 8309, Williams 2357, Clemens, *B. S.* 36647 Ramos & Edaña. In ravines along small streams, altitude up to 900 m. Endemic.

Local name: Dulumpok (Sub.).

20. MUSSAENDA Linnaeus

MUSSAENDA ACUMINATISSIMA Merr. in Philip. Journ. Sci. 17 (1920) 436.

Luzon (Ilocos Norte), *B. S.* 33133 Ramos. On dry slopes, altitude about 700 m. Endemic.

- **MUSSAENDA ALBIFLORA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 241; Elm. Leaf. Philip. Bot. 3 (1911) 991.

Negros, Panay, *F. B. 17358 Curran, 5539 Everett, B. S. 35391, 35301 Martelino & Edaño, 31107 Ramos & Edaño, 32450 McGregor*. In primary forests at low altitudes. Endemic.

Local name: Agboi (P. Bis.).

- MUSSAENDA ANISOPHYLLA** Vidal Phan. Cuming. Philip. (1885) 178; Elm. Leaf. Philip. Bot. 1 (1906) 13; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 129, 2 (1907) Bot. 305.

Luzon (Pangasinan, Bataan, Laguna, Tayabas, Albay), Mindanao (Lanao), *F. B. 3020 Meyer, 25602 Borromeo, B. S. 29851 Fénix, 23006 McGregor, Elmer 9154, 17481*. In forests at low and medium altitudes, ascending to 600 m. Endemic.

Local names: Ayonakilat (Lan.); bodas (Ig.); buyon (Bis.); lalabó (Pang.); talig-harap (Tag.); tiñga-tiñga (Tag.).

- MUSSAENDA ATTENUATIFOLIA** Elm. Leaf. Philip. Bot. 5 (1913) 1874.

Mindanao (Agusan), *Elmer 13304*. In forests along streams, altitude 150 to 450 m. Endemic.

Local name: Buñgog (Mbo.).

- MUSSAENDA BENGUETENSIS** Elm. Leaf. Philip. Bot. 1 (1906) 13; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 389.

Luzon (Abra, Bontoc, Ifugao, Lepanto, Benguet). In thickets on open slopes, in ravines, etc., altitude 1,200 to 2,200 m. Endemic.

Local names: Bilau (Ig.); otoi-itOI (Ig.); salimaguok (Ting.); sang-sang (Ig.); ugua-ugua (Ig.).

- MUSSAENDA CHLORANTHA** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 47.

Luzon (Benguet), *Merrill Phil. Pl. 770, B. S. 31725 Santos*. In the mossy forest, altitude 1,800 to 2,000 m. Endemic.

- MUSSAENDA GRANDIFOLIA** Elm. Leaf. Philip. Bot. 1 (1906) 12, 3 (1911) 991.

Palawan, *Merrill 865, 817*. In forests at low altitudes. Endemic.

- MUSSAENDA LANATA** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 357; Elm. Leaf. Philip. Bot. 3 (1911) 992.

Luzon (Abra, Bontoc, Benguet), *Merrill 6681, Phil. Pl. 1768, Elmer 6195, 8976, Williams 1558, 1011, B. S. 5827, 7254 Ramos, 38103, 38134 Ramos & Edaño, 12588 Fénix, F. B. 5078 Curran*. In thickets along streams, altitude 900 to 1,600 m. Endemic.

- MUSSAENDA MACROPHYLLA** Wall. in Roxb. Fl. Ind. 2 (1824) 228; DC. Prodr. 4 (1830) 370; Hook. f. Fl. Brit. Ind. 3 (1880) 89; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 437; F.-Vill. Novis. App. (1880) 108.

Batan and Babuyan Islands, Luzon (Cagayan), Camiguin de Misamis, Siargao, *B. S. 3770, 3985, 3920 Fénix, 14604, 13943 Ramos, 30856 Ramos & Edaño, 34958 Ramos & Pascasio, F. B. 26650 Velasco*. In thickets and forests at low altitudes. India to the Malay Peninsula.

Local name: Kamaligi (Iv.).

MUSSAENDA MAGALLANENSIS Elm. Leaf. Philip. Bot. 3 (1911) 996.

Mussaenda macrophylla Vidal Phan. Cuming. Philip. (1885) 118, non Wall.

Mindoro, Sibuyan, *Elmer* 12451, *Cuming* 1535, 1877, *McGregor* 131, *Merrill* 4072, 986, 1212, *F. B.* 12048, 8779, 4330, 6904 *Merritt*. In thickets and forests at low altitudes. Endemic.

Local name: Agboi (P. Bis.).

MUSSAENDA MULTIBRACTEATA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 34.

Luzon (Tayabas, Camarines, Sorsogon), Catanduanes, *B. S.* 23585, 23715, 30509 *Ramos*, 29093, 28687, 33861 *Ramos & Edaño*. In primary forests at low and medium altitudes. Endemic.

MUSSAENDA NERVOSA Elm. Leaf. Philip. Bot. 3 (1911) 994.

Luzon (Nueva Ecija), Mindanao (Bukidnon, Davao), *Elmer* 10510, *B. S.* 26422, 39077 *Ramos & Edaño*. In forests up to 1,200 m altitude. Endemic.

Local name: Buyan (Bag.).

MUSSAENDA PALAWANENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 103.

Palawan, *Merrill* 867, *B. S.* 15531 *Fénix*. In thickets and old clearings at low altitudes. Endemic.

MUSSAENDA PHILIPPICA A. Rich. in Mém. Soc. Hist. Nat. Paris 5 (1834) 245; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 242, Fl. Manila (1912) 448, Sp. Blancoanae (1918) 362; Elm. Leaf. Philip. Bot. 3 (1911) 992, 4 (1912) 1341, 5 (1913) 1875.

Mussaenda frondosa Blanco Fl. Filip. (1837) 167, ed. 2 (1845) 118, ed. 3, 1 (1877) 211, t. 58; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 349; F.-Vill. Novis. App. (1880) 107; Vidal Sinopsis Atlas (1883) 29, t. 56, f. G, non Linn.

Calycophyllum grandiflorum Meyen Reise 2 (1835) 234; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 356; F.-Vill. Novis. App. (1880) 113.

Mussaenda grandiflora Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 311; Vidal Rev. Pl. Vasc. Filip. (1886) 152; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 53, Philip. Journ. Sci. 1 (1906) Suppl. 128; Elm. Leaf. Philip. Bot. 1 (1906) 13, non Benth.

Mussaenda glabra F.-Vill. Novis. App. (1880) 108, non ? Vahl.

Mussaenda acutifolia Bartl. ex DC. Prodr. 4 (1830) 370 ? sphalm "in Mexico."

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces. Common in thickets and secondary forests at low and medium altitudes. Endemic?

This is suspiciously similar to much Malayan and eastern Polynesian material currently but erroneously referred to *M. frondosa* Linn.

Local names: Agboi (P. Bis.); ati-ati (C. Bis.); ayaunakilat (Mag.); balikaráp (Tag.); balai-lamók (Ilk.); boyón (S. L. Bis.); buyón (Tagb., C. Bis., S. L. Bis., Sul); darumabi (Mag.); galas-virgen (Tag.); gibuyan (Sub.); hunbabuyin (Tag.); kahoi-dalága (Tag., Sbl.); katudai-bantai

(Ilk.); langlá (Sbl.); múyon (Mbo.); sigidago (Tagb.); taba-taba (Bik.); talig-haráp (Tag.); taua-taúa (Bik., Buk.); talauataúa (Mbo.); tiŋga-tiŋga (Tag.).

MUSSAENDA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 264; Elm. Leaf. Philip. Bot. 3 (1911) 991.

Semirara, *Merrill 4139*. In thickets at low altitudes. Endemic.

MUSSAENDA SCANDENS Elm. Leaf. Philip. Bot. 3 (1911) 992.

Mussaenda villosa Merr. in Philip. Journ. Sci. 5 (1910) Bot. 243; Elm. Leaf. Philip. Bot. 3 (1911) 992, non Wall.

Mindanao (Davao, Zamboanga, Lanao), *Elmer 11291, Warburg 14257, Clemens, B. S. 36596, 37307 Ramos & Edaño*. In forests along streams, altitude 600 to 800 m. Endemic.

Local name: Buai (Bag.).

MUSSAENDA SETOSA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 242.

Palawan, *Merrill 9496*. On forested ridges, altitude about 700 m. Endemic.

MUSSAENDA VIDALII Elm. Leaf. Philip. Bot. 3 (1911) 993.

Leyte, Mindanao (Bukidnon, Davao), *Elmer 11309, Wenzel 667, B. S. 38604, 38765, 39035, 39050, 39186 Ramos & Edaño*. In primary forests up to an altitude of 1,100 m. Endemic.

Local names: Ananayop (S. L. Bis.); botai (Bag.); bukang-bukang (Buk.).

EXCLUDED SPECIES

MUSSAENDA SERICEA Blume; F.-Vill. Novis. App. (1880) 108.

21. LUCINAEA de Candolle

LUCINAEA EPIPHYTICA Elm. Leaf. Philip. Bot. 5 (1913) 1873.

Catanduanes, Mindanao (Agusan), *Elmer 14147, B. S. 30463 Ramos*. On exposed forested ridges, altitude up to 1,500 m. Endemic.

Local name: Salimpatuŋgao (Mbo.).

LUCINAEA INVOLUCRATA Elm. Leaf. Philip. Bot. 3 (1911) 997.

Mindanao (Davao, Bukidnon), *Elmer 11227, Warburg 14268, B. S. 38709 Ramos & Edaño*. On exposed ridges, altitude about 1,100 m. Endemic.

Local name: Liŋgobalagus (Bag.).

LUCINAEA MONOCEPHALA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 241; Elm. Leaf. Philip. Bot. 3 (1911) 997.

Luzon (Laguna, Tayabas), Leyte, Negros, Mindanao (Surigao), *Merrill Phil. Pl. 1111, Wenzel 803, Baker 3258, B. S. 10034, 34731 Ramos, 34731 Ramos & Pascasio, F. B. 19074 Curran*. In damp primary forests at low altitudes. Endemic.

22. MYCETIA Reinwardt

(*Adenosacme* Wallich)

MYCETIA JAVANICA (Blume) Korth. in Nederl. Kruidk. Arch. 2 (1850) ex Valetton in Ic. Bogor. 3 (1908) 183, t. 270, Bull. Dept. Agr. Ind. Neerl. 10 (1907) 72; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 105.

Bertiera javanica Blume Bijdr. (1826) 987.

Adenosacme longifolia Rolfe in Journ. Bot. 23 (1885) 213; Vidal Rev. Pl. Vasc. Filip. (1886) 152, non ? Wall., non *Rondeletia longifolia* Wall.

Adenosacme mindanaensis Elm. Leaf. Philip. Bot. 3 (1911) 1002.

Luzon (Laguna, Albay, Sorsogon), Mindoro, Samar, Leyte, Panay, Mindanao (Agusan, Surigao, Lanao, Zamboanga). In very damp forests along streams at low and medium altitudes. Malay Peninsula to New Guinea.

Local names: Haliboi (Mbo.); kiling-kiling (Buk.); malbóg (S. L. Bis.); tabis (Bag.).

MYCETIA LATERIFLORA (Blume) Korth. in Nederl. Kruidk. Arch. 2 (1850) 118.

Bertiera lateriflora Blume Bijdr. (1826) 988.

Mycetia cauliflora Reinw. Syll. Ratisb. 2 (1828) 8; Valetton in Ic. Bogor. 3 (1909) 219, t. 281.

Adenosacme apoensis Elm. Leaf. Philip. Bot. 3 (1911) 1001.

Mindoro, Mindanao (Bukidnon, Davao, Lanao). In damp forests, altitude 600 to 1,200 m. Java, Malay Peninsula.

Local names: Pamagtingan (Buk.); tabis-kasiring (Bag.).

23. UROPHYLLUM Wallich

UROPHYLLUM ACUMINATISSIMUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 106.

Luzon (Laguna, Tayabas, Camarines, Sorsogon), *Merrill Phil. Pl. 1113, B. S. 10036, 15012, 23551, 20423 Ramos, 29216 Ramos & Edaño, 22780, 23027, 22973, 22971 McGregor, 25477 Yates*. In primary forests, at low altitudes. Endemic.

Very close to *U. arboreum* Korth., but with narrower leaves.

UROPHYLLUM ACUMINATUM Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 129.

Urophyllum streptopodium Elm. Leaf. Philip. Bot. 1 (1906) 40, non Wall.

Luzon (Cagayan, Bontoc, Ilocos Norte, Bontoc, Nueva Ecija, Bataan, Rizal, Tayabas), *Whitford 236, Elmer 6814, Merrill 3188, Phil. Pl. 374, F. B. 1334 Borden, 2825 Meyer, B. S. 13792, 32995 Ramos*. In primary forests, altitude 500 to 1,300 m. Endemic.

Local name: Arikiskis (Neg.).

UROPHYLLUM AFFINE Merr. in Philip. Journ. Sci. 17 (1920) 481.

Luzon (Tayabas, east coast), *B. S. 29117, 28482, 28716 Ramos & Edaño*. In damp primary forests at low altitudes. Endemic.

Local name: Kalasai (Tag.).

UROPHYLLUM ARBOREUM (Reinw.) Korth. in Nederl. Kruidk. Arch. 2 (1851) 194; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 227.

Wallichia arborea Reinw. ex Blume Cat. Gew. Buitenz. (1823) 11.

Urophyllum glabrum Jack in Roxb. Fl. Ind. 2 (1824) 186; DC. Prodr. 4 (1830) 441; Hook. f. Fl. Brit. Ind. 3 (1880) 98; Miq. Fl. Ind. Bat. 2 (1857) 223; Koord. & Val. Bijdr. Boom. Java 8 (1902) 66; Elm. Leaf. Philip. Bot. 1 (1906) 39; Merr. in Philip.

Bureau Forestry Bull. 1 (1903) 53, Philip. Journ. Sci. 2 (1907) Bot. 305.

Cymelonema memecyloides Presl Epim. (1851) 210; Walp. Ann. 3 (1853) 891.

Urophyllum memecyloides Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 119, Rev. Pl. Vasc. Filip. (1886) 152.

Luzon (Rizal, Laguna, Tayabas, Camarines), Polillo, Catanduanes, Mindoro, Samar, Leyte, Panay, Negros, Camiguin de Misamis, Mindanao. In primary forests at low and medium altitudes, often common. Malay Peninsula and Archipelago.

After examining a very large series of specimens, about 75 individual collections, I consider it best to refer *Cuming 1678*, the type of *Urophyllum memecyloides* Rolfe, to *U. arboreum* Korth.

Local names: Dabdaban (C. Bis.); kurudan (Mang.); maglimokon (C. Bis.); manambulanan (Buk.).

UROPHYLLUM BANAHAENSE Elm. Leaf. Philip. Bot. 1 (1906) 70.

Luzon (Rizal, Laguna, Tayabas, Batangas, Sorsogon), *Elmer 7746, 9188, 18257, 17484, 17064, 15914, 16166, 15019, Loher 6387, B. S. 29175, 28698, 28604, 29681 Ramos & Edaño*. In damp primary forests at medium altitudes, ascending to 1,000 m. Endemic.

UROPHYLLUM BATAANENSE Elm. Leaf. Philip. Bot. 1 (1906) 40; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 129, 2 (1907) Bot. 305.

Luzon (Ilocos Norte, Zambales, Bataan, Rizal, Camarines, Albay, Sorsogon), Mindoro, Sibuyan, Leyte, Panay, Negros. In primary forests chiefly at medium altitudes, ascending to 1,200 m in the mossy forests. Endemic.

Local names: Bikog (Tag.); magubahi (P. Bis.).

UROPHYLLUM CAUDATUM Merr. in Philip. Journ. Sci. 17 (1920) 481.

Luzon (Ilocos Norte), Panay, *B. S. 33348 Ramos, 32302 McGregor*. In primary forests, extending into the mossy forest, altitude 900 to 1,100 m. Endemic.

UROPHYLLUM ELLIPTIFOLIUM Merr. in Philip. Journ. Sci. 5 (1910) Bot. 247; Elm. Leaf. Philip. Bot. 3 (1911) 998.

Palawan, *F. B. 3871 Curran*. In forests on Mt. Pulgar, altitude 700 to 1,300 m. Endemic.

UROPHYLLUM GRANDISTIPULUM Merr. in Philip. Journ. Sci. 8 (1913) Bot. 61.

Mindoro, Catanduanes, Leyte, Samar, *B. S. 15372, 24530, 30504 Ramos, 40595 Ramos & Edaño*. In damp primary forests at low or medium altitudes. Endemic.

UROPHYLLUM LEYTENSE Merr. in Philip. Journ. Sci. 8 (1913) Bot. 62.

Leyte, *B. S. 15289 Ramos*. In forests, probably at or above 900 m altitude. Endemic.

UROPHYLLUM LUCBANENSE Elm. Leaf. Philip. Bot. 1 (1906) 71; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 227.

Luzon (Rizal, Laguna, Tayabas), Polillo, Catanduanes, Mindanao (Davao), *Elmer* 7945, 7937, 11846, *Whitford* 724, *Warburg* 12978, *Baker* 2419, 3157, *F. B.* 13074 *Curran*, 25121 *Amarillas*, 26788 *Mabesa*, *B. S.* 25420 *Yates*, 20569, 16645, 10945, 30415 *Ramos*, 10211, 22766 *McGregor*, 6940 *Robinson*. In primary forests at low and medium altitudes. Endemic.

Local names: Burobutig (Neg.), kabatigbatig (Bag.).

UROPHYLLUM LUZONIENSE Merr. in Philip. Journ. Sci. 12 (1917) Bot. 161.

Luzon (Tayabas, east coast), *B. S.* 26522 *Ramos & Edaño*. In primary forests, altitude probably above 300 m. Endemic.

UROPHYLLUM MINDORENSE Merr. in Philip. Journ. Sci. 20 (1922) 464.

Mindoro, *B. S.* 39279, 39398 *Ramos*. On forested slopes, altitude about 650 m. Endemic.

UROPHYLLUM MICROPHYLLUM Merr. in Philip. Journ. Sci. 12 (1917) Bot. 161.

altitude about 1,000 m. Endemic.

Luzon (Nueva Ecija), *B. S.* 26389 *Ramos & Edaño*. In primary forests,

UROPHYLLUM NEGROSENSE Merr. in Philip. Journ. Sci. 5 (1910) Bot. 247; Elm. Leaf. Philip. Bot. 3 (1911) 998.

Negros, *F. B.* 5550 *Everett*, 13574 *Meyer & Foxworthy*. In primary forests at low altitudes. Endemic.

UROPHYLLUM PANAYENSE Merr. in Philip. Journ. Sci. 17 (1920) 482.

Panay, *B. S.* 31421, 30819, 31318 *Ramos & Edaño*. In primary forests along streams at low or medium altitudes. Endemic.

UROPHYLLUM PLATYPHYLLUM Elm. Leaf. Philip. Bot. 3 (1911) 999.

Sibuyan, Catanduanes, *Elmer* 12363, *B. S.* 30548 *Ramos*. In forests at low and medium altitudes. Endemic.

UROPHYLLUM QUADRIBRACTEOLATUM Merr. in Philip. Journ. Sci. 17 (1920) 483.

Luzon (Apayao), *B. S.* 28161 *Fénix*. In damp forests at low or medium altitudes. Endemic.

UROPHYLLUM RETICULATUM Elm. Leaf. Philip. Bot. 3 (1911) 999.

Sibuyan, *Elmer* 12506. On ridges in the mossy forest, altitude about 1,200 m. Endemic.

UROPHYLLUM SUBGLABRUM Merr. in Philip. Journ. Sci. 12 (1917) Bot. 162.

Luzon (Nueva Ecija, Tayabas), *B. S.* 26507, 29196 *Ramos & Edaño*. In primary forests at low or medium altitudes. Endemic.

Local name: Tarembuyen (Neg.).

UROPHYLLUM URDANETENSE Elm. Leaf. Philip. Bot. 5 (1913) 1900.

Mindanao (Agusan), *Elmer 13788, 14155*. In the mossy forest, altitude 1,500 to 1,650 m; very close to *U. arboreum* Korth. Endemic.

Local name: Busayon (Mbo.).

24. PLEIOCARPIDIA K. Schumann

(*Aulacodiscus* Hooker f.)

PLEIOCARPIDIA LANAENSIS Merr. in Philip. Journ. Sci. 20 (1922) 462.

Mindanao (Lanao, Zamboanga, Bukidnon), *Merrill 8064, 8098, Clemens 882, B. S. 37226, 38988 Ramos & Edaño*. In forests along streams, ascending to 800 m altitude. Endemic.

25. WILLIAMSIDIA Merrill**WILLIAMSIDIA EVERETTII** (Merr.) comb. nov.

Praravinia everettii Merr. in Philip. Journ. Sci. 10 (1915) Bot. 107.

Negros, *F. B. 7268, 7294 Everett, Whitford 1525*. In primary forests, altitude about 700 m. Endemic.

WILLIAMSIDIA GLABRA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 108.

Luzon (Nueva Ecija, Laguna, Tayabas, Camarines), *B. S. 9484 Robinson, 23047 McGregor, 16587 Ramos, 26269, 33480 Ramos & Edaño*. In primary forests at low and medium altitudes. Endemic.

WILLIAMSIDIA LONGISTIPULA Merr. in Philip. Journ. Sci. 17 (1920) 485.

Mindanao (Agusan), *Merrill 7287*. In damp primary forests at low altitudes. Endemic.

WILLIAMSIDIA MINDANAENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1904.

Williamsia caudata Merr. in Philip. Journ. Sci. 9 (1914) Bot. 389.

Luzon (Rizal), Samar, Biliran, Leyte, Mindanao (Surigao, Agusan), *Elmer 13561, Wenzel 7, 686, 1868, B. S. 24386, 40792 Ramos, 18744 McGregor, 34782 Ramos & Pascasio, F. B. 26233 Ponce & Mallonga*. In primary forests at low and medium altitudes, ascending to 900 m. Endemic.

Local name: Siganog (Mbo.).

WILLIAMSIDIA MULTINERVIA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 107.

Mindanao (Zamboanga), Basilan, *Merrill 8085, B. S. 16110 Reillo, 36870 Ramos & Edaño, F. B. 18933 Miranda*. In primary forests, altitude 400 to 900 m. Endemic.

WILLIAMSIDIA PANAYENSIS Merr. in Philip. Journ. Sci. 17 (1920) 484.

Panay, *B. S. 31043, 31315, 31310 Ramos & Edaño*. In damp forests along streams at low altitudes. Endemic.

WILLIAMSIDIA SABLANSIS (Elm.) Merr. in Philip. Journ. Sci. 3 (1908) Bot. 165; Elm. Leaf. Philip. Bot. 3 (1911) 1000.

Urophyllum sablanense Elm. Leaf. Philip. Bot. 1 (1906) 39.

Luzon (Cagayan, Abra, Kalinga, Benguet, Nueva Vizcaya, Laguna, Tayabas), Panay, Mindanao, *Elmer 6131, 8551, Williams 1028, B. S. 26983, 8189 Ramos, 37507 Ramos & Edaño, 9371 Robinson*. In forests at low and medium altitudes. Endemic.

The genus is known only from the Philippines.

26. TARENNA Gaertner

TARENNA ACUMINATA Merr. in Philip. Journ. Sci. 17 (1920) 462.

Luzon (Apayao), *B. S. 13904, 13958 Ramos*. In forests at low altitudes. Endemic.

TARENNA ARBOREA Elm. Leaf. Philip. Bot. 4 (1912) 1359; Merr. in Philip. Journ. Sci. 17 (1920) 470.

Randia arborea Elm. op. cit. 3 (1911) 1005.

Luzon (Laguna, Camarines), Mindanao (Davao), *Elmer 10978, Merrill Phil. Pl. 1539, F. B. 10060 Curran*. In forests up to 500 m altitude. Endemic.

Local names: Kayotgauli (Bag.); malatugpó (Tag.); tumarau (Bik.).

TARENNA CATANDUANENSIS Merr. in Philip. Journ. Sci. 17 (1920) 463.

Luzon (Camarines), Catanduanes, *B. S. 30387 Ramos, 33630, 33824, 33483 Ramos & Edaño*. In forests at low altitudes. Endemic.

TARENNA CUMINGIANA (Vidal) Elm. Leaf. Philip. Bot. 5 (1913) 1898; Merr. in Philip. Journ. Sci. 17 (1920) 470.

Webera cumingiana Vidal Phan. Cuming. Philip. (1885) 178, Rev. Pl. Vasc. Filip. (1886) 152; Elm. Leaf. Philip. Bot. 1 (1906) 40.

Luzon (Tayabas, Camarines, Albay, Sorsogon), Mindoro, Biliran, Leyte, Bucas Grande, Mindanao (Surigao, Agusan), *Cuming 685, Elmer 15308, 14606, 14660, Ahern 313, 700, Wenzel 152, 531, 592, 844, B. S. 33570, 3667 Ramos & Edaño, 23393, 15318, 40650 Ramos, 18950 McGregor, 35079, 34388 Ramos & Pascasio*. In primary forests at low altitudes. Endemic.

Local names: Bigtúnṅon (S. L. Bis.); bagnag (Mbo.); butsiruang (Mang.); buyogtónṅon (C. Bis.).

TARENNA ELONGATA Merr. in Philip. Journ. Sci. 17 (1920) 464.

Dinagat, Bucas Grande, *B. S. 35218, 35076 Ramos & Pascasio*. In forests at low altitudes. Endemic.

TARENNA EUCRANTHA (Elm.) Merr. in Philip. Journ. Sci. 17 (1920) 471.

Pavetta eucrantha Elm. Leaf. Philip. Bot. 3 (1911) 1015, 5 (1913) 1886.

Stylocoryne incerta Elm. Leaf. Philip. Bot. 1 (1906) 33, non *Tarenna incerta* Koord. & Val.

Sibuyan, Samar, Leyte, Dinagat, Siargao, Mindanao (Agusan, Lanao, Zamboanga), *Elmer 12492, 7054, 13988, Clemens 584, 435, 652, Ahern 384, B. S. 24389, 24559 Ramos, 35177, 34838 Ramos & Pascasio*. In forests at low and medium altitudes. Endemic.

Local names: Luraṅgan (Sul.); malakublan (S. L. Bis.).

TARENNA FRAGRANS (Blume) Koord. & Val. Bijdr. Boom. Java 8 (1902) 77; Elm. Leaf. Philip. Bot. 4 (1912) 1358; Merr. in Philip. Journ. Sci. 17 (1920) 470.

Stylocoryna fragrans Blume Bijdr. (1826) 982.

Webera fragrans Hook. f. Fl. Brit. Ind. 3 (1880) 103; F.-Vill. Novis. App. (1880) 108.

Palawan, *Elmer 12768*. In forests at low altitudes; the identification is not certainly correct. Malay Peninsula and Archipelago.

TARENNA INCERTA Koord. & Val. Bijdr. Boom. Java 8 (1902) 269; Koord. Atlas Baumarten Java 3 (1915) f. 535; Merr. in Philip. Journ. Sci. 17 (1920) 469.

Randia wallichii Ceron Cat. Pl. Herb. Manila (1892) 95; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 266, 5 (1910) Bot. 289; Elm. Leaf. Philip. Bot. 3 (1911) 1004, non Hook. f.

Randia fitzalanii Elm. Leaf. Philip. Bot. 1 (1906) 31; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 130, non F. Muell.

Randia ebracteata Elm. Leaf. Philip. Bot. 4 (1912) 1354.

Tarenna ebracteata Elm. op. cit. 5 (1913) 1898.

Batan Islands, Luzon (Cagayan to Sorsogon, all or most provinces), Mindoro, Coron, Palawan, Mindanao (Bukidnon), Jolo. Chiefly in secondary forests at low and medium altitudes, represented by about 75 individual collections. Java and, probably, other parts of Malaya.

Local names: Anopag (Buk.); bosili (Pang.); malanánka (Sbl.); palak-pálak (Ilk.); palakpálak-na-puti (Pang.); pari-pariuan (Neg.); tabog (Bik.).

TARENNA LITTORALIS Merr. in Philip. Journ. Sci. 17 (1920) 465.

Stylocoryne webera Elm. Leaf. Philip. Bot. 1 (1906) 33, non Wall.

Luzon (Pangasinan, Zambales), Apo, Coron, Palawan, Dumarán, Burias, Sulu Archipelago (Ubian), *Merrill 9418, 412, 5390, 11531, Warburg 13845, F. B. 8380 Curran & Merritt, 7460, 3533, 4523 Curran, B. S. 5105, 41163 Ramos, 15602 Félix*. In forests at low altitudes, often on or near the seashore. Endemic.

TARENNA NITIDA Merr. in Philip. Journ. Sci. 17 (1920) 466.

Negros, *F. B. 23388 Contreras*. In forests at low altitudes. Endemic.

TARENNA OBTUSIFOLIA Merr. in Philip. Journ. Sci. 17 (1920) 467.

Bohol, Bucas Grande, *B. S. 1257 McGregor, 35077 Ramos & Pascasio*. In thickets or forests near the sea. Endemic.

TARENNA PALAWANENSIS (Elm.) Merr. in Philip. Journ. Sci. 17 (1920) 471.

Pavetta palawanensis Elm. Leaf. Philip. Bot. 4 (1912) 1344; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 117.

Palawan, *Elmer 12940*. In primary forests at low altitudes. Endemic.

TARENNA PANGASINENSIS Merr. in Philip. Journ. Sci. 20 (1922) 458.

Luzon (Pangasinan), *F. B. 28419 Zamuco*. Near streams at low altitudes. Endemic.

TARENNA SCABERULA Merr. in Philip. Journ. Sci. 17 (1920) 471.

Pavetta scaberula Merr. in Philip. Journ. Sci. 10 (1915) Bot. 118.

Luzon (Cagayan, Laguna, Tayabas, Camarines), *B. S. 13114 Ramos & Foxworthy, 20506, 13524, 23815 Ramos, F. B. 22632 Alvarez*. In forests at low and medium altitudes. Endemic.

TARENNA STENANTHA Merr. in Philip. Journ. Sci. 17 (1920) 468.

Stylocoryne macrophylla Elm. Leaf. Philip. Bot. 1 (1906) 33; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 129, non Bartl.

Luzon (Ilocos Norte, Bataan, Batangas, Tayabas), Mindoro, *B. S. 29003 Ramos & Edaña, 27179, 33085, 32849, 22328 Ramos, F. B. 2573, 3030*

Borden, 2691 Ahern's collector, 3726 Merritt. In forests at low and medium altitudes. Endemic.

Local name: Basa (P. Bis.).

EXCLUDED SPECIES

WEBERA CORYMBOSA Willd.; F.-Vill. Novis. App. (1880) 108.

WEBERA ODORATA Roxb.; F.-Vill. l. c.

27. RANDIA Houstoun

RANDIA AURICULATA (Wall.) K. Schum. in Engl. & Prantl Nat. Pflanzenfam. 4¹ (1891) 75; King & Gamble in Journ. As. Soc. Beng. 72² (1903) 207; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 427.

Webera auriculata Wall. in Roxb. Fl. Ind. 2 (1824) 537.

Cupia auriculata DC. Prodr. 4 (1830) 394.

Pseudixora auriculata Miq. Fl. Ind. Bat. 2 (1857) 210.

Anomanthodia auriculata Hook. f. Fl. Brit. Ind. 3 (1880) 108.

Randia corymbosa Boerl. in Koord. & Val. Bijdr. Boom. Java 8 (1902) 88, non W. & A.

Luzon (Laguna), Mindoro, Negros, Leyte, Mindanao (Agusan), Basilan, *Whitford 1624, Merrill 7317, F. B. 6792 Merritt, 7278, 4265 Everett, 19066 Curran, B. S. 16169, 16149 Reillo.* In primary forests at low altitudes. Malay Peninsula and Archipelago.

RANDIA BAKERI Merr. in Philip. Journ. Sci. 10 (1915) Bot. 109.

Luzon (Tayabas), Samar, *Baker 3253, B. S. 24488 Ramos.* In primary forests at low altitudes. Endemic.

RANDIA GRACILIFLORA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 109.

Mindanao (Misamis), *F. B. 17988 Miranda.* In forests along small streams, altitude about 120 m. Endemic.

RANDIA LANCEOLATA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 57.

Luzon (Cagayan, Apayao), *F. B. 11626 Fischer, B. S. 28123 Fénix.* On rocky river banks subject to overflow in times of heavy rain. Endemic.

RANDIA MICROCARPA (Bartl.) comb. nov.

Gardenia ? microcarpa Bartl. ex DC. Prodr. 4 (1830) 384; F.-Vill. Novis. App. (1880) 109.

Randia cumingiana Vidal Phan. Cuming. Philip. (1885) 179, Rev. Pl. Vasc. Filip. (1886) 153; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 53, Philip. Journ. Sci. 1 (1906) Suppl. 130, Fl. Manila (1912) 449; Elm. Leaf. Philip. Bot. 1 (1906) 32.

Luzon (Ilocos Norte to Sorsogon, in most provinces), Golo, Mindanao (Zamboanga). Common in thickets and some secondary forests at low altitudes. Endemic.

Local names: Kanin-palak (Ilk.); malabanahi (Sbl.); matang-labúyo (Tag.); pala-pala (Bik.).

RANDIA MINDORENSIS Elm. Leaf. Philip. Bot. 1 (1906) 28.

Mindoro, *Merrill 3326, Cuming 1579, F. B. 9975 Merritt, B. S. 31301 Escritor, 40895, 40922 Ramos.* In forests at low altitudes. Endemic.

RANDIA PUBIFOLIA Elm. Leaf. Philip. Bot. 5 (1913) 1895.

Mindanao (Agusan), *Elmer 14060*. In humid forests, altitude about 1,000 m. Endemic.

RANDIA PULCHERRIMA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 164; Elm. Leaf. Philip. Bot. 3 (1911) 1003.

Luzon (Laguna, Tayabas, Camarines), Catanduanes, Mindanao (Lanao), *Clemens 765, Elmer 9127, Merrill Phil. Pl. 1162, B. S. 30432 Ramos, 33902 Ramos & Edaño, F. B. 7863 Curran & Merritt*. In primary forests at medium altitudes. Endemic.

RANDIA RACEMOSA (Cav.) F.-Vill. Novis. App. (1880) 108; Maxim. in Bull. Acad. St. Pétersb. 29 (1884) 167; Hemsl. in Journ. Linn. Soc. Bot. 23 (1888) 382; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 265.

Stylocoryna racemosa Cav. Ic. 3 (1797) 46, *t. 368*; DC. Prodr. 4 (1830) 377.

Randia densiflora Benth. Fl. Hongk. (1861) 155; F.-Vill. Novis. App. (1880) 108; Elm. Leaf. Philip. Bot. 1 (1906) 32; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 130.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most islands and provinces. Chiefly in secondary forests at low altitudes. Riu Kiu Islands and southern China to the Malay Peninsula and Archipelago, Marianne Islands, and tropical Australia.

Local names: Kapi-kapí (Bik.); malakapé (Tag.); malatadiáng (Tag.); ngarusángis (Ilk.); panalayapen (Ilk.).

RANDIA ROSTRATA Merr. in Philip. Journ. Sci. 17 (1920) 460.

Bucas Grande, *B. S. 35102 Ramos & Pascasio*. In forests at low altitudes. Endemic.

RANDIA SAMALENSIS Elm. Leaf. Philip. Bot. 1 (1906) 29.

Mindanao (Davao), *Copeland 847*. In forests at low altitudes. Endemic.

RANDIA STENOPHYLLA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 245; Elm. Leaf. Philip. Bot. 3 (1911) 1004.

Luzon (Bulacan), *F. B. 7170 Curran*. On rocky river banks subject to sudden overflow. Endemic.

RANDIA TICAENSIS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 245; Elm. Leaf. Philip. Bot. 3 (1911) 1004.

Ticao, *F. B. 12547 Rosenbluth*. In forests at low altitudes. Endemic. Local name: Turutulang (S. L. Bis.).

RANDIA UMBELLATA Elm. Leaf. Philip. Bot. 1 (1906) 31.

Luzon (Laguna, Tayabas, Albay, Sorsogon), Mindoro, Catanduanes, Leyte, Panay, Negros, Mindanao, *Copeland 1302, Warburg 12981, Elmer 14492, 15316, 11755, 10700, Merrill Phil. Pl. 1320, Cuming 852, F. B. 12390 Curran, 3647 Merritt, B. S. 30334 Ramos, 31470, 31102, 30885 Ramos & Edaño*. In primary forests at low and medium altitudes. Endemic.

Local names: Kape-kapé (Buk.); ubali (Bag.).

RANDIA UNCARIA Elm. Leaf. Philip. Bot. 1 (1906) 30, 4 (1912) 1354; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 130.

Luzon (Zambales, Bataan, Laguna, Camarines, Sorsogon), Mindoro, Palawan, Samar, Leyte, Panay, Mindanao, Basilan. Chiefly in primary forests at low and medium altitudes, represented by numerous collections. Endemic.

Local names: Kauilan (S. L. Bis.); kerí-kerí (Tagb.).

RANDIA WHITFORDII (Elm.) Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 130, 3 (1908) Bot. 437; Elm. Leaf. Philip. Bot. 3 (1911) 1004, 5 (1913) 1895.

Gardenia whitfordii Elm. Leaf. Philip. Bot. 1 (1906) 4.

Randia fasciculiflora Elm. Leaf. Philip. Bot. 1 (1906) 4, pro minore parte.

Babuyan Islands, Luzon (Cagayan, Ilocos Norte, Pangasinan, Zambales, Bataan, Rizal, Laguna, Sorsogon), Palawan, Leyte, Samar, Mindanao (Agusan). In primary forests at low and medium altitudes, represented by numerous collections; probably referable to some other genus. Endemic.

Local names: Gisgis (Tagb.); linuan (Ibn.); malabayábas (Tag.); malakafé (Tag.); ohana (Neg.); pañga (Ilk.); sapilan (Tag.); simag-tonog (Mbo.).

RANDIA WILLIAMSII Elm. Leaf. Philip. Bot. 3 (1911) 1004.

Sibuyan, Mindanao (Zamboanga), *Elmer* 12474, *Williams* 2161. In primary forests at low altitudes. Endemic.

DOUBTFUL AND EXCLUDED SPECIES

STIGMANTHUS CYMOSUS Blanco Fl. Filip. ed. 2 (1845) 117, ed. 3, 1 (1877) 209; Merr. Sp. Blancoanae (1918) 362, non Lour.

The status of this form is indeterminable from Blanco's very imperfect description. It may be a *Randia*.

RANDIA SPINOSA (Thunb.) Blume; Merr. Fl. Manila (1912) 449.

Randia dumetorum Lam.; F.-Vill. Novis. App. (1880) 108.

This was admitted in the Flora of Manila on the basis of a single introduced plant in cultivation; it has apparently not persisted.

RANDIA MALABARICA Lam.; F.-Vill. Novis. App. (1880) 108.

28. GARDENIA Ellis

GARDENIA AUGUSTA (Linn.) Merr. Interpret. Herb. Amb. (1917) 485.

Varneria augusta Linn. Amoen. Acad. 4 (1759) 136.

Gardenia jasminoides Ellis in Philos. Trans. 51² (1761) 935.

Gardenia florida Linn. Sp. Pl. ed. 2 (1762) 305; DC. Prodr. 4 (1830) 378; Miq. Fl. Ind. Bat. 2 (1857) 229; F.-Vill. Novis. App. (1880) 109; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 154; Merr. Fl. Manila (1912) 449.

Cultivated for ornamental purposes, but nowhere spontaneous. Only the double-flowered form occurs in the Philippines. Pantropic in cultivation, a native of southern China.

Local name: Rosál (Sp.).

GARDENIA CURRANII Merr. Sp. Blancoanae (1918) 363.

Randia aculeata Blanco Fl. Filip. (1837) 141, ed. 2 (1845) 99, ed. 3, 1 (1877) 183, non Linn.

Luzon (Rizal, Pangasinan, Bataan, Batangas), *F. B.* 6339, 6342 Curran, *B. S.* 3340 Ramos, 17879 Otanes, *Merrill Sp. Blancoanae* 76. In thickets and forests at low altitudes. Rare or local. Endemic.

Local names: Malarayap (Tag.); malasampága (Tag.); sinasampága (Tag.).

GARDENIA LAGUNENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 110.

Luzon (Cagayan, Bulacan, Rizal, Laguna, Tayabas), Busuanga, *Baker* 3176, *F. B.* 24936 Bawan, 27085 Bernardo, *B. S.* 14934, 22297, 41254 Ramos, 29392 Ramos & Edaño, *Merrill Phil. Pl.* 1401. In primary forests at low altitudes. Endemic.

Local name: Makaboyo (Neg.).

GARDENIA LONGIFLORA Vidal Rev. Pl. Vasc. Filip. (1886) 153; Elm. Leaf. Philip. Bot. 3 (1911) 1006.

Gardenia glutinosa Elm. Leaf. Philip. Bot. 4 (1912) 1331, non T. & B.

Gardenia lucida DC. Prodr. 4 (1830) 381, p. p., quoad Philip.

Luzon (Cagayan, Isabela, Rizal, Laguna, Tayabas, Camarines, Sorsogon), Busuanga, Palawan, Samar, Sibuyan, Mindanao (Zamboanga), *Merrill Phil. Pl.* 1279, 1360, 1325, *Elmer* 12103, *B. S.* 20508, 2689, 23682, 24401 Ramos, 33747 Ramos & Edaño, 21566 Escritor, 34533 Ramos & Pascasio, *F. B.* 24116 Velasco, 15478 Bernardo, 25640, 25658 Cailipan, 2673 Ahern's collector, 28435 Ponce. In primary forests at low altitudes. Endemic.

Apparently distinct, although closely allied to the Malayan *G. tubifera* Wall., to which *G. glutinosa* T. & B. is reduced.

Local names: Antatap (Klg.); balanigan (Tagb.); kalumála (Tag.); tapolau (Tag.).

GARDENIA MEGALOCARPA Merr. in Philip. Journ. Sci. 20 (1922) 463.

Mindoro, *B. S.* 38919 Ramos. In forests at low altitudes. Endemic.

GARDENIA MERRILLII Elm. Leaf. Philip. Bot. 1 (1906) 5, 4 (1912) 1330.

Luzon (Tayabas), Golo, Mindoro, Culion, Busuanga, Palawan, Romblon, Panay, Negros. In thickets and secondary forests at low altitudes. Borneo and apparently also in Celebes (sterile material).

Local names: Bagaoi (P. Bis.); niog-nióg (P. Bis.); tayakan (Mang.).

GARDENIA MORINDAEFOLIA Elm. Leaf. Philip. Bot. 1 (1906) 67.

Luzon (Ilocos Norte, Union, Bataan, Tayabas, Laguna), Palawan, Ticao, *B. S.* 32706, 27316, 27409 Ramos, 1479 Ahern's collector, 6343 Curran, 2041 Borden, 1029 Clark, *Merrill* 9436. In thickets and forests at low altitudes, often along the seashore on cliffs, etc. Endemic.

Local name: Lanígai (S. L. Bis.).

GARDENIA NEGROSENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 111.

Leyte, Negros, Panay, Mindanao (Zamboanga), *Wenzel* 741, 641, *B. S.* 31435, 31358, 36787 Ramos & Edaño, *F. B.* 22669 Curran, 26596 Sandique,

23868 Cardona, 4202, 4245, 5569, 7305, 7255 Everett. In primary forests at low altitudes. Endemic.

Local names: Bato-bató (P. Bis.); magúpung (S. L. Bis.); maliámad (Sub.); paítan (P. Bis.); timban-tímban (P. Bis.).

GARDENIA OBSCURINERVIA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 32.

Luzon (Laguna, Sorsogon), Catanduanes, *B. S.* 23492, 30375 Ramos, 22858 McGregor. In primary forests at low altitudes; this probably belongs in some other genus. Endemic.

GARDENIA PSEUDOPSIDIUM (Blanco) F.-Vill. Novis. App. (1880) 109; Vidal Sinopsis Atlas (1883) 29, *t.* 57, *f.* D; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 54, Sp. Blancoanae (1918) 363; Elm. Leaf. Philip. Bot. 1 (1906) 5.

Sulipa pseudopsidium Blanco Fl. Filip. (1837) 497, ed. 2 (1845) 347, ed. 3, 2 (1878) 280.

Gardenia barnesii Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 47, Philip. Journ. Sci. 1 (1906) Suppl. 131; Elm. Leaf. Philip. Bot. 1 (1906) 5.

Luzon (Cagayan, Benguet, Nueva Vizcaya, Pangasinan, Tarlac, Rizal, Bataan, Batangas, Laguna, Tayabas, Camarines), Mindoro, Busuanga, Masbate, Negros, Samar, Mindanao (Cotabato). In primary forests at low altitudes, common; like *G. segmenta* Elm., closely allied to *G. carinata* Wall.

Local names: Barambang (Pang.); bayag-usá (Tag.); bukok (S. L. Bis.); bunútan (Neg.); butunalaga (Neg.); gililak (Tag.); kalanigai (P. Bis.); kalanigi (P. Bis.); kalapi (Tag.); kasablan (Mag.); kasikas (Ig.); lamóg (Mag.); lono-lóno (Bag.); malabayábas (Tag.); malatambís (Chab.); sulípa (Tag.).

GARDENIA PUBIFOLIA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 112.

Mindanao (Davao), *B. S.* 19343 Wester. In thickets near the seashore. Endemic.

GARDENIA SEGMENTA Elm. Leaf. Philip. Bot. 4 (1912) 1331.

Palawan, Mindanao (Davao), *Elmer* 13153, *Williams* 2942, *B. S.* 838 Foxworthy, *F. B.* 4147 Curran, 26598 Ceballos. In primary forests at low altitudes. Closely allied to *G. pseudopsidium* (Blanco) F.-Vill., from which it differs in its pubescent corolla tubes; also allied to the Malayan *G. carinata* Wall. Endemic.

EXCLUDED SPECIES

GARDENIA CARINATA Wall.; F.-Vill. Novis. App. (1880) 109.

GARDENIA THUNBERGIA Linn. f. Suppl. (1781) 162; Willd. Sp. Pl. 1 (1797) 1226; R. & S. Syst. 5 (1819) 237; DC. Prodr. 4 (1830) 382; Miq. Fl. Ind. Bat. 2 (1857) 233 (*thunbergiana*); F.-Vill. Novis. App. (1880) 109.

The type of the species is manifestly the Cape of Good Hope plant. The reference to Manila is apparently based on Sonnerat's statement, Voyage a la Nouvelle Guinée (1776) 47, that his *Bergkias* occurred also

in Luzon; from his discussion of the Luzon plant as the large *pandacqui*, and that the natives used the latex for the same purposes as the ordinary or small *pandacqui*, I suspect the Philippine plant he confused with the Cape of Good Hope one to have been *Voacanga globosa* (Blanco) Merr.

SULIPA GLOBOSA Blanco Fl. Filip. ed. 2 (1845) 348, ed. 3, 2 (1878) 290; Merr. Sp. Blancoanae (1918) 384.

Blanco described only the fruit, and his species is unrecognizable. F.-Villar reduced it to *Planchonia littoralis* Blume.

29. VILLARIA Rolfe

VILLARIA ACUTIFOLIA (Elm.) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 248; Elm. Leaf. Philip. Bot. 3 (1911) 1007.

Gardenia acutifolia Elm. Leaf. Philip. Bot. 1 (1906) 6.

Mindanao (Davao), *Williams 2975, Copeland 437*. In forests at low altitudes. Endemic.

VILLARIA ODORATA (Blanco) Merr. Sp. Blancoanae (1918) 363.

Remijia odorata Blanco Fl. Filip. ed. 2 (1845) 115, ed. 3, 1 (1877) 205, t. 56.

Villaria littoralis Vidal Phan. Cuming. Philip. (1885) 180, Rev. Pl.

Vasc. Filip. (1886) 154; Elm. Leaf. Philip. Bot. 3 (1911) 1007;

Merr. in Philip. Journ. Sci. 3 (1908) Bot. 437.

Gardenia elliptica Elm. Leaf. Philip. Bot. 1 (1906) 6.

Luzon (Laguna, Tayabas, Camarines, Albay, Sorsogon), Samar, Mindanao (Surigao), *Cuming 874, Elmer 16770, Merrill 1027, 5441, Whitford 705, 844, 752, B. S. 19488 Ramos, 29128 Ramos & Edaño, 20797 Escritor, F. B. 26714 Peñas, 10183, 10696 Curran, 26013 Cailipan*. In thickets along the seashore, occasionally also inland. Endemic.

Local names: Butong-manók (Tag.); kumbatol (Tag.); tanhas (S. L. Bis.).

VILLARIA PHILIPPINENSIS Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 311, t. 10, f. 1-8; Vidal Rev. Pl. Vasc. Filip. (1886) 154; Elm. Leaf. Philip. Bot. 3 (1911) 1007.

Luzon (Cagayan, Tayabas, Camarines), Catanduanes, Leyte, Siargao, Dinagat, *B. S. 8080, 13935, 13341, 30466 Ramos, 34978, 34979 Ramos & Pascasio, F. B. 23252, 23262 Barros, 23268 Velasco, Ahern 457*. In secondary forests at low altitudes. Endemic.

Local names: Lasgas (Bik.); otto (Ibn.); riki-riki (Ilk.); tañgo-tañgo (C. Bis.).

VILLARIA ROLFEI Vidal Phan. Cuming. Philip. (1885) 180, Rev. Pl. Vasc. Filip. (1886) 154; Elm. Leaf. Philip. Bot. 3 (1911) 1007.

Batan and Babuyan Islands, Luzon (Cagayan, Isabela), *Cuming 1271, F. B. 14742, 14744, 14749, 14752 Darling, 11585, 17100, 17119 Curran, 26648 Peñas, B. S. 3811, 29235 Fénix, 21152, 21163 Escritor*. Along the seashore and in thickets inland; scarcely distinguishable from *V. odorata* Merr. Endemic.

The genus is confined to the Philippines.

30. PETUNGA de Candolle

PETUNGA LONGIFOLIA DC. Prodr. 4 (1830) 399; Elm. Leaf. Philip. Bot. 5 (1913) 1886.

Higginsia longifolia Blume ex DC. l. c. in syn.

Mindanao (Agusan), *Elmer 13928*. In secondary forests at low altitudes. Malay Peninsula, Sumatra, Java.

Local name: Anislag (Mbo.).

PETUNGA RACEMOSA (Roxb.) K. Schum. in Engl. & Prantl Nat. Pflanzenfam. 4⁴ (1891) 80; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 426; Elm. Leaf. Philip. Bot. 3 (1911) 1007, 4 (1912) 1345.

Randia racemosa Roxb. Hort. Beng. (1814) 15, *nomen nudum*, Fl. Ind. 2 (1824) 144.

Petunga roxburghii DC. Prodr. 4 (1830) 399; Hook. f. Fl. Brit. Ind. 3 (1880) 120.

Palawan, Balabac, *Elmer 12756*, *B. S. 477 Mangubat*. In forests at low altitudes. India to the Malay Peninsula, Sumatra, Borneo, and Java.

31. COWIEA Wernham

COWIEA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 20 (1922) 459.

Mindanao (Zamboanga), *B. S. 36819, 36683 Ramos & Edaña*. In damp forests along streams at low altitudes. Endemic.

The genus has one other known species in Borneo.

32. SCYPHIPHORA Gaertner f.

SCYPHIPHORA HYDROPHYLLACEA Gaertn. f. Fruct. 3 (1805) 91, *t. 196*; DC. Prodr. 4 (1830) 577; Miq. Fl. Ind. Bat. 2 (1857) 239; Hook. f. Fl. Brit. Ind. 3 (1880) 125; F.-Vill. Novis. App. (1880) 109; Vidal Sinopsis Atlas (1883) 29, *t. 57, f. G*, Rev. Pl. Vasc. Filip. (1886) 154; Koord. & Val. Bijdr. Boom. Java 8 (1902) 125; Elm. Leaf. Philip. Bot. 1 (1906) 32; Merr. Sp. Blancoanae (1918) 364.

Psychotria philippensis Cham. & Schlecht. in Linnaea 4 (1829) 21; DC. Prodr. 4 (1830) 505; Miq. Fl. Ind. Bat. 2 (1857) 282; F.-Vill. Novis. App. (1880) 112; Elm. Leaf. Philip. Bot. 1 (1906) 22.

Ixora manila Blanco Fl. Filip. (1837) 60, ed. 2 (1845) 42, ed. 3, 1 (1877) 7, *t. 277*.

Northern Luzon to Palawan and Mindanao, in mangrove swamps and along most tidal streams subject to the influence of salt or brackish water. India through Malaya to New Caledonia.

Local names: Agnáya (Sbl.); aranáyá (Pang.); arináya (Ilk.); bala-siai (Sbl.); hanbuláli (P. Bis.); kulási (Tag.); landíng (Tag.); nílád (Tag.); nílár (Tag.); sabása (Tag.); sagása (Tag., Lan., Sul., P. Bis.); tabau (P. Bis.); tagisak (Mag.); tugisak (Mag.); unas (Bag.).

33. HYPOBATHRUM Blume

HYPOBATHRUM GLOMERATUM (Bartl.) K. Schum. in Engl. & Prantl Nat. Pflanzenfam. 4⁴ (1891) 156; Merr. Fl. Manila (1912) 450, Sp. Blancoanae (1918) 364; Elm. Leaf. Philip. Bot. 1 (1908) 8.

Platymerium glomeratum Bartl. in DC. Prodr. 4 (1830) 619; Miq. Fl. Ind. Bat. 2 (1857) 200; F.-Vill. Novis. App. (1880) 113.

Serissa pinnata Blanco Fl. Filip. (1837) 163.

Remijia angatensis Blanco op. cit. ed. 2 (1845) 115, ed. 3, 1 (1877) 206.

Remijia obscura Blanco op. cit. ed. 2, 116 (*obscura*), ed. 3, 1: 207.

Remijia odorata Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 56.

Randia obscura F.-Vill. Novis. App. (1880) 108.

Randia angatensis F.-Vill. Novis. App. (1880) 108; Elm. Leaf. Philip. Bot. 1 (1906) 28; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 130.

Gardenia obscura Vidal Sinopsis Atlas (1883) 29, t. 57, f. B, Phan. Cuming. Philip. (1885) 119, Rev. Pl. Vasc. Filip. (1886) 153; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 54.

Gardenia pinnata Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 53.

Hypobathrum parviflorum Elm. Leaf. Philip. Bot. 1 (1906) 8, non Miq.

Luzon (Ilocos Norte, Pangasinan, Zambales, Nueva Ecija, Pampanga, Bulacan, Batan, Rizal, Batangas, Camarines), Mindanao (Davao). In thickets, hedges, and secondary forests at low altitudes. Endemic.

Local names: Bayábas-aso (Pamp.); kalagrí (Tag.); karaglí (Tag.); kasiuai (Pang.); malabayábas (Tag.); malatadiáng (Tag.); pagbut (Pamp.); sigai-sigai (Pang.); tulos-túlos (Tag.).

HYPOBATHRUM PURPUREUM (Elm.) comb. nov.

Tricalysia purpurea Elm. Leaf. Philip. Bot. 1 (1906) 70.

Luzon (Bulacan, Zambales, Bataan, Laguna, Tayabas, Sorsogon), Alabat, Samar, Leyte, *Elmer* 7616, 15511, 16598 as *Randia purpuricarpa* Elm., 15674, 15925 as *Tricalysia multibracteata* Elm., *Whitford* 1061, *Williams* 265, *Wenzel* 251, 1539, 1551, *B. S.* 26853 *Edaño*, 21193 *Escritor*, 29366, 28586, 34067 *Ramos & Edaño*, 1000, 14992 *Ramos*, *F. B.* 2928, 1374 *Borden*. In primary forests at low and medium altitudes. Endemic.

34. TRICALYSIA A. Richard

TRICALYSIA FASCICULIFLORA (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 113.

Randia fasciculiflora Elm. Leaf. Philip. Bot. 1 (1906) 113.

Diplospora fasciculiflora Elm. Leaf. Philip. Bot. 3 (1911) 1007.

Gardenia whitfordii Elm. op. cit. 4, pro parte.

Luzon (Cagayan, Bontoc, Benguet, Nueva Ecija, Bulacan, Bataan, Rizal, Batangas, Tayabas, Camarines), Culion, Palawan, Masbate, Mindanao (Cotabato). In primary forests at low and medium altitudes, ascending to 1,600 m. Endemic.

Local names: Kalamaní (Tagb.); kaping-búndok (Tag.); malagañgau (Bik.); malakafé (Tag.); malakaféng-gúbat (Tag.).

Var. OBLONGIFOLIA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 113.

Hypobathrum frutescens Elm. Leaf. Philip. Bot. 1 (1906) 7, non Blume.

Luzon (Rizal, Tayabas, Camarines, Sorsogon), *F. B.* 3366 *Ahern's collector*, *B. S.* 1117, 19445 *Ramos*, *Ahern* 248, *Elmer* 17164 as *Tricalysia sorsogonensis* Elm. In forests at low and medium altitudes; approximating the Malayan *Diplospora singularis* Korth. Endemic.

TRICALYSIA NEGROSENSIS Elm. Leaf. Philip. Bot. 2 (1908) 518.

Negros, *Elmer* 9685. In primary forests, altitude about 1,050 m. Endemic.

Local name: Louat (C. Bis.).

TRICALYSIA PUBERULA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 113.

Luzon (Isabela, Laguna), Catanduanes, *B. S.* 20431, 30205 *Ramos*, *F. B.* 26792 *Mabesa*, 24089 *Barros*. In primary forests at low altitudes, ascending to 300 m. Endemic.

Local names: Malakafé (Tag.); mehebenabe (Klg.).

TRICALYSIA SESSILIS (Elm.) comb. nov.

Diplospora sessilis Elm. Leaf. Philip. Bot. 4 (1912) 1329.

Palawan, *Elmer* 13139. On gravel bars along Iwahig River, altitude about 150 m; probably referable to some other genus. Endemic.

TRICALYSIA TINAGAOENSIS Elm. Leaf. Philip. Bot. 1 (1906) 34.

Phaleria axillaris Elm. op. cit. 8 (1915) 2840.

Samar, Leyte, Negros, Dinagat, Tinago, Mindanao (Agusan, Lanao, Zamboanga), Basilan, *Ahern* 417, *Elmer* 13883, *Williams* 2329, *Merrill* 8097, *Clemens* 1031, *Wenzel* 1112, *B. S.* 24796 *Edaño*, 15334 *Ramos*, 35153, 35164 *Ramos & Pascasio*, 36653, 37333 *Ramos & Edaño*, 16170 *Reillo*, *F. B.* 18938 *Miranda*, 5555 *Everett*, 13693 *Curran*, 23315 *Agama*, 27035 *Malaua*. In primary forests at low and medium altitudes, ascending to 900 m. Endemic.

Local names: Dahingyoyon (Mbo.); kapikapíhan (Tag.); kulipápa (Bik.).

35. KNOXIA Linnaeus

KNOXIA CORYMBOSA Willd. Sp. Pl. 1 (1797) 582; Hook. f. Fl. Brit.

Ind. 3 (1880) 128; F.-Vill. Novis. App. (1880) 109; Vidal Phan.

Cuming. Philip. (1885) 119, Rev. Pl. Vasc. Filip. (1886) 155.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Bontoc, Benguet, Lepanto, Nueva Vizcaya, Pangasinan, Zambales, Bulacan), Culion, Palawan, Mindanao (Bukidnon, Lanao, Davao). In open places, on banks, etc., sometimes at sea level, more commonly at medium altitudes, ascending to 1,500 m. India to China through Malaya to tropical Australia.

Local names: Dapit (Bon.); sambit (Bag.).

36. PLECTRONIA Linnaeus

PLECTRONIA BRUNNEA Merr. in Philip. Journ. Sci. 17 (1920) 441.

Luzon (Tayabas, Camarines, east coast), *B. S.* 28791, 28612, 33858, 33916 *Ramos & Edaño*. In the mossy forest, altitude about 1,000 m. Endemic.

PLECTRONIA CORDATA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 166.

Luzon (Tayabas, east coast), *B. S.* 26549 *Ramos & Edaño*. On forested slopes, altitude about 2,000 m. Endemic.

PLECTRONIA CULIONENSIS (Elm.) comb. nov.

Lasianthus culionensis Elm. Leaf. Philip. Bot. 1 (1906) 11.

Culion, *Merrill* 615, *B. S.* 41203, 41399 *Ramos*. In dry secondary forests at low altitudes. Endemic.

PLECTRONIA DICOCCA (Gaertn.) comb. nov.

Psydrax dicoccos Gaertn. Fruct. 1 (1788) 125, t. 26.

Canthium didymum Gaertn. f. Fruct. 3 (1805) 94; Hook. f. Fl. Brit. Ind. 3 (1880) 132; Trimen Fl. Ceyl. 2 (1894) 343; F.-Vill. Novis. App. (1880) 109; Vidal Phan. Cuming. Philip. (1885) 119, Rev. Pl. Vasc. Filip. (1886) 155.

Plectronia didyma Elm. Leaf. Philip. Bot. 1 (1906) 28, 4 (1912) 1346.

Luzon (Benguet, Pangasinan, Zambales, Bataan, Rizal, Batangas), Mindoro, Palawan, Ticao, Guimaras, Negros, Bucas Grande, Mindanao, *Elmer* 6365, 12829, 13180, *Merrill Phil. Pl.* 1826, 1399, *B. S.* 17756 *Otanes*, 1020, 3260, 3344 *Ramos*, 29304 *Ramos & Edaño*, *F. B.* 6946, 19406 *Curran*, 320 *Gammill*, 23403 *Contreras*, 9422, 9468 *Whitford & Hutchinson*. In secondary and primary forests at low altitudes. India to Malaya.

Local names: Bogas (P. Bis.); luing-lúing (P. Bis.); malakafé (P. Bis.); tandan (Mag.).

PLECTRONIA ELLIPTICA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 165.

Luzon (Nueva Ecija, Rizal), *B. S.* 29594, 26327 *Ramos & Edaño*. In forests at medium altitudes. Endemic.

PLECTRONIA FENICIS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 50.

Luzon (Benguet, Tayabas), Cebu, *B. S.* 12693 *Fénix*, 26565 *Ramos & Edaño*, *F. B.* 6424 *Espinosa*. In secondary forests at medium altitudes. Endemic.

Local name: Mapugáhan (C. Bis.).

PLECTRONIA GLANDULOSA (Blanco) Merr. Sp. Blancoanae (1918) 365.

Ixora glandulosa Blanco Fl. Filip. (1837) 61, ed. 2 (1845) 42, ed. 3, 1 (1877) 78.

Polyozus bipinnatus Blanco op. cit. ed. 2 (1845) 43, ed. 3, 1 (1877) 79.

Plectronia viridis Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 131; Elm. Leaf. Philip. Bot. 3 (1911) 1008.

Plectronia villarii Elm. Leaf. Philip. Bot. 1 (1906) 28, non *Canthium villarii* Vid.

Randia fasciculata Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 105, non DC.

Luzon (Cagayan, Bataan, Rizal, Tayabas), Mindoro, Sibuyan, Negros, Mindanao, *Merrill* 3945, *Phil. Pl.* 783, *Sp. Blancoanae* 897, *Elmer* 9130, 13395, *Williams* 610, 611, *Whitford* 98, 298, *F. B.* 21778 *Barros*, 6664 *Klemme*, 349 *Barnes*, 24837 *Barros*, 2560, 2751, 731 *Borden*, 2587, 3000 *Meyer*, *B. S.* 3295 *Ramos*, 26638, 28616, 26324, 29743 *Ramos & Edaño*. In primary forests at low and medium altitudes. Endemic.

Local names: Aparúñgan (Neg.); bosoi-bósoi (Neg.); buto-manók li-núan (Ibn.); loboban (Mbo.); tulang-na-daga (Ibn.); tumpis (Bag.).

PLECTRONIA GRACILIPES Elm. Leaf. Philip. Bot. 3 (1911) 1008.

Sibuyan, *Elmer* 12550. In forests along streams, altitude about 225 m. Endemic.

PLECTRONIA GYNCHTHODES (Baill.) comb. nov.

Canthium gynochthodes Baill. *Adansonia* 12 (1878) 199.

Myonima umbellata Bartl. ex DC. Prodr. 4 (1830) 463.

Canthium umbellatum F.-Vill. Novis. App. (1880) 110, non Wight.

Plectronia umbellata K. Schum. in Engl. & Prantl Nat. Pflanzenfam. 4⁴ (1891) 92; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 131, non Baker.

Canthium cumingii Vidal Phan. Cuming. Philip. (1885) 182, Rev. Pl. Vasc. Filip. (1886) 156.

Plectronia cumingii Elm. Leaf. Philip. Bot. 1 (1906) 28.

Plectronia moluccana Merr. in Philip. Bureau Forestry Bull. 1 (1903) 54, non *Canthium moluccanum* Roxb.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces. Chiefly in secondary forests at low and medium altitudes, ascending to 1,500 m. Endemic.

Local names: Agilalatum (Ibn.); basar-basar (Ilk.); batóhan (P. Bis.); bukog-manók (Mbo.); butig-babau (Tag.); damul-damul (P. Bis.); kasáyraí (Sbl.); maguntopi (Bag.); malakapé (Tag.); marakulílim (Ilk.); potot (Ig.); topas (Bag.); tubo-bató (Tagb.).

PLECTRONIA HORRIDA (Blume) Benth. & Hook. f. ex Kurz in Journ. As. Soc. Beng. 46² (1877) 153; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 54, Fl. Manila (1912) 454, Sp. Blancoanae (1918) 365; Elm. Leaf. Philip. Bot. 1 (1906) 28.

Canthium horridum Blume Bijdr. (1826) 966; DC. Prodr. 4 (1830) 474; Blanco Fl. Filip. ed. 2 (1845) 116, ed. 3, 1 (1877) 208, t. 57; Miq. Fl. Ind. Bat. 2 (1857) 255; Vidal Sinopsis Atlas (1883) 29, t. 57, f. I, Rev. Pl. Vasc. Filip. (1886) 155.

Canthium pauciflorum Blanco Fl. Filip. (1837) 165.

Canthium hebecladum DC. Prodr. 4 (1830) 474; Miq. Fl. Ind. Bat. 2 (1857) 256; F.-Vill. Novis. App. (1880) 110.

Canthium parviflorum Bartl. ex DC. l. c. in syn., non Lam.

Luzon (Pangasinan, Zambales, Bulacan, Rizal, Camarines, Sorsogon), *F. B.* 17842 Otanes, 6129 Robinson & Merritt, 6761 Robinson, Ahern 254, 819, Merrill 2999, 2856, 2719, *Sp. Blancoanae* 143, *Phil. Pl.* 732, Elmer 17401, 17435. In dry thickets at low altitudes. Burma to Malaya.

Local names: Anonot-ti-babui (Pang.); barsik (Ilk.); dayap-dáyap (Bik.); kuliak-daga (Tag.); mimisam (Ilk.); suliak-daga (Tag.).

PLECTRONIA LEYTENSIS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 49.

Luzon (Tayabas, east coast), Leyte, *B. S.* 15383 Ramos, 20892 Escritor. In primary forests, probably at about 1,000 m altitude. Endemic.

PLECTRONIA MABESAE Elm. Leaf. Philip. Bot. 8 (1919) 3099.

Luzon (Ilocos Norte, Rizal, Bataan, Laguna, Batangas), Panay, Elmer 17427, Whitford 1263, *F. B.* 26175 Mabesa, 3036 Borden, *B. S.* 22344, 22840 Ramos, 32422 McGregor. In thickets and secondary forests at low altitudes. Endemic.

PLECTRONIA MEGACARPA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 326; Elm. Leaf. Philip. Bot. 3 (1911) 1008.

Luzon (Cagayan, Benguet, Zambales, Tayabas), *F. B.* 8232 Curran & Merritt, 21775 Barros, 23006 Aguilar, *B. S.* 22043 Ramos. In forests at low altitudes. Endemic.

Local name: Puni (Ibn.).

PLECTRONIA MONSTROSA A. Rich. Mém. Rub. (1830) 109, Mém. Soc. Hist. Nat. Paris 5 (1834) 189; Merr. in Philip. Journ. Sci. 8 (1913) Bot. 48, Sp. Blancoanae (1918) 365.

Canthium mite Bartl. in DC. Prodr. 4 (1830) 474; Miq. Fl. Ind. Bat. 2 (1857) 252; F.-Vill. Novis. App. (1880) 110.

Ronabea bipinnata Blanco Fl. Filip. (1837) 162.

Ronabea arborea Blanco op. cit. ed. 2 (1845) 114, ed. 3, 1 (1877) 204.

Canthium arboreum Vidal Phan. Cuming. Philip. (1885) 119, 181, Rev. Pl. Vasc. Filip. (1886) 155.

Plectronia arborea Elm. Leaf. Philip. Bot. 1 (1906) 28.

Plectronia mitis Elm. l. c.; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 131.

Canthium bipinnatum Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 53.

Luzon (Cagayan, Isabela, Ilocos Norte, Ilocos Sur, Abra, Apayao, Benguet, Nueva Vizcaya, Union, Pangasinan, Zambales, Pampanga, Bulacan, Rizal, Bataan, Cavite, Laguna, Tayabas), Leyte, Negros. Chiefly in secondary forests at low and medium altitudes, often common. Endemic.

Local names: Ambabasal (Pang.); amóging (Ig.); banakáu (Ilk.); basar-basar (Ig., Ilk.); bukas-búkas (Pang.); kuyut-pualas (Bag.); kapi-kapihan (Tag.); malatadiáng (Tag.); pamalatañgen (Ilk.); pañgun-pañgun (Sbl.); serpadan (Bon.); tadiang-anúnang (Tag.); tapat-tapat (Tag.); usang (Neg.).

PLECTRONIA OBOVATIFOLIA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 167.

Luzon (Tayabas, east coast), *B. S. 26526* Ramos & Edaña. In forests at medium altitudes. Endemic.

Local name: Taratapak (Neg.).

PLECTRONIA OLIGOPHLEBIA Merr. in Philip. Journ. Sci. 17 (1920) 442.

Luzon (Rizal), *B. S. 29342* Ramos. In the mossy forest at or above 900 m altitude. Endemic.

PLECTRONIA PAUCINERVIA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 51.

Luzon (Camarines), Bucas Grande, Mindanao (Zamboanga), *Merrill 8263*, *Phil. Pl. 1572* as *P. megacarpa*, *B. S. 35126* Ramos & Pascasio. In the mossy forest, altitude about 900 m. Endemic.

PLECTRONIA PEDUNCULARIS (Cav.) Vidal Cat. Pl. Prov. Manila (1880) 33; Elm. Leaf. Philip. Bot. 1 (1906) 28, 4 (1912) 1346; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 131, 8 (1913) Bot. 50, Fl. Manila (1912) 454, Sp. Blancoanae (1918) 364.

Canthium pedunculare Cav. Ic. 5 (1799) 21, *t. 436*; DC. Prodr. 4 (1830) 475; Blanco Fl. Filip. ed. 2 (1845) 116, ed. 3, 1 (1877) 208; Miq. Fl. Ind. Bat. 2 (1857) 256; Vidal Sinopsis Atlas (1883) 29, *t. 57, f. H*, Phan. Cuming. Philip. (1885) 119, Rev. Pl. Vasc. Filip. (1886) 155; F.-Vill. Novis. App. (1880) 110.

Canthium monoflorum Blanco Fl. Filip. (1837) 166.

Canthium lycioides A. Rich. Mém. Rub. (1830) 108, Mém. Soc. Hist. Nat. Paris 5 (1834) 188; DC. Prodr. 4 (1830) 475; F.-Vill. Novis. App. (1880) 110; Miq. Fl. Ind. Bat. 2 (1857) 256.

Plectronia lycioides Elm. Leaf. Philip. Bot. 1 (1906) 28.

Luzon (Pangasinan, Bulacan, Bataan, Rizal), Palawan, *Merrill 2545, Sp. Blancoanae 32, 380, Williams 78, B. S. 17864 Otanes, 6122 Robinson & Merritt, 12207 Ramos*. In dry thickets at low altitudes. Endemic.

Local names: Malakrayon (Tag.); subiang-daga (Tag.).

PLECTRONIA RAMOSII Merr. in Philip. Journ. Sci. 17 (1920) 443.

Luzon (Tayabas, east coast), *B. S. 28973 Ramos & Edaño*. In forests at low altitudes. Endemic.

PLECTRONIA SARCOCARPA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 114.

Luzon (Laguna, Tayabas, Sorsogon), *B. S. 27882 McGregor, 10968 Ramos, 29213 Ramos & Edaño, Elmer 16864*. In forests at low altitudes. Endemic.

PLECTRONIA SUBCAPITATA Merr. in Philip. Journ. Sci. 17 (1920) 443.

Luzon (Apayao), *B. S. 28117 Fénix*. In forests at medium altitudes. Endemic.

Local name: Apaypai (Ibn.).

PLECTRONIA SUBSESSILIFOLIA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 168.

Luzon (Ilocos Norte), *B. S. 27205 Ramos*. In thickets at low altitudes. Endemic.

PLECTRONIA WENZELII Merr. in Philip. Journ. Sci. 9 (1914) Bot. 387.

Leyte, *Wenzel 399*. In forests, altitude about 60 m. Endemic.

EXCLUDED SPECIES

CANTHIUM CONFERTUM Korth.; F.-Vill. Novis. App. (1880) 110.

CANTHIUM FASCICULATUM Blume; F.-Vill. l. c.

CANTHIUM PARVIFOLIUM Roxb.; F.-Vill. l. c.

37. GUETTARDA Linnaeus

GUETTARDA SPECIOSA Linn. Sp. Pl. (1753) 991, DC. Prodr. 4 (1830) 455; Miq. Fl. Ind. Bat. 2 (1857) 262; Hook. f. Fl. Brit. Ind. 3 (1880) 126; F.-Vill. Novis. App. (1880) 109; Vidal Rev. Pl. Vasc. Filip. (1886) 154; Elm. Leaf. Philip. Bot. 1 (1906) 4; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 437, Fl. Manila (1912) 450, Sp. Blancoanae (1918) 366.

Nyctanthes hirsuta Linn. Sp. Pl. (1753) 6, non *Guettarda hirsuta* Pers.

Guettarda vermicularis Blanco Fl. Filip. (1837) 723, ed. 2 (1845) 500, ed. 3, 3 (1879) 125.

Scattered along the seashore throughout the Philippines. Pantropic along the seashore.

Local names: Bagaolan (Tag.); balañgigan (Bis.); balibágan (Bis.); banáro (Tag.); kalumpáñgin (Tag.); kapagan (Ilk.); lagbáñgan (C. Bis.); lambon (P. Bis.); malasúrut (Bik.); tabon-tábon (Tag.); tabug (Sul.); tambon (P. Bis.); tulatalisai (Bik.).

38. ANTIRRHOEA Commerson

ANTIRRHOEA BENGUETENSIS (Elm.) Valetón in Bull. Dept. Agr. Ind. Néerl. 26 (1909) 32; Elm. Leaf. Philip. Bot. 3 (1911) 1009.

Timonius benguetensis Elm. Leaf. Philip. Bot. 1 (1906) 35.

Luzon (Benguet, Nueva Ecija, Rizal), *Elmer 6396, B. S. 1373 Ramos*. In thickets or forests, altitude about 300 m; scarcely distinguishable from the next species. Endemic.

ANTIRRHOEA HEXASPERMA (Roxb.) comb. nov.

Pyrostria hexasperma Roxb. Fl. Ind. 1 (1820) 403.

Bobea hirsutiuscula Teysm. & Binn. in Nat. Tijdschr. Nederl. Ind. 29 (1867) 247.

Polyphragmon trichocaulon Miq. Ann. Mus. Bot. Lugd.-Bat. 4 (1869) 241.

Antirrhoea hirsutiuscula Valetón in Bull. Dept. Agr. Ind. Néerl. 26 (1909) 31, Ic. Bogor. 4 (1912) 113, t. 335; Elm. Leaf. Philip. Bot. 3 (1911) 1009.

Timonius attenuatus Elm. Leaf. Philip. Bot. 1 (1906) 34.

Luzon (Cagayan, Ilocos Norte, Batangas, Rizal, Camarines), Leyte, Siargao, *F. B. 1867 Ahern's collector, 22993 Adduru, Merrill 2805, Phil. Pl. 1052, B. S. 33681 Ramos & Edaño*. In forests at low altitudes. Moluccas (Saparoea, Amboina, Honimoa).

Local names: Dimúpa (Neg.); lumangog (S. L. Bis.); panaligaóen (Ilk.); poraratik (Neg.).

ANTIRRHOEA LIVIDA Elm. Leaf. Philip. Bot. 4 (1912) 1327.

Luzon (Tayabas), Palawan, *Elmer 12968, B. S. 28514, 28869, 28982 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

ANTIRRHOEA MICROPHYLLA (Bartl.) comb. nov.

Guettarda microphylla Bartl. in DC. Prodr. 4 (1830) 457; F.-Vill. Novis. App. (1880) 109.

Guettardella philippinensis Benth. in Hook. Journ. Bot. Kew Miscel. 4 (1852) 197.

Antirrhoea philippinensis Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 312; Vidal Phan. Cuming. Philip. (1885) 119, Rev. Pl. Vasc. Filip. (1886) 154; Elm. Leaf. Philip. Bot. 3 (1911) 1009, 4 (1912) 1329.

Luzon (Cagayan, Ilocos Norte, Rizal, Albay), Palawan, Panay, Bohol, *Cuming 1827, Haenke!, Loher 6415, 6425, F. B. 17241 Curran, 13947 Merritt & Darling, B. S. 32890, 33450 Ramos, 29343 Ramos & Edaño, 35571, 35596 Martelino & Edaño, 6286 Robinson*. In thickets and forests at low altitudes. Endemic.

Local name: Pangatang (Ibn.).

39. **TIMONIUS** de Candolle

TIMONIUS APPENDICULATUS Merr. in Philip. Journ. Sci. 4 (1909) Bot. 327; Elm. Leaf. Philip. Bot. 3 (1911) 1010.

Luzon (Rizal, Batangas, Camarines, Sorsogon), Mindoro, *B. S.* 2161, 2651, 13400, 23330 *Ramos*, 29773, 29591 *Ramos & Edaño*, *F. B.* 9867 *Merritt*, *Merrill Phil. Pl.* 361, 1505, *Elmer* 15639, 16636. In primary forests at medium altitudes. Endemic.

Local names: Putútan (Tag.); upong-úpong (Bik.).

TIMONIUS ARBOREUS Elm. Leaf. Philip. Bot. 1 (1906) 72; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 132.

Timonius rumphii Elm. Leaf. Philip. Bot. 1 (1906) 37, non DC.

Timonius gammilli Elm. Leaf. Philip. Bot. 4 (1912) 1359, 3 (1911) 1013, ♂ fl.

Luzon (Nueva Ecija, Zambales, Bataan, Rizal, Laguna, Camarines, Sorsogon), Mindoro, Palawan, Sibuyan, Guimaras, Ticao, Panay, Negros, Leyte, Mindanao (Agusan, Surigao), *Whitford* 1248, *Elmer* 12148, 7049, 12734, 12469, 16747, 14756 as *T. luzonensis* Elm., *Cuming* 1082, *Merrill Phil. Pl.* 1290, 1359, *B. S.* 26259, 29610 *Ramos & Edaño*, 35383, 35382, 35558, 3538 *Martelino & Edaño*, 23007, 22943 *McGregor*, *F. B.* 1364 *Borden*, 1421 *Ahern's collector*, 6771 *Merritt*, 299 *Gammill*, 22668 *Curran*. In primary forests, chiefly at medium altitudes. Botel Tobago.

Local names: Bankóro (P. Bis.); hambabayúd (C. Bis.); mabalód (C. Bis.); manáyao (Bik.); otog-ótog (P. Bis.); sibau (Mbo.).

TIMONIUS AURICULATUS Merr. in Philip. Journ. Sci. 17 (1920) 480.

Dinagat, *B. S.* 35190, 35212 *Ramos & Pascasio*. In forests at low altitudes. Endemic.

TIMONIUS CAUDATIFOLIUS Elm. Leaf. Philip. Bot. 5 (1913) 1898.

Mindanao (Agusan), *Elmer* 4190. On exposed ridges in the mossy forest, altitude about 1,550 m. Endemic.

Local name: Badayong (Mbo.).

TIMONIUS CONFERTIFLORUS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 114.

Samar, Mindanao (Surigao), *Merrill Phil. Pl.* 1698, *F. B.* 28138 *Borja*. In dry thickets at low altitudes. Endemic.

TIMONIUS EPIPHYTICUS Elm. Leaf. Philip. Bot. 3 (1911) 1011.

Mindanao (Davao, Bukidnon, Lanao), Basilan, *Elmer* 10706, *Clemens* 1002, *B. S.* 16157 *Reillo*, 38638 *Ramos & Edaño*. In primary forests, altitude 800 to 1,050 m. Endemic.

TIMONIUS FERRUGINEUS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 115.

Palawan, *Merrill* 9210. In primary forests back of the mangrove at sea level. Endemic.

TIMONIUS GRACILIPES Merr. in Philip. Journ. Sci. 8 (1913) Bot. 60.

Cebu, *B. S.* 11110 *Ramos*. In thickets at low or medium altitudes. Endemic.

- TIMONIUS HIRSUTUS** (Elm.) Merr. in Philip. Journ. Sci. 17 (1920) 480.
Greenea hirsuta Elm. Leaf. Philip. Bot. 5 (1913) 1857.
Timonius trichophorus Merr. in Philip. Journ. Sci. 9 (1914) Bot. 388.
Samar, Leyte, Bucas Grande, Mindanao (Agusan), *Elmer 13476*, *Wenzel 904*, *B. S. 24448* Ramos, *35064* Ramos & Pascasio. In primary forests up to 900 m altitude. Endemic.
Local name: Magobani (Mbo.).
- TIMONIUS LANCEOLATUS** Merr. in Philip. Journ. Sci. 17 (1920) 318.
Dinagat, Mindanao (Surigao), *B. S. 35211*, *34613* Ramos & Pascasio. In forests at low altitudes. Endemic.
- TIMONIUS LONGIFLORUS** (Merr.) comb. nov.
Greenea longiflora Merr. in Philip. Journ. Sci. 4 (1909) Bot. 323; Elm. Leaf. Philip. Bot. 3 (1911) 981.
Mindanao (Zamboanga), *F. B. 9430* Whitford & Hutchinson. In primary forests at low altitudes. Endemic.
- TIMONIUS LONGISTIPULUS** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 59.
Leyte, *B. S. 15371* Ramos. In the mossy forest, altitude at or above 900 m. Endemic.
- TIMONIUS OBOVATUS** Elm. Leaf. Philip. Bot. 1 (1906) 36, 3 (1911) 1009.
Luzon (Tayabas, east coast), Sibuyan, *Merrill 1048*, *Elmer 12359*. In primary forests at low and medium altitudes. Endemic.
- TIMONIUS OLIGOPHLEBIUS** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 34.
Luzon (Sorsogon), *B. S. 23367* Ramos. In forests, altitude about 1,000 m. Endemic.
- TIMONIUS PALAWANENSIS** Elm. Leaf. Philip. Bot. 4 (1912) 1360.
Palawan, *Elmer 12705*. In primary forests at low altitudes. Endemic.
Local name: Bunkol (Tagb.).
- TIMONIUS PANAYENSIS** Merr. in Philip. Journ. Sci. 17 (1920) 317.
Panay, *B. S. 35445*, *35447* Martelino & Edaña. In forests at low altitudes. Endemic.
- TIMONIUS PHILIPPINENSIS** Merr. in Philip. Bureau Forestry Bull. 1 (1903) 54; Elm. Leaf. Philip. Bot. 1 (1906) 37, 3 (1911) 1010.
Mindoro, Samar, Dinagat, Bucas Grande, Mindanao (Surigao), *Ahern 463*, *456*, *B. S. 35259*, *35042*, *34513*, *34512*, *34620* Ramos & Pascasio, *F. B. 23584* Lasquety. In forests at low altitudes. Endemic.
Local names: Mayoro (C. Bis.); payali (C. Bis.).
- TIMONIUS PALAWANENSIS** Elm. Leaf. Philip. Bot. 4 (1912) 1360.
Palawan, *Elmer 13201*. In dense thickets near the summit of Mt. Pulgar, altitude about 1,300 m. Endemic.
- TIMONIUS QUADRASII** Elm. Leaf. Philip. Bot. 1 (1906) 36, 3 (1911) 1010.
Mindanao (Zamboanga), *Ahern 545*. Probably from forests at low altitudes. Endemic.

TIMONIUS QUINQUEFLORUS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 116.

Luzon (Tayabas, east coast), *B. S.* 20835 *Escritor*. In forests at low or medium altitudes; closely allied to *T. arboreus* Elm. Endemic.

TIMONIUS ROTUNDUS Merr. in Philip. Journ. Sci. 17 (1920) 317.

Dinagat, *B. S.* 35176 *Ramos & Pascasio*. In forests at low altitudes. Endemic.

TIMONIUS SAMARENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 165.

Timonius macrophyllus Merr. in Philip. Journ. Sci. 5 (1910) Bot. 246; Elm. Leaf. Philip. Bot. 3 (1911) 1010, non Valetton.

Samar, Bucas Grande, *F. B.* 12856 *Rosenbluth*, *B. S.* 35127 *Ramos & Pascasio*. In forests at low altitudes. Endemic.

Local name: Kauilan (S. L. Bis.).

TIMONIUS TERNIFOLIUS (Bartl.) F.-Vill. Novis. App. (1880) 109; Elm. Leaf. Philip. Bot. 1 (1906) 36.

Petesia ternifolia Bartl. ex DC. Prodr. 4 (1830) 395.

Babuyan Islands (Camiguin), Luzon (Ilocos Norte), Culion, Busuanga, Palawan, Panay, *Haenke!*, *Merrill* 575, 9172, *Phil. Pl.* 1267, *B. S.* 32263, 32361 *McGregor*, 32874, 32731, 32736, 37363, 41275 *Ramos*, *F. B.* 26631 *Velasco*. In thickets and forests at low altitudes. Endemic.

TIMONIUS URDANETENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1899.

Mindanao (Agusan), *Elmer* 14197. On exposed ridges in the mossy forest, altitude about 1,650 m. Endemic.

Local name: Mayponog (Mbo.).

TIMONIUS VALETonii Elm. Leaf. Philip. Bot. 3 (1911) 1012.

Sibuyan, Mindanao (Surigao), *Elmer* 12342, *B. S.* 34623, 34398. In forests at low and medium altitudes. Endemic.

EXCLUDED SPECIES

TIMONIUS JAMBOSELLA Thw.; F.-Vill. Novis. App. (1880) 109.

TIMONIUS NITIDUS (Bartl.) F.-Vill. l. c.

Petesia nitida Bartl. ex DC. Prodr. 4 (1830) 395.

"In insulis Philippicis et Marianis" de Candolle l. c. The Philippine locality is probably an error, especially in view of the facts that recently collected Guam material exactly matches the type, a fragment of which is before me, while the species has not been found in the Philippines.

TIMONIUS RUMPHII DC.; F.-Vill. Novis. App. (1880) 109.

40. COFFEA Linnaeus

COFFEA ARABICA Linn. Sp. Pl. (1753) 172; Blanco Fl. Filip. (1837) 156, ed. 2 (1845) 110, ed. 3, 1 (1877) 198, t. 53; Miq. Fl. Ind. Bat. 2 (1857) 304; F.-Vill. Novis. App. (1880) 111; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 389, Fl. Manila (1912) 451, Sp. Blancoanae (1918) 366.

Introduced by the Spaniards, now widely scattered in cultivation and a very important crop before the blight was introduced in the last decade of the preceding century. Coffee.

Local names: Café (Sp.); kahána (Sul.); kapí (Ilk., If., Tag.).

COFFEA LIBERICA Hiern in Trans. Linn. Soc. Bot. 1 (1876) 171, t. 24.

A recent introduction, now somewhat cultivated as a substitute for the preceding species. *C. excelsa* A. Chev. and *C. robusta* Linden are also recent introductions.

41. PAVETTA Linnaeus

PAVETTA BAKERI Merr. in Philip. Journ. Sci. 10 (1915) Bot. 117.

Luzon (Laguna, Tayabas), *Baker 3214, B. S. 21990 Ramos, 28669 Ramos & Edaño*. In primary forests at low or medium altitudes. Endemic.

PAVETTA BRACHYANTHA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 47.

Luzon (Bontoc, Benguet), *Williams 1077, 1443, Merrill 9648, Phil. Pl. 775, B. S. 31882 Santos*. In ravines, altitude 1,300 to 2,000 m. Endemic.

Local names: Lubug (Ig.); subusub (Ig.).

PAVETTA DOLICHOSTYLA Merr. in Philip. Journ. Sci. 1 (1906) Bot. 239; Elm. Leaf. Philip. Bot. 3 (1911) 1015.

Mindoro, *F. B. 3714 Merritt, B. S. 40699 Ramos*. In forests at low altitudes. Endemic.

PAVETTA ELMERI Merr. in Philip. Journ. Sci. 17 (1920) 475.

Luzon (Benguet), *Elmer 6394*. In thickets or forests, altitude about 400 m. Endemic.

PAVETTA INDICA Linn. Sp. Pl. (1753) 110; DC. Prodr. 4 (1830) 490; Hook. f. Fl. Brit. Ind. 3 (1880) 150; F.-Vill. Novis. App. (1880) 111; Vidal Sinopsis Atlas (1883) 29, t. 57, f. E; Koord. & Val. Bijdr. Boom. Java 8 (1902) 171; Elm. Leaf. Philip. Bot. 1 (1906) 27; Merr. Fl. Manila (1912) 452, Philip. Journ. Sci. 17 (1920) 478.

Pavetta barnesii Elm. Leaf. Philip. Bot. 1 (1906) 27; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 132.

Batan Islands and northern Luzon to Mindanao, in most or all islands and provinces, often common in primary forests at low and medium altitudes. India to China through Malaya to tropical Australia.

Local names: Bohunan-ug-puso (C. Bis.); galauan (Buk.); gesges (Neg.); gusokan (C. Bis.); kaiut-karaban (Bag.); kotbu (Ig.); lankuilan (P. Bis.); pangapatolen (Ilk.); pitak (Ig.); tamayan (C. Bis.); tandaluli (Bag.).

PAVETTA LUZONIENSIS (Vidal) Merr. in Philip. Journ. Sci. 17 (1920) 479.

Webera luzoniensis Vidal Phan. Cuming. Philip. (1885) 179, Rev. Pl. Vasc. Filip. (1886) 152; Elm. Leaf. Philip. Bot. 1 (1906) 40; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 133.

Luzon (Cagayan, Ilocos Norte, Apayao, Union, Nueva Vizcaya, Pangasinan, Bataan, Rizal, Laguna, Batangas), Palawan, *Cuming 1323, Merrill 142, 3260, 1488, 2524, 2505, 9255, Elmer 6661, 8316, Warburg 11718, 11900, 12064, 12065*. In forests at low and medium altitudes. Endemic.

Local names: Basar-basar (Ilk.); butio (Tag.); kamoton (Tag.); kapikapihan (Tag.); talab (Tag.).

PAVETTA MEMBRANACEA Blanco Fl. Filip. (1837) 59; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 434, Sp. Blancoanae (1918) 366.

Pavetta sambucina Blanco op. cit. ed. 2 (1845) 41, ed. 3, 1 (1877) 75, t. 246, non DC.

Pavetta manillensis Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 351; Elm. Leaf. Philip. Bot. 1 (1906) 26.

Pavetta angustifolia F.-Vill. Novis. App. (1880) 111, non R. & S.

Luzon (Ilocos Norte, Bataan, Rizal), *B. S.* 7634, 1834, 10907, 996 Ramos, *F. B.* 1862, 3309 Ahern's collector, Loher 6403, Merrill 1584, Sp. Blancoanae 493. In thickets or forests at low or medium altitudes. Endemic.

PAVETTA MEYERI Elm. Leaf. Philip. Bot. 3 (1911) 1015; Merr. in Philip. Journ. Sci. 17 (1920) 479.

Ixora meyeri Elm. op. cit. 1 (1906) 68.

Weberi meyeri Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 133.

Tarenna meyeri Elm. op. cit. 5 (1913) 1898.

Luzon (Bataan), *F. B.* 2764 Meyer. In primary forests, altitude about 650 m. Endemic.

PAVETTA MULTINERVIA Merr. in Philip. Journ. Sci. 17 (1920) 475.

Mindanao (Zamboanga), *F. B.* 9013 Whitford & Hutchinson. In primary forests at low altitudes. Endemic.

PAVETTA PARVIFOLIA Vidal Phan. Cuming. Philip. (1885) 183, Rev. Pl. Vasc. Filip. (1886) 156; Elm. Leaf. Philip. Bot. 1 (1906) 27.

Luzon (Nueva Ecija, Zambales), Mindoro, Cuming 1394, Warburg 13841, 13842, *F. B.* 6954 Curran, *B. S.* 4742 Ramos. In thickets at low altitudes. Endemic.

PAVETTA PHANEROPHLEBIA Merr. in Philip. Journ. Sci. 17 (1920) 478.

Pavetta palawanensis Merr. in Philip. Journ. Sci. 10 (1915) 117, non Elm.

Pavetta indica Linn. var. *polyantha* Elm. Leaf. Philip. Bot. 1 (1906) 27, non Hook. f.

Palawan, *B. S.* 326 Bermejós, 782 Foxworthy, *F. B.* 3516 Curran, Merrill 759, 9522. In forests at low and medium altitudes. Endemic.

PAVETTA PUBESCENS (Bartl.) Merr. in Philip. Journ. Sci. 17 (1920) 479.

Stylocoryne pubescens Bartl. in DC. Prodr. 4 (1830) 377; Miq. Fl. Ind. Bat. 2 (1857) 206; Elm. Leaf. Philip. Bot. 1 (1906) 33.

Webera pubescens F.-Vill. Novis. App. (1880) 108.

Luzon (Ilocos Norte), Cuming 1236, *F. B.* 15222 Merritt & Darling, *B. S.* 7626, 7667 Ramos. In thickets or secondary forests at low altitudes.

PAVETTA SUBFERRUGINEA Merr. in Philip. Journ. Sci. 17 (1920) 477.

Palawan, Merrill 831. In forests at low altitudes. Endemic.

PAVETTA WILLIAMSII Merr. in Philip. Journ. Sci. 17 (1920) 476.

Dinagat, Mindanao (Davao), Williams 2631, Ahern 492, Copeland 1249. In forests, altitude up to 900 m. Endemic.

Local name: Sikarig (Bag.).

DOUBTFUL SPECIES

PAVETTA FILIFORMIS Llanos Frag. Pl. Filip. (1851) 48; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 35; Merr. Sp. Blancoanae (1918) 368.

There is no type extant, and the description is altogether too imperfect to warrant its definite identification. It may be an *Ixora*.

42. IXORA Linnaeus

IXORA ANGUSTILIMBA Merr. in Philip. Journ. Sci. 17 (1920) 320.

Bucas Grande, Dinagat, Mindanao (Surigao), *B. S.* 34588, 35087, 35222 Ramos & Pascasio. On dry forested slopes and ridges at low altitudes. Endemic.

IXORA AURICULATA Elm. Leaf. Philip. Bot. 3 (1911) 1018.

Luzon (Cagayan, Nueva Ecija, Rizal), Sibuyan, *Weber 1541, Warburg 11660, Elmer 12483, Loher 6391, 6416, F. B. 19557 Curran, 26637 Velasco, B. S. 13926, 13585 Ramos, 26374, 29285, 29409 Ramos & Edaño, 12313 Foxworthy.* In primary forests at low and medium altitudes. Endemic.

Local name: Puropúnta (Neg.).

IXORA BARTLINGII Elm. Leaf. Philip. Bot. 3 (1911) 1020.

Ixora kingstoniana Elm. op. cit. 1 (1906) 8, non Hook. f.

Luzon (Zambales, Bataan, Batangas, Cavite, Laguna, Rizal, Tayabas, Camarines), Mindoro, Sibuyan, Masbate, Biliran, Mindanao (Cotabato), *Elmer 12223, 6728, 17864, Merrill 1511, 3025, 3445, Ahern 170, F. B. 1487 Ahern's collector, 5355 Merritt, 5772 Curran, 1759 Borden, 19783 Whitford, B. S. 1011, 13708, 15137, 40864, 41035 Ramos, 12429, 18803 McGregor, 22657, 21516, 22670 Ramos & Deroy, 26918, 26917 Edaño.* In forests at low and medium altitudes. Endemic.

Earlier collections were confused with *Ixora cumingiana* Vid. and *I. macrophylla* Bartl., and later ones with *I. longistipula* Merr. It is allied to *I. macrophylla* Bartl. but has narrower leaves and usually terminal inflorescences which are always subtended by reduced leaves. The inflorescences are puberulent, even in the type, not glabrous as described. *Ixora longistipula* Merr., an allied form, has strictly glabrous inflorescences and flowers.

Local names: Arukorámit (Neg.); dila-díla (Tag.); lantuig (Tag.); matang-hípon (Tag.); tipurus (Sml.).

IXORA BIBRACTEATA Elm. Leaf. Philip. Bot. 1 (1906) 8, 3 (1911) 1016.

Luzon (Ilocos Norte, Tayabas, Nueva Ecija, Rizal), *Whitford 789, Loher 6379, 6378, B. S. 33087 Ramos, 28678 Ramos & Edaño, 25399, 25493, 25487 Yates, 20915 Escritor, F. B. 22188 Alvarez.* In primary forests, ascending to 400 m. Endemic.

Local name: Pasagi (Tag.).

IXORA CAPITULIFERA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 233; Elm. Leaf. Philip. Bot. 3 (1911) 1016.

Palawan, *B. S. 686 Foxworthy.* Along streams in forests, altitude about 1,000 m. Endemic.

IXORA CHARTACEA Elm. Leaf. Philip. Bot. 5 (1913) 1861.

Mindanao (Agusan), *Elmer 13806*. In forests, altitude about 1,000 m. Endemic.

Local name: Matigandang (Mbo.).

Var. **MEMBRANACEA** Elm. op. cit. 1862.

Luzon (Sorsogon), Siargao, Mindanao (Agusan), *Elmer 13767, 17364, B. S. 34845 Ramos & Pascasio*. In forests at medium altitudes, ascending to 900 m. Endemic.

Local name: Bagobodon (Mbo.).

IXORA CHINENSIS Lani. Encycl. 3 (1879) 344; Merr. Fl. Manila (1912) 452, Interpret. Herb. Amb. (1917) 487; Elm. Leaf. Philip. Bot. 3 (1911) 1016.

Ixora stricta Roxb. Hort. Beng. (1814) 10, Fl. Ind. 1 (1820) 388; DC. Prodr. 4 (1830) 486; F.-Vill. Novis. App. (1880) 110; Koord. & Val. Bijdr. Boom. Java 8 (1902) 168; Elm. Leaf. Philip. Bot. 1 (1906) 9.

Cultivated for ornamental purposes but not established, *B. S. 5158 Foxworthy, 15087 Ramos, F. B. 23418 Aguilar & Valderrama*. India to southern China, widely cultivated in Malaya and in other tropical countries.

Local names: Santán (Tag., Bik.); santán-pulá (Tag.).

IXORA COCCINEA Linn. Sp. Pl. (1753) 110; Blanco Fl. Filip. (1837) 59, ed. 2 (1845) 41, ed. 3, 1 (1877) 76, t. 21; Hook. f. Fl. Brit. Ind. 3 (1880) 145; F.-Vill. Novis. App. (1880) 110; Koord. & Val. Bijdr. Boom. Java 8 (1902) 167; Merr. Fl. Manila (1912) 452, Sp. Blancoanae (1918) 367.

Ixora grandiflora Ker in Bot. Reg. 394, t. 154; Wight in Hook. Bot. Miscel. 3 (1833) 294, t. 35.

Like the preceding species not uncommon in cultivation, but nowhere established, *F. B. 3576 Curran, B. S. 33474 Ramos & Edaño, Merrill Sp. Blancoanae 133*. A native of India, now pantropic in cultivation.

Local names: Santan (Tag.); santan pulá (Tag.); tangpupo (Bis.).

IXORA CONFERTIFLORA Merr. in Philip. Journ. Sci. 17 (1920) 321.

Dinagat, *B. S. 35206 Ramos & Pascasio*. In primary forests at low altitudes. Endemic.

IXORA CRASSIFOLIA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 233; Elm. Leaf. Philip. Bot. 3 (1911) 1016.

Mindanao (Lanao, Zamboanga), Basilan, *F. B. 9439, 9039, 9070, 9479 Whitford & Hutchinson, 23160 Agama, 15234 Almagro, B. S. 16361 Reillo, 37052 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

Local name: Mañgopong (Sub.).

IXORA CUMINGIANA Vidal Phan. Cuming. Philip. (1885) 183, Rev. Pl. Vasc. Filip. (1886) 156; Elm. Leaf. Philip. Bot. 3 (1911) 1017; Merr. Sp. Blancoanae (1918) 367.

Taligalea umbellata Blanco Fl. Filip. ed. 2 (1845) 337, ed. 3, 2 (1878) 66, non *Ixora umbellata* Valetton.

Ixora paludosa Elm. Leaf. Philip. Bot. 1 (1906) 9, non Roxb.

Ixora timorensis Merr. in Philip. Bureau Forestry Bull. 1 (1903) 55, non Decne.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces. In primary forests at low altitudes, often common, represented by more than 100 individual collections. Endemic.

Local names: Agundalagap (Ilk.); bago-bago (Bis.); bakir (Ilk.); bantaná (Bik.); barokbok (Ilk.); kabar (Tagb.); kahan (Tag.); maglado (Bag.); con (S. L. Bis.); sablut (Ilk.); salpadun (Ting.); talab (Tag.).

IXORA EBRACTEOLATA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 234; Elm. Leaf. Philip. Bot. 3 (1911) 1017.

Luzon (Cagayan, Isabela, Pangasinan, Zambales, Tayabas), Sibuyan, *F. B.* 5845 Curran, 21674 Domingo, 375 Maule, *B. S.* 21166, 21132, 20675, 20773, 20712 Escritor, 30002 Fénix, 26816, 26831 Edaño, 5038, 4798 Ramos, Merrill 2080, 2953, 2985, Warburg 13843. In forests at low altitudes. Endemic.

Local names: Dagumirang (Ibn.); pamutun (Sbl.); pilis (Sbl.); opeg (Neg.); talab (Sbl.); tatanik (Tag.).

IXORA FINLAYSONIANA Wall. Cat. (1832) No. 6166 *nomen nudum*; G. Don Gen. Syst. 3 (1832) 512; Walp. Repert. 2 (1843) 481; Merr. Fl. Manila (1912) 451.

Common in cultivation in Manila and other large towns, but apparently never producing fruits and nowhere spontaneous. A native of Siam, now pantropic in cultivation.

Local names: Santán (Tag., Bik.); santán-putí (Tag.).

IXORA FULGENS Roxb. Hort. Beng. (1814) 10, Fl. Ind. 1 (1820) 387; Merr. Interpret. Herb. Amb. (1917) 487.

Ixora congesta Roxb. Fl. Ind. 1 (1820) 397; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 427; Elm. Leaf. Philip. Bot. 3 (1908) 1017; F.-Vill. Novis. App. (1880) 110.

Leyte, Mindanao (Misamis, Lanao, Zamboanga), Jolo, *Clemens* 237, *F. B.* 17944 Miranda, 4757 Mearns, 23130 Acuña, *B. S.* 36784, 36858, 36867, 36868, 37082 Ramos & Edaño. In primary forests at low altitudes. Malay Peninsula and Archipelago.

Local name: Siki-manatad (Sul.).

IXORA GIGANTIFOLIA Elm. Leaf. Philip. Bot. 5 (1913) 1864.

Siargao, Mindanao (Agusan), *Elmer* 14206, *B. S.* 35007 Ramos & Edaño as *I. bartlingii* (non Elm.). In primary forests, altitude about 1,000 m. Endemic.

IXORA GRACILIPES Merr. in Philip. Journ. Sci. 10 (1915) Bot. 119.

Luzon (Tayabas, Camarines), Samar, *B. S.* 20723, 20824 Escritor, 33644 Ramos & Edaño, Merrill Phil. Pl. 1699 as *I. oligantha* Merr. In forests at low altitudes. Endemic.

IXORA ILOCANA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 168.

Luzon (Ilocos Norte), *B. S.* 27325 Ramos. In forests along streams at low altitudes. Endemic.

IXORA INAEQUIFOLIA C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 222.

Luzon (Camarines), Polillo, *B. S.* 10216 McGregor, 33672, 33704, 33703 Ramos & Edaño. In primary forests at low altitudes; very closely allied to *I. auriculata* Elm. Endemic.

IXORA INTERMEDIA Elm. Leaf. Philip. Bot. 4 (1912) 1336.

Palawan, *Elmer 12957*. In forests at low altitudes. Endemic.

IXORA LEUCOCARPA Elm. Leaf. Philip. Bot. 4 (1912) 1337.

Palawan, *Elmer 12894*, *Merrill 738*. In primary forests, ascending to 300 m altitude. Endemic.

IXORA LEYTENSIS Elm. Leaf. Philip. Bot. 1 (1906) 69.

Leyte, Samar, *Elmer 7044*, *B. S. 24212 Ramos*. In forests at low altitudes. Endemic.

Local name: Malatabulian (S. L. Bis.).

IXORA LITTORALIS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 240; Elm. Leaf. Philip. Bot. 3 (1911) 1018.

Bohol, *B. S. 1274 McGregor*. On beach cliffs; possibly not specifically distinct from *Ixora philippinensis* Merr. Endemic.

IXORA LONGISSIMA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 235; Elm. Leaf. Philip. Bot. 3 (1911) 1018.

Leyte, Biliran, Samar, *F. B. 16975 Rosenbluth*, *B. S. 15397*, *15218 Ramos*, *18656*, *18767 McGregor*, *Wenzel 286*. In primary forests, ascending to 900 m. Endemic.

IXORA LONGISTIPULA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 236.

Mindoro, Panay, Negros, *F. B. 13625 Curran & Foxworthy*, *13694 Curran*, *B. S. 35534 Martelino & Edaño*, *32319 McGregor*, *31338*, *40602*, *40727 Ramos & Edaño*, *7327 Celestino*, *39570 Ramos*. In primary forests at low and medium altitudes. Endemic.

A number of specimens referred here from Laguna and Tayabas Provinces do not represent the species.

Local name: Mayanman (P. Bis.).

IXORA LUZONIENSIS Merr. in Philip. Journ. Sci. 17 (1920) 434.

Luzon (Cagayan, Ilocos Norte, Pangasinan, Zambales), *B. S. 29956 Fénix*, *5045*, *7420*, *7481*, *32729 Ramos*, *F. B. 27813 Elgincolin*. In forests at low altitudes. Endemic.

IXORA MACGREGORII C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 223.

Polillo, *B. S. 10219 McGregor*. In forests at low altitudes. Endemic.

IXORA MACROPHYLLA Bartl. in DC. Prodr. 4 (1830) 487; F.-Vill. Novis. App. (1880) 111; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 133, 3 (1908) Bot. 437, Sp. Blancoanae (1918) 367; Koord. in Nat. Tijdschr. Nederl. Ind. 63 (1903) 85; Elm. Leaf. Philip. Bot. 3 (1911) 1016.

Ixora arborea Blanco Fl. Filip. (1837) 61, ed. 2 (1845) 42, ed. 3, 1 (1877) 78, non Roxb.

Ixora grandifolia F.-Vill. Novis. App. (1880) 110; Vidal Sinopsis Atlas (1883) 29, t. 57, f. C, non Zoll.

Ixora eumingiana Elm. Leaf. Philip. Bot. 1 (1906) 8, non Vidal.

Batan and Babuyan Islands to Mindanao and Basilan, in most or all islands and provinces, but not known from Palawan; common in forests at low altitudes, and represented by over 100 individual collections. Celebes.

Local names: Asas (Tag); bagotambís (Mbo.); bilíbid (Mbo.); diñgin (Sbl.); hagóko (C. Bis.); hilakan-manatad (C. Bis.); kintasin (Bik.); ligad (Mbo.); malasantán (Tag.); mali-mali (Sul.); parauitas (Neg.).

IXORA MAGNIFICA Elm. Leaf. Philip. Bot. 5 (1913) 1865.

Ixora fulgens Elm. op. cit. 1 (1906) 9, non Roxb.

Palawan, Mindanao (Davao, Agusan), *Elmer* 13424, *Warburg* 14237, *Wester*, *Merrill* 819, *B. S.* 882 *Foxworthy*. In primary forests at low altitudes, ascending to 500 m. Endemic. Scarcely distinct from *I. javanica* (Blume) DC.

Local name: Bonog-bónog (Mbo.).

IXORA MEARNsii Merr. in Philip. Journ. Sci. 5 (1910) Bot. 235; Elm. Leaf. Philip. Bot. 3 (1911) 1017.

Luzon (Tayabas, east coast), *B. S.* 2999, 2976 *Mearns*, 10672 *McGregor*, 26564 *Ramos & Edaño*. In forests at low altitudes. Endemic.

IXORA MINDANAENSIS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 237; Elm. Leaf. Philip. Bot. 3 (1911) 1017.

Mindanao (Misamis, Lanao, Zamboanga), *F. B.* 9010, 9034 *Whitford & Hutchinson*, 4773 *Mearns & Hutchinson*, 25900 *Alviar*, 23169 *Agama*, *B. S.* 36556, 36785, 36962, 37299 *Ramos & Edaño*, *Williams* 2192. In forests at low and medium altitudes. Endemic.

IXORA MYRIANTHA Merr. in Philip. Journ. Sci. 20 (1922) 461.

Samar, *Merrill Phil. Pl.* 1700, *B. S.* 24122, 24139 *Ramos & Edaño*. In damp forests at low altitudes. Endemic.

IXORA OBLONGIFOLIA Elm. Leaf. Philip. Bot. 5 (1913) 1867.

Luzon (Camarines), Mindanao (Surigao, Agusan), *Elmer* 13775, *B. S.* 34534, 34446, 34444 *Ramos & Pascasio*, 22141 *Ramos*. In forests up to an altitude of 900 m. Endemic.

IXORA PALAWANENSIS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 238; Elm. Leaf. Philip. Bot. 3 (1911) 1018, 4 (1912) 1336.

Culion, Palawan, *B. S.* 739, 573, 746 *Foxworthy*, *F. B.* 3520, 3836 *Curran*, *Merrill Phil. Pl.* 1362 as *S. fulgens* (non Roxb.). In forests at low altitudes. Endemic.

IXORA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 238, Fl. Manila (1912) 452; Elm. Leaf. Philip. Bot. 3 (1911) 1018.

Ixora (*Yxora*) *incarnata* Naves in Blanco Fl. Filip. ed. 2 (1877-83) t. 22, non DC.

Ixora coccinea Elm. Leaf. Philip. Bot. 1 (1906) 9; Merr. in Philip. Journ. Sci. 1 (1906) Supl. 133, 3 (1908) Bot. 437, non Linn.

Ixora filmeri Elm. Leaf. Philip. Bot. 4 (1912) 1338.

Pavetta jambosaefolia Teysm. & Binn. Cat. Hort. Bogor. (1866) 112, *nomen nudum*.

Batan and Babuyan Islands and northern Luzon to Palawan, Balabac, Mindanao, and Basilan in most or all islands and provinces. Common in thickets and secondary forests at low altitudes; represented by more than 100 individual collections. Celebes, Borneo.

Local names: Gintinanik (Ilk.); kamingi (Tag.); kayomkóm (Tag.); lulúmboi (Kuy.); lumoi-manók (Pang.); makomakopahan (Tag.); oon (P. Bis.); talapulukit (Mag.); tintinani (Ilk.); tulang-tulang (Ilk.).

Var. **BREVITUBA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 240.

Luzon (Ilocos Norte), *F. B. 15527 Merritt & Darling*. In thickets at low altitudes. Endemic.

IXORA PILOSA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 39.

Luzon (Tayabas), *B. S. 13371, 13273 Ramos*. In forests at low altitudes. Endemic.

IXORA PLATYPHYLLA Merr. in Philip. Journ. Sci. 10 (1915) Bot. 120.

Mindanao (Cotabato), *F. B. 18250 Miranda*. In forests at low altitudes. Endemic.

IXORA PROPINQUA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 39.

Mindanao (Zamboanga), *Merrill 8254*. In primary forests, altitude about 800 m. Endemic.

IXORA ROSEA Wall. in Roxb. Fl. Ind. 1 (1820) 398, DC. Prodr. 4 (1830) 487, Bot. Reg. t. 540, Bot. Mag. t. 2428, Bot. Cab. t. 729; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 431.

Cultivated in the larger towns for its pink flowers, *Merrill 9806, 3453, 70867, F. B. 3575 Curran*. A native of India, now cultivated in other tropical countries.

This is currently sunk in *Ixora stricta* Roxb. = (*I. chinensis* Lam.) as a synonym, but I consider it to be distinct.

IXORA SALICIFOLIA (Blume) DC. Prodr. 4 (1830) 487; Elm. Leaf. Philip. Bot. 1 (1906) 8, 5 (1913) 1868.

Pavetta salicifolia Blume Bijdr. (1826) 951.

Luzon (Camarines), Palawan, Masbate, Biliran, Leyte, Panay, Bucas Grande, Siargao, Dinagat, Mindanao (Surigao, Agusan, Bukidnon, Davao, Zamboanga), *Merrill 751, 7296, Ahern 480, Elmer 7052, 13527, B. S. 35075, 34943, 34459, 34506 Ramos & Pascasio, 30938, 33618 Ramos & Edaño, 21430 Escritor, F. B. 19915 Tabat, 12585 Rosenbluth, 1698 Clark, 23528 Cenabre, 27475 De Mesa*. In primary forests at low altitudes. Malay Peninsula, Sumatra, Java, and Borneo.

Local names: Bulalákau (Tag.); lauihan (P. Bis.); pamayugsukon (C. Bis.); pilat-pilat (Mbo.); súding (C. Bis.); udang-údag (Bag.).

IXORA SAMARENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 121.

Samar, *B. S. 19399, 24257, 24251, 24253, 24255 Ramos*. In primary forests at low altitudes. Endemic.

IXORA SPARSIFLORA Elm. Leaf. Philip. Bot. 1 (1906) 8.

Luzon (Bataan), *Elmer 6641, B. S. 6164 Robinson*. In primary forests at low or medium altitudes.

IXORA TENUIPEDUNCULATA Merr. in Philip. Journ. Sci. 17 (1920) 321.

Mindanao (Surigao), *B. S. 34475 Ramos & Pascasio*. In primary forests at low altitudes. Endemic.

DOUBTFUL AND EXCLUDED SPECIES

IXORA AMBOINICA Merr. in Philip. Bureau Forestry Bull. 1 (1905) 55; Elm. Leaf. Philip. Bot. 1 (1906) 9, non DC.

The specimen on which this reference was based is *Kopsia longiflora* Merr., in fruit.

IXORA CUNEIFOLIA Roxb.; F.-Vill. Novis. App. (1880) 110.

IXORA LANCEOLARIA Colebr.; F.-Vill. l. c.

IXORA LOBBII Elm. Leaf. Philip. Bot. 1 (1906) 9, non Loud.

The specimens cited apparently are not representative of Loudon's species.

IXORA PENDULA Jack; F.-Vill. l. c.

IXORA VILLOSA Roxb.; F.-Vill. l. c.

43. *PSYCHOTRIA* Linnaeus

PSYCHOTRIA ACUMINATISSIMA Elm. Leaf. Philip. Bot. 1 (1908) 353.

Grumilea acuminatissima Merr. in Philip. Journ. Sci. 10 (1915) Bot. 132.

Luzon (Cagayan, Benguet), *Elmer 8752, B. S. 13876 Ramos*. In thickets about limestone outcroppings up to 1,000 m altitude; rare or local. Endemic.

PSYCHOTRIA ALVAREZII Merr. in Philip. Journ. Sci. 3 (1913) Bot. 56.

Grumilea alvarezii Merr. in Philip. Journ. Sci. 10 (1915) Bot. 132.

Luzon (Nueva Ecija), *F. B. 22189 Alvarez, B. S. 26323, 26503 Ramos & Edaño*. In forests at low or medium altitudes. Endemic.

Local name: Kirimbibit (Neg.).

PSYCHOTRIA AMARACARPOIDES (Merr.) comb. nov.

Grumilea amaracarpoides Merr. in Philip. Journ. Sci. 10 (1915) Bot. 134.

Amaracarpus pubescens Elm. Leaf. Philip. Bot. 1 (1906) 1; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 136, non Blume.

Luzon (Abra, Bontoc, Lepanto, Zambales, Bataan), Mindoro, *F. B. 2837 Meyer, 5721 Klemme, 8638, 8748 Merritt, B. S. 4757 Ramos, 37948 Ramos & Edaño, Elmer 6975, Merrill 3194, Whitford 1193*. In primary forests, altitude 1,000 to 1,400 m. Endemic.

PSYCHOTRIA AMPLISSIMA Merr. in Philip. Journ. Sci. 17 (1920) 444.

Leyte, Samar, *B. S. 15198, 24442 Ramos*. In forests along streams. Endemic.

PSYCHOTRIA ARBORESCENS Elm. Leaf. Philip. Bot. 3 (1911) 1030.

Grumilea arborescens Merr. in Philip. Journ. Sci. 10 (1915) Bot. 130.

Mindanao (Davao), *Elmer 11263*. In primary forests, altitude about 1,200 m. Endemic.

Very similar to *P. celebica* Miq. as represented by *Teysmann 13652*.

Local name: Magsañgod (Bag.).

PSYCHOTRIA BALABACENSIS Merr. in Philip. Journ. Sci. 10 (1915) Bot. 127.

Palawan, Balabac, *B. S.* 21605, 21541 *Escritor*. In forests at low altitudes. Endemic.

PSYCHOTRIA BANAHAENSIS Elm. Leaf. Philip. Bot. 1 (1906) 26; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 224.

Grumilea banahaensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 132.

Luzon (Nueva Ecija, Tayabas, Rizal, Laguna), Polillo, *Elmer* 9124, *Whitford* 983, 625, *B. S.* 26960 *Edaño*, 26568, 28524, 28580, 29190, 26770, 24656, 29408, 29715, 40536, 40566 *Ramos & Edaño*, 23150 *McGregor*. In forests at low and medium altitudes, ascending to 700 m. Endemic.

Local name: Matang-hípon (Tag.).

PSYCHOTRIA BATAANENSIS Elm. Leaf. Philip. Bot. 1 (1906) 23; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 134.

Grumilea bataanensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 132.

Luzon (Bataan), *Elmer* 6980, *Whitford* 214, *Merrill* 3180, 3765, *Williams* 613, 411, *F. B.* 1508 *Ahern's collector*, 2078 *Borden*, *B. S.* 1599 *Foxworthy*. On forested ridges on Mt. Mariveles, altitude 700 to 1,100 m. Endemic.

PSYCHOTRIA BONTOCENSIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 456, 10 (1915) Bot. 128.

Luzon (Bontoc, Benguet), *Vanoverbergh* 2610, *B. S.* 31737 *Santos*, 37856 *Ramos & Edaño*. In ravines along streams, altitude 1,400 to 1,800 m. Endemic.

PSYCHOTRIA CADIGENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 175.

Luzon (Tayabas, east coast), *B. S.* 25484, 25533 *Yates*. In primary forests, altitude 300 to 500 m. Endemic.

PSYCHOTRIA CAGAYANENSIS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 51.

Grumilea cagayanensis Merr. op. cit. 10 (1915) Bot. 133.

Luzon (Cagayan), *F. B.* 15491 *Bernardo*, 23196 *Aleandrino*. In primary forests at low altitudes. Endemic.

Local name: Tutulang (Ibn.).

PSYCHOTRIA CAMARINENSIS (Merr.) comb. nov.

Grumilea camarinensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 135.

Luzon (Tayabas, Camarines), Leyte, Dinagat, *Merrill Phil. Pl.* 1552, *B. S.* 29128, 28789 *Ramos & Edaño*, 25557 *Yates*, 15357 *Ramos*, *F. B.* 16906 *Rosenbluth*. In the mossy forest, altitude 900 m and above. Endemic.

PSYCHOTRIA CAPIZENSIS Merr. in Philip. Journ. Sci. 17 (1920) 445.

Panay, *B. S.* 30657 *Ramos & Edaño*. In forests, probably at medium altitudes. Endemic.

PSYCHOTRIA CARDIOPHYLLA Merr. in Philip. Journ. Sci. 17 (1920) 446.

Luzon (Tayabas, east coast), *B. S.* 29166 *Ramos & Edaño*. In forests along streams at low or medium altitudes. Endemic.

PSYCHOTRIA CASTANEA Merr. in Philip. Journ. Sci. 17 (1920) 446.

Luzon (Ilocos Norte), *B. S.* 33061, 33212 Ramos. In forests at low and medium altitudes Endemic.

PSYCHOTRIA CEPHALOPHORA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 438; Elm. Leaf. Philip. Bot. 3 (1911) 1022.

Grumilea cephalophora Merr. op. cit. 10 (1915) Bot. 133.

Babuyan Islands (Camiguin), *B. S.* 4048 Fénix. In forests at low or medium altitudes. Botel Tobago.

PSYCHOTRIA CHASALIOIDES Merr. in Philip. Journ. Sci. 10 (1915) Bot. 125.

Luzon (Ilocos Norte, Bataan, Rizal, Laguna, Tayabas, Camarines), Mindoro, Sibuyan, Catanduanes, Biliran, *Elmer* 12314, *Merrill* 5576, *B. S.* 26540, 29105 Ramos & Edaña, *F. B.* 12090, 11001, 11028 Merritt. In primary forests at medium altitudes, ascending to 1,500 m. Endemic.

PSYCHOTRIA CORDATULA Merr. in Philip. Journ. Sci. 17 (1920) 447.

Luzon (Bontoc), *B. S.* 37854 Ramos & Edaña. In the mossy forest, altitude about 1,250 m. Endemic.

PSYCHOTRIA CRISPIPILA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 240, 5 (1910) Bot. 389; Elm. Leaf. Philip. Bot. 3 (1911) 1022.

Grumilea crispipila Merr. op. cit. 10 (1915) Bot. 133.

Luzon (Lepanto, Benguet), *Merrill* 4490, *Elmer* 6549, 8794, *Williams* 1539, 1301, *B. S.* 31775 Santos, 5464, 5581 Ramos, 40275, 40286, 40368 Ramos & Edaña, *F. B.* 4983 Curran. In the mossy forest, altitude 2,000 to 2,400 m. Endemic.

Local names: Anadoup (Ig.); ilab (Ig.).

PSYCHOTRIA CUERNOSENSIS Elm. Leaf. Philip. Bot. 2 (1908) 521; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 123.

Mindoro, Leyte, Panay, Negros, Mindanao (Lanao, Bukidnon), *Elmer* 10076, *Merrill* 6176, *B. S.* 35739, 30646, 38787 Ramos & Edaña, 32237 McGregor, Clemens. In primary forests, altitude 600 to 1,300 m. Endemic.

PSYCHOTRIA DEPAUPERATA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 174.

Alabat, *Merrill* 10487. In primary forests, altitude about 100 m. Endemic.

PSYCHOTRIA DIFFUSA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 134, 2 (1907) Bot. 306, 10 (1915) Bot. 123.

Psychotria celastroides Elm. Leaf. Philip. Bot. 1 (1906) 24, non Griseb.

Luzon (Bontoc, Lepanto, Benguet, Bataan, Rizal, Laguna, Tayabas, Albay, Sorsogon), Mindoro, Leyte, Negros, Mindanao (Bukidnon), *Whitford* 152, 930, 1187, 1208, *Elmer* 6258, 6811, 9662, 14431, 16564, 17504, 18294 as *P. vulcanica* Elm., *Merrill* 6170, *B. S.* 5959, 5348, 13648, 23526 Ramos, 29735, 39099, 40188, 40447 Ramos & Edaña. Chiefly in the mossy forest, altitude 1,000 to 1,700 m. Endemic.

Local names: Batuk-batúkan (Tag.); balagan-marintok (Bag.); magamasig (Bag.); simbanag (Mbo.).

Var. **AGUSANENSIS** (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 123.

Psychotria agusanensis Elm. Leaf. Philip. Bot. 5 (1913) 1888.

Luzon (Pampanga, Laguna, Sorsogon), Mindoro, Mindanao (Agusan), *Elmer 13667, 15507, B. S. 1974 Foxworthy, F. B. 12092 Merritt*. In forests, altitude 800 to 1,200 m. Endemic.

Var. **CERVINA** Elm. Leaf. Philip. Bot. 2 (1909) 592; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 123.

Psychotria cervina Elm. Leaf. Philip. Bot. 3 (1911) 1022.

Negros, *Elmer 9800*. In the mossy forest, altitude about 1,200 m. Endemic.

PSYCHOTRIA EDANOII Merr. nom. nov.

Grumilea brachybotrys Merr. in Philip. Journ. Sci. 12 (1917) Bot. 172, non *Psychotria brachybotrya* Muell.-Arg.

Luzon (Nueva Ecija, Camarines), *B. S. 26256, 33612 Ramos & Edaño*. In forests at low altitudes. Endemic.

PSYCHOTRIA ELLIPTIFOLIA Elm. Leaf. Philip. Bot. 1 (1906) 66; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 123.

Luzon (Abra, Bontoc, Nueva Vizcaya, Rizal, Tayabas, Nueva Ecija), Mindanao (Davao), *Elmer 7943, 8061, 11503, B. S. 7061 Ramos, 26300, 37820, 40782 Ramos & Edaño*. Chiefly in the mossy forest, altitude 1,400 to 1,700 m; apparently very close to *P. cuernosensis* Elm. Endemic.

Local name: Paruñgi (Neg.).

PSYCHOTRIA ELLIPTILIMBA Merr. in Philip. Journ. Sci. 17 (1920) 448.

Catanduanes, *B. S. 30534 Ramos*. In primary forests at low or medium altitudes. Endemic.

PSYCHOTRIA EPIPHYTICA Elm. Leaf. Philip. Bot. 5 (1913) 1890; Merr. in Philip. Journ. Sci. 10 (1915) 123.

Mindanao (Agusan), *Elmer 14199*. On forested ridges, altitude about 1,650 m. Endemic.

Local name: Bañgog (Mbo.).

PSYCHOTRIA EUPHLEBIA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 55.

Grumilea euphlebica Merr. op. cit. 10 (1915) Bot. 133.

Luzon (Cagayan, Tayabas, east coast), Mindoro, Samar, *B. S. 14582, 13928, 24315, 40994 Ramos, 25563 Yates, 20847 Escritor, F. B. 26976 Velasco, 19638 Curran*. In forests at low altitudes, ascending to 400 m. Endemic.

PSYCHOTRIA FASCICULIFLORA (Merr.) comb. nov.

Grumilea fasciculiflora Merr. in Philip. Journ. Sci. 10 (1915) Bot. 135.

Luzon (Cagayan), Samar, *B. S. 17519, 13865 Ramos*. In forests at low altitudes. Endemic.

PSYCHOTRIA FENICIS Merr. in Philip. Journ. Sci. 17 (1920) 449.

Luzon (Pangasinan), *B. S. 29914, 29967 Fénix*. On forested slopes and ridges, altitude 200 to 400 m. Endemic.

PSYCHOTRIA FUSCA (Merr.) comb. nov.

Grumilea fusca Merr. in Philip. Journ. Sci. 12 (1917) Bot. 171.

Luzon (Bontoc, Nueva Ecija, Tayabas), *B. S.* 26232, 26600, 37785 *Ramos & Edaño*. In forests, altitude 200 to 300 m. Endemic.

PSYCHOTRIA GITINGENSIS Elm. Leaf. Philip. Bot. 3 (1911) 1024; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 128.

Sibuyan, *Elmer* 12431. On forested ridges, altitude about 800 m. Endemic.

PSYCHOTRIA GRACILIPES Merr. in Philip. Journ. Sci. 8 (1913) Bot. 52.

Grumilea gracilipes Merr. op. cit. 10 (1915) Bot. 132.

Luzon (Cagayan), *Weber* 1572, *B. S.* 14507 *Ramos*. In forests at low altitudes. Endemic.

PSYCHOTRIA HETEROMERA Merr. in Philip. Journ. Sci. 17 (1920) 449.

Luzon (Tayabas, east coast), *B. S.* 28773, 28602 *Ramos & Edaño*. In the mossy forest, altitude probably about 1,000 m. Endemic.

PSYCHOTRIA ILOCANA (Merr.) comb. nov.

Grumilea ilocana Merr. in Philip. Journ. Sci. 12 (1917) Bot. 173.

Luzon (Ilocos Norte), *B. S.* 27456, 27459, 27544, 32843, 32847, 32802 *Ramos*. In thickets and secondary forests at low altitudes. Endemic.

PSYCHOTRIA ISAROGENSIS (Merr.) comb. nov.

Grumilea isarogensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 136.

Luzon (Camarines, Sorsogon), *Merrill Phil. Pl.* 1553, *B. S.* 23700 *Ramos*. In the mossy forest, altitude probably at or above 800 m; very similar to *P. gracilipes* Merr. Endemic.

PSYCHOTRIA IWAHIGENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1351; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 128.

Palawan, *Elmer* 13052. In primary forests at low altitudes. Endemic.

PSYCHOTRIA IXOROIDES Bartl. ex DC. Prodr. 4 (1830) 522; Miq. Fl. Ind. Bat. 2 (1857) 290; F.-Vill. Novis. App. (1880) 112; Elm. Leaf. Philip. Bot. 3 (1911) 1021; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 124.

Psychotria sarmentosa F.-Vill. Novis. App. (1880) 112; Vidal Rev. Pl. Vasc. Filip. (1886) 157; Elm. Leaf. Philip. Bot. 1 (1906) 24; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 135, 2 (1907) Bot. 306, non Blume.

Northern Luzon to Palawan and Mindanao, *B. S.* 32819, 2674, 13747 *Ramos*, 9056 *Robinson*, 26313, 34085, 33533, 33653 *Ramos & Edaño*, 30001 *Fénix*, 34920, 34551 *Ramos & Pascasio*, *Merrill* 3887, 3253, 5683, 837, *Phil. Pl.* 336, *Elmer* 7112, *Haenke!* In primary forests at low and medium altitudes. Endemic.

Local name: Amburayao (Neg.).

PSYCHOTRIA LAGUNENSIS (Merr.) comb. nov.

Grumilea lagunensis Merr. in Philip. Journ. Sci. 12 (1917) Bot. 169.

Luzon (Rizal, Laguna, Camarines), Polillo, Dinagat, *B. S.* 13362, 22098, 23826 *Ramos*, 29335, 28738, 33637, 33746 *Ramos & Edaño*, 35233, 35254 *Ramos & Pascasio*, 10212 *McGregor*. In primary forests at low altitudes. Endemic.

PSYCHOTRIA LANAENSIS (Merr.) comb. nov.

Grumilea lanaensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 136.
Mindoro, Mindanao (Lanao), *Clemens*, 924, *B. S.* 39370 *Ramos*. In swampy forests, altitude about 650 m. Endemic.

PSYCHOTRIA LANCILIMBA Merr. in Philip. Journ. Sci. 17 (1920) 451.

Luzon (Rizal), *B. S.* 29629, 29713 *Ramos & Edaño*. In the mossy forest, altitude about 1,000 m. Endemic.

PSYCHOTRIA LEPTOTHYRSA Miq. Ann. Mus. Bot. Lugd.-Bat. 4 (1868) 208; Valetton in Ic. Bogor. 3 (1909) 233, t. 285; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 126.

Psychotria beccarii K. Schum. Fl. Kais. Wilhelmsl. (1889) 135.

Coelospermum ahernianum Elm. Leaf. Philip. Bot. 1 (1906) 3.

Luzon (Camarines), *Ahern* 196, *F. B.* 10480 *Curran*. In forests at low altitudes. Java to New Guinea.

Local names: Taba-taba (Bik.); takpó (Bik.).

PSYCHOTRIA LIANOIDES Elm. Leaf. Philip. Bot. 3 (1911) 1029; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 122.

Mindanao (Davao), *Elmer* 11645. In primary forests, altitude about 1,200 m. Endemic.

Local name: Gualog (Bag.).

PSYCHOTRIA LINEARIS Bartl. ex DC. Prodr. 4 (1830) 522; Miq. Fl. Ind. Bat. 2 (1856) 290; F.-Vill. Novis. App. (1880) 112; Elm. Leaf. Philip. Bot. 3 (1911) 1022; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 123.

Amaracarpus longifolius Elm. Leaf. Philip. Bot. 1 (1906) 1.

Luzon (Rizal, Tayabas, Camarines), *Haenke!*, *Merrill Phil. Pl.* 335, 4000, *Whitford* 620, *B. S.* 24919 *Ramos & Edaño*, 13782 *Ramos*, *F. B.* 3375 *Ahern's collector*, 28744 *Simeon*. In primary forests at low and medium altitudes. Endemic.

Local names: Daniri (Tag.); samped-ilog (Tag.).

PSYCHOTRIA LOHERI Elm. Leaf. Philip. Bot. 1 (1908) 356, 5 (1913) 1892.

Grumilea loheri Merr. in Philip. Journ. Sci. 10 (1915) Bot. 132.

Luzon (Benguet), *Elmer* 8584, *B. S.* 5475 *Ramos*, *F. B.* 14164 *Merritt*, *Williams* 1338. In the mossy forest on Mt. Santo Tomas, altitude about 2,200 m. Endemic.

Local name: Socha (Ig.).

PSYCHOTRIA LONGIPEDICELLATA Elm. Leaf. Philip. Bot. 1 (1906) 22.
Grumilea longipedicellata Merr. in Philip. Journ. Sci. 10 (1915) Bot. 133.

Luzon (Tayabas), *Whitford* 907, *Merrill* 3361, *B. S.* 26594 *Ramos & Edaño*. In primary forests at low altitudes. Endemic.

Local name: Tarúrong (Neg.).

PSYCHOTRIA LONGIPETIOLATA Merr. in Philip. Journ. Sci. 17 (1920) 451.

Luzon (Camarines), Catanduanes, *B. S.* 33484 *Ramos & Edaño*, 30418, 30567, 30416 *Ramos*. In primary forests at low altitudes. Endemic.

PSYCHOTRIA LUCIDA Merr. in Philip. Journ. Sci. 17 (1920) 452.

Luzon (Rizal, Camarines), *B. S.* 29716, 29632, 33708 Ramos & Edaño. In forests, probably at an altitude of about 1,000 m. Endemic.

PSYCHOTRIA LUÇONIENSIS (Cham. & Schlecht.) F.-Vill. Novis. App. (1880) 112 (*luzoniensis*); Vidal Rev. Pl. Vasc. Filip. (1886) 157; Elm. Leaf. Philip. Bot. 3 (1911) 1021, 5 (1913) 1892; Merr. Fl. Manila (1912) 453.

Coffea luçoniensis Cham. & Schlecht. in Linnaea 4 (1829) 32; DC. Prodr. 4 (1830) 502; Miq. Fl. Ind. Bat. 2 (1857) 308.

Paederia tacpo Blanco Fl. Filip. (1837) 160, ed. 2 (1845) 113, ed. 3, 1 (1877) 202, t. 55.

Psychotria tacpo Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 312; Vidal Rev. Pl. Vasc. Filip. (1886) 157; Elm. Leaf. Philip. Bot. 1 (1906) 25; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 135, 2 (1907) Bot. 306; Usteri Beitr. Ken. Philip. Veg. (1905) 119 (*jacpo*).

Psychotria malayana F.-Vill. Novis. App. (1880) 112; Vidal Sinopsis Atlas (1883) 29, t. 57, f. F, non Jack.

Grumilea luçoniensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 131, Sp. Blancoanae (1918) 368.

Luzon (most or all provinces), Mindoro, Masbate, Leyte, Panay. Common in thickets and secondary forests at low and medium altitudes and represented by more than 150 individual collections. Very typical specimens are: Merrill 1903, 1906, 1364, 1869, Sp. Blancoanae 560, 597, F. B. 2360, 1951 Borden, 2319 Meyer. Endemic.

Local names: Altokó (Mang.); dumámai (Gad.); kadpaáyan (Ilk.); kalabol (Sbl.); katagpó (Pamp., Tag.); katagpóng-gúbat (Tag.); kom-bates (Tag.); lugani (Bon.); madantauan (Mbo.); ñguspul (Ig.); tagpó (Tag.); takpó (Tag.); tatanok (Sbl.).

PSYCHOTRIA MACGREGORII Merr. in Philip. Journ. Sci. 5 (1910) Bot. 389; Elm. Leaf. Philip. Bot. 3 (1911) 1023.

Grumilea macgregorii Merr. in Philip. Journ. Sci. 10 (1915) Bot. 133.

Luzon (Lepanto, Benguet), Merrill 6495, *B. S.* 8854 McGregor, 40193, 40367 Ramos & Edaño, F. B. 18077, 18082 Curran, Merritt, & Zschokke. In the mossy forest, altitude 2,200 to 2,500 m. Endemic.

PSYCHOTRIA MAGNIFOLIA Merr. in Philip. Journ. Sci. 17 (1920) 453.

Luzon (Tayabas, east coast), *B. S.* 28828 Ramos & Edaño. In primary forests along streams at low altitudes. Endemic.

PSYCHOTRIA MALAYANA Jack in Malay Miscel. 1¹ (1820) 3, Calc. Journ. Nat. Hist. 4 (1843) 26; DC. Prodr. 4 (1830) 520; King & Gamble in Journ. As. Soc. Beng. 74² (1905) 18; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 55; Elm. Leaf. Philip. Bot. 1 (1906) 24, 4 (1912) 1347.

Psychotria aurantiaca Wall. in Roxb. Fl. Ind. 2 (1824) 165; Blume Bijdr. (1826) 962; Valetton in Ic. Bogor. 3 (1909) 225, t. 283.

Grumilea malayana Merr. in Philip. Journ. Sci. 10 (1915) Bot. 132.

Palawan, Dinagat, Bucas Grande, Merrill 742, 833, Phil. Pl. 1229, F. B. 3540 Curran, *B. S.* 35204, 35053, 35225, 34616 Ramos & Pascasio, 21534 Escritor. In dry thickets and secondary forests at low altitudes. Malay Peninsula, Sumatra, Java.

PSYCHOTRIA MANILLENSIS Bartl. ex DC. Prodr. 4 (1830) 522; Miq. Fl. Ind. Bat. 2 (1857) 290; F.-Vill. Novis. App. (1880) 112; Elm. Leaf. Philip. Bot. 1 (1906) 24, 4 (1912) 1347; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 438, 10 (1915) Bot. 123.

Batan and Babuyan Islands, Luzon (Cagayan to Sorsogon), Catanduanes, Leyte. In primary forests at low and medium altitudes. Typical specimens are: *F. B. 1771 Borden*, *11587 Curran*, *B. S. 32724 Ramos*, *Merrill Phil. Pl. 1043*. Endemic.

Local name: Marabatuni (Neg.).

PSYCHOTRIA MEARNSII Merr. in Philip. Journ. Sci. 10 (1915) Bot. 126.

Mindanao (Misamis, Davao), *F. B. 4770 Mearns*, *Elmer 11424*. In forests at and above 500 m altitude. Endemic.

PSYCHOTRIA MEMBRANIFOLIA Bartl. ex DC. Prodr. 4 (1830) 522; F.-Vill. Novis. App. (1880) 112; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 124.

Chasalia membranifolia Elm. Leaf. Philip. Bot. 3 (1911) 1032, 5 (1913) 1856.

Luzon (most provinces), Mindoro, Samar, Biliran, Leyte, Panay, Negros, Dinagat, Mindanao. In primary forests at low and medium altitudes. Endemic.

Var. **ELMERI** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 125.

Chasalia rostrata Elm. Leaf. Philip. Bot. 1 (1906) 3, non Miq.

Luzon (Tayabas), *Merrill 4083*. In primary forests at low altitudes, scarcely differing from the type. Endemic.

Local names: Aliuankai (Mbo.); butiñgad (Neg.); makasakit (Bik.).

PSYCHOTRIA MICROPHYLLA Elm. Leaf. Philip. Bot. 2 (1908) 522.

Grumilea microphylla Merr. in Philip. Journ. Sci. 10 (1915) Bot. 130.

Negros, *Elmer 9505*, *10191*. On ridges in the mossy forest, altitude about 1,350 m. Endemic.

Local name: Kolinos (Bag.).

PSYCHOTRIA MINDANAENSIS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 54.

Grumilea mindanaensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 130.

Mindanao (Zamboanga), Basilan, *Merrill 8084*, *8096*, *B. S. 16084*. In primary forests, altitude about 900 m. Endemic.

PSYCHOTRIA MINDORENSIS Elm. Leaf. Philip. Bot. 3 (1911) 1031; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 124.

Luzon (Tayabas, Camarines, Sorsogon), Mindoro, Leyte, Panay, Negros, Mindanao (Lanao), *McGregor 312*, *Clemens 497*, *F. B. 25228 Alvarez*, *B. S. 15880 Fénix*, *29001*, *31103*, *31331*, *40690 Ramos & Edaño*. In primary forests at low and medium altitudes. Endemic.

Local name: Tagolinan (Bik.).

PSYCHOTRIA NAGAPATENSIS Merr. in Philip. Journ. Sci. 17 (1920) 454.

Luzon (Ilocos Norte), *B. S. 33193 Ramos*. In forests, altitude about 700 m. Endemic.

PSYCHOTRIA NEGROSENSIS Elm. Leaf. Philip. Bot. 2 (1908) 520.

Grumilea negrosensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 121.

Mindoro, Negros, Siquijor, Catanduanes, *Elmer* 9686, *Whitford* 1494, *Piper* 399, *F. B.* 7258 *Everett*, *B. S.* 39564 *Ramos*. On forested slopes, altitude about 1,000 m. Endemic.

Local names: Tigpúg (P. Bis.); tigbút-ihálas (P. Bis.).

PSYCHOTRIA NITENS (Merr.) comb. nov.

Grumilea nitens Merr. in Philip. Journ. Sci. 10 (1915) Bot. 137.

Luzon (Isabela, Tayabas), *B. S.* 21157 *Escritor*, 13180 *Ramos & Foxworthy*. In forests at low altitudes. Endemic.

PSYCHOTRIA OBSCURINERVIA Merr. in Philip. Journ. Sci. 17 (1920) 455.

Luzon (Ilocos Norte), *B. S.* 33077 *Ramos*. In forests at low altitudes. Endemic.

PSYCHOTRIA OVALIS Elm. Leaf. Philip. Bot. 3 (1911) 1023; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 122.

Mindanao (Davao), *Elmer* 10567. In primary forests, altitude about 1,250 m. Endemic.

Local name: Dumagisai (Bag.).

PSYCHOTRIA PALAWANENSIS Elm. Leaf. Philip. Bot. 4 (1912) 1348.

Grumilea palawanensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 134.

Palawan, Panay, *Elmer* 12737, *B. S.* 30743 *Ramos & Edaño*. In forests at low and medium altitudes. Endemic.

PSYCHOTRIA PALLIDIFOLIA Merr. in Philip. Journ. Sci. 17 (1920) 456.

Catanduanes, *B. S.* 30446, 30320, 30510 *Ramos*. In forests at medium altitudes. Endemic.

PSYCHOTRIA PALOENSIS Elm. Leaf. Philip. Bot. 1 (1906) 65.

Grumilea paloensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 131.

Leyte, Mindanao (Lanao), *Elmer* 7056, *Clemens* 492, 559, 867. In forests at low and medium altitudes. Endemic.

Local names: Balbalan (Bag.); magsañgad (Bag.).

PSYCHOTRIA PANAYENSIS Merr. in Philip. Journ. Sci. 17 (1920) 456.

Panay, *B. S.* 31335, 31042, 31198 *Ramos & Edaño*. In forests along small streams at low and medium altitudes. Endemic.

PSYCHOTRIA PAPILLATA (Merr.) comb. nov.

Grumilea papillata Merr. in Philip. Journ. Sci. 10 (1915) Bot. 138.

Catanduanes, Samar, *Merrill Phil. Pl.* 1701, *B. S.* 30517. In primary forests along small streams at low altitudes. Endemic.

PSYCHOTRIA PAUCIFLORA Bartl. ex DC. Prodr. 4 (1830) 522; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 129.

Luzon (Ilocos Norte), *B. S.* 33364, 33138, 32994, 32997, 33058 *Ramos, Haenke!*. In forests at low and medium altitudes. Endemic.

PSYCHOTRIA PAUCINERVIA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 176.

Luzon (Abra), *B. S.* 27055 *Ramos*. In forests, probably at an altitude of about 1,000 m. Endemic.

PSYCHOTRIA PHANEROPHLEBIA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 243; Elm. Leaf. Philip. Bot. 3 (1911) 1021.

Grumilea phanerophlebia Merr. in Philip. Journ. Sci. 10 (1915) Bot. 131.

Luzon (Cagayan, Apayao), *B. S.* 7404, 14506 *Ramos*, 28060 *Fénix*. In forests at low altitudes. Endemic.

Local name: Buruhan (Neg.).

PSYCHOTRIA PILOSELLA Elm. Leaf. Philip. Bot. 1 (1908) 353.

Grumilea pilosella Merr. in Philip. Journ. Sci. 10 (1915) Bot. 131.

Psychotria erythrotricha Elm. Leaf. Philip. Bot. 5 (1913) 1891.

Grumilea erythrotricha Merr. in Philip. Journ. Sci. 10 (1915) Bot. 133.

Luzon (Laguna, Tayabas, Camarines), Leyte, Bucas Grande, Mindanao (Agusan, Surigao), *Elmer* 9213, 13486, *Baker* 2418, *B. S.* 19429 *Ramos*, 9363 *Robinson*, 28617, 28587, 33662, 33615, 33842 *Ramos & Edaño*, 34702, 35049 *Ramos & Pascasio*, 20714 *Escritor*, *F. B.* 26476 *Mallonga*. In primary forests, altitude 400 to 1,000 m. Endemic.

Local names: Pasnoban (Mbo.); tuyananbau (C. Bis.).

PSYCHOTRIA PINNATINERVIA Elm. Leaf. Philip. Bot. 1 (1906) 26; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 225.

Grumilea pinnatinervia Merr. op. cit. 10 (1915) Bot. 131.

Luzon (Rizal, Laguna, Tayabas), *Whitford* 932, *Elmer* 7894, 7905, 18109, *Merrill Phil. Pl.* 337, *Loher* 6327, 6372, *B. S.* 22255, 2099, 2634, 19555 *Ramos*, 29793, 29693, 29641, 29767 *Ramos & Edaño*. In primary forests at medium altitudes, ascending to 1,200 m. Endemic.

PSYCHOTRIA PIPERI Merr. in Philip. Journ. Sci. 17 (1920) 457.

Dinagat, Mindanao (Surigao), *Piper* 513, *B. S.* 35188 *Ramos & Pascasio*. In forests at low altitudes. Endemic.

PSYCHOTRIA PLUMERIAEFOLIA Elm. Leaf. Philip. Bot. 3 (1911) 1026.

Grumilea plumeriaefolia Merr. in Philip. Journ. Sci. 10 (1915) Bot. 131.

Polillo, Sibuyan, *Elmer* 12250, *B. S.* 9295 *Robinson*. In forests at low and medium altitudes. Endemic.

PSYCHOTRIA PROPINQUA (Merr.) comb. nov.

Grumilea propinqua Merr. in Philip. Journ. Sci. 12 (1917) Bot. 170.

Luzon (Nueva Ecija, Tayabas, east coast), *Merrill* 1103, *B. S.* 26570, 28962, 26343 *Ramos & Edaño*. In primary forests at low altitudes. Endemic.

Local names: Malakulukulu (Tag.); taritaríñgin (Neg.).

PSYCHOTRIA PYGMAEA Merr. in Philip. Journ. Sci. 17 (1920) 458.

Luzon (Rizal), *B. S.* 29271 *Ramos & Edaño*. In forests, apparently at medium altitudes. Endemic.

PSYCHOTRIA PYRAMIDATA Elm. Leaf. Philip. Bot. 4 (1912) 1350.

Grumilea pyramidata Merr. in Philip. Journ. Sci. 10 (1915) Bot. 134.

Palawan, *Elmer* 13183, *Merrill* 9518, *F. B.* 21496 *Fernandez*, *B. S.* 900 *Foxworthy*. In forests, altitude 150 to 600 m. Endemic.

Local name: Gumugmug (Tagb.).

PSYCHOTRIA RADICANS (Merr.) comb. nov.

Grumilea radicans Merr. in Philip. Journ. Sci. 10 (1915) Bot. 139.

Biliran, Leyte, *Wenzel* 754, 1193, *B. S.* 18752, 18752, 18730 *McGregor*. In primary forests, altitude 500 to 900 m. Endemic.

PSYCHOTRIA RAMOSII Merr. in Philip. Journ. Sci. 5 (1910) Bot. 244, 10 (1915) Bot. 128; Elm. Leaf. Philip. Bot. 3 (1911) 1022.

Luzon (Cagayan), *B. S.* 7499 *Ramos*. In forests at low altitudes. Endemic.

PSYCHOTRIA RAMOSISSIMA Elm. Leaf. Philip. Bot. 1 (1908) 355; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 128.

Luzon (Tayabas), Samar, Leyte, *Elmer* 9178, *Wenzel* 693, *B. S.* 24313, 24498 *Ramos*. In forests and in forested ravines up to 600 m altitude. Endemic.

Local name: Malapasai (S. L. Bis.).

PSYCHOTRIA REPENS Elm. Leaf. Philip. Bot. 4 (1912) 1349; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 128.

Palawan, *Elmer* 12991. In forests along streams at low altitudes. Endemic.

PSYCHOTRIA RIGIDAEFOLIA (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 128.

Randia rigidaefolia Elm. Leaf. Philip. Bot. 1 (1908) 352.

Psychotria longipedunculata Elm. Leaf. Philip. Bot. 3 (1911) 1027; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 225.

Luzon (Tayabas, Camarines), Polillo, Sibuyan, Leyte, *Elmer* 9118, 12532, *B. S.* 28623, 33697 *Ramos & Edaño*, 10218 *McGregor*, 30564, 15296 *Ramos*. In primary forests along streams at low altitudes. Endemic.

PSYCHOTRIA RIZALENSIS Merr. in Philip. Journ. Sci. 8 (1913) Bot. 57.

Grumilea rizalensis Merr. op. cit. 10 (1915) Bot. 130.

Luzon (Rizal), *Loher* 6345, 6405, *B. S.* 29794 *Ramos & Edaño*. In forests, probably at or above 900 m. Endemic.

PSYCHOTRIA RUBIGINOSA Elm. Leaf. Philip. Bot. 1 (1906) 25; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 135.

Grumilea rubiginosa Merr. in Philip. Journ. Sci. 10 (1915) Bot. 131.

Luzon (Ilocos Norte, Bataan, Rizal), *Whitford* 243, *Elmer* 6718, *B. S.* 13776, 33261 *Ramos*, 40780, 40779 *Ramos & Edaño*, *F. B.* 2778 *Meyer*. In primary forests, altitude 500 to 900 m. Endemic.

PSYCHOTRIA SAMARENSIS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 174.

Samar, *F. B.* 23576 *Lasquety*. In forests, altitude about 200 m. Endemic.

PSYCHOTRIA SARCOCARPA Merr. in Philip. Journ. Sci. 8 (1913) Bot. 53, 10 (1915) Bot. 123.

Mindanao (Zamboanga), *Merrill 8077, B. S. 37327 Ramos & Edaño*. In damp primary forests, altitude 600 to 1,000 m. Endemic.

Local name: Dagi (Sub.).

PSYCHOTRIA SCABERULA Merr. in Philip. Journ. Sci. 17 (1920) 459.

Dinagat, *B. S. 35159 Ramos & Pascasio*. In forests at low altitudes. Endemic.

PSYCHOTRIA SIBUYANENSIS Elm. Leaf. Philip. Bot. 3 (1911) 1028; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 128.

Sibuyan, Panay, *Elmer 12355, B. S. 30977 Ramos & Edaño*. In forests, altitude about 600 m. Endemic.

PSYCHOTRIA SIMILIS Elm. Leaf. Philip. Bot. 3 (1911) 1025.

Grumilea similis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 134.

Sibuyan, *Elmer 12439*. On exposed forested ridges, altitude about 900 m. Endemic.

PSYCHOTRIA SUBALPINA Elm. Leaf. Philip. Bot. 1 (1906) 64.

Grumilea subalpina Merr. in Philip. Journ. Sci. 10 (1915) Bot. 131.

Luzon (Cagayan, Nueva Ecija, Laguna, Tayabas, Camarines), Mindoro, Panay, *Elmer 7942, 7672, Merrill 6159, B. S. 22037, 19568 Ramos, 30713 Ramos & Edaño*. In forests, altitude 1,500 to 2,000 m. Endemic.

Local name: Paritikin (Neg.).

PSYCHOTRIA SUBSESSILIFLORA Elm. Leaf. Philip. Bot. 1 (1906) 24.

Grumilea subsessiliflora Merr. in Philip. Journ. Sci. 10 (1915) Bot. 131.

Luzon (Laguna, Tayabas, Sorsogon), Mindoro, Mindanao (Surigao), *Whitford 722, Baker 2461, Elmer 15256, 14977, 16805, B. S. 19425 Ramos, 25545, 25516 Yates*. In forests at low and medium altitudes. Endemic.

PSYCHOTRIA TAYABENSIS Elm. Leaf. Philip. Bot. 1 (1908) 354.

Grumilea tayabensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 133.

Luzon (Nueva Ecija, Rizal, Laguna, Tayabas, Sorsogon), Mindoro, Panay, *Elmer 7581, 7934, B. S. 13354, 2121, 12108 Ramos, 29625, 40741 Ramos & Edaño, F. B. 7870 Curran & Merritt*. In primary forests up to 1,000 m altitude. Endemic.

PSYCHOTRIA TRICARPA Merr. in Philip. Journ. Sci. 17 (1920) 460.

Panay, *B. S. 31224 Ramos & Edaño, 25307, 25521 Martelino & Edaño*. In forests at low altitudes. Endemic.

PSYCHOTRIA URDANETENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1893.

Grumilea urdanetensis Merr. in Philip. Journ. Sci. 10 (1915) Bot. 130.

Mindanao (Agusan), *Elmer 13703*. In the mossy forest, altitude about 1,500 m. Endemic.

Local name: Makagong (Mbo.).

PSYCHOTRIA VANOVERBERGHII Merr. in Philip. Journ. Sci. 9 (1914) Bot. 457, 10 (1915) Bot. 128.

Luzon (Bontoc), *Vanoverbergh 2818*. In forests, altitude about 1,300 m. Endemic.

PSYCHOTRIA VELUTINA Elm. Leaf. Philip. Bot. 5 (1913) 1894.

Grumilea velutina Merr. in Philip. Journ. Sci. 10 (1915) Bot. 133.

Mindanao (Agusan), *Elmer* 13615. In forests, altitude about 1,050 m. Endemic.

Local name: Magadagad (Mbo.).

PSYCHOTRIA VERSICOLOR Elm. Leaf. Philip. Bot. 4 (1912) 1352.

Grumilea versicolor Merr. in Philip. Journ. Sci. 10 (1915) Bot. 130.

Palawan, Leyte, Romblon, Negros, Tinago, *Elmer* 12763, 12981, 7055, 12165, *F. B.* 12430 Danao, *Albern* 472. In forests at low altitudes. Endemic.

Local names: Kotipó (Mbo.); sagomai (Bik.).

PSYCHOTRIA VOLUTA Elm. Leaf. Philip. Bot. 4 (1912) 1347; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 128.

Palawan, *Elmer* 13253. In forests, probably at medium altitudes. Endemic.

PSYCHOTRIA WEBERI Merr. in Philip. Journ. Sci. 8 (1913) Bot. 54.

Grumilea weberi Merr. op. cit. 10 (1915) Bot. 133.

Luzon (Cagayan), *Weber* 1573, *F. B.* 24856 Velasco. In forests at low altitudes. Endemic.

PSYCHOTRIA WENZELII (Merr.) comb. nov.

Grumilea wenzelii Merr. in Philip. Journ. Sci. 10 (1915) Bot. 140.

Leyte, *Wenzel* 1142, 882, 622. In forests up to 700 m altitude. Endemic.

PSYCHOTRIA YATESII (Merr.) comb. nov.

Grumilea yatesii Merr. in Philip. Journ. Sci. 12 (1917) Bot. 172.

Luzon (Tayabas, east coast, Sorsogon), *B. S.* 25518, 25417 Yates, 28498 Ramos & Edaño, *Elmer* 16160. In primary forests at low and medium altitudes. Endemic.

EXCLUDED SPECIES

PSYCHOTRIA ANDAMANICA Kurz; F.-Vill. Novis. App. (1880) 112.

PSYCHOTRIA ANGULATA Korth.; F.-Vill. l. c.

PSYCHOTRIA DIVIRGENS Kurz; F.-Vill. l. c.

PSYCHOTRIA MARIANA Bartl.; F.-Vill. l. c.

PSYCHOTRIA SULCATA Wall.; F.-Vill. l. c.

44. STREBLOSA Korthals

STREBLOSA GLABRA Valetton ex Winkler in Engl. Bot. Jahrb. 44 (1910) 567; Elm. Leaf. Philip. Bot. 4 (1912) 1356.

Streblosa axilliflora Merr. in Philip. Journ. Sci. 10 (1915) Bot. 121.

Luzon (Tayabas, Camarines, Sorsogon), Catanduanes, Samar, Palawan, *B. S.* 22018, 23560, 30208, 24508, 17514 Ramos, 28552 Ramos & Edaño, *Elmer* 12885, 14605, *Merrill* 11586. In primary forests at low altitudes. Borneo.

Local name: Tulgirit (Bik.).

45. CHASALIA Commerson

CHASALIA CURVIFLORA (Wall.) Thw. Enum. Pl. Zeyl. (1858-64) 150; Hook. f. Fl. Brit. Ind. 3 (1880) 176; Elm. Leaf. Philip. Bot. 1 (1906) 3, 3 (1911) 1033.

Psychotria curviflora Wall. in Roxb. Fl. Ind. 2 (1824) 167.

Psychotria lurida Blume Bijdr. (1826) 959.

Zwaardekronia lurida Korth. in Nederl. Kruidk. Arch. 2 (1851) 252.

Chasalia lurida Miq. Fl. Ind. Bat. 2 (1857) 282; Merr. in Philip. Journ. Sci. 10 (1915) 140.

Chasalia obscurinervia Elm. Leaf. Philip. Bot. 3 (1911) 1033.

Mindoro, Palawan, Balabac, Ticao, Banton, Leyte, Sibuyan Panay, Mindanao, *B. S.* 30832, 31340 *Ramos & Edaño*, *F. B.* 6834 *Merritt*, *McGregor* 307, 348, *Merrill* 5416, 864, 5379, *Elmer* 7057, 12199, 11200. In primary forests at low altitudes. India to Malaya.

Local names: Kayutdimokod (Bag.); tindug-tindug (Tagb.).

46. GEOPHILA D. Don

GEOPHILA HERBACEA (Jacq.) O. Kuntze Rev. Gen. Pl. (1891) 300; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 135, 3 (1908) Bot. 438; Elm. Leaf. Philip. Bot. 1 (1906) 4, 5 (1913) 1857.

Psychotria herbacea Jacq. Enum. Pl. Carib. (1760) 16; Linn. Sp. Pl. ed. 2 (1762) 245.

Geophila reniformis D. Don Prodr. Fl. Nepal. (1825) 136; DC. Prodr. 4 (1830) 537; Hook. f. Fl. Brit. Ind. 3 (1880) 178; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 120, Rev. Pl. Vasc. Filip. (1886) 158.

Carinta herbacea W. F. Wight in Contr. U. S. Nat. Herb. 9 (1905) 216.

Batan Islands, Luzon (Bataan, Laguna, Tayabas, Sorsogon), Balabac, Biliran, Leyte, Mindanao, Basilan, Sulu. Chiefly in forests at low altitudes. Pantropic.

47. LASIANTHUS Jack

LASIANTHUS BORDENII Elm. Leaf. Philip. Bot. 1 (1906) 11; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 135.

Luzon (Cagayan, Bataan), *Elmer* 6997, *F. B.* 2088 *Borden*, 19647 *Curran*, *B. S.* 14537 *Ramos*. In primary forests, altitude about 900 m. Endemic.

Scarcely distinguishable from *L. copelandii* Elm., and very similar to the southern China and Formosan form currently referred to *L. wallichii* Wight.

LASIANTHUS ACUMINATISSIMUS Merr. in Philip. Journ. Sci. 20 (1922) 467.

Luzon (Bontoc), *B. S.* 38058 *Ramos & Edaño*. In the mossy forest, altitude about 1,800 m. Endemic.

LASIANTHUS CLEMENTIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 164; Elm. Leaf. Philip. Bot. 3 (1911) 1034, 5 (1913) 1869.

Leyte, Mindanao (Agusan, Davao, Lanao), *Clemens* 561, *Wenzel* 321, *Elmer* 13613, *Warburg* 14261. In primary forests, ascending to 700 m. Endemic.

Local name: Igbot (Mbo.).

LASIANTHUS COPELANDII Elm. Leaf. Philip. Bot. 1 (1906) 10, 5 (1913) 1869; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 306; C. B. Rob. op. cit. 6 (1911) Bot. 224.

Luzon (Cagayan, Laguna, Tayabas, Camarines), Mindoro, Polillo, Catanduanes, Biliran, Leyte, Negros, Panay, Mindanao. In primary forests at low altitudes. Endemic.

Very closely allied to *L. wallichii* Wight.

Local name: Abohon (Mbo.).

LASIANTHUS CYANEUS (Elm.) comb. nov.

Plectronia cyanea Elm. Leaf. Philip. Bot. 5 (1913) 1887.

Lasianthus laevigatus F.-Vill. Novis. App. (1880) 112; Elm. Leaf. Philip. Bot. 1 (1906) 11, non Blume.

Luzon (Bataan, Rizal), Mindanao (Bukidnon, Agusan), *Elmer* 6837, 13854, *F. B.* 2084 *Borden*, *B. S.* 38840 *Ramos & Edaña*. In primary forests, altitude 800 to 1,300 m. Endemic.

Local name: Tiñgáan (Mbo.).

LASIANTHUS CYANOCARPUS Jack in Trans. Linn. Soc. 14 (1823) 125; Hook. f. Fl. Brit. Ind. Bat. 3 (1880) 179; F.-Vill. Novis. App. (1880) 112; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 240; Elm. Leaf. Philip. Bot. 3 (1911) 1034.

Mephitidia cyanocarpa DC. Prodr. 4 (1830) 452.

Lasianthus oculus-cati Miq. Fl. Ind. Bat. 2 (1857) 315.

Lasianthus everettii Merr. in Philip. Journ. Sci. 3 (1908) Bot. 265; Elm. Leaf. Philip. Bot. 3 (1911) 1034, 5 (1913) 1869.

Luzon (Cagayan, Rizal, Laguna, Tayabas, Camarines), Catanduanes, Busuanga, Biliran, Negros, Leyte, Panay, Mindanao (Bukidnon, Agusan). In damp primary forests at low altitudes. India through Malaya to the Moluccas.

Local name: Maratagáta (Neg.).

LASIANTHUS HUMILIS Elm. Leaf. Philip. Bot. 2 (1908) 519.

Negros, *Elmer* 9687. On forested ridges, altitude about 1,000 m. Endemic.

Local name: Batin-batin (C. Bis.).

LASIANTHUS INAEQUALIS Blume Bijdr. (1826) 996; King & Gamble in Journ. As. Soc. Beng. 73² (1904) 114; Elm. Leaf. Philip. Bot. 1 (1906) 10.

Palawan, *Merrill* 863. In primary forests at low altitudes, Malay Peninsula, Penang, Sumatra, Java, and Borneo.

LASIANTHUS MICROPHYLLUS Elm. Leaf. Philip. Bot. 5 (1913) 1870.

Luzon (Ifugao, Benguet, Laguna, Tayabas), Mindoro, Panay, Leyte, Negros, Mindanao (Agusan, Davao), *Elmer* 13790, 11341, *Merrill* 5739, *B. S.* 15730 *Fénix*, 19734 *McGregor*, 6084, 6559, 9830, 14081 *Robinson*, 31887 *Santos*. Chiefly in the mossy forest, altitude 1,000 to 2,200 m. Endemic.

Closely allied to *L. lucidus* Blume.

Local name: Malabod (Mbo.).

LASIANTHUS MINDANAENSIS Merr. in Philip. Journ. Sci. 20 (1922) 466.

Mindanao (Bukidnon), *B. S.* 38795 *Ramos & Edaño*. In damp forests, altitude about 1,000 m. Endemic.

LASIANTHUS MORUS Elm. Leaf. Philip. Bot. 1 (1906) 73.

Luzon (Tayabas), Samar, Leyte, *Elmer* 7050, *B. S.* 25390 *Yates*, 24333 *Ramos*. In primary forests at low altitudes, ascending to 300 m; closely allied to *L. obliquinervis* Merr. Endemic.

Local names: Kalansit (Ting.); makaisá (Tag.); maraparamismis (Neg.); pikit-pikit (Tag.).

LASIANTHUS OBLIQUINERVIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 136, 2 (1907) Bot. 306, 3 (1908) Bot. 438; Elm. Leaf. Philip. Bot. 3 (1911) 1035, 4 (1912) 1339, 5 (1913) 1871.

Babuyan Islands and northern Luzon (Cagayan) to Mindoro and Mindanao, in most islands and provinces. In primary forests, chiefly at medium altitudes, ascending to 1,400 m. Endemic.

Local name: Nalimatoi (Mbo.).

LASIANTHUS STIPULARIS Blume Bijdr. (1826) 997; Hook. f. Fl. Brit. Ind. 3 (1880) 179; Elm. Leaf. Philip. Bot. 1 (1906) 10.

Mephitidia stipularis DC. Prodr. 4 (1830) 453.

Mindoro, Leyte, Mindanao (Davao), *Merrill* 1775, 4077, *McGregor* 166, *Elmer* 11297, *Wenzel* 170, 171, *Warburg* 14259, *B. S.* 40658 *Ramos & Edaño*, *F. B.* 9940 *Merritt*. In damp primary forests at low altitudes. Malay Peninsula, Sumatra, Java, Borneo.

Local name: Salimbañgot (Bag.).

LASIANTHUS SUBMEMBRANIFOLIUS Elm. Leaf. Philip. Bot. 5 (1913) 1871.

Mindanao (Agusan), *Elmer* 14261. In primary forests, altitude about 1,000 m. Endemic.

LASIANTHUS TASHIROI Mats. in Bot. Mag. Tokyo 15 (1901) 37; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 306; Elm. Leaf. Philip. Bot. 3 (1911) 1035.

Lasianthus lucidus F.-Vill. Novis. App. (1880) 112; Elm. Leaf. Philip. Bot. 1 (1906) 11, non ? Blume.

Luzon (Benguet, Lepanto, Bontoc, Pampanga, Rizal, Bataan, Laguna, Tayabas), Negros, Mindanao (Bukidnon, Davao), *B. S.* 3542, 2480, 2527 *Mearns*, *Elmer* 6158, 6017, *Loher* 6337, *Merrill* 3893, 3770, *B. S.* 1559, 1525, 1996 *Foxworthy*, 5824 *Ramos*. Chiefly in the mossy forest, ascending to 2,000 m altitude. Riu Kiu, Formosa, Botel Tobago.

This interpretation is not certainly correct; the material may better be referable to the Indo-Malayan *L. lucidus* Blume.

Local names: Kublit (Ig.); manigbulauan (Buk.); paloutut (Neg.); pamagtiang (Bag.).

EXCLUDED SPECIES

LASIANTHUS ATTENUATUS Jack; F.-Vill. Novis. App. (1880) 112.

LASIANTHUS CAPITATUS Blume; F.-Vill. l. c.

LASIANTHUS PILOSUS Wight; F.-Vill. l. c.

48. LITOSANTHES Blume

LITOSANTHES BIFLORA Blume Cat. Gew. Buitenz. (1823) 21; DC. Prodr. 4 (1830) 465; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 326; Elm. Leaf. Philip. Bot. 3 (1911) 1035.

Luzon (Cagayan, Laguna, Tayabas, Sorsogon), Mindoro, Catanduanes, Leyte, Negros, Mindanao, *F. B.* 19564, 12382 *Curran*, 11002, 11478 *Merritt*, *B. S.* 14508, 30394 *Ramos*, 22854 *McGregor*, *Merrill* 6172, *Warburg* 14244, *Wenzel* 1165, *Loher* 6858, *Elmer* 9586 as *Lasianthus phyllanthoides* Elm. In damp primary forests, chiefly at medium altitudes, ascending to 1,400 m. Java and probably other parts of Malaya.

Local names: Ditan (Neg.); buñgai (C. Bis.).

49. SAPROSMA Blume

SAPROSMA PHILIPPINENSIS Elm. Leaf. Philip. Bot. 3 (1911) 1035.

Luzon (Tayabas, Sorsogon), *Elmer* 9222, *B. S.* 23456 *Ramos*. In forests, altitude about 750 m. Endemic.

50. AMARACARPUS Blume

AMARACARPUS APOENSIS Elm. Leaf. Philip. Bot. 8 (1915) 2804.

Amaracarpus microphyllus Elm. op. cit. 3 (1911) 1036, non Miq.

Mindanao (Davao), *Elmer* 10737. In primary forests, altitude about 1,050 m. Endemic.

Local name: Poagan (Bag.).

51. MYRMEPHYTUM Beccari

MYRMEPHYTUM BECCARII Elm. Leaf. Philip. Bot. 3 (1911) 1037.

Sibuyan, *Elmer* 11467a. In thickets, altitude about 225 m. Endemic.

The genus is otherwise represented by one other known species in Celebes.

52. HYDNOPHYTUM Jack

HYDNOPHYTUM ANGUSTIFOLIUM Merr. in Philip. Journ. Sci. 3 (1908) Bot. 162; Elm. Leaf. Philip. Bot. 3 (1911) 1038.

Mindanao (Lanao, Zamboanga), *Clemens*, *Copeland*, *Williams* 2426. Epiphytic in forests, altitude 200 to 600 m. Endemic.

HYDNOPHYTUM BRACHYCLADUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 142.

Mindoro, *B. S.* 924 *Mangubat*. Epiphytic in forests at low altitudes. Endemic.

HYDNOPHYTUM FORMICARUM Jack in Trans. Linn. Soc. 14 (1823) 124; DC. Prodr. 4 (1830) 451; Hook. f. Fl. Brit. Ind. 3 (1880) 194; F.-Vill. Novis. App. (1883) 353; Becc. Malesia 2 (1885) 159, t. 47, f. 1-11, 48, f. 1-8; Elm. Leaf. Philip. Bot. 1 (1906) 7; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 307; C. B. Rob. op. cit. 6 (1911) Bot. 222.

Luzon (Tayabas), Polillo, *Merrill* 3368, *B. S.* 9084 *Robinson*. Epiphytic in mangrove swamps. Indo-China, Malay Peninsula, Sumatra, Borneo.

HYDNOPHYTUM INTERMEDIUM Elm. Leaf. Philip. Bot. 3 (1911) 1039.

Mindanao (Davao), *Elmer 10782*. Epiphytic in damp forests, altitude about 1,100 m. Endemic.

Local name: Manago (Bag.).

HYDNOPHYTUM LEYTENSE Merr. in Philip. Journ. Sci. 8 (1913) Bot. 390.

Luzon (Laguna, Sorsogon), Leyte, *Wenzel 45*, *Elmer 15780*, *F. B. 26783 Mabesa*. Epiphytic in primary forests, altitude 200 to 400 m. Endemic.

Local name: Pugaru (S. L. Bis.).

HYDNOPHYTUM MEMBRANACEUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 143.

Mindoro, Dinagat, *F. B. 3720 Merritt*, *B. S. 35201 Ramos & Pascasio*. On trees at low altitudes, the type from the mangrove swamps. Endemic.

HYDNOPHYTUM MINDANAENSE Elm. Leaf. Philip. Bot. 3 (1911) 1039.

Mindanao (Davao, Cotabato), *Elmer 10874*, *B. S. 11729 Robinson*. Epiphytic in forests at low altitudes, ascending to 450 m. Endemic.

Local name: Kapal-kapal (Bag.).

HYDNOPHYTUM MINDORENSE Merr. in Philip. Journ. Sci. 10 (1915) Bot. 143.

Luzon (Tayabas), Mindoro, *Merrill 6182*, *B. S. 28979 Ramos & Edaña*. Epiphytic in primary forests at low altitudes. Endemic.

HYDNOPHYTUM NITIDUM Merr. in Philip. Journ. Sci. 2 (1907) Bot. 307; Elm. Leaf. Philip. Bot. 3 (1911) 1039.

Luzon (Bataan), Mindoro, *Merrill 6181*, *Copeland*, *F. B. 4358 Merritt*. Epiphytic in primary forests, altitude 900 to 1,400 m. Endemic.

HYDNOPHYTUM ORBICULATUM Elm. Leaf. Philip. Bot. 5 (1913) 1860.

Mindanao (Agusan), *Elmer 14046*, *B. S. 15926 Fenix*. Epiphytic, on forested ridges, altitude about 600 m. Endemic.

Local name: Kayam-bató (Mbo.).

HYDNOPHYTUM PHILIPPINENSE Becc. Malesia 2 (1885) 149, *t. 33, f. 14-19*; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Rev. Pl. Vasc. Filip. (1886) 158; Elm. Leaf. Philip. Bot. 1 (1906) 7.

Luzon (Camarines), Mindanao (Surigao, Agusan, Davao, Zamboanga), Malanipa, *Williams 2178*, *Merrill 8201*, *Copeland 419*, *Wenzel 1875*, *B. S. 15893 Fénix*. Epiphytic in forests at low altitudes, sometimes in the mangrove swamps. Endemic.

53. **MYRMECODIA** Jack**MYRMECODIA APOENSIS** Elm. Leaf. Philip. Bot. 3 (1911) 1040.

Mindanao (Davao), *Elmer 11261*. Epiphytic in forests on exposed ridges, altitude about 1,200 m. Endemic.

Local name: Burebid (Bag.).

MYRMECODIA ECHINATA Gaudich. Bot. Freyc. Voy. (1826) 472, *t.* 96; DC. Prodr. 4 (1830) 450; Becc. Malesia 2 (1884) 113, *t.* 23, *f.* 4-9; Elm. Leaf. Philip. Bot. 1 (1906) 15; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 136.

Luzon (Nueva Vizcaya, Laguna, Bataan, Tayabas), *Merrill 3394, Whitford 1144, Copeland*. Epiphytic in mangrove swamps, apparently also occurring in primary forests at medium altitudes, ascending to 1,000 m. Malay Peninsula and Archipelago.

MYRMECODIA SIBUYANENSIS Elm. Leaf. Philip. Bot. 3 (1911) 1041.

Sibuyan, Panay, *Elmer 12336, B. S. 32377 McGregor*. Epiphytic in primary forests, altitude 225 to 1,000 m. Endemic.

MYRMECODIA URDANETENSIS Elm. Leaf. Philip. Bot. 5 (1913) 1876.

Mindanao (Agusan), (*Elmer 14083*). In the mossy forest, altitude about 1,600 m. Endemic.

EXCLUDED SPECIES

MYRMECODIA ARMATA DC.; F.-Vill. Novis. App. (1883) 353.

54. **PAEDERIA** Linnaeus

PAEDERIA FOETIDA Linn. Mant. 1 (1767) 52 saltem quoad syn. Rumph.!: Blanco Fl. Filip. (1837) 159, ed. 2 (1845) 112, ed. 3, 1 (1877) 201, *t.* 54; F.-Vill. Novis. App. (1880) 112; Vidal Sinopsis Atlas (1883) 29, *t.* 57, *f.* K; Elm. Leaf. Philip. Bot. 1 (1906) 28; Merr. Interpret. Herb. Amb. (1917) 489.

Apocynum foetidum Burm. f. Fl. Ind. (1768) 71.

Paederia tomentosa Blume Bijdr. (1826) 968; Miq. Fl. Ind. Bat. 2 (1857) 258; F.-Vill. Novis. App. (1880) 112; Klotz. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 482; Vidal Rev. Pl. Vasc. Filip. (1886) 158, Phan. Cuming. Philip. (1885) 120; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 438, 5 (1910) Bot. 390, Fl. Manila (1912) 455, Sp. Blancoanae (1918) 368; Elm. Leaf. Philip. Bot. 3 (1911) 1042.

Throughout the Philippines in thickets at low and medium altitudes, ascending to 1,500 m. India to Japan, China, and Malaya.

Local names: Alutút (Bon.); bañgógan (Bik.); dikuta-mabólók (Pamp.); gastalíngan (Bon.); kantútán (Tag.); kantútai (Tag.); kantótai (Tag., Pamp.); kantútak (Tag.); mabutang-dikut (Pamp.); mabolók (Pamp.); lilitan Bik.); taítai (Tag.).

PAEDERIA VERTICILLATA Blume Bijdr. (1826) 968; DC. Prodr. 4 (1830) 471; F.-Vill. Novis. App. (1880) 112; Elm. Leaf. Philip. Bot. 3 (1911) 1043, 5 (1913) 1884.

Luzon (Laguna, Albay, Sorsogon), Biliran, Leyte, Mindanao, Basilan, *Cuming 897, Elmer 18306, 13343, 11153, B. S. 23613 Ramos, 18898 McGregor*. In forests at medium altitudes. Malay Peninsula and Archipelago.

Var. **TOMENTELLA** Elm. Leaf. Philip. Bot. 5 (1913) 1885.

Mindanao (Agusan), *Elmer 13416*. In forests, altitude about 150 m.

Local names: Atut-atut (Bag.); libog (Mbo.); mabido (Mbo.).

55. *NERTERA* Banks and Solander

NERTERA DEPRESSA Banks & Solander ex Gaertn. Fruct. 1 (1788) 124, t. 26; DC. Prodr. 4 (1830) 451; Miq. Fl. Ind. Bat. 2 (1857) 262; Stapf in Trans. Linn. Soc. Bot. 4 (1894) 186; F.-Vill. Novis. App. (1880) 113; Elm. Leaf. Philip. Bot. 1 (1906) 15; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 307, 5 (1910) Bot. 390.

? *Gomozia granadensis* Mutis ex Linn. f. Suppl. (1781) 129.

Luzon (Abra, Lepanto, Bontoc, Benguet, Zambales, Laguna, Tayabas), Mindoro, Negros, Mindanao (Davao). In the mossy forest on the tops of the higher mountains, sometimes in shaded ravines as low as 1,500 m. Borneo to Australia and New Zealand, South America, etc.

Local name: Manalabi (Bag.).

56. *GYNOCHTHODES* Blume

(*Tetralopha* Hooker f.)

GYNOCHTHODES LENTICELLATA (C. B. Rob.) comb. nov.

Tetralopha lenticellata C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 227.

Negros, *F. B. 13689 Curran*. In forests at low altitudes. Endemic.

GYNOCHTHODES MINDANAENSIS Merr. in Philip. Journ. Sci. 17 (1920) 425.

Mindanao (Surigao), *B. S. 34677, 34589 Ramos & Pascasio*. In forests, altitude 400 to 700 m. Endemic.

GYNOCHTHODES NIGRA (Merr.) comb. nov.

Tetralopha nigra Merr. in Philip. Journ. Sci. 8 (1913) Bot. 58.

Panay, Mindanao (Agusan), *B. S. 15877 Fénix, 30869 Ramos & Edaño*. In forests along streams at low altitudes. Endemic.

GYNOCHTHODES PHILIPPINENSIS (Elm.) comb. nov.

Tetralopha philippinensis Elm. Leaf. Philip. Bot. 3 (1911) 1043.

Tetralopha polillensis C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 226 (July 31).

Luzon (Apayao, Rizal, Tayabas, Camarines), Polillo, Sibuyan, Siargao, Bucas Grande, *Elmer 12563, Warburg 12982, B. S. 9064 Robinson, 22684 Ramos, 28083, 28033 Fénix, 33510, 33629 Ramos & Edaño, 34894, 35131, 34934 Ramos & Pascasio*. In forests at low altitudes. Endemic.

Local names: Baruyan (Ibn.); tagakan (P. Bis.).

57. *DAMNACANTHUS* Gaertner

DAMNACANTHUS INDICUS Gaertn. Fruct. 3 (1805) 18, t. 182; DC. Prodr. 4 (1830) 473; Hook. f. Fl. Brit. Ind. 3 (1880) 158; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 323; Elm. Leaf. Philip. Bot. 3 (1911) 1044.

Luzon (Tayabas, Laguna), *B. S. 2432 Foxworthy, 9832 Robinson, F. B. 7856 Curran & Merritt*. On forested slopes of Mt. Banahao, altitude 1,400 to 2,000 m. India to China and Japan.

58. PRISMATOMERIS Thwaites

PRISMATOMERIS TETRANDRA (Roxb.) K. Schum. in Engl. & Prantl Nat. Pflanzenfam. 4⁴ (1891) 138; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 243; Elm. Leaf. Philip. Bot. 3 (1911) 1044.

Coffea tetrandra Roxb. Fl. Ind. 2 (1824) 193.

Prismatomeris albiflora Thw. in Hook. Kew Journ. Bot. 7 (1855) 268, t. 7; Hook. f. Fl. Brit. Ind. 3 (1880) 159; Valetton in Bull. Inst. Bot. Buitenz. 8 (1901) 5.

Luzon (Cagayan, Isabela, Tayabas, Camarines), Samar, Leyte, Mindanao (Surigao). In primary forests at low and medium altitudes. India to Malaya.

Local names: Hagpo (Ibn.); lasgas (Bik.).

59. MORINDA Linnaeus

MORINDA BARTLINGII Elm. Leaf. Philip. Bot. 4 (1912) 1340.

Palawan, *Elmer 13037*, *Merrill 9601*. In dry thickets at low altitudes; very close to *M. celebica* Miq. Endemic.

MORINDA BRACTEATA Roxb. Hort. Beng. (1914) 15, *nomen nudum*, Fl. Ind. 2 (1824) 198; DC. Prodr. 4 (1830) 447; Miq. Fl. Ind. Bat. 2 (1857) 243; Vidal Phan. Cuming. Philip. (1885) 120, Rev. Pl. Vasc. Filip. (1886) 157; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 55, Philip. Journ. Sci. 3 (1908) Bot. 438, Fl. Manila (1912) 453, Interpret. Herb. Amb. (1917) 490, Sp. Blancoanae (1918) 369; Valetton in Ic. Bogor. 3 (1908) 181, t. 269 (var. *celebica* Valetton).

Morinda citrifolia Blanco Fl. Filip. (1837) 149, non Linn.

Morinda ligulata Blanco op. cit. ed. 2 (1845) 105, ed. 3, 1 (1877) 196.

Morinda royoc Blanco op. cit. 148, ed. 2, 105, ed. 3, 1 (1877) 193, non Linn.

Morinda citrifolia Linn. var. *bracteata* Hook. f. Fl. Brit. Ind. 3 (1880) 156.

Babuyan Islands and northern Luzon to Palawan and Mindanao, in most or all islands and provinces. In thickets and secondary forests at low altitudes, often common. Widely distributed in the Malayan region.

Local names: Aliamá (C. Bis.); amino (P. Bis.); anino (P. Bis.); apatót (Ilk., Sbl.); apatút (Tag.); apatút-a-balang (Ilk.); asino (P. Bis.); bankáro (Tag.); bankóro (Tag.); bankóron (P. Bis.); bankúdo (Tag.); bangkúdo (Tagb., Sul.); díno (Bik.); ilog-ílog (P. Bis.); kahoi-dalága (Tag.); kális (Tag.); kúlis (Tag.); kulit (Tag.); líno (Pamp., Tag.); níno (Bik., P. Bis.); pankúdo (Tag., Bis.); sikalig (C. Bis., Mbo.); sikarig (Bag.); talianta (Pamp.); tákpus (Tag.); túmbong-aso (Tag.).

MORINDA CELEBICA Miq. Fl. Ind. Bat. 2 (1857) 246.

Busuanga, Palawan, Sulu Archipelago (Ubian), *Merrill 5394*, *Phil. Pl. 1382* as *M. palawanensis* Merr., *B. S. 41380 Lopez*. In thickets along the seashore. Indo-China, Celebes, Borneo.

MORINDA CITRIFOLIA Linn. Sp. Pl. (1753) 176; DC. Prodr. 4 (1830) 446; Miq. Fl. Ind. Bat. 2 (1857) 242; Hook. f. Fl. Brit. Ind. 3 (1880) 155; F.-Vill. Novis. App. (1880) 111; Vidal Rev. Pl. Vasc. Filip. (1886) 157; Elm. Leaf. Philip. Bot. 1 (1906) 12; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 137, Fl. Manila (1912) 453, Sp. Blancoanae (1918) 368.

Morinda littoralis Blanco Fl. Filip. ed. 2 (1845) 109, ed. 3, 1 (1877) 197, t. 52.

Throughout the Philippines in thickets, chiefly along or near the seashore. India to Polynesia.

Local names: Apatót (Ilk.); apatót-nga-basit (Ilk.); bangkúdo (Bis., Tag.); bangkúro (C. Bis.); bankóro (Tag., Mag.); bankúro (Tagb.); bankúru (Tag.); galongog (Sub.); líno (Bis., Tag.); níno (Sul., Tag., Bis.); rukurok (Kuy.); taeng-aso (Tag.); túmbong-aso (Tag.);

MORINDA CORIACEA Merr. in Philip. Journ. Sci. 17 (1920) 435.

Mindanao (Surigao), *B. S. 34439 Ramos & Pascasio*. In thickets or forests at low altitudes. Endemic.

MORINDA NITIDA Merr. in Philip. Journ. Sci. 17 (1920) 435.

Bucas Grande, *B. S. 35074 Ramos & Pascasio*. In dry forests at low altitudes. Endemic.

MORINDA PARVIFOLIA Bartl. in DC. Prodr. 4 (1830) 499; Miq. Fl. Ind. Bat. 2 (1857) 245; F.-Vill. Novis. App. (1880) 111; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 438.

Morinda cumingiana Vidal Phan. Cuming. Philip. 1885) 184.

Lucinaea cumingiana Vidal op. cit. 216, Rev. Pl. Vasc. Filip. (1886) 152.

Babuyan Islands, Luzon (Cagayan, Ilocos Norte), *Haenke!*, *Warburg 11803, 12290, Cuming 1242, Adduru 6, B. S. 4119, 3924 Fénix, 32695, 27577, 7657 Ramos*. In thickets at low altitudes. Indo-China, southern China, Formosa.

Local name: Maraséda (Ilk.).

MORINDA PHILIPPINENSIS Elm. Leaf. Philip. Bot. 3 (1911) 1044, 4 (1912) 1339.

Palawan, Mindoro, Sibuyan, *Elmer 12460, Merrill 9197, 9236, B. S. 21558 Escritor, 39648 Ramos*. In thickets and forests at low altitudes. Endemic.

Local name: Kamaliuan (P. Bis.).

MORINDA PLATYPHYLLA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 33.

Luzon (Sorsogon), *B. S. 23414 Ramos*. In forests, probably about 1,000 m altitude. Endemic.

MORINDA TINCTORIA Roxb. Hort. Beng. (1814) 15, *nomen nudum*, Fl. Ind. 2 (1824) 197; DC. Prodr. 4 (1830) 447; Hook. f. Fl. Brit. Ind. 3 (1880) 156; Merr. Philip. Bureau Forestry Bull. 1 (1903) 55.

Luzon (Benguet), Negros, *F. B. 10869, 19408 Curran, 18026 Merritt*. In thickets or forests up to 500 m altitude. India to Malaya.

The identification is not certain, as the material is imperfect.

MORINDA UMBELLATA Linn. Sp. Pl. (1753) 176; DC. Prodr. 4 (1830) 449; Miq. Fl. Ind. Bat. 2 (1857) 244; Hook. f. Fl. Brit. Ind. 3 (1880) 157; F.-Vill. Novis. App. (1880) 111; Vidal Phan. Cuming. Philip. (1885) 120, Rev. Pl. Vasc. Filip. (1886) 157; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 305; Blanco Fl. Filip. ed. 2 (1845) 110, ed. 3, 1 (1877) 197.

Morinda microcephala Bartl. in DC. Prodr. 4 (1830) 449; Miq. Fl. Ind. Bat. 2 (1857) 245; F.-Vill. Novis. App. (1880) 111; Elm. Leaf. Philip. Bot. 1 (1906) 12; Merr. Sp. Blancoanae (1918) 369.

Luzon (Cagayan, Zambales, Sorsogon), Mindoro, Culion, *Haenke!*, *Warburg 11518*, *Elmer 17260*, *Merrill 576*, *2235*, *2102*. In thickets and forests at low altitudes. India to southern China and Malaya.

Local name: Halon (Tag.).

MORINDA VOLUBILIS (Blanco) Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 137, Sp. Blancoanae (1918) 369.

Coffea volubilis Blanco Fl. Filip. (1837) 157, ed. 2 (1845) 111, ed. 3, 1 (1877) 200.

Morinda tinctoria F.-Vill. Novis. App. (1880) 111; Vidal Sinopsis Atlas (1883) 29, t. 57, f. J, non Roxb.

Luzon (Bataan, Zambales, Laguna), Catanduanes, *F. B. 1763 Borden*, *17331 Curran*, *2290 Meyer*, *12935 Alvarez*, *23811*, *26846 Mabesa*, *B. S. 30188 Ramos*, *Williams 576*, *Elmer 17789*, *Warburg 13807*. In second-growth forests at low altitudes. Endemic.

60. BORRERIA G. F. W. Meyer

BORRERIA HISPIDA (Linn.) K. Schum. in Engl. & Prantl Nat. Pflanzenfam. 4⁴ (1891) 144; Merr. Sp. Blancoanae (1918) 369.

Spermacoce hispida Linn. Sp. Pl. (1753) 102; DC. Prodr. 4 (1830) 555; F.-Vill. Novis. App. (1880) 113; Miq. Fl. Ind. Bat. 2 (1857) 332; Vidal Phan. Cuming. Philip. (1885) 120, Rev. Pl. Vasc. Filip. (1886) 158; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 439, Fl. Manila (1912) 455, Sp. Blancoanae (1918) 369; Elm. Leaf. Philip. Bot. 1 (1906) 34.

? *Borreria discolor* Bartl. ex DC. Prodr. 4 (1830) 545; F.-Vill. Novis. App. (1880) 113.

Spermacoce mutilata Blanco Fl. Filip. ed. 2 (1845) 43, ed. 3, 1 (1877) 80.

Spermacoce muriculata Blanco op. cit. 44, ed. 3, 1: 81, non DC.

Spermacoce scaberrima F.-Vill. Novis. App. (1880) 113, non Blume.

Batan Islands, Luzon (Cagayan to Batangas and Laguna), Mindoro, Panay, Basilan. In open dry places at low and medium altitudes. India to China and Malaya.

Local names: Landrina (Tag.); ligad-ligad (Sul.).

BORRERIA OCYMOIDES (Burm. f.) DC. Prodr. 4 (1830) 544.

Spermacoce ocymoides Burm. f. Fl. Ind. (1768) 34, t. 13, f. 1; Hook. f. Fl. Brit. Ind. 3 (1881) 200; F.-Vill. Novis. App. (1880) 113; Elm. Leaf. Philip. Bot. 1 (1906) 34; Merr. Fl. Manila (1912) 455.

Luzon (Bulacan, Bataan, Rizal), Basilan, *Merrill 8014*, *7377*, *B. S. 12199 Ramos*. In thickets at low altitudes. Tropical Africa, Asia, and Malaya.

BORRERIA STRICTA (Linn. f.) G. F. W. Mey. Prim. Fl. Esseq. (1818) 83, *t. 1, f. 1-3*; Cham. & Schlecht. in Linnaea 3 (1828) 322.

Spermacoce stricta Linn. f. Suppl. (1781) 120; DC. Prodr. 4 (1830) 554; Hook. f. Fl. Brit. Ind. 3 (1881) 200; F.-Vill. Novis. App. (1880) 113; Vidal Phan. Cuming. Philip. (1885) 120, Rev. Pl. Vasc. Filip. (1886) 158.

Luzon (Bontoc, Lepanto, Benguet, Bulacan, Rizal), Mindanao (Lanao). In open grasslands, chiefly at medium altitudes. Tropical Africa, India to southern China and Malaya.

Local name: Siksik-parang (Tag.).

61. **GALIUM** Linnaeus

GALIUM GAUDICHAUDII DC. Prodr. 4 (1830) 607; Benth. Fl. Austral. 3 (1866) 446; Elm. Leaf. Philip. Bot. 1 (1906) 4; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 391.

Luzon (Bontoc, Benguet), *Merrill 4414, 6595, Phil. Pl. 815, Elmer 6592, B. S. 14118 Robinson, 5968, 5548 Ramos, 37883 Ramos & Edaño, 8338 McGregor, F. B. 4936 Curran*. On rocks, ledges, and open banks, altitude 1,300 to 2,000 m. Tropical Australia.

Perhaps better referable to the Javan *G. subtrifidum* Reinw.

GALIUM PHILIPPINENSE Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 238, 5 (1910) Bot. 391; Elm. Leaf. Philip. Bot. 3 (1911) 1046.

Galium ciliare Elm. Leaf. Philip. Bot. 1 (1906) 4, non Hook. f.

Bontoc, Lepanto, Benguet, *Elmer 6557, Williams 1103, Merrill 4531, 6521, B. S. 31827 Santos, 5786, 7040 Ramos, 4371, 4369 Mearns*. On open grassy slopes, altitude 1,600 to 2,400 m. Endemic.

Local name: Imud (Bon.).

62. **RUBIA** Tournefort

RUBIA CORDIFOLIA Linn. Syst. ed. 12 (1767) 229; Miq. Fl. Ind. Bat. 2 (1857) 337; Hook. f. Fl. Brit. Ind. 3 (1881) 202; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 159; Elm. Leaf. Philip. Bot. 1 (1906) 32; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 391.

Luzon (Ifugao, Lepanto, Bontoc, Benguet, Rizal, Laguna, Tayabas), Mindanao (Lanao, Davao). In thickets and forests, chiefly above 1,000 m, extending to 2,400 m, and often common in the mossy forest. Japan to India, Malaya, and tropical Australia.

Local names: Kamagut (Ig.); mankit (Ig.); pantig-pantig (Bag.); patutud (Ig.).

DOUBTFUL AND EXCLUDED GENERA

ALLAEOPHANIA sp.; Vidal Phan. Cuming. Philip. (1885) 120, Rev. Pl. Vasc. Filip. (1886) 158.

Cuming 1679 on which the reference was based is a species of *Hedyotis* near *H. philippensis* (Willd.) Merr.

ANTHOCEPHALUS CADAMBA Miq.; Vidal Sinopsis Atlas (1883) 28, *t. 56, f. C*.

The drawing may or may not represent Miquel's species; it was prepared from specimens formerly cultivated in the Botanic Garden, Manila.

BADUSA PHILIPPICA (Cav.) Vidal Rev. Pl. Vasc. Filip. (1886) 150.

Cinchona philippica Cav. Ic. 4 (1797) 15, t. 329.

Exostemma philippicum R. & S. Syst. 5 (1819) 20; DC. Prodr. 4 (1830) 360; F.-Vill. Novis. App. (1880) 106.

"Habitat prope Manila in Santa Cruz de la Laguna" Cavanilles l. c. This is undoubtedly an error in localization, as nothing conforming to the species described and figured by Cavanilles has been found in the Philippines. Nee's specimen probably came from tropical America or perhaps from Mulgrave Island or Vavao.

CHOMELIA sp.; Usteri Beitr. Ken. Philip. Veg. (1905) 119.

The specimen probably represents a species of *Tarenna*.

PETESIA ? HISPIDA Bartl. ex DC. Prodr. 4 (1830) 395; F.-Vill. Novis. App. (1880) 113.

"In ins. Luzon (v. s. in h. Haenke)" de Candolle l. c. The very short and imperfect description is insufficient to warrant even a guess at the identity of this species; the other two Philippine species of *Petesia* described by Bartling are species of *Timonius*.

STYLOCORYNA ? MACROPHYLLA Bartl. ex DC. Prodr. 4 (1830) 377; Miq. Fl.

Ind. Bat. 2 (1857) 206; Merr. in Philip. Journ. Sci. 17 (1920) 472.

Webera macrophylla F.-Vill. Novis. App. (1880) 108.

"In ins. Manila prope Sorsogon. An certe hujus generis ? "DC. l. c.

The status of this form is indeterminable from the very short and imperfect original description of two and one-half lines only.

VANGUERIA SPINOSA Roxb.; F.-Vill. Novis. App. (1880) 110.

VANGUERIA STELLATA Blanco Fl. Filip. (1837) 167, ed. 2 (1845) 117, ed. 3, 1 (1877) 210.

It seems probable that Blanco's description was based on material originating from two unrelated species. It was erroneously reduced by F.-Villar to *Vangueria spinosa* Roxb.

CAPRIFOLIACEAE

1. SAMBUCUS Tournefort

SAMBUCUS JAVANICA Reinw. ex Blume Bijdr. (1825) 657; Blanco Fl.

Filip. ed. 2 (1845) 151, ed. 3, 1 (1877) 271; Hook. f. & Th. in

Journ. Linn. Soc. Bot. 2 (1858) 180; F.-Vill. Novis. App. (1880) 103;

Vidal Rev. Pl. Vasc. Filip. (1886) 147; Merr. in Philip. Journ. Sci.

1 (1906) Suppl. 137, 2 (1907) Bot. 307, 5 (1910) Bot. 391, Sp.

Blancoanae (1918) 370; Scheverin in Mitt. Deutsch. Dendrol.

Gesellsch. 18 (1909) 41.

Luzon (Ilocos Norte to Sorsogon, in most or all provinces), Mindoro, Catanduanes, Leyte, Negros, Panay, Mindanao. In primary forests, chiefly at medium altitudes, ascending to 2,000 m and here in old clearings, damp thickets, etc. India to China and Malaya.

Local names: Galamat (Ig.); kalamat (Ig.); sauco (Sp.).

2. **VIBURNUM** Linnaeus

VIBURNUM FLORIBUNDUM Merr. in Philip. Journ. Sci. 4 (1909) Bot. 328.

Luzon (Bontoc, Abra), *B. S.* 7074 Ramos, 38087 Ramos & Edaño. In forests, altitude from 600 to 1,500 m. Endemic.

VIBURNUM GLABERRIMUM Merr. in Philip. Journ. Sci. 4 (1909) Bot. 329.

Luzon (Nueva Vizcaya, Camarines), *Merrill Phil. Pl.* 1519, *F. B.* 15848 *Merritt*. In primary forests, altitude 1,000 to 1,400 m. Endemic.

VIBURNUM LUZONICUM Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 310; Vidal Phan. Cuming. Philip. (1885) 117, *Rev. Pl. Vasc. Filip.* (1880) 147; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 391; Rehder in *Sargent Trees & Shrubs* 2 (1908) 97, *t.* 146.

Viburnum laxum Elm. Leaf. Philip. Bot. 7 (1915) 2576.

Luzon (Cagayan, Isabela, Bontoc, Benguet, Nueva Vizcaya, Pampanga, Bataan, Camarines). In thickets and forests, altitude 800 to 2,200 m; somewhat variable in its indumentum and leaf dentation, depending on its habitat; represented by numerous collections. Endemic except for var. *formosanum* Rehder in Formosa and Fokien.

Local names: Atálba (Ig.); atíba (Bon.); bañgas-bañgas (Bag.); ba-giroro (Bik.); putud (Gad.); tílba (Ig.).

Var. **APOENSE** Elm. Leaf. Philip. Bot. 7 (1915) 2577.

Mindanao (Bukidnon, Lanao, Davao), *Clemens* 89, *Elmer* 10791, *Baker* 2628, *B. S.* 26084, 15782 *Fénix*; 38921, 38963 Ramos & Edaño. In thickets and forests at medium altitudes. Endemic.

Local names: Angganasi (Buk.); atadatud (Buk.); bañgas-bañgas (Bag.).

VIBURNUM ODORATISSIMUM Ker in Bot. Reg. *t.* 456; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1880) 7; Rolfe in Journ. Bot. 23 (1885) 213; Vidal *Rev. Pl. Vasc. Filip.* (1886) 147; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 137, 5 (1910) Bot. 391.

Luzon (Bontoc, Benguet, Nueva Vizcaya, Zambales, Pampanga, Bataan, Rizal, Laguna, Tayabas, Sorsogon), Mindoro, Leyte, Panay, Mindanao. In primary forests, ravines, thickets, etc., altitude 1,000 to 1,800 m; represented by about 75 individual collections. India to China and Formosa.

Local names: Alagim (Bon.); alalagin (Bon.); anlit (Ting.); apit (Ig.); balangbang (Bon.); idog (Ig.); ilug (Ig.); magalabag (Bag.); sasañgiten (Ting.); tiga-na-balagon (C. Bis.).

VIBURNUM PACHYPHYLLUM Merr. in Philip. Journ. Sci. 10 (1915) Bot. 284.

Leyte, *Wenzel* 923. In primary forests, altitude about 500 m. Endemic.

VIBURNUM PROPINQUUM Hemsl. in Journ. Linn. Soc. Bot. 23 (1888) 355.

Viburnum valerianicum Elm. Leaf. Philip. Bot. 7 (1915) 2578.

Luzon (Benguet, Rizal), *Elmer* 8811, 8591, 14264, *B. S.* 31973, 31908 *Santos*, 40788, 40499, 40781 *Ramos*. In the mossy forest, altitude 2,200 to 2,450 m. China (Hupeh), Formosa.

VIBURNUM SINUATUM Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 65, Philip. Journ. Sci. 1 (1906) Suppl. 137.

Luzon (Ilocos Norte, Lepanto, Benguet, Zambales, Bataan, Laguna), Negros, *Merrill* 3946, *Whitford* 120, *Merrill Phil. Pl.* 789, *Elmer* 6904, 10363. On forested ridges, altitude 1,000 to 1,700 m. Endemic.

Local name: Taringongog (Neg.).

3. LONICERA Linnaeus

LONICERA MINDANAENSIS Merr. in Philip. Journ. Sci. 20 (1922) 471.

Mindanao (Bukidnon), *B. S.* 39024 *Ramos & Edaño*. On forested slopes, altitude about 1,200 m. Endemic.

Local name: Gauod-bukid (Buk.).

LONICERA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 240.

Luzon (Lepanto, Benguet), *Merrill* 4775, *B. S.* 4276 *Mearns*, 21716, 21886 *Santos*, 40232 *Ramos & Edaño*. In stream depressions and in the mossy forest at Pauai, altitude 2,000 to 2,400 m. Endemic.

Local name: Bualtik (Ig.).

LONICERA REHDERI Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 49, Philip. Journ. Sci. 5 (1910) Bot. 391.

Luzon (Bontoc, Benguet), *Elmer* 6601, *Williams* 1447, 1468, 1280, *Clemens* 9108, *Vanoverbergh* 492, *B. S.* 13476 *Ramos*, *F. B.* 18113 *Curran*, *Merritt*, & *Zschokke*. Trailing over ledges in damp thickets and in ravines, altitude 1,500 to 2,000 m. Endemic.

EXCLUDED SPECIES

LONICERA CHINENSIS Wats.; F.-Vill. Novis. App. (1880) 104.

LONICERA CONFUSA DC.; F.-Vill. l. c.

LONICERA JAVANICA DC.; F.-Vill. l. c.

LONICERA MACRANTHA DC.; F.-Vill. l. c.

CUCURBITACEAE

1. MACROZANONIA Cogniaux

MACROZANONIA MACROCARPA (Blume) Cogn. in Bull. Herb. Boiss. 1 (1893) 612, Engl. Pflanzenreich 66 (1916) 262, f. 63, 64; Rolfe in Kew Bull. (1920) 197.

Zanonia macrocarpa Blume Bijdr. (1826) 937; Ser. in DC. Prodr. 3 (1828) 299; Cogn. in DC. Monog. Phan. 3 (1881) 927.

Zanonia philippinensis Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 241.

Macrozanonia philippinensis Cogn. in Engl. Pflanzenreich 66 (1916) 264.

Luzon (Laguna), Biliran, Mindanao (Lanao, Zamboanga, Cotabato), *Clemens* 324, *F. B.* 24997 *Mabesa*, *B. S.* 18711 *McGregor*. In primary forests at low and medium altitudes. Java, Aru, Moluccas, New Guinea. Local names: Balágo (Bag.); kabatôte (Tag.).

2. ALSOMITRA M. Roemer

ALSOMITRA INTEGRIFOLIOLA (Cogn.) Hayata in Journ. Coll. Sci. Tokyo 30¹ (1911) 121; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 353; Cogn. in Engl. Pflanzenreich 66 (1916) 17.

Gymnostemma integrifoliola Cogn. in DC. Monog. Phan. 3 (1881) 916; F.-Vill. Novis. App. (1883) 352; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 143; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 138.

Gymnostemma elongatum Merr. in Philip. Journ. Sci. 3 (1908) Bot. 267.

Hemsleya elongata Cogn. in Engl. Pflanzenreich 66 (1916) 26.

Luzon (Benguet, Lepanto, Pangasinan, Bulacan, Bataan, Rizal, Laguna, Tayabas, Sorsogon), *Cuming* 767, *Merrill* 4313, 1527, *Phil. Pl.* 453, *Elmer* 6694, 17035, 17353, *B. S.* 12675, 30068 *Fénix*, 34097, 40519 *Ramos & Edaño*, 22264 *Ramos*, 12460 *McGregor*, *F. B.* 5474 *Curran*, 2425 *Meyer*. In thickets at low and medium altitudes, ascending to 1,200 m. Formosa.

Local names: Banati (Tag.); malaayá (Tag.).

ALSOMITRA PHILIPPINENSIS Cogn. in Engl. Pflanzenreich 66 (1916) 15.

Alsomitra sarcophylla Merr. in Philip. Journ. Sci. 7 (1912) Bot. 352, non M. Roem.

Luzon (Bataan), *Copeland* 255. In thickets or forests at low or medium altitudes. Endemic.

ALSOMITRA PUBESCENS Merr. in Philip. Journ. Sci. 13 (1918) Bot. 64.

Luzon (Laguna), *F. B.* 26346 *Mabesa*, *Baker* 4471. In thickets at low altitudes. Endemic.

ALSOMITRA SIMPLICIFOLIA Merr. in Philip. Journ. Sci. 20 (1922) 470.

Mindanao (Zamboanga), *B. S.* 37397 *Ramos & Edaño*. In forests along streams at low altitudes. Endemic.

Local name: Lalapid (Sub.).

EXCLUDED SPECIES

ALSOMITRA CLAVIGERA Hook. f.; F.-Vill. Novis. App. (1880) 98.

3. MELOTHRIA Linnaeus

MELOTHRIA INDICA Lour. Fl. Cochinch. (1790) 35; F.-Vill. Novis. App. (1880) 98; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 143; Cogn. in DC. Monog. Phan. 3 (1881) 598, Engl. Pflanzenreich 66 (1916) 98; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 439, 5 (1910) Bot. 392, Fl. Manila (1912) 456, Sp. Blancoanae (1918) 370.

Cucumis luzonicus Blanco Fl. Filip. (1837) 861, ed. 2 (1845) 534, ed. 3, 3 (1879) 180, t. 365.

Melothria zeylanica Cogn. in Engl. Pflanzenreich 66 (1916) 95, quoad Philip.

Batan Islands, Luzon (Ifugao, Lepanto, Benguet, Bataan, Rizal, Laguna, Sorsogon), Polillo, Camiguin de Misamis, Mindanao (Lanao), *Merrill 6581*, *Sp. Blancoanae 848*, *Cuming 543*, *Elmer 14421*, *B. S. 2063*, *14608*, *1475 Ramos*. Along streams, in old clearings, etc., at low and medium altitudes. India to China through Malaya to the Moluccas; Samoa.

Local names: Melon-dagá (Tag.); simónkaram (Iv.); timún-ambau (Sul.).

MELOTHRIA LEUCOCARPA (Blume) Cogn. in DC. Monog. Phan. 3 (1881) 601; F.-Vill. Novis. App. (1883) 352; var. **TRILOBA** Cogn. l. c., Engl. Pflanzenreich 66 (1916) 102; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 143.

Melothria odorata Hook. f. & Th. var. *triloba* C. B. Clarke ex Hook. f. Fl. Brit. Ind. 2 (1879) 626.

"Philippines," without locality, *Cuming 1917*. It is very possible that this specimen came from Malacca, not from the Philippines. *Elmer 5894* referred by Cogniaux to *M. leucocarpa* Cogn. var. *philippinensis* Cogn. is *M. mucronata* Cogn. India to China, Malay Peninsula, Java, Borneo, Moluccas.

MELOTHRIA LOBATA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 104.

Luzon (Bontoc), *Vanoverbergh 1241*. In thickets along trails, altitude about 1,300 m. Endemic.

MELOTHRIA MADERASPATANA (Linn.) Cogn. in DC. Monog. Phan. 3 (1881) 623, Engl. Pflanzenreich 66 (1916) 126, f. 29.

Cucumis maderaspatanus Linn. Sp. Pl. (1753) 1012.

Bryonia scabrella Linn. f. Suppl. (1781) 424.

Mukia scabrella Arn. in Hook. Journ. Bot. 3 (1841) 276.

Luzon (Lepanto, Amburayan, Bontoc, Cavite, Laguna), Masbate, Pannay, Mindanao, *Merrill 4467*, *10629*, *6299*, *3379*, *B. S. 30939*, *38482 Ramos & Edaño*. In open grasslands, old clearings, etc., at low and medium altitudes. Tropical Africa and Asia through Malaya to tropical Australia.

MELOTHRIA MARGINATA (Blume) Cogn. in DC. Monog. Phan. 3 (1881) 573, Engl. Pflanzenreich 66 (1916) 93.

Bryonia marginata Blume Bijdr. (1826) 924; Seringe in DC. Prodr. 3 (1828) 305.

Melothria rumphiana Scheff. in Ann. Jard. Bot. Buitenz. 1 (1876) 25.

Palawan, Mindoro, *Merrill 5252*, *F. B. 9945 Merritt*. In thickets at low altitudes. Malay Peninsula and Borneo, a variety in Java.

MELOTHRIA MUCRONATA (Blume) Cogn. in DC. Monog. Phan. 3 (1881) 608; F.-Vill. Novis. App. (1883) 352; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 137, 5 (1910) Bot. 391.

Bryonia mucronata Blume Bijdr. (1826) 923.

Zehneria baueriana Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 143, non Endl.

Melothria leucocarpa Cogn. var. *philippinensis* Cogn. in Engl. Pflanzenreich 66 (1916) 102.

Melothria perpusilla Cogn. et var. *subtruncata* Cogn. op. cit. 106, quoad Philip.

Luzon (Cagayan, Ilocos Norte, Apayao, Lepanto, Benguet, Bataan, Rizal, Laguna, Tayabas, Sorsogon), Mindoro, Polillo, Ticao, Samar, Leyte, Panay, Negros, Mindanao. In thickets at low and medium altitudes, in Benguet ascending to 2,300 m; common. India, to Formosa, and Malaya.

Local names: Alalat (Ig.); batbatek (Bon.); ditidid (Ig.); dumeg (Klg.); kandul-máya (Buk.); kalulumítan (Ig.); kaskasimum (Bon.); malabalánti (S. L. Bis.); pilotpilot (C. Bis.); trotankua (S. L. Bis.).

MELOTHRIA SCABERRIMA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 330; Cogn. in Engl. Pflanzenreich 66 (1916) 97.

Luzon (Bontoc, Benguet), *Elmer 5862, Merrill 4657, Williams 1055, B. S. 32011 Santos, 12758 Fénix, 15979 Bacani*. In thickets, altitude 1,400 to 2,300 m. Endemic.

Local names: Kuako (Ig.); salatgat (Ig.).

4. ILOCANIA Merrill

ILOCANIA PEDATA Merr. in Philip. Journ. Sci. 13 (1918) Bot. 65.

Luzon (Ilocos Norte), *B. S. 27490, 27552 Ramos*. Borders of clearings at low altitudes. A monotypic endemic genus.

Local name: Parpárya (Ilk.).

5. MOMORDICA Tournefort

MOMORDICA CHARANTIA Linn. Sp. Pl. (1753) 1009; Miq. Fl. Ind. Bat. 1¹ (1850) 663; F.-Vill. Novis. App. (1880) 97; Cogn. in DC. Monog. Phan. 3 (1881) 436; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 138, 3 (1908) Bot. 84, Fl. Manila (1912) 461, Sp. Blancoanae (1918) 370.

Momordica balsamina Blanco Fl. Filip. (1837) 768, ed. 2 (1845) 539, ed. 3, 3 (1879) 172; F.-Vill. Novis. App. (1880) 97, non Linn.

Momordica cylindrica Blanco op. cit. 769, ed. 2, 172, ed. 3, 3 (1879) 172, t. 357, non Linn.

Throughout the Philippines in cultivation and also thoroughly naturalized in thickets, waste places, etc., at low and medium altitudes. Pan-tropic.

Local names: Amargóso (Sp.); ampalayá (Tag.); ampaliá (Tag.); apalayá (Tag.); apaliá (Pamp.); apápe' (Ibn.); apápet (Itan.); margóso (Tag.); paliá (Bis., Bon., If.); pariá (Bik., Ilk., Sul.); puliá (Sub.); saligun (Sul.).

MOMORDICA COCHINCHINENSIS (Lour.) Spreng. Syst. 3 (1826) 14; F.-Vill. Novis. App. (1880) 97; Cogn. in DC. Monog. Phan. 3 (1881) 445; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 142; Merr. Fl. Manila (1912) 461, Sp. Blancoanae (1918) 371.

Momordica sphaeroidea Blanco Fl. Filip. (1837) 771, ed. 2 (1845) 531, ed. 3, 3 (1879) 174, t. 380.

Passiflora saponaria Blanco op. cit. 650.

Modecca ? saponaria Blanco op. cit. ed. 2 (1845) 453, ed. 3, 3 (1879) 53.

Momordica ovata Cogn. in DC. Monog. Phan. 3 (1881) 446; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 143.

Luzon (Cagayan, Bontoc, Benguet, Ilocos Sur, Union, Tarlac, Pangasinan, Rizal, Bulacan, Cavite, Laguna, Batangas, Camarines), Mindanao, Biliran, Panay, Guimaras, Camiguin de Misamis, Mindanao (Agusan). In thickets, secondary forests, etc., at low and medium altitudes. India to China and Formosa through Malaya to the Moluccas.

The leaf differences between *M. cochinchinensis* and *M. ovata* break down entirely in our series of over 50 specimens; entire and deeply lobed leaves often occur on the same plant.

Local names: Balbas-bakíro (Tag.); buyok-búyok (Tag.); libas (Ilk.); malakaban (C. Bis.); mangal (Sul.); parog-parog-ti-noang (Ilk.); parog-parog-ti-tau (Ilk.); parug-parug (Ilk.); paruk-paruk (Ilk.); parumpa-rung (Ibn.); patólang-uák (Tag.); sugod-sugod (Ilk.); tabog-uák (Bik.); tabala (Mbo.); tabog-ok (Bik.); tabolo (Sub.); taboo (C. Bis.); tamba-ching (Ig.); tambalosan (P. Bis.); tambuauang (Bon.).

6. LUFFA Tournefort

LUFFA ACUTANGULA (Linn.) Roxb. Hort. Beng. (1814) 70, Fl. Ind. ed. 2, 3 (1832) 713; Seringe in DC. Prodr. 3 (1828) 302; F.-Vill. Novis. App. (1880) 96; Cogn. in DC. Monog. Phan. 3 (1881) 459; Merr. Fl. Manila (1912) 459, Sp. Blancoanae (1918) 372.

Cucumis acutangulus Linn. Sp. Pl. (1753) 1011; Blanco Fl. Filip. (1837) 776, ed. 2 (1845) 534, ed. 3, 3 (1879) 179, t. 288.

Luffa foetida Cav. Ic. 1 (1791) 7, t. 9, 10; F.-Vill. Novis. App. (1880) 96.

Commonly cultivated for its edible fruits, but not established. Old World Tropics in cultivation.

Local names: Patóla (Tag.); patúla-baímbing (Sul.); saykua (Bis.).

LUFFA CYLINDRICA (Linn.) M. Roem. Syn. 2 (1846) 63; Cogn. in DC. Monog. Phan. 3 (1881) 456; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 138, Fl. Manila (1912) 459, Sp. Blancoanae (1918) 372.

Momordica luffa Linn. Sp. Pl. (1753) 1009.

Momordica cylindrica Linn. l. c.

Luffa petola Seringe in DC. Prodr. 3 (1828) 303; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 334.

Luffa aegyptiaca Mill. Gard. Dict. ed. 8 (1768); Miq. Fl. Ind. Bat. 1¹ (1856) 667; F.-Vill. Novis. App. (1880) 96.

Commonly cultivated for its edible fruits, the fruits being larger than the very common wild form which occurs in thickets in the settled areas throughout the Philippines. Pantropic in cultivation.

Local names: Kabatíti (Bon., Ilk.); kabatítit-aso (Ilk.); patóla (Bis., Bik., Tag.); patúlang-uák (Tag.); patúla-amu (Sul.); salag-salag (Tag.); tabau-tábau (Ilk.); tabóbok (Tag.); tabúbok (Tag.).

7. CITRULLUS Forskål

CITRULLUS VULGARIS Schrad. in Linnaea 12 (1838) 412; F.-Vill. Novis. App. (1880) 97; Merr. Fl. Manila (1912) 460.

Cucurbita citrullus Linn. Sp. Pl. (1753) 1010.

The common watermelon, commonly cultivated in many parts of the Philippines, and occasional as an escape. Cultivated in all warm countries.

Local names: Pakúan (Tag.); sandía (Sp.); timun (Sul.).

EXCLUDED SPECIES

CITRULLUS COLOCYNTHIS Schrad.; F.-Vill. Novis. App. (1880) 97.

8. *CUCUMIS* Tournefort

CUCUMIS MELO Linn. Sp. Pl. (1753) 1011; Blanco Fl. Filip. (1837) 775, ed. 2 (1845) 534, ed. 3, 3 (1879) 179; Miq. Fl. Ind. Bat. 1¹ (1856) 670; Cogn. in DC. Monog. Phan. 3 (1881) 482; F.-Vill. Novis. App. (1880) 97; Merr. Fl. Manila (1912) 460, Sp. Blancoanae (1918) 372.

The common melon, cultivated in several forms or varieties, occasional as an escape. Cultivated in all warm countries.

Local names: Atimón (Bis.); inkug (Sul.); itimón (Ilk.); katimón (Bis.); melón (Sp.).

CUCUMIS SATIVUS Linn. Sp. Pl. (1753) 1012; F.-Vill. Novis. App. (1880) 97; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 299; Merr. Fl. Manila (1912) 460.

The common cucumber, generally cultivated in the Philippines. Planted in all warm countries.

Local names: Kalabága (Bis.); kasimum (Bon.); maras (Sul.); madas (Sul.); pepino (Sp.).

EXCLUDED SPECIES

CUCUMIS TRIGONUS Roxb.; F.-Vill. Novis. App. (1880) 97.

9. *BRYONOPSIS* Arnott

BRYONOPSIS LACINIOSA (Linn.) Naud. in Ann. Sci. Nat. Bot. V 6 (1866) 30; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 143; Cogn. in DC. Monog. Phan. 3 (1881) 477.

Bryonia laciniosa Linn. Sp. Pl. (1753) 1013; F.-Vill. Novis. App. (1880) 98.

Luzon (Cagayan, Benguet, Bulacan, Rizal, Sorsogon), Biliran, Leyte, Panay, Mindanao, Basilan, Merrill 4306, 5408, Elmer 15521, B. S. 12534 Ramos, 38731 Ramos & Edaña, 18865 McGregor, 26070 Fénix. In thickets, old clearings, etc., at low and medium altitudes. Tropical Africa and Asia through Malaya to Australia.

Local names: Bayong (Bag.); melong-uák (Tag.); tavadadai (Iv.).

10. *BENINCASA* Savi

BENINCASA HISPIDA (Thunb.) Cogn. in DC. Monog. Phan. 3 (1881) 513; Merr. Fl. Manila (1912) 459, Sp. Blancoanae (1918) 372.

Cucurbita hispida Thunb. Fl. Jap. (1784) 322.

Benincasa cerifera Savi in Bibl. Ital. (1818) 158; Seringe in DC. Prodr. 3 (1828) 303; Miq. Fl. Ind. Bat. 1¹ (1856) 665; F.-Vill. Novis. App. (1880) 96.

Cucurbita pepo-aspera Blanco Fl. Filip. (1837) 773, ed. 2 (1845) 532, ed. 3, 3 (1879) 176, t. 323.

Cultivated for its large edible fruits, a purposely introduced plant in the Philippines, occasionally met with as an escape. India to Japan, Malaya, and Polynesia in general cultivation.

Local names: Kandól (Bis.); kondól (Iv., Tag.); kundúl (Sul.); rodál (Bik.); tabúgok (Sub.); tambúlok (Tagb.); tibiayon (Bis.).

11. GYMNOPETALUM Arnott

GYMNOPETALUM CHINENSE (Lour.) Merr. in Philip. Journ. Sci. 15 (1919) 256.

Euonymus chinensis Lour. Fl. Cochinch. (1790) 156.

Bryonia cochinchinensis Lour. op. cit. (1790) 595.

Gymnopetalum cochinchinense Kurz in Journ. As. Soc. Beng. 40² (1871) 57; Cogn. in DC. Monog. Phan. 3 (1881) 391; F.-Vill. Novis. App. (1883) 352; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 142.

Luzon (Tayabas), Balabac, Masbate, Panay, Cebu, Mindanao, Basilan, Merrill 3390, 5418, Weber 1019, B. S. 26730 Ramos, 505 Mangubat, 31346 Ramos & Edaño, 34423 Ramos & Pascasio. In clearings, open waste places, etc., at low altitudes. India to southern China and Malaya.

Local names: Puyugutong (Sub.); tabóguk (Tag.).

12. LAGENARIA Seringe

LAGENARIA LEUCANTHA (Duch.) Rusby in Mem. Torr. Bot. Club 4: 43; Merr. Fl. Manila (1912) 458, Interpret. Herb. Amb. (1917) 493, Sp. Blancoanae (1918) 373.

Cucurbita leucantha Duch. in Lam. Encycl. 2 (1782) 150.

Cucurbita lagenaria Linn. Sp. Pl. (1753) 1010.

Lagenaria vulgaris Seringe in Mém. Soc. Phys. Hist. Nat. Genève 3 (1825) 25, DC. Prodr. 3 (1828) 299; Miq. Fl. Ind. Bat. 1¹ (1856) 669; F.-Vill. Novis. App. (1880) 96; Cogn. in DC. Monog. Phan. 3 (1881) 417.

Cucurbita lagenaria-oblonga Blanco Fl. Filip. (1837) 772, ed. 2 (1845) 531, ed. 3, 3 (1879) 175.

Cucurbita lagenaria-villosa Blanco op. cit. 772, ed. 2, 532, ed. 3, 3: 175.

Cultivated throughout the Philippines, naturalized in some parts of Mindanao. Pantropic in cultivation.

Local names: Buliánḡin (Sub.); kalúbai (Bis.); labu (Sul.); ópo (Tag.); sikai (Bis.); tabúnḡau (Bon., Ilk.); úpo (Tag.).

13. TRICHOSANTHES Linnaeus

TRICHOSANTHES BRACTEATA (Lam.) Voigt Hort. Suburb. Calc. (1845) 58; Cogn. in DC. Monog. Phan. 3 (1881) 375; Merr. in Philip. Journ. Sci. 13 (1918) Bot. 64.

Modecca bracteata Lam. Encycl. 4 (1798) 410.

Luzon (Ilocos Norte, Cavite), B. S. 27415 Ramos, 22505 Ramos & Deroy. In thickets and forests along streams at low and medium altitudes. India to Sumatra, Java, Borneo, and Timor.

TRICHOSANTHES CUCUMERINA Linn. Sp. Pl. (1753) 1008; Miq. Fl. Ind. Bat. 1 (1856) 676; F.-Vill. Novis. App. (1880) 95; Cogn. in DC. Monog. Phan. 3 (1881) 337; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 138, Fl. Manila (1912) 457, Sp. Blancoanae (1918) 373.

Trichosanthes amara Blanco Fl. Filip. (1837) 774, ed. 2 (1845) 533, ed. 3, 3 (1879) 178, p. p., non Linn.

Trichosanthes luçoniana Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 460.

Luzon (Ilocos Sur, Benguet, Union, Pangasinan, Bataan, Rizal, Laguna, Merrill 3899, 3309, 4097, 9659, *Phil. Pl.* 317, *F. B.* 1949 Borden, *B. S.* 1408, 12216 Ramos. In thickets at low and medium altitudes, ascending to 1,200 m. India through Malaya to tropical Australia.

Local names: Melon-dagá (Tag.); melon-melónan (Tag.); parparia (Ilk.); tabúbok (Tag.); tabúgok (Tag.).

TRICHOSANTHES ELLIPSOIDEA Merr. in *Philip. Journ. Sci.* 13 (1918) Bot. 332.

Catanduanes, *B. S.* 30364 Ramos. In forests near abacá plantations at low altitudes. Endemic.

TRICHOSANTHES QUINQUANGULATA A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 645; Cogn. in DC. Monog. Phan. 3 (1881) 378; Merr. in *Philip. Journ. Sci.* 1 (1906) Suppl. 138, 3 (1908) Bot. 84, 439, *Fl. Manila* (1912) 458.

Babuyan Islands, Luzon (Cagayan, Benguet, Bontoc, Nueva Vizcaya, Pangasinan, Zambales, Bulacan, Bataan, Rizal, Laguna), Masbate, Panay, Mangsi, Mindanao. In thickets, old clearings, etc., at low and medium altitudes, ascending to 1,500 m. Endemic.

Local names: Kabalónnga (Tag.); katimbau (Ilk.); kalanum-uák (Bis.); kaulalagda (Bag.); lima (Ig.); patóla-si-gayang (Gad.); tabau-tábau (Ilk., Pang.); tabúgok (Tag.); tambanding (Ig.); tibabayung (Sul.); tibubukan-uak (Sul.).

TRICHOSANTHES VANOVERBERGHII Merr. in *Philip. Journ. Sci.* 9 (1914) Bot. 458.

Luzon (Bontoc, Benguet), *Vanoverbergh* 1262, 3662bis, *Merrill* 4864. In thickets, altitude 1,200 to 1,400 m. Endemic.

TRICHOSANTHES VILLOSA Blume Bijdr. (1826) 934; Cogn. in DC. Monog. Phan. 3 (1881) 366; Merr. in *Philip. Journ. Sci.* 4 (1909) Bot. 330.

Luzon (Rizal), Mindanao (Bukidnon, Davao), *B. S.* 1027 Ramos, *Copeland* 1301, *Wester* 45, 65. In thickets or forests up to 1,000 m altitude. Java.

Local name: Kandol-amo (Buk.).

EXCLUDED SPECIES

TRICHOSANTHES ANGUINA Linn. F.-Vill. Novis. App. (1880) 96.

TRICHOSANTHES GLOBOSA Blume; F.-Vill. l. c.

TRICHOSANTHES PALMATA Roxb.; F.-Vill. l. c.

14. CUCURBITA Tournefort

CUCURBITA MAXIMA Duchesne in Lam. Encycl. 2 (1786) 151, F.-Vill. Novis. App. (1880) 97; Merr. *Fl. Manila* (1912) 457, *Sp. Blancoanae* (1918) 373.

Cucurbita sulcata Blanco *Fl. Filip.* (1837) 773, ed. 2 (1845) 532, ed. 3, 3 (1879) 177, t. 320.

The common squash, widely cultivated in the Philippines, occasional as an escape. Planted in all warm countries.

Local names: Calabáza (Sp.); kabasi (Sul.); kalabása (Tag.); kalabásang-bilóg (Tag.); kalabásang-pulá (Tag.); karabása (Ilk); kumbása (Bon.).

EXCLUDED SPECIES

CUCURBITA MOSCHATA Duchesne; F.-Vill. Novis. App. (1880) 98.

CUCURBITA PEPO Linn.; F.-Vill. l. c.

15. GYNOSTEMMA Blume

GYNOSTEMMA LAXUM (Wall.) Cogn. in DC. Monog. Phan. 3 (1881) 914.

Zanonia laxa Wall. Cat. (1831) No. 3727, *nomen nudum*, Pl. As. Rar. 2 (1831) 29.

Alsomitra laxa M. Roem. Syn. 2 (1846) 118.

Mindanao (Bukidnon), *B. S.* 38643, 38669 *Ramos & Edaño*. In forests along streams, altitude about 1,200 m. India to Sumatra, Java, and Borneo.

Local name: Pogsot (Buk.).

GYNOSTEMMA PEDATUM Blume Bijdr. (1825) 23; Cogn. in DC. Monog. Phan. 3 (1881) 913; F.-Vill. Novis. App. (1883) 352; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 267, 5 (1910) Bot. 392.

Luzon (Cagayan, Bontoc, Benguet, Bataan, Rizal, Laguna, Tayabas), Catanduanes, Mindoro, Samar, Panay, Mindanao, *Merrill 1788, 7662, Phil. Pl. 53, 1740, Elmer 6033, 18302, B. S. 32763, 30227, 24443, 24127 Ramos, 31941 Santos*. In forests, damp shaded ravines, etc., at low and medium altitudes, ascending to 2,300 m. India to Japan southward to Malaya.

Local names: Burobuasau (S. L. Bis.); lagili (Sul.); panulpo (C. Bis.).

GYNOSTEMMA SIMPLICIFOLIUM Blume Bijdr. (1825) 23; Cogn. in DC. Monog. Phan. 3 (1881) 915; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 329.

Mindanao (Zamboanga), *Williams 2119*. In forests at low altitudes. Java.

EXCLUDED GENERA

CEPHALANDRA INDICA Naud.; F.-Vill. Novis. App. (1889) 97.

COCCINEA GRANDIS Linn.; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 414.

The figure apparently represents the Linnean species, but it was probably drawn from cultivated specimens. The species apparently no longer occurs in the Philippines.

ZANONIA INDICA Linn.; F.-Vill. op. cit. 98.

CAMPANULACEAE

1. PERACARPA Hooker f. and Thomson

PERACARPA LUZONICA Rolfe in Kew Bull. (1906) 201; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 392.

Luzon (Benguet), *B. S. 32040 Santos, 4361 Mearns, Merrill 4724, 6496, Clemens 9113*. In the mossy forest on the higher mountains, altitude 2,200 to 2,400 m. Endemic.

2. CAMPANUMOEAE Blume

CAMPANUMOEAE CELEBICA Blume Bijdr. (1826) 727; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1881) 436, excl. syn. Wallich et Roxburgh; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 216.

Panay, Mindanao (Bukidnon, Davao), *B. S. 30654 Ramos & Edaño, 18201 Robinson, Wester 111, Williams 2583*. In forests and shaded ravines, altitude 600 to 1,100 m. India to Malaya.

Local name: Lakoronbolan (Buk.).

CAMPANUMOEAE LANCIFOLIA (Roxb.) comb. nov.

Campanula lancifolia Roxb. Fl. Ind. 2 (1824) 96, ed. 2, 1 (1832) 505; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 104.

Codonopsis truncata Wall. Cat. (1829) No. 1301, *nomen nudum*; A. DC. Monogr. Campan. (1830) 122, Prodr. 7 (1839) 423.

Campanumoea axillaris Oliv. in Hook. Ic. III 8 (1888) t. 1775; Hemsl. in Journ. Linn. Soc. Bot. 26 (1889) 7.

Luzon (Bontoc, Nueva Vizcaya), *Vanoverbergh 965, B. S. 20150 McGregor*. In wet places at medium altitudes, ascending to 1,400 m. Burma to southern China.

3. WAHLENBERGIA Schrader

WAHLENBERGIA BIVALVIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 242, 5 (1910) Bot. 392.

? *Wahlenbergia gracilis* Usteri Beitr. Ken. Philip. Veg. (1905) 120, non A. DC.

Luzon (Benguet, Bontoc), *Merrill 4361, 4811, 4559, 6523, Elmer 8410, Williams 2016, 1469, B. S. 31660 Santos, F. B. 15611 Curran*. On open grassy slopes, altitude 1,500 to 2,700 m. Endemic.

Local name: Lugam (Ig.).

4. PENTAPHRAGMA Wallich

PENTAPHRAGMA MINDANAENSE Merr. in Philip. Journ. Sci. 20 (1922) 472.

Mindanao (Zamboanga), *B. S. 36834, 36580 Ramos & Edaño*. Along small streams in forests at low altitudes. Endemic.

PENTAPHRAGMA PHILIPPINENSE Merr. in Philip. Journ. Sci. 2 (1907) Bot. 308; C. B. Rob. op. cit. 6 (1911) Bot. 227.

Luzon (Laguna, Tayabas, Camarines, Albay, Sorsogon), Mindoro, Polillo, Samar, Leyte, Panay, Mindanao, Jolo, *Merrill 6136, Wenzel 73, Elmer 9143, 15315, 15065, Weber 1057, B. S. 6452, 6936, 9344 Robinson, 29149, 31302, 38674, 40567 Ramos & Edaño, 22111, 23553 Ramos, 10393 McGregor, F. B. 26822 Catalan*. In damp primary forests at low and medium altitudes. Endemic.

Local names: Bugaong (Buk.); handanata (S. L. Bis.); pitun (Mbo.); salingbañgung (Bag.).

PENTAPHRAGMA PLATYPHYLLUM Merr. in Philip. Journ. Sci. 17 (1920) 322.

Dinagat, *B. S. 35258 Ramos & Pascasio*. In primary forests along streams at low altitudes. Endemic.

PENTAPHRAGMA PULGARENSE Elm. Leaf. Philip. Bot. 7 (1915) 2572.

Palawan, *Merrill 718, Elmer 13208*. In primary forests at medium altitudes. Endemic.

5. SPHENOCLEA Gaertner

SPHENOCLEA ZEYLANICA Gaertn. Fruct. 1 (1788) 113, *t. 24, f. 5*; Blanco Fl. Filip. ed. 2 (1845) 62, ed. 3, 1 (1877) 117, *t. 143*; Miq. Fl. Ind. Bat. 2 (1857) 569; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1881) 438; F.-Vill. Novis. App. (1880) 121; Vidal Phan. Cuming. Philip. (1885) 123, Rev. Pl. Vasc. Filip. (1886) 121; Merr. Fl. Manila (1912) 462, Sp. Blancoanae (1918) 374.

Pongatum spongiosum Blanco Fl. Filip. (1837) 86.

Richelia palustris Blanco op. cit. 220, ed. 2 (1845) 155, ed. 3, 1 (1877) 277.

Luzon (Cagayan to Laguna and Tayabas), Biliran, Negros. In open wet places; often a rice-paddy weed. Old World Tropics, introduced in the New World.

Local names: Mais-mais (P. Bis.); silisilíhan (Tag.).

6. LOBELIA Plumier

LOBELIA BIALATA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 105.

Luzon (Bontoc), *Vanoverbergh 902*. In open wet places, altitude about 1,350 m. Endemic.

LOBELIA LUZONIENSIS (A. DC.) comb. nov.

Lobelia filiformis Cav. Ic. 6 (1801) 7, *t. 511*; Miq. Fl. Ind. Bat. 2 (1857) 577; F.-Vill. Novis. App. (1880) 121, non Lam.

Lobelia filiformis Lam. var. *luzoniensis* A. DC. Prodr. 7 (1839) 368.

Luzon (Laguna), Mindanao (Davao), *Copeland 368, Weber 1472*. In open damp places at low altitudes. Endemic.

LOBELIA NICOTIANAEFOLIA Heyne in Roth. Nov. Sp. Pl. (1821) 143; A. DC. Prodr. 7 (1839) 381; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1881) 427; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 392.

Luzon (Bontoc, Ifugao, Benguet, Lepanto, Zambales), *Merrill Phil. Pl. 1755, Williams 1302, Elmer 6066, Loher 6458, B. S. 37870, 38023 Ramos & Edaño* (pubescent form), *B. S. 31658 Santos, 5864, 4994 Ramos*. In damp thickets and ravines, altitude 1,200 to 2,300 m. India.

Local names: Adlabong (Ig.); balyongyong (Bon.); balinyungyung (Bon.); katlabung (Ig.); kanyuong (Ig.); luṅgog-luṅgog (Bon.); subasob (Bon.).

DOUBTFUL SPECIES

LOBELIA HAENKEANA (Presl) A. DC. Prodr. 7 (1839) 382; Miq. Fl. Ind. Bat. 2 (1857) 578; F.-Vill. Novis. App. (1880) 121.

Rapuntium haenkeanum Presl Prodr. Lobel. (1836) 26.

LOBELIA LONGIFOLIA (Presl) A. DC. Prodr. 7 (1839) 382; Miq. Fl. Ind. Bat. 2 (1857) 578; F.-Vill. Novis. App. (1880) 121.

Rapuntium longifolium Presl Prodr. Lobel. (1836) 26.

According to Presl the types of both were from Luzon, but nothing conforming to his descriptions of either species has been found in the Phil-

ippines. It is suspected that both specimens were Malaspina Expedition plants from tropical America, erroneously localized as Philippine.

7. PRATIA Gaudichaud

PRATIA NUMMULARIA (Lam.) Kurz in Journ. As. Soc. Beng. 46² (1877) 210.

Lobelia nummularia Lam. Encycl. 3 (1791) 589.

Piddingtonia nummularia A. DC. Prodr. 7 (1839) 341.

Lobelia begonifolia Wall. in As. Research 13 (1820) 377; Roxb. Fl. Ind. 2 (1824) 115.

Pratia begonifolia Lindl. in Bot. Reg. t. 1373; C. B. Clarke in Hook. f. Fl. Brit. Ind. 3 (1881) 422; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 241.

Luzon (Ifugao, Lepanto, Bontoc, Benguet, Nueva Vizcaya, Pampanga), Negros, Mindanao (Bukidnon), Merrill 4369, 6997, 8001, Phil. Pl. 474, Elmer 6201, B. S. 19786, 20188 McGregor, 11990 Robinson, 37652, 38564 Ramos & Edaño. Along trails in forests and in the Mountain Province on banks of ravines, altitude 1,000 to 1,800 m. India to China and Malaya.

Local names: Gubagubai (Ig.); kanapa (Ig.); pisa (Ig.); tugtugi (Bon.).

PRATIA OVATA Elm. Leaf. Philip. Bot. 2 (1909) 593.

Luzon (Cagayan, Laguna, Sorsogon), Samar, Panay, Mindanao, Elmer 9099, 17818, 15506, 11591a, Merrill 8221, B. S. 13981, 24518 Ramos, 16869 Serviñas, 30877, 37247 Ramos & Edaño. In open places in primary forests, along streams in shaded ravines, etc., at medium altitudes, ascending to 1,000 m. Endemic.

8. ISOTOMA Lindley

ISOTOMA LONGIFLORA (Mill.) Presl Prodr. Lobel. (1836) 42; DC. Prodr. 7 (1839) 413; Merr. Fl. Manila (1912) 462.

Rapuntium longiflorum Mill. Gard. Dict. ed. 8 (1768) No. 7.

Occasional as an escape from cultivation in gardens, about dwellings, along drains, etc., in Manila and other large towns. Introduced from tropical America.

Local name: Estrélla (Sp.).

GOODENIACEAE

1. CALOGYNE R. Brown

CALOGYNE PILOSA R. Br. Prodr. (1810) 579; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 67, Philip. Journ. Sci. 2 (1907) Bot. 434, Fl. Manila (1912) 463, Sp. Blancoanae (1918) 374; Krause in Engl. Pflanzenreich 54 (1912) 95, f. 17, A, B.

Balingayum decumbens Blanco Fl. Filip. (1837) 187, ed. 2 (1845) 132, ed. 3, 1 (1877) 237; F.-Vill. Novis. App. (1880) 93.

Calogyne chinensis Benth. in Journ. Linn. Soc. Bot. 5 (1861) 78.

Luzon (Bulacan, Rizal), Culion, Merrill 3669, Sp. Blancoanae 548, Phil. Pl. 22, Loher 3722, B. S. 12537, 1035, 41311 Ramos, 9559 Robinson, F. B.

3355 *Ahern's collector*. A rather common weed in fallow rice paddies about Manila. Southeastern China and northeastern Australia.

Local name: Baliṅgáyo (Tag.).

2. SCAEVOLA Linnaeus

SCAEVOLA ACUMINATISSIMA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 249.

Mindoro, Negros, Mindanao (Davao), *F. B. 12133, 12125 Merritt, Elmer 10235, 11861*. In thickets and forests at and above 600 m altitude; very near *S. oppositifolia* Roxb. Endemic.

Local name: Saroka (Bag.).

SCAEVOLA DAJOENSIS Merr. in Philip. Journ. Sci. 2 (1907) Bot. 427; Krause in Engl. Pflanzenreich 54 (1912) 131.

Jolo, *Merrill 5324*. On exposed semiforested ridges, altitude about 650 m; very close to *S. minahassae* Koord. Endemic.

SCAEVOLA FRUTESCENS (Mill.) Krause in Engl. Pflanzenreich 54 (1912) 125, *f. 25*; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 354, Interpret. Herb. Amb. (1917) 496, *Sp. Blancoanae* (1918) 374.

Lobelia frutescens Mill. Gard. Dict. ed. 8 (1768) No. 1.

Lobelia taccada Gaertn. Fruct. 1 (1788) 119, *t. 25*.

Scaevola koenigii Vahl Symb. 3 (1794) 36; Miq. Fl. Ind. Bat. 2 (1857) 580; F.-Vill. Novis. App. (1880) 120; Vidal Rev. Pl. Vasc. Filip. (1886) 165.

Scaevola lobelia Blanco Fl. Filip. (1837) 147, ed. 2 (1845) 104, ed. 3, 1 (1877) 193, *t. 210*; F.-Vill. Novis. App. (1880) 121; Vidal Sinopsis Atlas (1883) 29, *t. 59, f. A*, non Linn.

Along the seashore throughout the Philippines. India to Madagascar, through Malaya to tropical Australia and Polynesia.

Local names: Balak-bálak (Tag.); balok-bálok (Tag.); bokabok (Tag., Bis.); bosboron (Tag., Bis.); boto (Tag., Bis.); chalmalukung (Ilk.); dudukdukin (Ilk.); hulbo (Bik.); linu (Tag.); linog (Sbl.); mosboron (Tag., Bis.); panabolong (Tag., Bis.); paṅgāngtolon (Tag., Bis.); tagustus (Bis.).

Var. **SERICEA** (Forst.) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 354.

Scaevola sericea Forst. Prodr. (1786) 504; Presl Rel. Haenk. 2 (1830) 57; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 250.

Luzon (Ilocos Sur), *Presl!, Merrill 339*. On sandy seashores. Polynesia.

SCAEVOLA MICRANTHA Presl Rel. Haenk. 2 (1830) 59; DC. Prodr. 7 (1839) 507; Miq. Fl. Ind. Bat. 2 (1857) 582; F.-Vill. Novis. App. (1880) 121; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 250.

Temminckia micrantha De Vriese Gooden. (1854) 11.

Scaevola merrillii Elm. Leaf. Philip. Bot. 4 (1912) 1491.

Luzon (Ilocos Norte, Albay), Sibuyan, Mindanao (Surigao), *Presl!, B. S. 6289 Robinson, 27359, 32818 Ramos, 34598 Ramos & Pascasio, Elmer 12135a*. In dry open places, along streams, etc., at low altitudes. Endemic.

SCAEVOLA MINAHASSAE Koord. in Meded. Lands. Plant. 19 (1898) 513, 628; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 427.

Scaevola merrilliana Krause in Engl. Pflanzenreich 54 (1912) 131.

Mindanao (Lanao, Bukidnon), *Clemens* 690, *Baker* 3598. In thickets or forests, altitude 600 m and above. Celebes.

The Mindanao material agrees closely with a cotype of *S. minahassae* Koord., *Koorders* 18380 from Celebes.

SCAEVOLA MINDORENSIS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 250.

Scaevola merrilliana Krause in Engl. Pflanzenreich 54 (1912) 131, pro minore parte, quoad *For. Bur.* 9756 *Merritt*.

Mindoro, *F. B.* 9756 *Merritt*. On open exposed places, altitude about 1,000 m. Endemic.

The flowers are much larger than in *S. minahassae* Koord. (*S. merrilliana* Krause).

SCAEVOLA PEDUNCULATA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 251.

Scaevola micrantha Krause in Engl. Pflanzenreich 54 (1912) 121, non Presl.

Palawan, *B. S.* 744 *Foxworthy*, *Elmer* 13185. Along streams on rocky banks at low altitudes. Borneo.

Var. **MOLLIS** Merr. l. c.

Palawan, *B. S.* 700 *Foxworthy*. In habitats similar to those of the type. Endemic.

STYLIDIACEAE

1. STYLIDIUM Swartz

STYLIDIUM ALSINOIDES R. Br. Prodr. (1810) 572; DC. Prodr. 7 (1839) 337; Benth. Fl. Austral. 4 (1869) 24; Milbraed in Engl. Pflanzenreich 35 (1908) 40; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 249, Fl. Manila (1912) 464.

Luzon (Nueva Vizcaya, Zambales, Rizal, Cavite), *Merrill* 107, 10428, 10630, *Loher* 6478, *B. S.* 22258, 10898 *Ramos*. In open grasslands, sometimes a weed in rice paddies; sea level to 800 m altitude. Tropical Australia.

COMPOSITAE

1. ETHULIA Linnaeus

ETHULIA CONYZOIDES Linn. Sp. Pl. ed. 2 (1763) 1171; DC. Prodr. 5 (1836) 12; Hook. f. Fl. Brit. Ind. 3 (1881) 227; Elm. Leaf. Philip. Bot. 1 (1906) 87; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 393.

Luzon (Lepanto, Benguet), *Merrill* 4569, 4366, *Elmer* 6560, *Williams* 950, *B. S.* 5410, 5432 *Ramos*, *F. B.* 5046, 4909 *Curran*, 5738 *Klemme*. In thickets in stream depressions and in the mossy forest, altitude 1,300 to 2,300 m. India to eastern Africa and Malaya.

Local name: Bungbungtit (Ig.).

2. CENTRATHERUM Cassini

CENTRATHERUM FRUTICOSUM Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 159; Elm. Leaf. Philip. Bot. 1 (1906) 88; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 138, 5 (1910) Bot. 393.

Centratherum muticum Less. in Benth. Fl. Austral. 3 (1866) 460 quoad Philip.

Babuyan Islands, Luzon (Ilocos Norte, Bontoc, Benguet, Bataan, Rizal), Mindoro, *Cuming* 1556, *Merrill* 4660, *Phil. Pl.* 869, *Elmer* 5956, *Williams* 1439, 967, *B. S.* 13769, 13590, 5459, 5835 *Ramos*, 10110 *McGregor*, 29427, 40485 *Ramos & Edaño*. Borders of forests and thickets and on open slopes, chiefly at medium altitudes, ascending to 2,000 m. Endemic.

3. VERNONIA Schreber

VERNONIA ACROPHILA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 253.

Luzon (Zambales), *F. B.* 8057 *Curran & Merritt*. On exposed peaks and ridges, altitude about 2,000 m. Endemic.

VERNONIA APOENSIS Elm. Leaf. Philip. Bot. 2 (1910) 687.

Luzon (Benguet), Mindanao (Lanao, Davao), *Elmer* 10764, *Clemens* 483, *B. S.* 31762 *Santos*, *F. B.* 26672 *Rola*. In forests, altitude 650 to 2,200 m. Endemic.

Local names: Ganaba (Ig.); iguai (Bag.).

VERNONIA ARBOREA Ham. in Trans. Linn. Soc. 14 (1824) 218; Hook. f. Fl. Brit. Ind. 3 (1881) 239; DC. Prodr. 5 (1836) 22; F.-Vill. Novis. App. (1880) 114; Vidal Sinopsis Atlas (1883) 27, t. 58, f. A, Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 159; Koord. & Val. Bijdr. Boom. Java 5 (1900) 50; Elm. Leaf. Philip. Bot. 1 (1906) 90.

Northern Luzon (Cagayan) to Mindanao, in most islands and provinces, occurring in primary forests at low and medium altitudes. India to Malaya.

Local names: Agpan (C. Bis.); kalalaman (Neg.); kasiar (Iv.); laokpau (Ibn.); omo omo (Bik.); pamankulauan (Bik.); patabugin (Tagb.); ronot (Bik.).

VERNONIA BENGUETENSIS Elm. Leaf. Philip. Bot. 1 (1906) 94 in nota, (1908) 361.

Vernonia vialis Elm. l. c. non DC.

Luzon (Cagayan, Bontoc, Benguet, Ifugao, Nueva Vizcaya), *Elmer* 6584, *Adduru* 116, *Merrill* 159. In open grasslands up to 1,500 m altitude; very similar to some forms of *V. cinerea* Less. Endemic.

VERNONIA BONTOCENSIS Merr. in Philip. Journ. Sci. 20 (1922) 473.

Luzon (Bontoc), *B. S.* 37752 *Ramos & Edaño*. On open slopes, altitude about 1,300 m. Endemic.

VERNONIA CINEREA (Linn.) Less. in Linnaea 4 (1829) 291, 6 (1831) 673; DC. Prodr. 5 (1836) 24; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 253 (var. *rotundifolia* Walp.); Miq. Fl. Ind. Bat. 2 (1857) 11; Hook. f. Fl. Brit. Ind. 3 (1881) 233; F.-Vill. Novis. App. (1880) 113; Vidal Phan. Cuming. Philip. (1885) 121, Rev.

Pl. Vasc. Filip. (1886) 160; Elm. Leaf. Philip. Bot. 1 (1906) 94;
Merr. Fl. Manila (1912) 466, Sp. Blancoanae (1918) 375.

Conyza cinerea Linn. Sp. Pl. (1753) 862.

Eupatorium luzoniense Llanos Frag. Pl. Filip. (1851) 88; F.-Vill.
& Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 86, t. 280.

Throughout the Philippines, a common weed in open waste places throughout the settled areas at low and medium altitudes. Old World Tropics, introduced in the New World.

Local names: Agas-moro (Ilk.); bulabod (Sub.); kolong-kúgon (S. L. Bis.); magmansi (Pang.); sagít (Bon.); tagulínau (Tag.); tagulínai (Tag.).

VERNONIA ELMERI Merr. in Philip. Journ. Sci. 5 (1910) Bot. 252.

Gynura angulosa Elm. Leaf. Philip. Bot. 1 (1906) 146, excl. syn., non DC.

Luzon (Ilocos Norte, Nueva Vizcaya), Palawan, Mindanao (Davao), Merrill 793, 5256, Elmer 12713, B. S. 703 Foxworthy, 27523, 81960 Ramos. In thickets at low and medium altitudes. Endemic.

Local name: Saroka (Bag.).

VERNONIA FLORESCENS Elm. Leaf. Philip. Bot. 2 (1910) 685.

Mindanao (Bukidnon, Davao), Elmer 11613, B. S. 39179 Ramos & Edaño. In primary forests, altitude about 1,050 m. Endemic.

This would go with *Vernonia arborea* Ham. as the latter is interpreted in Hooker f. Fl. Brit. Ind. 3 (1881) 239.

Local name: Igmai (Bag.).

VERNONIA GLANDULIFOLIA Merr. in Philip. Journ. Sci. 14 (1919) 456.

Luzon (Cagayan, Ilocos Norte), Palawan, B. S. 7490, 13860, 33374 Ramos, 704 Foxworthy. On forested slopes at low and medium altitudes. Endemic.

VERNONIA LANCIFOLIA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 253.

Vernonia acuminatissima Elm. Leaf. Philip. Bot. 8 (1919) 3076.

Luzon (Bataan, Rizal, Laguna, Tayabas), Mindanao (Bukidnon), Elmer 6695, 18064, Merrill 3200, Phil. Pl. 424, Loher 6462, 7272, Williams 420, F. B. 7841, 7844, 7767 Curran & Merritt, B. S. 29604, 26566, 38881 Ramos & Edaño, 13701 Ramos. On forested ridges, altitude 900 to 1,300 m. Endemic.

Local name: Kamalan (Tag.).

VERNONIA LENTICELLATA Elm. Leaf. Philip. Bot. 1 (1906) 91.

Luzon (Lepanto, Benguet), Elmer 6564, B. S. 40190 Ramos & Edaño. In the mossy forest, altitude about 2,200 m. Endemic.

VERNONIA MARITIMA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 440.

Batan and Babuyan Islands, B. S. 3620, 3925 Fénix, Merrill 11770. On rocks near the sea. Endemic.

Local name: Kaasai (Iv.).

The Formosan *V. kawakamii* Hayata is scarcely distinguishable from this species.

VERNONIA MINDANAENSIS Merr. in Philip. Journ. Sci. 20 (1922) 474.

Mindanao (Bukidnon, Lanao), *B. S. 38886 Ramos & Edaño, Clemens 1086*. In damp forests, altitude 600 to 1,000 m. Endemic.

Local name: Gauod (Buk.).

VERNONIA PATULA (Dry.) Merr. in Philip. Journ. Sci. 3 (1908) Bot. 439, Fl. Manila (1912) 466, Sp. Blancoanae (1918) 375.

Conyza patula Dry. in Ait. Hort. Kew 3 (1789) 184.

Conyza chinensis Lam. Encycl. 2 (1786) 83, non Linn.

Cyanthillium pubescens Blume Bijdr. (1826) 890.

- *Cyanopsis pubescens* DC. Prodr. 5 (1836) 69; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4¹ (1880) 106.

- *Vernonia chinensis* Less. in Linnaea 6 (1831) 674; Miq. Fl. Ind. Bat. 2 (1857) 18; Hook. f. Fl. Brit. Ind. 3 (1881) 235; F.-Vill. Novis. App. (1880) 113; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 160; Elm. Leaf. Philip. Bot. 1 (1906) 93.

Serratula multiflora Blanco Fl. Filip. (1837) 617, ed. 2 (1845) 431, ed. 3, 3 (1879) 7, non Linn.

Cyanthillium chinense Gleason in Bull. Torr. Bot. Club 40 (1913) 306, N. Am. Flora 33 (1922) 51.

A common weed in the settled areas throughout the Philippines at low and medium altitudes. India to China, Malaya, and western Polynesia.

Local names: Atipukpuk (Ilk.); bayakibok (Tag.); bulag-manók (Tag.); gatgatang (Bon.); hipon-hípon (Bis.); kapkápes (Bon.); karukádlom (Bik.); lakbong-lakbong (Bis.); payokpok (Ilk.).

VERNONIA PHANEROPHLEBIA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 106.

Luzon (Bontoc), *Vanoverbergh 688, B. S. 37750 Ramos & Edaño*. In forests, altitude about 1,500 m. Endemic.

VERNONIA PHILIPPINENSIS Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 312; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 160; Elm. Leaf. Philip. Bot. 1 (1906) 89; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 393.

Vernonia andersonii F.-Vill. Novis. App. (1880) 114, non Clarke.

Luzon (Cagayan, Ilocos Norte, Lepanto, Bontoc, Benguet, Pangasinan, Zambales, Bataan, Rizal, Laguna), *F. B. 3412, 3403 Ahern's collector, 16881 Alvarez, 25017 Mabesa, B. S. 5825, 27580 Ramos, 17769 Otanes, 38128 Ramos & Edaño, Cuming 1092, Williams 686, Loher 6468, 6471*. In forests at low and medium altitudes, ascending to 1,000 m. Endemic.

Vernonia cumingiana Benth. in Hook. Lond. Journ. Bot. 4 (1852) 232 was probably intended to include this form, but Bentham's description applies to the continental (Chinese) form, and not to the Philippine one. The Formosan form currently referred to *V. andersonii* C. B. Clarke is very close to this.

Local name: Agtuba (Bon.).

VERNONIA PULGARENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2590.

Palawan, *Elmer 12948*. In primary forests, altitude about 600 m. Endemic.

VERNONIA PYRRHOPAPPA Schulz-Bip. ex Klatt in *Flora* 68 (1885) 203.

Vernonia cuneata F.-Vill. Novis. App. (1880) 114; Elm. Leaf. Philip. Bot. 1 (1906) 92, non Less.

Vernonia villarii Elm. Leaf. Philip. Bot. 7 (1915) 2593.

Busuanga, Palawan, Balabac, Catanduanes, Leyte, Mindanao (Misamis, Zamboanga), *Cuming* 1639, *B. S.* 513 *Mangubat*, 41177 *Ramos*, *Wenzel* 769, *Williams* 2136, *Merrill* 9362, *Elmer* 13171. In forests at low and medium altitudes. Endemic.

VERNONIA URDANETENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2591.

Mindanao (Agusan), *Elmer* 13634, 13952. In primary forests, altitude about 1,050 m. Endemic?

This would fall under Hooker's conception of *Vernonia arborea* Ham. and probably is the form described by Blume as *V. celebica* Blume.

Local names: Astaban (Mbo.); bogig (Mbo.).

VERNONIA VIDALII Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 6, Philip. Journ. Sci. 1 (1906) Suppl. 138; Elm. Leaf. Philip. Bot. 1 (1906) 91.

Vernonia arborea Ham. var. *vestita* Vidal Rev. Pl. Vasc. Filip. (1886) 160, non *Vernonia vestita* Baker.

Luzon (Ilocos Norte, Bontoc, Benguet, Ilocos Sur, Nueva Vizcaya, Pangasinan, Zambales, Bataan, Rizal, Laguna), *Elmer* 6607, 17733, *Merrill* 153, 2291, *Phil. Pl.* 324, *B. S.* 33097 *Ramos*, 3452 *Mearns*, 30027 *Fénix*, *F. B.* 5104, 6968, 17543 *Curran*, 23993 *Peña*, 27194 *Udasco*, 1278 *Borden*, 1128 *Ahern's collector*, 23987 *Maneja*, 24244 *Santos*. Chiefly in secondary forests, sea level to an altitude of 1,300 m. Endemic.

Local names: Adasai (Ilk.); malabuldit-durung (Pamp.); malasambóng (Tag.); palakpak (Tag.); talotog (C. Bis.); ulbek (Ilk.).

EXCLUDED SPECIES

VERNONIA EUPATOROIDES Blume; F.-Vill. Novis. App. (1880) 113.

VERNONIA PECTINIFORMIS DC.; F.-Vill. l. c.

4. ELEPHANTOPUS Linnaeus

ELEPHANTOPUS MOLLIS HBK. Nov. Gen. Sp. Pl. 4 (1820) 26; DC. Prodr. 5 (1836) 86; F.-Vill. Novis. App. (1880) 114; Elm. Leaf. Philip. Bot. 1 (1906) 97; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 138, 3 (1908) Bot. 441, 5 (1910) Bot. 393, Fl. Manila (1912) 468, Sp. Blancoanae (1918) 376.

Elephantopus serratus Blanco Fl. Filip. (1837) 635, ed. 2 (1845) 442, ed. 3, 3 (1879) 28.

Throughout the Philippines, in open waste places and grasslands, from sea level to an altitude of 2,000 m. A native of Mexico, now also in the Marianne and Caroline Islands, Formosa, and Borneo.

Local names: Basut (Bon.); kaburon (Ig.); pauikan (If.); tabtabáko (Ilk.); tigalang (Sul.).

ELEPHANTOPUS SCABER Linn. Sp. Pl. (1753) 814; DC. Prodr. 5 (1836) 86; Blanco Fl. Filip. (1837) 634, ed. 2 (1845) 441, ed. 3, 3 (1879) 27; Miq. Fl. Ind. Bat. 2 (1857) 21; F.-Vill. Novis. App. (1880) 114; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 160; Elm. Leaf. Philip. Bot. 1 (1906) 97; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 139, Fl. Manila (1912) 468, Sp. Blancoanae (1918) 375.

Luzon (Union, Bulacan, Rizal, Bataan, Laguna, Tayabas), Mindoro. Common in open grasslands and waste places, but certainly introduced. Pantropic.

Local names: Dila-dila (Tag.); kabkabron (Ilk.); tabatabakóhan (Tag.).

ELEPHANTOPUS SPICATUS Aubl. Pl. Guin. 2 (1775) 808; F.-Vill. Novis. App. (1880) 114; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 160; Elm. Leaf. Philip. Bot. 1 (1906) 96; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 139, 3 (1908) Bot. 440, Fl. Manila (1912) 469, Sp. Blancoanae (1918) 376.

Distreptus spicatus Cass. in Dict. Sci. Nat. 13 (1819) 367; DC. Prodr. 5 (1836) 87.

Ageratum dubium Blanco Fl. Filip. (1837) 624.

Elephantopus dubius Blanco op. cit. ed. 2 (1845) 442, ed. 3, 3 (1879) 28.

Batan Islands and northern Luzon to Mindanao, in most islands and provinces. Common in waste places in the settled areas generally; introduced from Mexico, now also occurring in the Marianne Islands, Formosa, southern China, and Java.

Local names: Ardatig (Bik.); dila-dila (Tag.); dilang-aso (Tag.); habul (Bik.); kabkaron (Ilk.); kalkalapikap (Bon.); maratabáko (Ilk.); sigang-dágat (Tag.); sumag (Pamp.); supsuput (Bon.).

5. ADENOSTEMMA Forster

ADENOSTEMMA LAVENIA (Linn.) O. Kuntze Rev. Gen. Pl. (1891) 304; Merr. Interpret. Herb. Amb. (1917) 497, Sp. Blancoanae (1918) 376.

Verbesina ~~lavenia~~ Linn. Sp. Pl. (1753) 902.

Adenostemma viscosum Forst. Char. Gen. (1776) 90; DC. Prodr. 5 (1836) 111; Llanos Frag. Pl. Filip. (1851) 376; Miq. Fl. Ind. Bat. 2 (1857) 23; Hook. f. Fl. Brit. Ind. 3 (1881) 242; F.-Vill. Novis. App. (1880) 114; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 160; Elm. Leaf. Philip. Bot. 1 (1906) 99; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 139, 3 (1908) Bot. 441.

Babuyan Islands, Luzon (Cagayan, Ilocos Norte, Abra, Benguet, Bontoc, Nueva Vizcaya, Zambales, Bulacan, Bataan, Tayabas, Laguna), Mindanao, Culion, Catanduanes, Panay, Camiguin de Misamis, Mindanao. In open wet places along streams, in forests, and in thickets, from sea level to an altitude of 1,800 m. Pantropic.

Local names: Añgañgit (Ig.); botón (Tag.); bulak-manok (Tag., Pamp.); darakat (Sub.); dolomne-na-babaii (If.); panikit (Bon.); salin-dukot (Buk.); ubat-lastung (Sul.).

6. *AGERATUM* Linnaeus

AGERATUM CONYZOIDES Linn. Sp. Pl. (1753) 839; DC. Prodr. 5 (1836) 108; Miq. Fl. Ind. Bat. 2 (1857) 23; Hook. f. Fl. Brit. Ind. 3 (1881) 243; F.-Vill. Novis. App. (1880) 114; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 368; Elm. Leaf. Philip. Bot. 1 (1906) 100; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 139, 3 (1908) Bot. 441, Fl. Manila (1912) 467.

A common weed in open waste places throughout the Philippines, from sea level to an altitude of 2,000 m. Pantropic, but of American origin.

Local names: Asipukpuk (Pang.); bahu-bahu (Sul.); bahug-bahug (P. Bis.); budbuda (Ig.); damong-pallas (Tag.); kakalding (Bon.); kamu-buag (Iv.); kulong-kogong-babae (Bik.); kolokong-kabáyo (Tag.); pagpagai (Bon.); singilan (Ilk.); taindikaldi (Bon.).

7. *EUPATORIUM* Tournefort

EUPATORIUM CAMIGUINENSE Merr. in Philip. Journ. Sci. 7 (1912) Bot. 355.

Eupatorium catense Elm. Leaf. Philip. Bot. 7 (1915) 2584.

Camiguin de Misamis, Mindanao (Davao), *B. S. 14688 Ramos, Elmer 11506*. In thickets and forests at medium altitudes, ascending to 1,700 m.

Local name: Taraka (Bag.).

EUPATORIUM JAPONICUM Thunb. Fl. Jap. (1784) 308; DC. Prodr. 5 (1836) 180; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 355.

Batan Islands (Batan), *B. S. 3177 Mearns*. In thickets at low altitudes. Japan to China and Formosa.

EUPATORIUM LINDLEYANUM DC. Prodr. 5 (1836) 180; F.-Vill. Novis. App. (1880) 114; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 161; Elm. Leaf. Philip. Bot. 1 (1906) 101.

Luzon (Cagayan, Isabel, Ilocos Norte, Nueva Vizcaya), *Merrill 225, Cuming 1349, B. S. 7704, 8050, 8216 Ramos, 11160 McGregor*. In open damp places at low and medium altitudes. Manchuria and Japan to southern China and Formosa.

EUPATORIUM REEVESII Wall. Cat. (1831) No. 3168, *nomen nudum*; DC. Prodr. 5 (1836) 179; Benth. Fl. Hongk. (1861) 172; F.-Vill. Novis. App. (1880) 114.

Batan Islands (Sabtan), Luzon (Tayabas, east coast), *B. S. 10146, 10177 McGregor, 29126 Ramos & Edaño*. Probably in thickets at low altitudes and about boulders on the seashore. Riu Kiu Archipelago to southern China and Formosa.

EUPATORIUM TOPPINGIANUM Elm. Leaf. Philip. Bot. 1 (1906) 101.

Eupatorium sambucifolium Elm. op. cit. 102.

Eupatorium benguetense C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 217; Merr. op. cit. 5 (1910) 393.

Luzon (Abra, Ifugao, Bontoc, Benguet, Zambales, Laguna), *Topping 139, Elmer 6535, Williams 1435, 1087, 1976, Merrill 4367, 6555, 4699, 4723*,

B. S. 19748 *McGregor*, 5433, 5420, 5344, 5085, 7073 *Ramos*, 31940 *Santos*, *F. B.* 37792 *Ramos & Edaño*, 4961 *Curran*. In thickets in stream depressions and in the mossy forest, altitude 1,300 to 2,400 m. Endemic.

Local names: Anuop (Ig.); pudpud (Ig.).

EUPATORIUM TRIPLINERVE Vahl Symb. 3 (1794) 97; Merr. Fl. Manila (1912) 467, Sp. Blancoanae (1918) 376.

Eupatorium ayapana Vent. Hort. Malm. 2 (1804) t. 3; DC. Prodr. 5 (1836) 169; Blanco Fl. Filip. (1837) 619, ed. 2 (1845) 432, ed. 3, 3 (1879) 9; Miq. Fl. Ind. Bat. 2 (1857) 26; F.-Vill. Novis. App. (1880) 114.

Planted occasionally for medicinal purposes, but nowhere spontaneous, *Merrill Sp. Blancoanae* 517. Introduced from Mexico, now pantropic.

Local names: Apána (Tag.); ayapána (Tag.); inpana (Ilk.).

EXCLUDED SPECIES

EUPATORIUM CANNABINUM Linn.; Usteri Beitr. Ken. Philip. Veg. (1905) 119.

I have not seen Usteri's Negros specimens; I suspect that the identification is erroneous.

8. MIKANIA Willdenow

MIKANIA SCANDENS (Linn.) Willd. Sp. Pl. 3 (1804) 1743; DC. Prodr. 5 (1836) 199; Hook. f. Fl. Brit. Ind. 3 (1881) 244; F.-Vill. Novis. App. (1880) 114; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 161; Elm. Leaf. Philip. Bot. 1 (1906) 104; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 139, 2 (1907) Bot. 308, 5 (1910) Bot. 393, Sp. Blancoanae (1918) 377.

Eupatorium scandens Linn. Sp. Pl. (1753) 836.

Mikania volubilis Willd. Sp. Pl. 3 (1804) 1743; Miq. Fl. Ind. Bat. 2 (1857) 28; Vidal Cat. Pl. Prov. Manila (1880) 34.

Knautia sagittata Blanco Fl. Filip. (1837) 54, ed. 2 (1845) 36, ed. 3, 1 (1877) 67.

Northern Luzon to Palawan and Mindanao, in most or all islands and provinces. Often common in thickets at low and medium altitudes, ascending to 1,600 m. Pantropic, probably a native of tropical America.

Local names: Bikas (Bag.); detidid (Ig.); tamburakan (Tagb.); uoko (Bon.).

9. SOLIDAGO Vaillant

SOLIDAGO VIRGAUREA Linn. Sp. Pl. (1753) 880; DC. Prodr. 5 (1836) 338; Hook. f. Fl. Brit. Ind. 3 (1881) 245; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 245, 5 (1910) Bot. 393; Elm. Leaf. Philip. Bot. 1 (1906) 126.

Luzon (Bontoc, Benguet), *Merrill* 4364, 6547, *Phil. Pl.* 895, *B. S.* 31986 *Santos*, 8323 *McGregor*, 40430 *Ramos & Edaño*, *F. B.* 16117, 16179, 16109 *Curran*, *Merritt*, & *Zschokke*. On open grassy slopes in thin pine forests, altitude 1,400 to 2,100 m. North Temperate Zone in both hemispheres, extending southward in the mountains through Japan to southern China and Formosa.

Local name: Tantanduk (Ig.).

10. GRANGEA Adanson

GRANGEA MADERASPATANA (Linn.) Poir. in Lam. Encycl. Suppl. 2 (1812) 825; DC. Prodr. 5 (1836) 373; Miq. Fl. Ind. Bat. 2 (1857) 39; Hook. f. Fl. Brit. Ind. 3 (1881) 247; F.-Vill. Novis. App. (1880) 115; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 161; Elm. Leaf. Philip. Bot. 1 (1906) 128; Merr. Fl. Manila (1912) 471, Sp. Blancoanae (1918) 377.

Artemisia maderaspatana Linn. Sp. Pl. (1753) 849.

Perdicium tomentosum Blanco Fl. Filip. (1837) 630, ed. 2 (1845) 439, ed. 3, 3 (1879) 21, non Thunb.

Luzon (Union, Pampanga, Bulacan, Rizal), *Lete* 512, 668, *Merrill* 26, 1471, *Sp. Blancoanae* 657. An occasional weed in open waste places in and about towns, certainly introduced. Tropical and subtropical Asia and Africa.

Local name: Pakopakóti-alog (Ilk.).

11. DICHROCEPHALA L'Héritier

DICHROCEPHALA CHRYSANTHEMIFOLIA (Blume) DC. in Wight Contrib. Bot. Ind. (1834) 11, Prodr. 5 (1836) 372; Hook. f. Fl. Brit. Ind. 3 (1881) 245; Elm. Leaf. Philip. Bot. 1 (1906) 127; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 243, 5 (1910) Bot. 394.

Cotula chrysanthemifolia Blume Bijdr. (1826) 918.

Luzon (Lepanto, Benguet), *Merrill* 7651, 6522, 4533, *Williams* 1975, *B. S.* 31853 *Santos*, 4448 *Mearns*, 40183 *Ramos & Edaño*. On open slopes in the pine region, altitude 1,800 to 2,200 m. India to tropical Africa and Java.

Local name: Bugian (Ig.).

DICHROCEPHALA LATIFOLIA (Lam.) DC. in Wight Contrib. Bot. Ind. (1834) 11, Prodr. 5 (1836) 372; Miq. Fl. Ind. Bat. 2 (1857) 37; Hook. f. Fl. Brit. Ind. 3 (1881) 245; F.-Vill. Novis. App. (1880) 114; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 161; Elm. Leaf. Philip. Bot. 1 (1906) 127; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 309, 5 (1910) Bot. 394.

Grangea latifolia Lam. ex Poir. Encycl. Suppl. 2 (1812) 826.

Luzon (Bontoc, Ifugao, Benguet, Nueva Vizcaya, Tayabas), Mindoro, Negros, Mindanao (Lanao). In open waste places, old clearings, along trails, etc., chiefly at and above 900 m, ascending to 2,200 m. Tropical and subtropical Africa and Asia, through Malaya.

12. LAGENOPHORA Cassini

LAGENOPHORA BILLARDIERI Cass. in Dict. Sci. Nat. 25 (1826) 111; DC. Prodr. 5 (1836) 307; Hook. f. Fl. Brit. Ind. 3 (1881) 248; Elm. Leaf. Philip. Bot. 1 (1906) 130; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 309.

Luzon (Bontoc, Benguet), *Merrill* 4343, *Phil. Pl.* 833, *Elmer* 6583, *Vanoverbergh* 825. On open grassy slopes and in thin pine forests, altitude 1,400 to 1,700 m. India to China, Malaya, and Australia.

13. MYRIACTIS Lesson

MYRIACTIS HUMILIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 244, 5 (1910) Bot. 394; Elm. Leaf. Philip. Bot. 1 (1906) 129.

Myriactis mindanaensis Elm. Leaf. Philip. Bot. 7 (1915) Bot. 2589.

Luzon (Benguet, Tayabas), Mindoro, Negros, Mindanao (Misamis, Davao), Merrill 4530, 6509, Phil. Pl. 242, Elmer 11507, Loher 7274, B. S. 32032 Santos, 4345, 4342 Mearns, 8431 McGregor, F. B. 4442 Merritt. In the mossy forest, altitude 1,950 to 2,400 m. Endemic.

Local name: Kasaráng (Bag.).

14. ASTER Tournefort

ASTER LUZONENSIS Elm. Leaf. Philip. 1 (1906) 131.

Luzon (Benguet), Elmer 6251, Merrill 4439, 4615, 4825, Phil. Pl. 836, Williams 1105, Loher 3607, B. S. 5734, 5731 Ramos. In thickets and forests, altitude 1,500 to 2,200 m; scarcely other than a form or variety of the next species. Endemic.

ASTER PHILIPPINENSIS Moore in Journ. Bot. 43 (1905) 138; Elm. Leaf. Philip. Bot. 1 (1906) 131.

Luzon (Ifugao, Bontoc, Lepanto, Benguet), Merrill 4726, 4825, B. S. 5417 Ramos, 38113 Ramos & Edaño, 32024, 32074 Santos, 19832 McGregor, F. B. 14463 Darling. In thickets and in the mossy forest, altitude 1,400 to 2,400 m. Endemic.

Local names: Bungbungti (Ig.); tabtabaan (Bon.); takiadaoan (Bon.).

ASTER TRINERVIUS Roxb. Hort. Beng. (1814) 61, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 433; Don Prodr. Fl. Nepal. (1825) 177; Hook. f. Fl. Brit. Ind. 3 (1881) 252; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 394.

Luzon (Benguet), F. B. 16122 Curran, Merritt, & Zschokke. On slopes in thin pine forests, altitude about 1,400 m. India to China, Japan, and Formosa.

15. ERIGERON Linnaeus

ERIGERON SUMATRENSIS Retz. Obs. 5 (1789) 28; Willd. Sp. Pl. 3 (1804) 1955; DC. Prodr. 5 (1836) 295.

Erigeron linifolius Willd. Sp. Pl. 3 (1804) 1955; Elm. Leaf. Philip. Bot. 1 (1906) 135; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 394, Fl. Manila (1912) 474, Sp. Blancoanae (1918) 377.

Baccharis ivaefolia Blanco Fl. Filip. (1837) 627, ed. 2 (1845) 437, ed. 3, 3 (1879) 16, non Linn.

Throughout the Philippines, in open waste places, old clearings, etc., from sea level to an altitude of 2,000 m; often abundant. All warm countries.

Local names: Asipukpuk (Pang.); atipukpuk (Ilk.); balagun (Bag.); batbatung (Bon.); lagia (Ilk.); tagabili (Bik.); takiadauan (Bon.).

16. MICROGLOSSA de Candolle

MICROGLOSSA VOLUBILIS (Wall.) DC. Prodr. 5 (1836) 320; Miq. Fl. Ind. Bat. 2 (1857) 34; Hook. f. Fl. Brit. Ind. 3 (1881) 257; Vidal Rev. Pl. Vasc. Filip. (1886) 161; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 55; Elm. Leaf. Philip. Bot. 1 (1906) 133.

Conyza volubilis Wall. Cat. (1831) 3057, *nomen nudum*.

Conyza prolifera Blume Bijdr. (1826) 896, non Lam.

Luzon (Bontoc, Benguet, Nueva Vizcaya), Negros, Mindanao, *Elmer* 6135, 11831, *Merrill* 4403, *Ahern* 851, *B. S.* 5993, 8272 *Ramos*, 38872, 38135 *Ramos & Edaño*, 11349 *McGregor*. In thickets, chiefly at medium altitudes, ascending to 1,500 m. India to China and Malaya.

Local names: Hugas (Buk.); maniak (Lan.); saroka (Bag.).

17. CONYZA Linnaeus

CONYZA JAPONICA (Thunb.) Less. Syn. Comp. (1832) 204; DC. Prodr. 5 (1836) 382; Hook. f. Fl. Brit. Ind. 3 (1881) 258; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 217; Merr. op. cit. 5 (1910) Bot. 394.

Erigeron japonicum Thunb. Fl. Jap. (1784) 312.

Blumea copelandii Elm. Leaf. Philip. Bot. 1 (1908) 359.

Luzon (Bontoc, Benguet, Nueva Vizcaya), Mindanao (Bukidnon). In open places, grassy slopes, in the pine forests, along trails, etc., altitude 1,200 to 2,400 m. India to China, Japan, and Formosa.

CONYZA VISCIDULA Wall. Cat. (1831) No. 3006, *nomen nudum*, DC. Prodr. 5 (1836) 383; Hook. f. Fl. Brit. Ind. 3 (1881) 258; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 161; F.-Vill. Novis. App. (1880) 115; Elm. Leaf. Philip. Bot. 1 (1906) 133; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 139, 5 (1910) Bot. 394.

Conyza oligandra Turcz. in Bull. Soc. Nat. Mosc. 24¹ (1851) 179; F.-Vill. Novis. App. (1880) 115.

Luzon (Ilocos Norte, Bontoc, Benguet, Bulacan, Rizal), Panay, *Merrill* 7699, 5067, *Elmer* 8477, *B. S.* 34102, 30930, 38123 *Ramos & Edaño*, 7727, 27641 *Ramos*. In old clearings, in thickets, and along trails in open forests from sea level to 1,800 m. India to Formosa southward through Malaya to tropical Australia and New Caledonia.

18. BLUMEA de Candolle

BLUMEA APPENDICULATA (Blume) DC. Prodr. 5 (1836) 447; Vidal Rev. Pl. Vasc. Filip. (1886) 161; Elm. Leaf. Philip. Bot. 1 (1906) 110.

Conyza appendiculata Blume Bijdr. (1826) 895, non Lam.

Camiguin de Misamis, Siargao, Mindanao, *B. S.* 14652, 14481, 14652 *Ramos*, 34885, 35265, 34604 *Ramos & Pascasio*, 16480 *Reillo*, *Copeland* 791. In thickets at low altitudes. Java to the Moluccas.

BLUMEA BALSAMIFERA (Linn.) DC. Prodr. 5 (1836) 447; Hook. f. Fl. Brit. Ind. 3 (1881) 270; F.-Vill. Novis. App. (1880) 115; Vidal Sinopsis Atlas (1883) 29, t. 58, f. B, Rev. Pl. Vasc. Filip. (1886) 161, Phan. Cuming. Philip. (1885) 121; Elm. Leaf. Philip. Bot. 1 (1906) 112; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 139, Fl. Manila (1912) 470, Sp. Blancoanae (1918) 377.

Conyza balsamifera Linn. Sp. Pl. ed. 2 (1762) 1208; Blanco Fl. Filip. (1837) 628, ed. 2 (1845) 438, ed. 3, 3 (1879) 18, t. 403; Miq. Fl. Ind. Bat. 2 (1857) 55.

Northern Luzon to Palawan and Mindanao, in all or most islands and provinces. Usually common in open grasslands at low and medium altitudes. India to southern China through Malaya to the Moluccas.

Local names: Alibun (P. Bis.); alimon (P. Bis.); ayoban (Bis.); bukadkad (S. L. Bis.); dalapot (C. Bis.); gabuen (Bis.); gintin-gintin (Bis.); gitin-gitin (Bis.); hamlibon (Bis.); kaliban (Tagb.); kalibura (Tagb.); labúlan (Sub.); lakadbúlan (Bis., Sul); lalákdan (Bis.); lakdanbúlan (Bis.); sambún (Sul.); sambóng (Tag., Pamp.); sobsob (Ilk.); sobosob (Ig.); subusub (Ilk.); takamáin (Bag.).

BLUMEA BICOLOR Merr. in Philip. Journ. Sci. 7 (1912) Bot. 356.

Panay, Camiguin de Misamis, Mindanao (Zamboanga), *Merrill 8080*, *B. S. 14634*, *14716 Ramos*, *30784 Ramos & Pascasio*. In primary forests, altitude 900 to 1,100 m. Endemic.

BLUMEA CONFERTIFLORA Merr. in Philip. Journ. Sci. 5 (1910) Bot. 254.

Mindanao, *F. B. 11016*, *11027 Merritt*. On exposed peaks and ridges, altitude about 970 m. Endemic.

BLUMEA GLOMERATA DC. in Wight Contrib. Bot. Ind. (1834) 15, Prodr. 5 (1836) 443; Hook. f. Fl. Brit. Ind. 3 (1881) 262; F.-Vill. Novis. App. (1880) 115; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 162.

Luzon (Cagayan, Benguet, Bontoc, Nueva Vizcaya, Batangas, Pangasinan, Zambales), Mindoro, Negros, Mindanao, *Cuming 1663*, *Williams 2019*, *B. S. 6708 Robinson*, *11199 McGregor*, *39213 Ramos & Edaño*. In open waste places at low and medium altitudes. India to Malaya.

BLUMEA INCISA (Elm.) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 395.

Pluchea incisa Elm. Leaf. Philip. Bot. 1 (1908) 358.

Luzon (Benguet), *Elmer 8396*, *8768*. In the mossy forest, altitude about 2,200 m. Endemic.

BLUMEA LACERA (Burm. f.) DC. Prodr. 5 (1836) 436; Hook. f. Fl. Brit. Ind. 3 (1881) 263; F.-Vill. Novis. App. (1880) 115; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 162; Elm. Leaf. Philip. Bot. 1 (1906) 116; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 139, Sp. Blancoanae (1918) 377.

Conyza lacera Burm. f. Fl. Ind. (1768) 180.

Conyza dentata Blanco Fl. Filip. (1837) 629, non Linn.

Conyza cappa Blanco op. cit. ed. 2 (1845) 438, ed. 3, 3 (1879) 18, non Ham.

Inula cappa F.-Vill. Novis. App. (1880) 116, non DC.

Widely distributed in the Philippines in open waste places at low and medium altitudes, *B. S. 27507 Ramos*, *34205 Ramos & Edaño*, *Elmer 5621*, *Merrill 672*, *1428*, *5076*, *7438*, *Phil. Pl. 208*, *2086*, *McGregor 115*. Tropical Africa, India to China and Malaya.

Local names: Damong-mabahó (Tag.); lamlampaka (Bon.); tubangkabáyo (Tag.).

BLUMEA LACINIATA (Roxb.) DC. Prodr. 5 (1836) 436; Hook. f. Fl. Brit. Ind. 3 (1881) 264; F.-Vill. Novis. App. (1880) 115; Vidal Phan. Cuming. Philip. (1885) 121, Rev. Pl. Vasc. Filip. (1886) 162; Elm. Leaf. Philip. Bot. 1 (1906) 114; Merr. Fl. Manila (1912) 470, Sp. Blancoanae (1918) 378.

- Conyza laciniata* Roxb. Hort. Beng. (1814) 61, *nomen nudum*, Wall. Cat. (1831) No. 3100, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 427.
Conyza gouani Blanco Fl. Filip. (1837) 629, non Willd.
Conyza erosa Blanco op. cit. ed. 2 (1845) 439, ed. 3, 3 (1879) 19.
Blumea lactucaefolia DC. Prodr. 5 (1836) 435, p. p., quoad Philip. fide Hook. f. Fl. Brit. Ind. 3 (1882) 672.

Throughout the Philippines at low and medium altitudes, in open waste places, *B. S.* 27691 *Ramos*, 37418 *Ramos & Edaño*, 18096, 18075 *Robinson*, 34919 *Ramos & Pascasio*, *Merrill* 565, 631, *Sp. Blancoanae* 257, *Phil. Pl.* 997, *Cuming* 659. India to China and Malaya.

Local names: Kanlong (Sub.); korondau (Sul.); lamlampáka (Bon.); takiadasan (Bon.).

BLUMEA LESSINGII nom. nov.

- Pluchea hirsuta* Less. in *Linnaea* 6 (1831) 150; DC. Prodr. 5 (1836) 453; F.-Vill. Novis. App. (1880) 116; Elm. Leaf. Philip. Bot. 1 (1906) 107, non *Conyza hirsuta* Linn.

Luzon (Ilocos Norte, Abra, Bontoc, Nueva Vizcaya, Zambales, Bulacan, Rizal, Laguna), Leyte, Panay, Mindanao, *B. S.* 27449, 2110 *Ramos*, 31343, 34046, 34203 *Ramos & Edaño*, *F. B.* 26452 *Catalan*, *Merrill* 5066, *Elmer* 7038, *Wenzel* 1658, *Williams* 2078. In old clearings at low and medium altitudes. Endemic.

This is *Pluchea hirsuta* as interpreted by Lessing and described by de Candolle. I have examined Chamisso's specimen in the Berlin herbarium. It cannot possibly be *Conyza hirsuta* Linn., the type of which was from China.

BLUMEA LONGIPES Merr. in Philip. Journ. Sci. 5 (1910) Bot. 255.

Mindanao (Lanao), *Clemens* 893. In open grasslands, altitude about 650 m. Endemic.

BLUMEA MANILLENSIS (Less.) DC. Prodr. 5 (1836) 435; Miq. Fl. Ind. Bat. 2 (1857) 42; F.-Vill. Novis. App. (1880) 115; Elm. Leaf. Philip. Bot. 1 (1906) 116.

- Conyza manillensis* Less. in *Linnaea* 6 (1831) 135.

Luzon (Ilocos Sur, Rizal, Cavite, Batangas), *Chamisso!*, *B. S.* 2075, 27224 *Ramos*, 92 *Foxworthy*. Chiefly along streams in ravines at low and medium altitudes. Endemic.

BLUMEA MINDANAENSIS Merr. in Philip. Journ. Sci. 5 (1910) Bot. 256.

Mindanao (Lanao), *Clemens* 736. In open grasslands or thickets, altitude about 650 m. Endemic.

BLUMEA MOLLIS (D. Don) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 395, Fl. Manila (1912) 470.

- Erigeron molle* D. Don Prodr. (1825) 172.

- Blumea wightiana* DC. in Wight Contrib. Bot. Ind. (1834) 14, Prodr. 5 (1836) 435; Hook. f. Fl. Brit. Ind. 3 (1881) 261; F.-Vill. Novis. App. (1880) 115; Vidal Phan. Cuming. Philip. (1885) 122, Rev. Pl. Vasc. Filip. (1886) 161; Elm. Leaf. Philip. Bot. 1 (1906) 115.

Conyza bifoliata Cham. & Less. in *Linnaea* 6 (1831) 135; Miq. *Fl. Ind. Bat.* 2 (1857) 42, non Linn.

Blumea chamissoniana DC. *Prodr.* 5 (1836) 434; F.-Vill. *Novis. App.* (1880) 115.

Luzon (Ilocos Sur, Benguet, Bontoc, Nueva Vizcaya, Bulacan, Rizal), *Cuming* 1139, *Merrill* 3806, *Williams* 2018, *B. S.* 2074, 5757, 2683 *Ramos*, 37942 *Ramos & Edaño*. In open grasslands at low and medium altitudes, ascending to 1,500 m. Tropical Asia and Africa through Malaya to tropical Australia and western Polynesia.

BLUMEA PUBIGERA (Linn.) Merr. in *Philip. Journ. Sci.* 14 (1919) 250.

Conyza pubigera Linn. *Mant.* 1 (1767) 113.

Conyza riparia Blume *Bijdr.* (1826) 699.

Blumea riparia DC. *Prodr.* 5 (1836) 444.

Blumea chinensis DC. *Prodr.* 5 (1836) 444; Hook. f. *Fl. Brit. Ind.* 3 (1881) 268; F.-Vill. *Novis. App.* (1880) 115; Vidal Phan. *Cuming. Philip.* (1885) 121, *Rev. Pl. Vasc. Filip.* (1886) 162; Merr. *Interpret. Herb. Amb.* (1917) 499, non *Conyza chinensis* Linn.

Luzon (Bontoc, Laguna, Tayabas), Catanduanes, Mindoro, Palawan, Samar, Leyte, Mindanao, Basilan, Jolo, *Merrill* 829, 4068, 5197, 5565, 9516, 8081, *Elmer* 7042, 13863, *B. S.* 16289 *Reillo*, 19524 *Ramos*, 34401, 35020 *Ramos & Pascasio*, 37669, 37696, 37907 *Ramos & Edaño*. In thickets, openings in forests, old clearings, etc., at low and medium altitudes, ascending to 1,100 m. India to southern China through Malaya to New Guinea.

Local names: Katarai (Sul.); kuli-amú (Sub.); lankat (Mbo.); pagang-pagang (C. Bis.).

BLUMEA RAMOSII Merr. in *Philip. Journ. Sci.* 5 (1910) Bot. 256.

Luzon (Bontoc, Benguet, Zambales), *B. S.* 5089 *Ramos*, 37678 *Ramos & Edaño*, *Clemens* 9214, *Vanoverbergh* 1191, 314, *Merrill* 7696. In damp ravines and thickets, altitude 1,100 to 1,600 m. Endemic.

Local name: Ningyau (Bon.).

BLUMEA SERICANS Hook. f. *Fl. Brit. Ind.* 3 (1881) 262; Merr. in *Philip. Journ. Sci.* 2 (1907) Bot. 428.

Blumea subsericans Elm. *Leaf. Philip. Bot.* 7 (1915) 2582.

Luzon (Cagayan, Nueva Vizcaya), Mindanao (Lanao, Davao), *Clemens* 894, *Elmer* 11139, 11904, *B. S.* 11452 *McGregor*, 7780 *Ramos*. In open grasslands, chiefly at medium altitudes. Chittagong and Burma to southern China and Formosa.

Local name: Dalingling (Bag.).

BLUMEA SPECTABILIS DC. *Prodr.* 5 (1836) 445; Hook. f. *Fl. Brit. Ind.* 3 (1881) 269; Ceron *Cat. Pl. Herb. Manila* (1892) 101.

Blumea laxiflora Elm. *Leaf. Philip. Bot.* 1 (1906) 110.

Luzon (Ilocos Norte, Abra, Pangasinan, Rizal, Laguna), Mindoro, Samar, Panay, *Elmer* 8231, *Merrill* 5073, *B. S.* 7643, 27671, 17467, 26975, 39657 *Ramos*, 17719 *Otanes*, 30963 *Ramos & Edaño*. Along streams in forests and also in open places at low and medium altitudes, ascending to 1,200 m. India and Ceylon.

Formosan material currently referred to *B. myriocephala* DC. is referable here.

BLUMEA SYLVATICA (Blume) DC. Prodr. 5 (1836) 447.

Conyza sylvatica Blume Bijdr. (1826) 898.

Blumea appendiculata Merr. in Philip. Journ. Sci. 5 (1910) Bot. 394, non DC.

Luzon (Bontoc, Benguet, Nueva Vizcaya, Pampanga, Tayabas), Palawan, *Elmer* 8762, 9189, *Merrill* 6511, 7768, *Phil. Pl.* 1744, *B. S.* 31923 *Santos*, 693 *Foxworthy*, 38145 *Ramos & Edaño*. In thickets and forests, altitude 1,000 to 2,200 m. Java.

Local names: Bunged (Ig.); tabtabam (Ig.); suosob (Ig.).

BLUMEA TENERA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 250, Fl. Manila (1912) 470.

Blumea virens DC. var. *minor* Elm. Leaf. Philip. Bot. 1 (1906) 114, non Hook. f.

Luzon (Zambales, Rizal), Culion, Palawan, *Merrill* 679, 9397, 7363. In open grasslands at low altitudes. Endemic.

BLUMEA VANOVERBERGHII Merr. in Philip. Journ. Sci. 7 (1912) Bot. 105.

Luzon (Bontoc), *Vanoverbergh* 1063. On slopes, altitude about 1,300 m. Endemic.

BLUMEA VIRENS (Wall.) DC. in Wight Contrib. Bot. Ind. (1834) 14, Prodr. 5 (1836) 439; Hook. f. Fl. Brit. Ind. 3 (1881) 264; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 122, Rev. Pl. Vasc. Filip. (1886) 162; Elm. Leaf. Philip. Bot. 1 (1906) 114.

Conyza virens Wall. Cat. (1831) No. 3037, *nomen nudum*.

Blumea membranacea F.-Vill. Novis. App. (1880) 115; Elm. Leaf. Philip. Bot. 1 (1906) 113, non DC.

Luzon (Ilocos Norte, Abra, Union, Benguet, Pangasinan, Zambales, Pampanga, Bulacan, Rizal, Batangas), Culion, Guimaras, *Cuming* 1023, *Merrill* 1456, 622, 6713, *Phil. Pl.* 1214, *Elmer* 5732, *B. S.* 27689, 7095, 22451 *Ramos*, 34202 *Ramos & Edaño*, 123 *Foxworthy*, 19194 *Reillo*. In thickets and open forests and along small streams at low and medium altitudes. India to Indo-China.

Local names: Burlasan (Tag., Pamp.); labalabanusan (Tag.); payok-pok (Ilk.).

EXCLUDED SPECIES

BLUMEA DENSIFLORA DC.; F.-Vill. Novis App. (1880) 115; Elm. Leaf. Philip. Bot. 1 (1906) 111.

Elmer identified no actual Philippine specimens with this species.

BLUMEA HIERACIFOLIA DC.; F.-Vill. Novis. App. (1880) 115.

BLUMEA OXYODONTA DC.; Hook. f. Fl. Brit. Ind. 3 (1881) 266; F.-Vill. Novis. App. (1880) 115.

I do not know on what the Philippine record is based. I have seen no Philippine specimen that is referable to this species.

19. MERRITTIA Merrill

MERRITTIA BENGUETENSIS (Elm.) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 396.

Senecio benguetensis Elm. Leaf. Philip. Bot. 1 (1906) 152.

Luzon (Ifugao, Bontoc, Benguet), *Elmer* 6247, *Merrill* 4755, 6586, *B. S.* 5896, *Ramos*, 37684 *Ramos & Edaña*, *F. B.* 16113 *Curran*, *Merritt*, & *Zschokke*. In damp thickets and in the mossy forest, altitude 1,800 to 2,400. A monotypic endemic genus.

Local name: Agakob (Bon.).

20. LAGGERA Schulz-Bipontius

LAGGERA ALATA (Roxb.) Schulz-Bip. ex Oliver in Trans. Linn. Soc. 39 (1873) 94; Hook. f. Fl. Brit. Ind. 3 (1881) 271; F.-Vill. Novis. App. (1880) 116; Vidal Rev. Pl. Vasc. Filip. (1886) 162, Phan. Cuming. Philip. (1885) 122; Elm. Leaf. Philip. Bot. 1 (1906) 117; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 397.

Conyza alata Roxb. Hort. Beng. (1814) 61, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 430.

Erigeron alatum D. Don Prodr. Fl. Nepal. (1825) 171.

Conyza nutans Bume Bijdr. (1826) 896.

Blumea alata DC. Prodr. 5 (1836) 448.

Conyza tetraptera Turcz. in Bull. Soc. Nat. Mosc. 24² (1851) 178; Miq. Fl. Ind. Bat. 2 (1859) 1078; F.-Vill. Novis. App. (1880) 115.

Blumea tetraptera Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 313.

Luzon (Ilocos Norte, Bontoc, Benguet, Pangasinan, Rizal), *Cuming* 988, *Williams* 2017, *Elmer* 8459, *B. S.* 27401, 2109 *Ramos*. In open grasslands, etc., chiefly at medium altitudes, ascending to 1,500 m. Tropical Africa, India to China, southward to Java.

Local names: Baba (Bon.); budbuduan (Bon.).

21. PLUCHEA Cassini

PLUCHEA INDICA (Linn.) Less. in Linnaea 6 (1831) 150; DC. Prodr. 5 (1836) 451; Hook. f. Fl. Brit. Ind. 3 (1881) 272; F.-Vill. Novis. App. (1880) 116; Vidal Rev. Pl. Vasc. Filip. (1886) 162; Merr. Fl. Manila (1912) 471, Sp. Blancoanae (1918) 378; Elm. Leaf. Philip. Bot. 1 (1906) 106.

Baccharis indica Linn. Sp. Pl. (1753) 861; Blanco Fl. Filip. (1837) 627, ed. 2 (1845) 438, ed. 3, 3 (1879) 17.

Northern Luzon to Mindanao, along the seashore and tidal streams within the influence of salt or brackish water, *Merrill* 2090, 916, *Sp. Blancoanae* 989, *B. S.* 27487, 12178 *Ramos*, 16489 *Reillo*, *F. B.* 6358, *Curran*, 9777, 9776 *Merritt*, 6464 *Everett*, 13656 *Curran*. India to China and Malaya.

Local names: Banig-banig (Sul.); bauing-bauing (Sul.); kalapíni (Tag.); lagúndi-láte (Sbl., Tag.); tulo-laláki (P. Bis.).

PLUCHEA SCABRIDA DC. Prodr. 5 (1836) 453; F.-Vill. Novis. App. (1880) 116; Elm. Leaf. Philip. Bot. 1 (1906) 106; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 309.

Conyza scabrida Miq. Fl. Ind. Bat. 2 (1857) 59.

Luzon, *Haenke!* in herb. de Candolle. Scarcely distinguishable from *P. indica* Less., but with pubescent leaves and densely pubescent inflorescences. Endemic.

22. EPALTES Cassini

EPALTES AUSTRALIS Less. in *Linnaea* 5 (1831) 148, 206; DC. *Prodr.* 5 (1836) 462; Elm. *Leaf.* Philip. Bot. 1 (1906) 108; J. R. Drummond ex Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 126; Merr. Fl. Manila (1912) 473, Sp. Blancoanae (1918) 378.

Cotula quinqueloba Blanco Fl. Filip. (1837) 626, ed. 2 (1845) 436, ed. 3, 3 (1879) 15, non Linn. f.

Sphaeromorphaca russeliana DC. *Prodr.* 6 (1837) 140; Hook. f. Fl. Brit. Ind. 3 (1881) 317; Elm. *Leaf.* Philip. Bot. 1 (1906) 140.

Luzon (Rizal), *Merrill 3655, 7361, Phil. Pl. 991, Sp. Blancoanae 773, Loher 5086*. In fallow rice paddies at low altitudes. India to southern China through Malaya to Australia.

Local name: Harañgan (Tag.).

23. SPHAERANTHUS Vaillant

SPHAERANTHUS AFRICANUS Linn. Sp. Pl. ed. 2 (1762) 1314; Hook. f. Fl. Brit. Ind. 3 (1881) 275; F.-Vill. *Novis. App.* (1880) 116; Vidal Phan. Cuming. Philip. (1885) 122, Rev. Pl. Vasc. Filip. (1886) 162; Elm. *Leaf.* Philip. Bot. 1 (1906) 118; Merr. Fl. Manila (1912) 469, Sp. Blancoanae (1918) 379.

Sphaeranthus alatus Blanco Fl. Filip. (1837) 635.

Sphaeranthus indicus Blanco op. cit. ed. 2 (1845) 722, ed. 3, 3 (1879) 29; F.-Vill. *Novis. App.* (1880) 116, non Linn.

Sphaeranthus microcephalus Willd. Sp. Pl. 3 (1804) 2395; Miq. Fl. Ind. Bat. 2 (1857) 36; DC. *Prodr.* 5 (1836) 369; Usteri Beitr. Ken. Philip. Veg. (1905) 120.

Throughout the Philippines, a weed in open rather damp waste places in and about towns at low and medium altitudes. Tropical Africa and Asia through Malaya to Australia.

Local names: Botbotónis (Ilk.); botobotonisan (Tag.); sambóng-gala (Tag.); talababáko (Bis.); tarutabáko (Bis.).

24. PTEROCAULON Elliott

PTEROCAULON REDOLENS (Forst. f.) F.-Vill. *Novis. App.* (1880) 116; Merr. in Philip. Journ. Sci. 12 (1917) Bot. 122.

Gnaphalium redolens Forst. f. *Prodr.* (1786) 91.

Monenteles redolens DC. *Prodr.* 5 (1836) 455; Miq. Fl. Ind. Bat. 2 (1857) 60.

Gnaphalium cylindrostachyum Wall. Cat. (1831) No. 3931, *nomen nudum*.

Monenteles spicatus Labill. Sert. Nov. Caled. (1824-25) 43, t. 43.

Tessaria redolens Less. in *Linnaea* 6 (1831) 151.

Conyza redolens Willd. Sp. Pl. 3 (1804) 1951.

Pterocaulon cylindrostachyum C. B. Clarke Comp. Ind. (1876) 98; Hook. f. Fl. Brit. Ind. 3 (1881) 275; F.-Vill. *Novis. App.* (1880) 116; Vidal Phan. Cuming. Philip. (1885) 122, Rev. Pl. Vasc. Filip. (1886) 162; Merr. Sp. Blancoanae (1918) 379.

Sphaeranthus elongatus Blanco Fl. Filip. (1837) 636, ed. 2 (1845) 443, ed. 3, 3 (1879) 30.

Luzon (Cagayan, Ilocos Norte, Lepanto, Benguet, Pangasinan, Bataan, Batangas), Mindoro, *Merrill* 184, 10593, 5077, *Sp. Blancoanae* 341, *Cuming* 962, *B. S.* 7032, 7855, 27381 *Ramos*, 17990 *Otanes*. In open waste places at low and medium altitudes. Burma to New Caledonia and Australia.

Local names: Sambóng-gala (Tag.); subusob (Ilk.); subusob-a-balang (Ilk.).

25. ANAPHALIS de Candolle

ANAPHALIS ADNATA (Wall.) DC. Prodr. 6 (1837) 274; Hook. f. Fl. Brit. Ind. 3 (1881) 282; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 125; Merr. op. cit. 5 (1910) Bot. 397.

Gnaphalium adnatum Wall. Cat. (1831) No. 2948, *nomen nudum*.

Luzon (Bontoc, Lepanto, Benguet), *Merrill* 4334, 4549, *Williams* 1426, *B. S.* 5322, 5414, 5388 *Ramos*, 40488 *Ramos & Edaño*. On open slopes in thin pine forests, altitude 1,300 to 2,000 m. India to Burma and south-eastern China.

ANAPHALIS CONTORTA (Don) Hook. f. Fl. Brit. Ind. 3 (1881) 284; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 124; Merr. op. cit. 5 (1910) Bot. 397.

Antennaria contorta Don in Bot. Reg. t. 605, Prodr. Fl. Nepal. (1825) 175, DC. Prodr. 6 (1837) 271.

Gnaphalium contortum Ham. in Spreng. Syst. 3 (1826) 479.

Anaphalis cinnamomea Elm. Leaf. Philip. Bot. 1 (1906) 120, non Clarke.

Luzon (Bontoc, Lepanto, Benguet), *Merrill* 4539, 6486, *Elmer* 6281, *Williams* 1423, *B. S.* 31821 *Santos*, 8481, 8901 *McGregor*, 5381, 5735 *Ramos*, 40182 *Ramos & Edaño*, *F. B.* 5043 *Curran*. On grassy slopes in thin pine forests, altitude 1,500 to 2,200 m. India.

Local name: Bunut (Ig).

26. GNAPHALIUM Linnaeus

GNAPHALIUM HYPOLEUCUM DC. in Wight Contrib. Bot. Ind. (1834) 21, Prodr. 6 (1837) 222; Hook. f. Fl. Brit. Ind. 3 (1881) 288; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 125; Merr. op. cit. 5 (1910) Bot. 397.

Luzon (Lepanto, Benguet), *Merrill* 4276, 4493, 6572, *Williams* 1431, *B. S.* 12930 *Fénix*, 5386 *Ramos*, 40473, 40436 *Ramos & Edaño*, *F. B.* 15609 *Curran*. On open slopes in thin pine forests, in ravines, etc., altitude 1,200 to 2,200 m. Abyssinia to China and Japan; Formosa.

GNAPHALIUM JAPONICUM Thunb. Fl. Jap. (1784) 311; DC. Prodr. 6 (1837) 237; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 125; Merr. op. cit. 5 (1910) Bot. 397.

Gnaphalium oblancifolium Elm. Leaf. Philip. Bot. 1 (1906) 123.

Luzon (Bontoc, Benguet, Zambales, Tayabas), *Elmer* 6556, *Merrill* 4663, 6541, *Phil. Pl.* 872, *Williams* 1221, 1436, *B. S.* 5396 *Ramos*, 37740, 37794 *Ramos & Edaño*, 3535, 4348 *Mearns*. On open slopes, altitude 1,500 to 2,400 m. Japan to China and Formosa southward to Australia, New Caledonia, and New Zealand.

GNAPHALIUM LUTEO-ALBUM Linn. Sp. Pl. (1753) 851; DC. Prodr. 6 (1837) 230; Miq. Fl. Ind. Bat. 2 (1857) 91; Hook. f. Fl. Brit. Ind. 3 (1881) 288; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 122, Rev. Pl. Vasc. Filip. (1886) 162; Elm. Leaf. Philip. Bot. 1 (1906) 121; Merr. Sp. Blancoanae (1918) 379.

Xeranthemum staehelina Blanco Fl. Filip. (1837) 629, non Linn.

Gnaphalium dichotomum Blanco op. cit. ed. 2 (1845) 439, ed. 3, 3 (1879) 20, non Willd.

Gnaphalium indicum F.-Vill. Novis. App. (1880) 116; Elm. Leaf. Philip. Bot. 1 (1906) 123, non Linn.

Gnaphalium multiceps Elm. Leaf. Philip. Bot. 1 (1906) 122, non Wall.

Luzon (Cagayan, Ifugao, Lepanto, Bontoc, Benguet, Pangasinan, Camarines), *B. S.* 7904, 22204, 7024 *Ramos*, 38124 *Ramos & Edaño*, 31702 *Santos*, 8488, 19950 *McGregor*, *F. B.* 957 *Barnes*, *Cuming* 1025, *Merrill Phil. Pl.* 880, *Sp. Blancoanae* 17, *Elmer* 5775. In open places chiefly at medium altitudes, ascending to 2,400 m. India to China, Japan, and Formosa southward to Borneo.

Local names: Badok (Ilk.); bunut (Ig.); onanat (Ig.); tugong (If.).

EXCLUDED SPECIES

GNAPHALIUM JAVANICUM DC.; F.-Vill. Novis. App. (1880) 116.

27. CARPESIUM Linnaeus

CARPESIUM CERNUUM Linn. Sp. Pl. (1753) 859; DC. Prodr. 6 (1836) 281; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 243, 5 (1910) Bot. 397; Elm. Leaf. Philip. Bot. 1 (1906) 124 (as var. *glandulosum* C. B. Clarke).

Luzon (Lepanto, Benguet), *Merrill* 4512, 4832, 4688, 6563, *Williams* 1974, *B. S.* 5910, 5823 *Ramos*, 40267 *Ramos & Edaño*. In the mossy forest, altitude 1,800 to 2,400 m. Southern Europe to Japan southward to Java.

28. ANISOPAPPUS Hooker and Arnott

ANISOPAPPUS CHINENSIS (Linn.) Hook. & Arn. Bot. Beechy Voy. (1836) 196; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 125.

Chrysogonum philippinense Elm. Leaf. Philip. Bot. 1 (1906) 161.

Culion, *Merrill* 514, *B. S.* 41356 *Lopez*. In dry open places at low altitudes. Burma to southern China.

29. MELAMPODIUM Linnaeus

MELAMPODIUM DIFFUSUM Cass. Dict. Sci. Nat. 59 (1829) 238; DC. Prodr. 5 (1836) 518.

Melampodium manillense Less. in Linnaea 5 (1830) 155, t. 2 f. G.

Melampodium divaricatum Rolfe in Journ. Bot. 23 (1885) 213; Vidal Rev. Pl. Vasc. Filip. (1886) 162; Elm. Leaf. Philip. Bot. 1 (1906) 161, non DC.

Melampodium sericeum F.-Vill. Novis. App. (1880) 117; Elm. Leaf. Philip. Bot. 1 (1906) 160, non Lagasca.

Luzon (Nueva Vizcaya, Rizal, Cavite, Laguna), *Merrill* 10641, *B. S.* 20181 *McGregor*, 167, 168 *Foxworthy*, 11835 *Robinson*. In open dry sandy soil in and about towns. Introduced from Mexico and thoroughly naturalized.

EXCLUDED SPECIES

MELAMPODIUM LANCEOLATUM DC. Prodr. 5 (1836) 519; F.-Vill. Novis. App. (1880) 117.

"In iter suis legit Née sed locus ignotus. An Manillense ? an potius Americanum?" This was in all probability from tropical America, the home of all the species of this genus.

30. SIEGESBECKIA Linnaeus

SIEGESBECKIA ORIENTALIS Linn. Sp. Pl. (1753) 900; DC. Prodr. 5 (1836) 495; Hook. f. Fl. Brit. Ind. 3 (1881) 304; F.-Vill. Novis. App. (1880) 117; Vidal Phan. Cuming. Philip. (1885) 122, Rev. Pl. Vasc. Filip. (1886) 163; Elm. Leaf. Philip. Bot. 1 (1906) 162; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 411, 5 (1910) Bot. 397. *Minyranthes heterophylla* Turcz. in Bull. Soc. Nat. Mosc. 24¹ (1851) 181.

Batan Islands, Luzon (Abra, Benguet, Bontoc, Rizal), Mindanao (Lanao), Merrill 4280, 7691, B. S. 3571 *Fénix*, 3178 *Mearns*, 7057, 5336, 1779 *Ramos*. In open waste places, fallow fields, etc., chiefly at medium altitudes, ascending to 2,100 m in Benguet. Old World Tropics, introduced in the New World.

Local names: Kaedes (Iv.); put (Bon.).

31. ENHYDRA Loureiro

ENHYDRA FLUCTUANS Lour. Fl. Cochinch. (1790) 511; DC. Prodr. 5 (1836) 637; Hook. f. Fl. Brit. Ind. 3 (1881) 304; F.-Vill. Novis. App. (1880) 117; Elm. Leaf. Philip. Bot. 1 (1906) 163; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 251, Fl. Manila (1912) 475.

Luzon (Rizal), Merrill 11204. Occasional along the banks of small streams in and about Manila, certainly introduced. Tropical Africa and Asia to Malaya.

32. ECLIPTA Linnaeus

ECLIPTA ALBA (Linn.) Hassk. Pl. Jav. Rar. (1848) 528; Hook. f. Fl. Brit. Ind. 3 (1881) 304; F.-Vill. Novis. App. (1880) 117; Miq. Fl. Ind. Bat. 2 (1857) 65; Elm. Leaf. Philip. Bot. 1 (1906) 164; Merr. Fl. Manila (1912) 476, Sp. Blancoanae (1918) 379.

Verbesina alba Linn. Sp. Pl. (1753) 902.

Eclipta parciflora Wall. Cat. (1831) No. 3213, *nomen nudum*, DC. Prodr. 5 (1836) 490.

Anthemis cotula Blanco Fl. Filip. (1837) 633, non Linn.

Artemisia viridis Blanco op. cit. ed. 2 (1845) 436, ed. 3, 3 (1879) 14, t. 284, non Linn.

Eclipta erecta Linn. Mant. 2 (1771) 286; Usteri Beitr. Ken. Philip. Veg. (1905) 120.

Eclipta philippinensis Gandog.* in Bull. Soc. Bot. France 65 (1918) 40.

A ubiquitous weed in the settled areas of the Philippines. All warm countries.

Local names: Higis-manók (Tag.); karimbuáya (Ilk.); pia (If.); tinta-tinta (Ilk.); tultulisan (Ilk.); yayod (Iv.).

* The type, Cuming 2436, was from Sumatra, not from the Philippines.

ECLIPTA ZIPPELIANA Blume Bijdr. (1826) 914; DC. Prodr. 5 (1836) 490; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 251, Fl. Manila (1912) 476.

Luzon (Pangasinan, Rizal, Laguna), Camiguin de Misamis, Mindanao (Zamboanga), *Merrill 44*, *B. S. 17731 Otanes*, *14742 Ramos*, *11739 Robinson*. In open wet places at low altitudes. Java and probably other parts of Malaya.

33. FENIXIA Merrill

FENIXIA PAUCIFLORA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 119, *t. 3*.

Mindanao (Bukidnon), *B. S. 26036 Fénix*. On damp rocky slopes at medium altitudes. A monotypic endemic genus.

34. WEDELIA Jacquin

WEDELIA BIFLORA (Linn.) DC. in Wight Contrib. Bot. Ind. (1834) 18; F.-Vill. Novis. App. (1880) 117; Hook. f. Fl. Brit. Ind. 3 (1881) 306; Elm. Leaf. Philip. Bot. 1 (1906) 166; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 139, Fl. Manila (1912) 477, Sp. Blancoanae (1918) 380.

Verbesina biflora Linn. Sp. Pl. ed. 2 (1763) 1272.

Wollastonia biflora DC. Prodr. 5 (1836) 547; Miq. Fl. Ind. Bat. 2 (1857) 70.

Spilanthes acmella Blanco Fl. Filip. (1836) 620, ed. 2 (1845) 433, ed. 3, 3 (1879) 10, non Murr.

Spilanthes peregrina Blanco op. cit. 622, ed. 2, 434, ed. 3, 3: 10.

Stemmodontia biflora W. F. Wight in Contr. U. S. Nat. Herb. 9 (1905) 377.

Throughout the Philippines in thickets back of the beach and along tidal streams; usually abundant. India to China, Malaya, tropical Australia and western Polynesia.

Local names: Agonoi (Bis., Ilk.); agunoi (Bik.); anoioi (Iv.); hagonoi (Tag., Mbo., Bik., C. Bis.); lagoron (Bag.); lahunai (Sul.); palunag (Pamp.); palunai (Pamp.).

WEDELIA CHINENSIS (Osbeck) Merr. in Philip. Journ. Sci. 12 (1917) Bot. 111.

Solidago chinensis Osbeck Dagbok Ostind. Resa (1757) 241.

Wedelia prostrata Hemsl. in Journ. Linn. Soc. Bot. 23 (1888) 434; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 251, Fl. Manila (1912) 477.

Wedelia calendulacea Less. Syn. Compos. (1832) 222; F.-Vill. Novis. App. (1880) 117, non Pers.

Luzon (Manila), *Merrill 7549*. In open waste places at sea level, apparently a casual introduction. India to China.

34a. TITHONIA Desfontaines

TITHONIA DIVERSIFOLIA A. Gray in Proc. Am. Acad. 19 (1883) 5.

Luzon (Benguet), *Merrill 11667*. A native of Mexico, recently introduced into the Philippines and now thoroughly naturalized about Baguio, altitude 1,200 to 1,500 m; cultivated in Manila and in other large towns.

35. *HELIANTHUS* Linnaeus

HELIANTHUS ANNUUS Linn. Sp. Pl. (1753) 904; DC. Prodr. 5 (1836) 585; Miq. Fl. Ind. Bat. 2 (1857) 76; F.-Vill. Novis. App. (1880) 117; Elm. Leaf. Philip. Bot. 1 (1906) 170; Merr. Fl. Manila (1912) 476.

Cultivated here and there for ornamental purposes, but nowhere established. Native of tropical America, now planted in all warm countries; sunflower, locally known by its Spanish names *girasol* and *mirasol*.

Helianthus cucumerifolius Torr. & Gray is also occasionally cultivated in Manila.

36. *SPILANTHES* Jacquin

SPILANTHES ACMELLA (Linn.) Murr. Syst. (1774) 610; DC. Prodr. 5 (1836) 623; Miq. Fl. Ind. Bat. 2 (1857) 79; Hook. f. Fl. Brit. Ind. 3 (1881) 307; F.-Vill. Novis. App. (1880) 117; Vidal Phan. Cuming. Philip. (1885) 122, Rev. Pl. Vasc. Filip. (1886) 163 (incl. var. *oleracea* C. B. Clarke); Elm. Leaf. Philip. Bot. 1 (1906) 169; Merr. Sp. Blancoanae (1918) 380.

Verbesina acmella Linn. Sp. Pl. (1753) 901.

Spilanthes lobata Blanco Fl. Filip. (1837) 622, ed. 2 (1845) 434, ed. 3, 3 (1879) 11.

Luzon (Cagayan, Benguet, Nueva Vizcaya, Rizal, Laguna), Mindoro, Balabac. In open waste places, old clearings, etc., at low and medium altitudes. Pantropic.

Local names: Biri (Ig.); dila-dilag (If.); gatang-gatang (Sul.); pilet-pilet (Sul.).

SPILANTHES GRANDIFLORA Turcz. in Bull. Soc. Nat. Mosc. 24¹ (1851) 183; Miq. Fl. Ind. Bat. 2 (1859) 1078; F.-Vill. Novis. App. (1880) 118; Vidal Phan. Cuming. Philip. (1885) 122; Elm. Leaf. Philip. Bot. 1 (1906) 168; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 398.

Luzon (Ilocos Sur, Ifugao, Bontoc, Lepanto, Benguet), *Cuming* 1154, *Merrill* 7658, 6517, *Williams* 922bis, *Elmer* 6605, *B. S.* 31699 *Santos*, 19993 *McGregor*, 4537 *Mearns*, *F. B.* 5030 *Curran*. On open slopes in the pine region, altitude 1,200 to 1,900 m. Tropical Australia.

Local names: Busiuisi (Ig.); dila-dilag (If.); sisilau (Ig. Bon.).

SPILANTHES OVATA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 246; Elm. Leaf. Philip. Bot. 1 (1906) 169.

Luzon (Lepanto), *Merrill* 4573. On grassy slopes in pine forests, altitude about 1,950 m; scarcely more than a form or variety of *S. grandiflora* Turcz. Endemic.

37. *SYNEDRELLA* Gaertner

SYNEDRELLA NODIFLORA (Linn.) Gaertn. Fruct. 2 (1791) 456, t. 171, f. 7; Hook. f. Fl. Brit. Ind. 3 (1881) 308; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 404; F.-Vill. Novis. App. (1880) 118; Elm. Leaf. Philip. Bot. 1 (1906) 171; Merr. Fl. Manila (1912) 472.

Verbesina nodiflora Linn. Amoen. Acad. 4 (1759) 290.

Blainvillea latifolia Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 266; Ceron Cat. Pl. Herb. (1892) 102, non DC.

Blainvillea rhomboidea Elm. Leaf. Philip. Bot. 1 (1906) 165, non Cass.

Throughout the Philippines at low and medium altitudes, in open waste places. A ubiquitous pantropic weed of American origin.

Local name: Fantankuen (Ilk.).

38. GLOSSOGYNE Cassini

GLOSSOGYNE TENUIFOLIA Cass. Dict. Sci. Nat. 51 (1827) 475; DC. Prodr. 5 (1836) 633; F.-Vill. Novis. App. (1880) 119; Vidal Phan. Cuming. Philip. (1885) 112, Rev. Pl. Vasc. Filip. (1886) 163; Elm. Leaf. Philip. Bot. 1 (1906) 175.

Bidens tridentata Turcz. in Bull. Soc. Nat. Mosc. 24 (1851) 183.

Bidens denudata Turcz. l. c.

Glossogyne tridentata F.-Vill. Novis. App. (1880) 163; Vidal Phan. Cuming. Philip. (1885) 112, Rev. Pl. Vasc. Filip. (1886) 163.

Luzon (Cagayan, Ilocos Norte, Benguet, Nueva Vizcaya), Mindanao (Cotabato), *Adduru 81, Merrill 158, 4678, B. S. 8169, 33449, 27382 Ramos, 31951 Santos, 11208 McGregor, F. B. 15513 Merritt & Darling*. On open grassy slopes at low and medium altitudes, ascending to 2,000 m. Southern China, Hainan, Formosa, Pescadores, Marianne and Caroline Islands, Australia, and New Caledonia.

Local name: Añguad (Ig.).

39. GUERREROIA Merrill

GUERREROIA MONOCEPHALA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 118, t. 2.

Luzon (Ilocos Norte), *B. S. 27526, 32924 Ramos*. In dry open places at low and medium altitudes. A monotypic endemic genus.

40. BIDENS Tournefort

BIDENS BIPINNATA Linn. Sp. Pl. (1753) 832; DC. Prodr. 5 (1836) 603; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 126.

Bidens pilosa Linn. var. *bipinnata* Hook. f. Fl. Brit. Ind. 3 (1881) 309.

Luzon (Benguet), *Merrill 4308*. On dry open slopes, altitude about 1,300 m. All warm countries.

BIDENS LEUCORRHIZA (Lour.) DC. Prodr. 5 (1836) 605.

Coreopsis leucorrhiza Lour. Fl. Cochinch. (1790) 508.

Bidens chinensis Willd. Sp. Pl. 3 (1804) 1719; O. Schulz in Engl. Bot. Jahrb. 50 (1914) Suppl. 178; Merr. Interpret. Herb. Amb. (1917) 501, Sp. Blancoanae (1918) 380.

Bidens bipinnata Blanco Fl. Filip. (1837) 623, ed. 2 (1845) 435, ed. 3, 3 (1879) 12, non Linn.

Bidens leucantha Usteri Beitr. Ken. Philip. Veg. (1905) 120, non Willd.

Bidens pilosa Vidal Phan. Cuming. Philip. (1885) 122, Rev. Pl. Vasc. Filip. (1886) 163, non Linn.

Batan Islands and northern Luzon to Palawan and Mindanao, *B. S. 7671, 8249, 8212, 33215, 27209 Ramos, 31656 Santos, 345 Bermejós, 11469 McGregor, 17706 Otones, Loher 3626, Merrill 4311, 3335, 3647, 10475, Sp. Blancoanae 414*. In open waste places, thickets, etc., from sea level to an altitude of 2,300 m. Old World Tropics, often confused with *B. pilosa* Linn.

Local names: Añguar (Gad.); anguat (Ig.); drakap (Sub.); ilaud (Bon.); inaian-di-onuard (If.); puriket (Ilk.); purpurikit (Ilk.); pulut (Ig.); tagab (Tag.); tubak-tubak (P. Bis.); unuad-an-paio (If.).

BIDENS PILOSA Linn. Sp. Pl. (1753) 832; DC. Prodr. 5 (1836) 597; F.-Vill. Novis. App. (1880) 118; Elm. Leaf. Philip. Bot. 1 (1906) 174; Merr. Fl. Manila (1912) 478.

Batan and Babuyan Islands, northern Luzon to Mindanao, *B. S.* 3601, 4068 *Fénix*, 3112 *Mearns*, 5550 *Ramos*, 8753, 20112 *McGregor*, 12905 *Fénix*, *F. B.* 5019 *Curran*, *Merrill* 5566, 6988, 6548, *Phil. Pl.* 1781, *Whitford* 1609, *Elmer* 5769. In waste places, chiefly at medium altitudes, ascending to 2,200 m. Pantropic.

Local names: Nguad (Ig.); dadayem (Iv.); pisau-pisau (C. Bis.); puriket (Bon.).

BIDENS TRIPARTITA Linn. Sp. Pl. (1753) 831; DC. Prodr. 5 (1836) 594; Hook. f. Fl. Brit. Ind. 3 (1881) 309; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 126.

Luzon (Benguet), *Merrill* 9747, *Loher* 3637, *B. S.* 5537 *Ramos*. In open cool swamps, altitude about 1,400 m. Europe and northern Africa to China and Japan.

41. COSMOS Cavanilles

COSMOS CAUDATUS HBK. Nov. Gen. Sp. Pl. 4 (1820) 240; DC. Prodr. 5 (1836) 606; F.-Vill. Novis. App. (1880) 118; Elm. Leaf. Philip. Bot. 1 (1906) 176; Merr. Fl. Manila (1912) 478; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 287.

Throughout the Philippines, a common weed in open waste places, fallow lands, etc., at low and medium altitudes. A native of tropical America, now pantropic.

Local names: Lansa-lansa (Sul.); onuad (If.); tuktukau (Bon.); turai-turai (P. Bis.).

COSMOS SULPHUREUS Cav. Ic. 1 (1791) 56, t. 79; DC. Prodr. 5 (1836) 606; F.-Vill. Novis. App. (1880) 118; Ceron Cat. Pl. Herb. Manila (1892) 103; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 126. *Coreopsis drummondii* Elm. Leaf. Philip. Bot. 1 (1906) 172, non Torr. & Gray.

Luzon (Pangasinan, Pampanga, Bulacan, Bataan, Rizal, Tayabas, Camarines), Polillo, Cebu, Leyte, Mindanao (Bukidnon, Lanao). In open grasslands, borders of thickets, etc., at low and medium altitudes; much less common than the preceding species and like it introduced from Mexico.

Local name: Amarillo (Sp.).

42. TAGETES Linnaeus

TAGETES ERECTA Linn. Sp. Pl. (1753) 887; DC. Prodr. 5 (1836) 643; F.-Vill. Novis. App. (1880) 119; Elm. Leaf. Philip. Bot. 1 (1906) 136; Merr. Fl. Manila (1912) 474.

Cultivated for ornamental purposes. A native of Mexico, now planted in all warm countries.

Local names: Agito (Ilk.); amarillo (Sp.).

TAGETES PATULA Linn. Sp. Pl. (1753) 887; DC. Prodr. 5 (1836) 643; Blanco Fl. Filip. (1837) 632, ed. 2 (1845) 440, ed. 3, 3 (1879) 23, t. 404bis; Merr. Sp. Blancoanae (1918) 381.

Cultivated for ornamental purposes; in Lepanto and Benguet thoroughly naturalized along gravel bars and on banks of streams, altitude 1,200 to 1,500 m. A native of Mexico, now widely distributed in cultivation. Marigold.

Local name: Amarillo (Sp.).

43. CHRYSANTHEMUM Tournefort

CHRYSANTHEMUM CORONARIUM Linn. Sp. Pl. (1753) 890; DC. Prodr. 6 (1837) 64; Merr. Fl. Manila (1912) 475.

Occasionally cultivated by Chinese gardeners and known to them as *tung hao*. Europe to southeastern Asia.

CHRYSANTHEMUM INDICUM Linn. Sp. Pl. (1753) 889; DC. Prodr. 6 (1837) 64; F.-Vill. Novis. App. (1880) 119; Hook. f. in Curtis's Bot. Mag. 129 (1903) t. 7874; Elm. Leaf. Philip. Bot. 1 (1906) 138; Merr. Fl. Manila (1912) 474, Sp. Blancoanae (1918) 381.

Matricaria chamomilla Blanco Fl. Filip. (1837) 631, ed. 2 (1845) 440, ed. 3, 3 (1879) 22, t. 290, non Linn.

Widely scattered in cultivation for ornamental and medicinal purposes and apparently established at 1,800 m altitude in Benguet subprovince. A native of southeastern Asia.

Local names: Dolontas (Tag.); mansanília-a-babasit (Ilk.); manzanilla (Sp.).

CHRYSANTHEMUM SINENSE Sabine in Trans. Linn. Soc. 14 (1825) 145; Merr. Fl. Manila (1912) 475, Sp. Blancoanae (1918) 381.

Pyrethrum sinense DC. Prodr. 6 (1837) 62; Llanos Frag. Pl. Filip. ed. 3, 4¹ (1880) 70.

Cultivated for ornamental purposes, but not well adapted to the climatic condition of the Philippines. A native of China.

Local names: Mansanilla (Ilk.); rosas de japon (Sp.).

44. CENTIPEDA Loureiro

CENTIPEDA MINIMA (Linn.) A. Br. & Aschers. Ind. Sem. Hort. Berol. (1867) App. 6; Merr. Fl. Manila (1912) 473.

Artemisia minima Linn. Sp. Pl. (1753) 849.

Cotula minima Willd. Sp. Pl. 3 (1804) 2170.

Centipeda orbicularis Lour. Fl. Cochinch. (1790) 493; Miq. Fl. Ind. Bat. 2 (1857) 89; Hook. f. Fl. Brit. Ind. 3 (1881) 317; F.-Vill. Novis. App. (1880) 119; Vidal Phan. Cuming. Philip. (1885) 122, Rev. Pl. Vasc. Filip. (1886) 163; Elm. Leaf. Philip. Bot. 1 (1906) 139.

Myriogyne minuta Less. in Linnaea 6 (1831) 219; DC. Prodr. 6 (1837) 139.

Luzon (Cagayan, Nueva Vizcaya, Pampanga, Rizal, Laguna), Mindanac (Lanao), Merrill 308, Phil. Pl. 1973, Cuming 528, 1264, B. S. 7436, 2085 Ramos. In open waste places, rice paddies, etc., at low and medium altitudes. Eastern Asia to China through Malaya to tropical Australia and Polynesia.

Local names: Harañgan (Tag., Bis.); pisik (Bis.).

45. ARTEMISIA Linnaeus

ARTEMISIA CAPILLARIS Thunb. Fl. Jap. (1784) 309; DC. Prodr. 6 (1837) 126; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 125; Merr. op. cit. 5 (1910) Bot. 398.

Artemisia parviflora Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1886) 163; Elm. Leaf. Philip. Bot. 1 (1906) 141, non Roxb.

Luzon (Ilocos Norte, Lepanto, Bontoc, Benguet), *B. S.* 7660, 5788 *Ramos*, 8778 *McGregor*, *F. B.* 1552 *Darling*, 15888 *Bacani*, *Merrill* 4296. On dry open slopes, altitude 1,200 to 1,600 m. Manchuria to Japan, Formosa, and southern China.

Local names: Gueng-gueng (Bon.); paldid (Ig.).

ARTEMISIA JAPONICA Thunb. Fl. Jap. (1784) 310; DC. Prodr. 6 (1837) 100; Merr. in Philip. Journ. Sci. 12 (1917) Bot. 122.

Batan and Babuyan Islands, Luzon (Bontoc, Ilocos Norte), *B. S.* 27500 *Ramos*, 38142 *Ramos & Edaño*, 10642 *McGregor*, 3618 *Fénix*, 3184, 3185 *Mearns*. On dry slopes at low altitudes. Japan to Formosa and southern China.

ARTEMISIA VULGARIS Linn. Sp. Pl. (1753) 848; Miq. Fl. Ind. Bat. 2 (1857) 87; Blanco Fl. Filip. (1837) 625, ed. 2 (1845) 435, ed. 3, 3 (1879) 14, *t.* 329; Hook. f. Fl. Brit. Ind. 3 (1881) 325; F.-Vill. Novis. App. (1880) 119; Elm. Leaf. Philip. Bot. 1 (1906) 141; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 441, Fl. Manila (1912) 472, Sp. Blancoanae (1918) 381.

Batan Islands and northern Luzon to Mindanao. In and about towns at low and medium altitudes; often planted, frequently established, and certainly introduced. All warm countries.

Local names: Arbaáka (Ilk.); damong-maría (Tag.); gilbas (C. Bis.); herbaáka (Bon.); kamaría (Tag.); maría (Tag.); Santa Maria (Sp.); tinisas (Tag.).

EXCLUDED SPECIES

ARTEMISIA ABSINTHIUM Linn.; F.-Vill. Novis. App. (1880) 119; Elm. Leaf. Philip. Bot. 1 (1906) 142.

46. CROSSOSTEPHIUM Lessing

CROSSOSTEPHIUM CHINENSE (Linn.) Merr. in Philip. Journ. Sci. 15 (1919) 260.

Artemisia chinensis Linn. Sp. Pl. (1753) 649, excl. syn. Gmelin; Lour. Fl. Cochinch. (1790) 492.

Artemisia judaica Lour. op. cit. 489, non Linn.

Crossostephium artemisioides Less. ex Cham. & Schlecht. in Linnaea 6 (1831) 220; DC. Prodr. 6 (1837) 127; Miq. Fl. Ind. Bat. 2 (1857) 89; F.-Vill. Novis. App. (1880) 119; Elm. Leaf. Philip. Bot. 1 (1906) 142; Merr. Fl. Manila (1912) 471.

Batan Islands (Itbayat), *Lopez*. On open slopes near the sea.

In the Philippines this is otherwise grown in flowerpots only. A native of China, where it is also widely cultivated.

Local name: Ajenjo (Sp.).

47. **ERECHTITES** Rafinesque**ERECHTITES VALERIANAEOFOLIA** (Wolf) DC. Prodr. 6 (1837) 295.*Senecio valerianaeifolius* Wolf Ind. Sem. Hort. Berol. (1825) ex Reichb. Ic. Bot. Exot. 1 (1827) 59.*Crassocephalum valerianaeifolium* Less. in Linnaea 5 (1830) 163.*Erechtites petiolata* Elm. Leaf. Philip. Bot. 1 (1906) 157, non Benth.

Luzon (Sorsogon), Catanduanes, Samar, Negros, Bucas Grande, Balut, Mindanao, *Merrill 5270, 5412, Elmer 15364, 13580, B. S. 34416 Ramos & Pascasio, 38768 Ramos & Edaño, 24422, 30251 Ramos, 24936 Fénix*. In old clearings, etc., at low and medium altitudes, often abundant. A native of tropical America, now pantropic.

Local names: Balodan (Bag.); karanġaan (Buk.); mala-ambukadkad (S. L. Bis.); tigtig (Mbo.).

48. **GYNURA** Cassini**GYNURA ACUMINATISSIMA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 121.

Luzon (Tayabas, east coast), *B. S. 26556 Ramos & Edaño*. On slopes at medium altitudes. Endemic.

Local name: Pura-pura (Neg.).

GYNURA APOENSIS Elm. Leaf. Philip. Bot. 7 (1915) 2587.

Mindanao (Bukidnon, Davao), *Elmer 11584, B. S. 26048 Fénix*. Along streams, altitude about 1,800 m. Endemic.

Local name: Tagamayig (Bag.).

GYNURA CLEMENTIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 244; Elm. Leaf. Philip. Bot. 1 (1906) 145.*Gynura agusanensis* Elm. Leaf. Philip. Bot. 7 (1915) 2585.

Mindanao (Lanao, Agusan), *Clemens 49, Elmer 13864*. In old clearings up to 1,050 m altitude. Endemic.

Local name: Manung-bayai (Mbo.).

GYNURA ELLIPTICA Yabe & Hayata in Journ. Coll. Sci. Tokyo 18^s (1904) 25, t. 2; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 442.

Batan Islands (Batan, Sabtan), *B. S. 3691 Fénix, Petrelli*. In old fields at low altitudes. Formosa.

Local name: Dudoi (Iv.).

GYNURA LATIFOLIA (Moore) Elm. Leaf. Philip. Bot. 1 (1906) 145.*Crassocephalum latifolium* Moore in Journ. Bot. 43 (1905) 138.

Mindoro, Negros, *Whitehead!, F. B. 4402 Merritt*. In thickets or forests up to 1,500 m altitude. Endemic.

GYNURA MACGREGORII Merr. in Philip. Journ. Sci. 5 (1910) Bot. 398.

Luzon (Ifugao, Bontoc, Benguet, Nueva Vizcaya), *B. S. 8876, 8381, 19678, 11460 McGregor, 31683 Santos, 4336 Mearns, Merrill 6679*. In the mossy forest, altitude 2,000 to 2,500 m. Endemic.

GYNURA PIPERI Merr. in Philip. Journ. Sci. 7 (1912) Bot. 355.

Siquijor, *Piper 384*. In thickets or open places at low and medium altitudes. Endemic.

GYNURA PROCUMBENS (Lour.) comb. nov.

Cacalia procumbens Lour. Fl. Cochinch. (1790) 485.

Cacalia sarmentosa Blume Bijdr. (1826) 907.

Gynura sarmentosa DC. Prodr. 6 (1837) 298; Miq. Fl. Ind. Bat. 2 (1857) 97; Hook. f. Fl. Brit. Ind. 3 (1881) 335, Curtis's Bot. Mag. III 48 (1892) t. 7244, 50 (1894) t. 7391; F.-Vill. Novis. App. (1880) 120; Vidal Rev. Pl. Vasc. Filip. (1886) 163, Phan. Cuming. Philip. (1885) 122; Elm. Leaf. Philip. Bot. 1 (1906) 146; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 127; Merr. Sp. Blancoanae (1918) 381.

Cacalia sarracenica Blanco Fl. Filip. (1837) 618, non Linn.

Senecio cacaliaster Blanco op. cit. ed. 2 (1845) 441, ed. 3, 3 (1879) 24, non Lam.

Gynura affinis Turcz. in Bull. Soc. Nat. Mosc. 24¹ (1851) 201; F.-Vill. Novis. App. (1880) 120.

Gynura scabra Turcz. l. c.; F.-Vill. l. c.

Gynura angulosa F.-Vill. Novis. App. (1880) 119, non DC.

Senecio mindorensis Elm. Leaf. Philip. Bot. 1 (1906) 155.

Northern Luzon (Cagayan) to Mindanao, in most islands and provinces, *Elmer* 5936, 15342, 7041, *Williams* 2147, 1429, *Merrill* 5570, 9691, 883, *Sp. Blancoanae* 950, *B. S.* 15030, 30297, 17440, 15223, 7603, 27550, 13059, 10946 *Ramos*. In thickets along streams, in old clearings, etc., at low and medium altitudes, ascending to 1,500 m. Siam and Indo-China to Malaya.

Local names: Gues (Neg.); kamañgi (Tag.); purpurikit (Ilk.); sabuñgai (Ig.).

GYNURA RUBIGINOSA (Elm.) J. R. Drummond ex Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 127.

Senecio rubiginosus Elm. Leaf. Philip. Bot. 1 (1906) 154.

Luzon (Benguet), *Elmer* 6246, *Merrill Phil. Pl.* 897. In damp thickets; altitude 1,600 to 2,000 m. Endemic.

GYNURA SUBGLABRA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 120.

Luzon (Abra, Kalinga), *B. S.* 27023 *Ramos*, 37514 *Ramos & Edaño*. In damp thickets and forests, apparently at medium altitudes. Endemic.

GYNURA VIDALIANA Elm. Leaf. Philip. Bot. 1 (1906) 144; J. R. Drummond ex Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 127; Merr. op. cit. 5 (1910) Bot. 398.

Gynura purpurascens Vidal Rev. Pl. Vasc. Filip. (1886) 164, non DC.

Luzon (Bontoc, Benguet, Zambales, Pampanga, Batangas), Palawan, *Merrill* 4593, 3937, 4844, *Elmer* 8390, *Williams* 1432, *B. S.* 5405, 4820, 5069, 22405 *Ramos*, 37766, 37833, 38120 *Ramos & Edaño*, 564, 722 *Foxworthy*, 29855 *Fénix*. Chiefly in the mossy forest, altitude 750 to 2,200 m. Endemic.

Local names: Kalitan (Ig.); lادلاداوان (Bon.); salum-salum (Tagb.); sigup-sigup (Tagb.); sugusong (Bon.).

EXCLUDED SPECIES

GYNURA CACALIOIDES Benth.; F.-Vill. Novis. App. (1880) 120.

49. **SENECIO** Tournefort

SENECIO LUZONIENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 245, 3 (1908) Bot. 127, 5 (1910) Bot. 399; Elm. Leaf. Philip. Bot. 1 (1906) 154.

Luzon (Ifugao, Bontoc, Benguet, Zambales), *Merrill 4791, 6567, Phil. Pl. 832, Williams 1917, Elmer 8397, B. S. 32045 Santos, 19848 McGregor, 5412, 5083 Ramos, 37722, 37989 Ramos & Edaño*. In ravines, thickets, and forests, altitude 1,800 to 2,600 m. Endemic.

Local name: Kaniuong (Ig.).

SENECIO SCANDENS Ham. in Don Prodr. Fl. Nepal (1825) 178; Hook. f. Fl. Brit. Ind. 3 (1881) 352; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Rev. Pl. Vasc. Filip. (1886) 164.

Cineraria repanda Lour. Fl. Cochinch. (1790) 501, non *Senecio repandus* Thunb.

Cineraria chinensis Spreng. Syst. 3 (1826) 549.

Senecio chinensis DC. Prodr. 6 (1837) 363.

Senecio confusus Elm. Leaf. Philip. Bot. 1 (1906) 153; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 399.

Luzon (Ifugao, Bontoc, Benguet), *Elmer 5871, Merrill 4662, 6589, Phil. Pl. 843, Williams 1427, B. S. 32022 Santos, 37723 Ramos & Edaño, 19788 McGregor*. In thickets, altitude 1,300 to 2,200 m. India to southern China and Formosa.

Local name: Lanot (Ilk.).

50. **EMILIA** Cassini

EMILIA JAVANICA (Burm. f.) C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 217.

Hieracium javanicum Burm. f. Fl. Ind. (1768) 174, t. 57, f. 1.

Prenanthes javanica Willd. Sp. Pl. 3 (1804) 1534.

Emilia flammea Cass. in Dict. Sci. Nat. 14 (1819) 406, t. 5; Hook. f. Fl. Brit. Ind. 3 (1881) 336; F.-Vill. Novis. App. (1880) 120; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 139; Elm. Leaf. Philip. Bot. 1 (1906) 149.

Emilia sagittata DC. Prodr. 6 (1837) 302; Miq. Fl. Ind. Bat. 2 (1857) 101.

Cacalia sagittata Vahl Symb. 3 (1794) 91.

Emilia prenanthoides C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 217, non DC.

Luzon (Ifugao, Bontoc, Benguet, Nueva Vizcaya, Zambales, Bataan), Leyte, Mindanao (Lanao, Cotabato, Misamis), *B. S. 31969 Santos, 19661, 14168 McGregor, 37703 Ramos & Edaño, F. B. 2116 Borden, 2175 Meyer, Merrill 3944, Phil. Pl. 853, Williams 1438, Elmer 6999*. In open places, chiefly at medium altitudes, ascending to 2,200 m. India to Malaya.

EMILIA PINNATIFIDA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 243, 5 (1910) Bot. 399; Elm. Leaf. Philip. Bot. 1 (1906) 150.

Luzon (Bontoc, Lepanto, Benguet), *Merrill 4664, 4265, Phil. Pl. 1749, Elmer 6606, 6599, Williams 1120, B. S. 31927 Santos*. On grassy slopes in thin pine forests, altitude 1,300 to 2,000 m. Endemic.

Local names: Añguad (Ig.); taltalang (Bon.).

EMILIA SONCHIFOLIA (Linn.) DC. Prodr. 6 (1837) 302; Blanco Fl. Filip. ed. 2 (1845) 432, ed. 3, 3 (1879) 8, t. 282; Miq. Fl. Ind. Bat. 2 (1857) 101; F.-Vill. Novis. App. (1880) 120; Vidal Phan. Cuming. Philip. (1885) 122, Rev. Pl. Vasc. Filip. (1886) 164; Elm. Leaf. Philip. Bot. 1 (1906) 148; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 139, 3 (1908) Bot. 442, Fl. Manila (1912) 467, Sp. Blancoanae (1918) 382.

Cacalia sonchifolia Linn. Sp. Pl. (1753) 835; Blanco Fl. Filip. (1837) 618.

Crassocephalum sonchifolium Less. in Linnaea 6 (1831) 252.

Emilia humifusa Elm. Leaf. Philip. Bot. 1 (1906) 148, non DC.

Emilia marivelensis Elm. op. cit. 1 (1908) 362.

Throughout the Philippines in open waste places, cultivated land, etc., in and about towns and settlements at low and medium altitudes. A pan-tropic weed of Old World origin.

Local names: Kipot-kipot (Bik.); lamlampaka (Ilk.); libun (Bik.); marsilanana (Tag.); tagulinau (Tag.); tagulinas (Tag.); yagod-no-kangkang (Iv.).

51. **CIRSIIUM** Tournefort

CIRSIIUM LUZONIENSE Merr. in Philip. Journ. Sci. 5 (1910) Bot. 399.

Cnicus wallichii Rolfe in Journ. Bot. 23 (1885) 214; Vidal Rev. Pl. Vasc. Filip. (1886) 164, non Hook. f.

Cirsium wallichii Elm. Leaf. Philip. Bot. 1 (1906) 178, non DC.

Cnicus argyracanthus F.-Vill. Novis. App. (1883) 353, non DC.

Luzon (Ifugao, Bontoc, Benguet, Laguna, Tayabas). In the Mountain Province, chiefly on open slopes, altitude 1,800 to 2,500 m; on Mt. Banahao on semiopen places at the summit. Endemic.

Local names: Pagat (Ig.); sibit (Bon.); sosuka (Ig.); tumtumbok (Ig.).

52. **CARTHAMUS** Tournefort

CARTHAMUS TINCTORIUS Linn. Sp. Pl. (1753) 830; DC. Prodr. 6 (1837) 612; Blanco Fl. Filip. ed. 2 (1845) 431, ed. 3, 3 (1879) 6; Hook. f. Fl. Brit. Ind. 3 (1881) 386; F.-Vill. Novis. App. (1880) 120; Merr. Sp. Blancoanae (1918) 382.

Carthamus dentatus Blanco Fl. Filip. (1837) 616, non Vahl.

Planted here and there for dyeing purposes, but nowhere spontaneous, Merrill 10628, Sp. Blancoanae 614.

Local names: Biri (Tag.); kasábha (Bis.); kasubhá (Tag.); kasúmba (Tag.); kachúmba (Pamp.); lago (Tag.).

53. **AINSLIAEA** de Candolle

AINSLIAEA REFLEXA Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 242, 2 (1907) Bot. 309, 5 (1910) Bot. 401; Elm. Leaf. Philip. Bot. 1 (1906) 180; Beauverd in Bull. Soc. Bot. Genève II 1 (1909) 380 incl. var. *lobbiana* Beauverd op. cit. 2 (1910) 37, f. 1.

Luzon (Abra, Bontoc, Lepanto, Benguet, Laguna, Tayabas), Mindoro, represented by numerous collections. In the mossy forest, altitude 2,000 to 2,400 m. Formosa.

Lobb's specimen on which the var. *bobbiana* Beauverd was based was unquestionably from Mt. Banahao, Luzon, not from Java.

54. **TARAXACUM** Haller

TARAXACUM OFFICINALE Weber Prim. Pl. Holst. (1780) 56.

Leontodon taraxacum Linn. Sp. Pl. (1753) 798.

Taraxacum dens-leonis Desf. Fl. Atlant. 2 (1800) 228.

Luzon (Benguet), *Merrill 11677*. Naturalized in lawns, altitude about 1,400 m. A temperate-zone weed, native of Europe. Dandelion.

55. **SONCHUS** Tournefort

SONCHUS ARVENSIS Linn. Sp. Pl. (1753) 793; DC. Prodr. 7 (1839) 187;

Hook. f. Fl. Brit. Ind. 3 (1881) 414; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 401.

Luzon (Ifugao, Bontoc, Lepanto, Benguet), *Merrill 7808, 6545, 4681, 4269, 4659, 4654, Phil. Pl. 1788, Elmer 8634, B. S. 20028 McGregor*. In waste places, along trails, old gardens, talus slopes, etc., altitude 1,200 to 2,000 m; unquestionably introduced. All warm countries.

Local name: Lamlampaka (Bon., Ilk.).

SONCHUS OLERACEUS Linn. Sp. Pl. (1753) 794; Hook. f. Fl. Brit. Ind.

3 (1881) 414; Elm. Leaf. Philip. Bot. 1 (1906) 185; Merr. Fl. Manila (1912) 479.

Luzon (Benguet, Rizal, Laguna), *B. S. 5557 Ramos, 31964 Santos, Merrill 7791, Elmer 7037, Whitford*. In waste places like the preceding species, but occasional at lower altitudes. All warm countries.

Local name: Gagatang (Ig.).

56. **LACTUCA** Tournefort

LACTUCA DENTATA (Thunb.) C. B. Rob. in Philip. Journ. Sci. 3 (1908)

Bot. 218; Merr. op. cit. 442, 5 (1910) Bot. 401; Makino in Bot. Mag. Tokyo 24 (1910) 75.

Prenanthes dentata Thunb. Fl. Jap. (1784) 301.

Lactuca luzonica Vidal Rev. Pl. Vasc. Filip. (1886) 165.

Lactuca thunbergii Maxim. in Bull. Acad. St. Pétersb. 19 (1874) 530; Elm. Leaf. Philip. Bot. 1 (1906) 183; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 309; Usteri Beitr. Ken. Philip. Veg. (1905) 120.

Ixeris thunbergii A. Gray in Mem. Am. Acad. II 6 (1859) 397.

Batan Islands, Luzon (Ilocos Norte, Apayao, Ifugao, Bontoc, Benguet, Nueva Vizcaya, Zambales, Pampanga, Laguna, Tayabas, Camarines, Albay), Mindoro, Panay, Negros, Mindanao. Chiefly along shaded streams at medium altitudes, ascending to 2,000 m. Japan to southern China and Formosa.

Local names: Babaong (Bon.); gilgiloi (Bon.); katkatang (Ig.); lampa-paka (Ilk.); sabi (Bag.).

LACTUCA INDICA Linn. Mant. 2 (1771) 278; DC. Prodr. 7 (1839) 136.

Prenanthes squarrosa Thunb. Fl. Jap. (1784) 303.

Prenanthes laciniata Houtt. Handl. 10 (1779) 381, t. 66, f. 1.

Lactuca brevirostris Champ. in Hook. Journ. Bot. Kew Miscel. 4 (1852) 237; Hook. f. Fl. Brit. Ind. 3 (1881) 405; F.-Vill. Novis. App. (1880) 120; Vidal Rev. Pl. Vasc. Filip. (1886) 165, Phan. Cuming. Philip. (1885) 122; Elm. Leaf. Philip. Bot. 1 (1906) 182.

Lactuca laciniata Makino in Bot. Mag. Tokyo 17 (1903) 88, non Roth.
Lactuca squarrosa Miq. Ann. Mus. Bot. Lugd.-Bat. 2 (1864) 189;
 Merr. in Philip. Journ. Sci. 3 (1908) 442.

Batan Islands, Luzon (Ilocos Norte, Lepanto, Bontoc, Benguet, Laguna, Tayabas), Alabat, Mindoro, Panay, *Merrill 1440, Phil. Pl. 1717, 10501, McGregor 296, B. S. 32329 McGregor, 5523, 33076 Ramos, 38100 Ramos & Edaño, 3674 Fénix*. In open waste places along trails and streams and in old clearings, chiefly at medium altitudes, sometimes at sea level, and ascending to 1,500 m. India to China, Japan, and Formosa, southward to the Malay Peninsula, Sumatra, and Java.

Local names: Batudan (Bon.); gilgiloi (Ilk.); yayod (Iv.).

LACTUCA INTEGR Merr. in Philip. Journ. Sci. 20 (1922) 475.

Luzon (Tayabas, east coast), *B. S. 26586 Ramos & Edaño*. On rocks along the seashore. Endemic.

LACTUCA SATIVA Linn. Sp. Pl. (1753) 795; Merr. Fl. Manila (1912) 478.

Lactuca scariola Linn. Sp. Pl. ed. 2 (1763) 1119; F.-Vill. Novis. App. (1880) 120; Elm. Leaf. Philip. Bot. 1 (1906) 183.

Cultivated for food, but nowhere established. Lettuce. Commonly known by its Spanish name *lechuga*.

57. CREPIS Vaillant

CREPIS JAPONICA (Linn.) Benth. Fl. Hongk. (1861) 194; Hook. f. Fl. Brit. Ind. 3 (1881) 395; Rolfe in Journ. Bot. 23 (1885) 213; Vidal Phan. Cuming. Philip. (1885) 122, Rev. Pl. Vasc. Filip. (1886) 164; Elm. Leaf. Philip. Bot. 1 (1906) 184; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 309, 3 (1908) Bot. 442, 5 (1910) Bot. 401, Fl. Manila (1912) 479.

Prenanthes japonica Linn. Mant. 1 (1767) 107.

Batan Islands, Luzon (Ilocos Norte, Bontoc, Lepanto, Benguet, Zambales, Pampanga, Rizal, Sorsogon), Mindoro, Siargao, Balut. In old clearings, ravines, etc., chiefly at medium and higher altitudes. India to Japan southward through Malaya to tropical Australia.

EXCLUDED GENERA

CICHORIUM ENDIVA Willd.; F.-Vill. Novis. App. (1880) 120.

CICHORIUM INTYBUS Linn.; F.-Vill. l. c.; Elm. Leaf. Philip. Bot. 1 (1906) 181.

COREOPSIS TINCTORIA Nutt.; F.-Vill. Novis. App. (1880) 118.

? *Coreopsis gracilis* Blanco Fl. Filip. ed. 2 (1845) 591, ed. 3, 3 (1879) 25.

Blanco's species is possibly referable to *Coreopsis tinctoria* Nutt.; it was described from cultivated specimens.

COREOPSIS ELEGANS Linn.; F.-Vill. l. c.

CRASSOCEPHALUM MANILLENSE Less. in Linnaea 6 (1831) 255, *nomen nudum*.

DAHLIA CERVANTESII Lag.; F.-Vill. Novis. App. (1880) 118.

DAHLIA COCCINEA Cav.; F.-Vill. l. c.; Elm. Leaf. Philip. Bot. 1 (1906) 173.

DAHLIA VARIABILIS Desf.; F.-Vill. l. c.

Cultivated forms of *Dahlia* are occasional in Philippine gardens, but none of the species persists for more than a year or so.

PHARETRANTHUS FERRUGINEUS Klatt. in Flora 68 (1885) 204; Hoffm. in Engl. & Prantl Nat. Pflanzenfam. 4⁵ (1899) 243.

The type, *Cuming* 2454, was from St. Helena, not from the Philippines, and is *Petrobium arboreum* R. Br., a monotypic genus confined to St. Helena.

POROPHYLLUM CACALIOIDES (Less.) DC. Prodr. 5 (1836) 650; Miq. Fl. Ind. Bat. 2 (1857) 84; Elm. Leaf. Philip. Bot. 1 (1906) 137.

Kleinia cacalioides Less. in Linnaea 6 (1831) 132.

"Ex insula Luconia unicum specimen reportavit ill. de Chamisso." Lessing l. c.

The specimen does not exist in the Berlin Herbarium, either under *Kleinia* or *Porophyllum*, where I personally searched for it in 1907, and which was again searched for in 1912 by Dr. Muschler. The species of this genus are all American. It is suspected that it does not properly belong in *Porophyllum*.

ZINNIA ELEGANS Jacq.; F.-Vill. Novis. App. (1880) 117; Elm. Leaf. Philip. Bot. 1 (1906) 159.

ZINNIA MULTIFLORA Linn.; Usteri Beitr. Ken. Philip. Veg. (1905) 119.

Zinnia occurs in the Philippines only as an occasionally cultivated ornamental.

ACHILLEA MILLEFOLIUM Linn.

Collected at Pauai, Benguet, from Mr. Haight's garden, altitude about 2,400 m; *B. S.* 31871 *Santos*.

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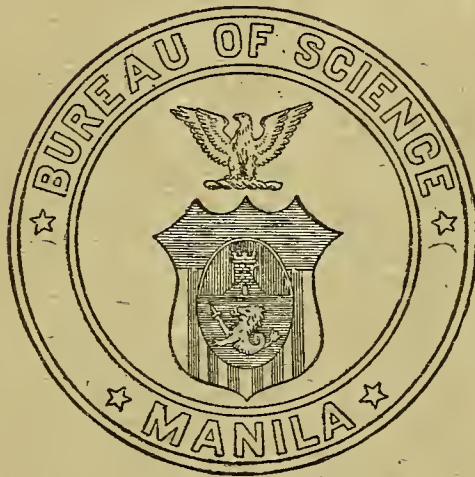
AN ENUMERATION OF PHILIPPINE FLOWERING PLANTS

BY

ELMER D. MERRILL

DIRECTOR AND BOTANIST, BUREAU OF SCIENCE

VOLUME 3, FASCICLE 1



MANILA
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1923

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EXPLANATORY NOTE

The present enumeration is an attempt to summarize in convenient form for consultation our present knowledge of Philippine flowering plants, and represents a part of the knowledge accumulated by the author during a course of about twenty years' study of the problem. In the work an attempt has been made to account for all binomials accredited to the Philippine flora; to adjust the synonymy when necessary; to include all important references to the Philippine botanical literature and essential references to extra-Philippine literature; to give the habitat, altitudinal range, and Philippine and extra-Philippine distribution of each species; to cite illustrative specimens where expedient or necessary; and to record all available local names for each species.

It is proposed to issue the present work in fascicles, utilizing one volume for the gymnosperms and the monocotyledons and two volumes for the dicotyledons. It is planned to publish full introductory and explanatory matter in a general introduction to be prefixed to Volume 1 when the entire enumeration is completed.

ELMER D. MERRILL.

MANILA, P. I., *August 25, 1921.*

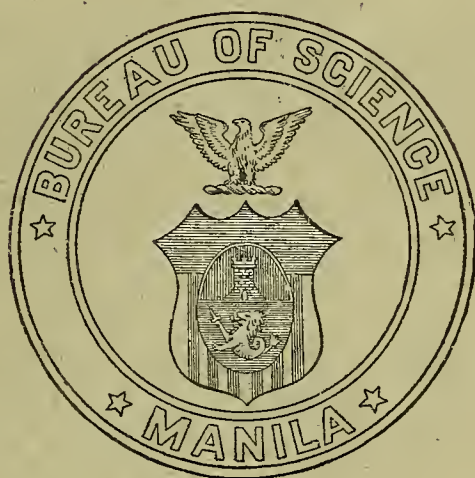
AN ENUMERATION OF PHILIPPINE FLOWERING PLANTS

BY

ELMER D. MERRILL

DIRECTOR AND BOTANIST, BUREAU OF SCIENCE

VOLUME 3, FASCICLE 2



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ELMER D. MERRILL.

MANILA, P. I., *August 25, 1921.*

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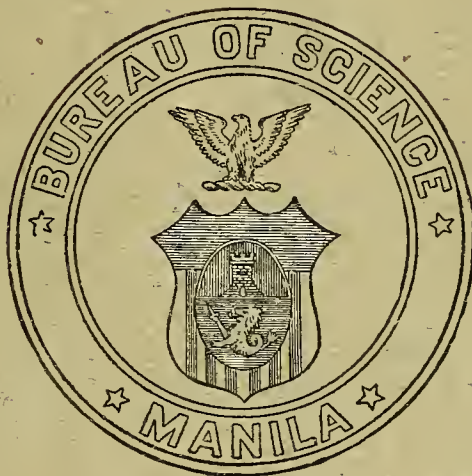
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VOLUME 3, FASCICLE 3



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1923

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VOLUME 3, FASCICLE 3

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The present enumeration is an attempt to summarize in convenient form for consultation our present knowledge of Philippine flowering plants, and represents a part of the knowledge accumulated by the author during a course of about twenty years' study of the problem. In the work an attempt has been made to account for all binomials accredited to the Philippine flora; to adjust the synonymy when necessary; to include all important references to the Philippine botanical literature and essential references to extra-Philippine literature; to give the habitat, altitudinal range, and Philippine and extra-Philippine distribution of each species; to cite illustrative specimens where expedient or necessary; and to record all available local names for each species.

It is proposed to issue the present work in fascicles, utilizing one volume for the gymnosperms and the monocotyledons and two volumes for the dicotyledons. It is planned to publish full introductory and explanatory matter in a general introduction to be prefixed to Volume 1 when the entire enumeration is completed.

ELMER D. MERRILL.

MANILA, P. I., *August 25, 1921.*

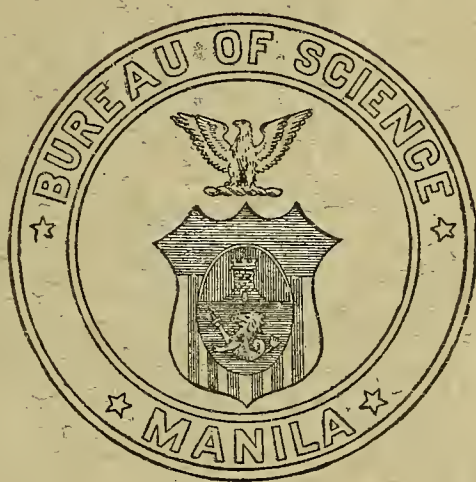
AN ENUMERATION OF PHILIPPINE FLOWERING PLANTS

BY

ELMER D. MERRILL

DIRECTOR AND BOTANIST, BUREAU OF SCIENCE

VOLUME 3, FASCICLE 4



MANILA
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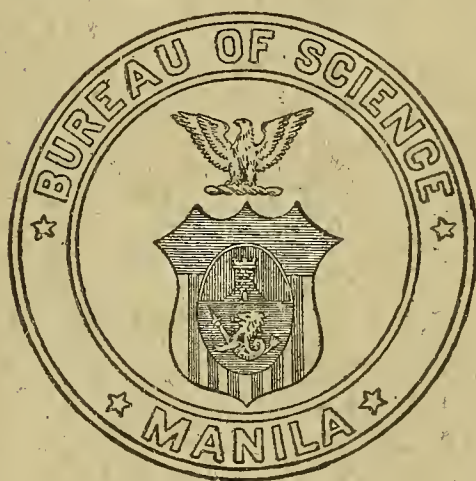
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