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BOTANICAL SERIES. VOL. II, NO. 3.

PRÆNUNCIÆ BAHAMENSES–I.

CONTRIBUTIONS TO A FLORA OF THE BAHAMIAN ARCHIPELAGO.

BY

CHARLES FREDERICK MILLSPAUGH, M.D.

Curator Department of Botany.

CHICAGO, U. S. A.

February, 1906.

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48	Vol. I No. 6	Pl. Ins. Ananas.	Sept. 7, 1900.
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Volume I Is closed and indexed.

Volume II Is still open. Reserved for papers on Antillean Botany.

Volume III Is still open. It is reserved for the sequence of fascicles of Plantae Yucatanae until that Flora is completed.

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CHARLES F. MILLSPAUGH, M.D.

During field and herbarium studies of the flora of the Greater Antillean Islands, conducted by Dr. N. L. Britton, Director of the New York Botanical Garden, and the Author, each came to the conclusion that a thorough investigation of the Bahamian Archipelago would throw much desired light upon many problems of plant distribution and mutation, and offer a probable solution of the question of the age of these interesting islands.

A joint investigation of such collections as had been previously made on the archipelago proved them to be in many cases meagre in material, scrappy in character, or from islands too widely separated to afford even a partial solution of the problems presented. They therefore decided to solicit the consent of those botanists representing the Government of Great Britain, to which these islands belong, and the support of the institutions they themselves represent, in view of organizing a thorough exploration of the islands included in the archipelago. This being in both instances unhesitatingly given, three expeditions were equipped for immediate field work and others planned, to cover within the next two years, all the islands included.

Up to the present writing, the survey thus organized has covered the following groups:—Great Bahama, the Abacos, the Isaacs, the Berry Islands, the Bimini Islands, the New Providence area, the Exuma Chain, the Inaguas and Grand Turk. In these, a large amount of information and material has been accumulated by Dr. and Mrs. Britton, Mr. Nash, Mr. Brace, and the Author. In accomplishing this, not only have the usual lines of communication been utilized, but special vessels have been equipped and commissioned.

The following material (over 7,000 sheets), resulting from this survey, or secured by exchange, gift, loan, or purchase, is deposited in duplicate in both institutions, where it is being studied by the co-workers, who are also taking occasion at various intervals to consult the collections of Catesby, Eggers, Hjalmarsson, Brace, Daniell, Herrick, Allen, Barbour & Bryant, and others, deposited in European and American herbaria. In addition, a complete series of the orchids, cacti, tillandsias, and other difficult groups is being collected alive and studied in the conservatories of the Garden.

COLLECTORS.

Brace — Mr. Louis J. K. Brace began his collections in the Bahamas in 1875. He worked principally on New Providence until 1880, but also secured material on Fortune Island or Long Cay, and Andros. His work resulted in about 525 numbers, which were sent to Kew Gardens. A duplicate set is still in his possession. He began field work under the present survey in September, 1904 (see Britton & Brace), and later in the same year was commissioned by the Garden to make an exploration of the Abaco Islands, where he collected as follows: Green Turtle Cay (1475-1515), Allen's Cay (1526-54), Spanish Cay (1555-62), Man-o'-War Cay (1563-89), Pigeon Cay (1662-73), Elbow Cay (1688-1712), and on the island of Abaco at Butler Bay (1516-25), Marsh Harbor (1590-1661, 1713-53, 1787-1846), Great Cistern (1674-87, 1754-86), Cherokee Sound (1847-9, 1898-1980, 1999, 2080-84, 2086), Eight Mile Bay (1850-97), opposite Cherokee Settlement (1981-98, 2064-79), Old Kerr's Point (2000-2036), and California road (2037-63), a total of 611 numbers. Following this expedition he continued work on New Providence in localities from which, from time to time, it became necessary to have more material of previously secured species.

In June, 1905, a commission was given him by both the Garden and this Museum to continue, on Great Bahama, the work already undertaken there. (See Britton & Millspaugh.) On this exploration he collected at Eight Mile Rocks (3633-5, 3671-3738), Deadman's Reef (3631-2), and the western extremity of the island (3484-3630, 3636-57). He also collected Garden Cay (3658-70), and visited (during his sailings to and from Great Bahama) North Bimini (3461-75, 3479-83), South Bimini (3476-8), North Cat Cay (3739-54), and Andros Island (3755-6), and after returning to New Providence collected Nos. 3893-3918.

Britton — Dr. N. L. Britton collected on New Providence in April, 1904, in the neighborhood of Nassau, South Side Beach, Blue Hills, Far-

ringdon Road, West Bay Street Road, Cunningham Road, Lake Cunningham, and Old Fort. In this preliminary investigation, in company with the Author (see Millsp.), he collected 158 numbers, (1-158). An account of the field work is published in the Journal of the New York Botanical Garden 5: 129-136.

See also Britton & Brace, and Britton & Millspaugh.

B. & Br. — Britton & Brace — Dr. N. L. Britton, Mrs. E. G. Britton, and Mr. Louis J. K. Brace collected together on New Providence (Nos. 159-328, 361-872), and Hog Island (329-360), in September and October, 1904. They ranged New Providence with great thoroughness, penetrating to the coast region north, east, south, and west, and to the coppices, pine barrens, and openings in the neighborhood of Nassau, Fort Montague, Farringdon Road, Swingate, Maidenhead, Tea House, Race Course, Delaport, Fox Hills, Village Road, Mt. Vernon, Rifle Range, Harold Road, Carmichael, Adelaide, Southwest Landing, Miller's, Blue Hills, Soldiers Road, Lake Cunningham, Winton, Old Fort, Waterloo, Clifton, Mt. Pleasant, Fort Charlotte, Gambier, Killarney, Bonefish Pond, and Seven Hills. The commoner things were not taken, the attempt being made to secure only such species as were previously unfamiliar or those which had only been gathered when out of character. This survey resulted in 714 particularly interesting plants embracing the series of numbers indicated above.

An account of this expedition is published in the Journal of the New York Botanical Garden 5: 201-209.

B. & M. — Britton & Millspaugh — Drs. N. L. Britton and C. F. Millspaugh, accompanied by Mr. M. A. Howe, began an exploration of the Berry Islands, Great Bahama, and the Exuma Chain, in January, 1905. A schooner was chartered and equipped at Nassau, where, after a day's delay on account of heavy weather (during which collecting was done in the scrublands and coppices south of Nassau (2085-2110), the expedition began at Rose Island (2111-2166), and Hog Island (2167-2176). The first island of the Berry Group visited was Whale Cay (2177-2201), followed by Frozen Cay (2202-2224), Little Harbor Cay (2225-2254), Great Sturrup Cay (2255-2285), Goat Cay (2286-2301), Lignum Vitæ Cay (2302-2332), and Great Harbor Cay (2333-2354). The exploration began on Great Bahama Island at Eight Mile Rocks (2355-2596), and was continued at Barnett's Point (2597-2716), and Golden Grove (2717-2741). Returning to Nassau, a fresh start was made to the Exuma Chain, of which the following islands were diligently searched: Ship Channel

Cay (2742-2767), Cay north of Wide Opening (2768-2804), Cave Cay (2805-2836), Little Galiot (2837-2850), Great Galiot (2851-2860), Great Guana (2861-2922), Great Exuma (2923-3051, 3073-3141), and Stocking Island (3052-3072).

On Great Exuma the regions worked were the scrub lands and coppices lying west of Georgetown; Hayne's Road from the east to the west shores across the island; and the Rolletown scrub lands and coppices. The total series of this exploration is 1057 sheets.

An account of this expedition may be found in the Journal of the New York Botanical Garden 6: 77-85.

Coker — Dr. William C. Coker, botanist of the Bahamian expedition of the Geographical Society of Baltimore, assisted by Messrs. C. A. Shore and F. M. Hanes, collected in the summer of 1903 on the following islands: New Providence (1-193, 247-305, 551), Andros Island and Little and Great Mangrove Cays (194-234), Green Cay (235-246), George's Island (306-317), Eleuthera (318-421), Cat Island (422-437), Rum Cay (438-457), Watlings Island (458-491, 521, 528), Long Island (492-520, 524), Water Cay (523, 525), Abaco (558-568, 575-6), and Elbow Cay (569-574). This collection was deposited in the herbarium of the New York Botanical Garden, and forms the basis of his "Vegetation of the Bahama Islands," in Shattuck's "The Bahama Islands." Owing to the insufficiency of the material secured many phanerogams therein published are based upon provisional determination only. The cryptogams exist under a separate series of numbers.

Cooper — Dr. William Cooper paid a visit to New Providence in 1859 for the purpose of making dredgings for zoölogical material. While there he collected in the neighborhood of Nassau about 100 plants for his friend, Dr. John Torrey. The prime set of these plants is now in the herbarium of the New York Botanical Garden. See Bull. Torrey Club 17:190.

Curtiss — Mr. A. H. Curtiss collected his first series of "West Indian Plants" in April, 1903, in the neighborhood of Nassau, New Providence. This series comprises numbers 1-211, of which the prime set, with the unnumbered unicates, is deposited in the herbarium of the New York Botanical Garden, and the first distributed set in the herbarium of this Museum.

Earle — Prof. F. S. Earle collected during one day only, on New Providence (Nos. 1-79), while on his way to Cuba, in March, 1903. His plants, largely from the vicinity of Nassau, are in the herbarium of the Garden.

E. G. B. — Mrs. N. L. Britton, often accompanied by Mr. Brace, visited, in April and May, 1905, all those stations on New Providence previously collected by Britton & Brace, at which it had become desirable to secure additional material of interesting plants or characters missing on previous notable species. In addition to achieving marked success in this undertaking, she secured many other plants of particular interest. Her survey resulted in 310 sheets (Nos. 3141-3460), and is mentioned in the Journal of the New York Botanical Garden 5:129-136. See also Britton & Brace.

Hitchcock — Dr. J. T. Rothrock and Prof. Albert S. Hitchcock collected in the Bahamas in November and December, 1890. The collections were largely made by Prof. Hitchcock on New Providence, Eleuthera, Cat, Watlings, Crooked, Fortune, and Inagua, and form the basis of his "Plants collected in the Bahamas," etc. The material collected was deposited in the herbarium of the Missouri Botanical Garden, from which, through the kindness of the director, Dr. William Trelease, the author has been allowed to reassemble the sheets. The collection, embracing about 600 sheets, is at this writing a loan to the Field Columbian Museum.

Howe — Dr. Marshall A. Howe, algologist of the New York Botanical Garden, has collected extensively the sea vegetation of the Bahamas, accompanying Dr. Britton and the author on their first trip, and later, Britton & Millspaugh. He also accompanied the author upon the Bimini explorations. See Journal New York Botanical Garden 5:129-136 and 6:77-85.

Millsp. — C. F. Millspaugh—the author began his collections among the islands on New Providence, in April, 1904, in company with Dr. Britton (see Britton), visiting substantially the same stations, where, as his collecting was to extend to other islands, each kept his individual series of numerals. He collected at the following localities: Blue Hills (2048-2100), South Shore (2101-2151 and 2262-2277), West Bay Street road (2152-2178), pine barrens and hammock lands along Lake Cunningham road (2179-2217), region of Lake Cunningham (2218-2244), Farringdon Road (2245-7), Swingate (2248-51), Old Fort (2252-4), and Waterloo (2255-61). Then hiring and commissioning a sloop, he sailed in company with Dr. M. A. Howe (see Howe) for an investigation of the Bimini Islands, collecting at the following stations: West End Bight, New Providence (2278-2293), Joulter's Cays (2294-2304), Gun Cay (2305-2328), North Cat Cay (2329-2347, 2415), South Bimini (2348-2368, 2379-85, 2387-98,

2406-2414), North Bimini (2369-78, 2386, 2399-2405), South Cat Cay, (2416-2441).* Again in January, 1905, he collected in the following localities while awaiting the arrival of Dr. Britton (see Britton & Millspaugh): Blue Hills road (2442-4, 2461-81), Silver Cay (2445-2460), and South Side, Soldiers Road, Fort Montague and Fort Fincastle (2482-2502). Following immediately upon this, see Britton & Millspaugh.

N. & T. — Nash & Taylor—Messrs. Geo. V. Nash and Norman Taylor, of the New York Botanical Garden, were commissioned by the Garden, in October, 1904, to investigate the Inaguas. They made an exhaustive survey of the islands, collecting on Inagua 482 numbers (874-1138 and 1258-1474), on Sheep Cay 23 numbers (1139-1161), and on Little Inagua 96 numbers (1162-1257). In September, 1905, on their return from an exploration in Haiti, they spent a week on Grand Turk Island, collecting all such plants as were noted by them at that season, 136 numbers (3757-3892.) Accounts of these expeditions may be found in the Journal of the New York Botanical Garden 6:1-19 and 189-191.

Northrop — Mrs. Alice (Rich) Northrop, accompanied by her husband, Prof. John I. Northrop, made, in 1890, a large collection of the plants of New Providence (Nos. 1-239, 280-331), Rose Island (251), Salt Cay (240-244, 271-279), Hog Island (245-8, 252-70), and Andros (332-758). These plants formed the basis of Mrs. Northrop's "Flora of New Providence and Andros." They are now deposited in equal sets in the herbaria of this Museum and the Garden.

Wight — Mr. Alex. E. Wight, under the patronage of the Gray Herbarium, of Cambridge, Mass., made a Bahamian collection of 275 numbers from March to May, 1905. He collected on New Providence and Hog Island (Nos. 1 226 and 271-275), and on Andros (227-270). The resulting plants are being determined at the Gray Herbarium, where the initial set will be retained and the duplicate sets distributed to this Museum, the New York Botanical Garden, and others. Prof. B. L. Robinson has kindly communicated, in advance, to the author all those numbers falling within the natural orders treated in this Prænuncia.

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*An account of this expedition may be found in the Journal of the New York Botanical Garden 5:129-136.

Islands Represented in the Collections.

Abaco — *Brace, Coker.*
Allen's Cay (Abaco) — *Brace.*
Andros — *Brace, Coker, Northrop, Wight.*
Bimini, North — *Brace, Howe, Millspaugh.*
Bimini, South — *Brace, Howe, Millspaugh.*
Cat Cay, North (Biminis) — *Brace, Howe, Millspaugh.*
Cat Cay, South (Biminis) — *Howe, Millspaugh.*
Cat Island — *Hitchcock.*
Cave Cay (Exuma Chain) — *Britton & Millspaugh, Howe.*
Crooked Island — *Hitchcock.*
Eleuthera — *Coker, Hitchcock.*
Elbow Cay (Abaco) — *Brace, Coker.*
Exuma — *Britton & Millspaugh, Howe.*
Fortune Island — *Brace, Hitchcock.*
Frozen Cay (Berry Is.) — *Britton & Millspaugh, Howe.*
Galiot Cay, Great (Exuma Chain) — *Britton & Millspaugh, Howe.*
Galiot Cay, Little (Exuma Chain) — *Britton & Millspaugh, Howe.*
Garden Cay (Gt. Bahama) — *Brace.*
George's Isl. (Eleuthera) — *Coker.*
Goat Cay (Berry Is.) — *Britton & Millspaugh.*
Great Bahama Island — *Brace, Britton & Millspaugh, Howe..*
Green Cay — *Coker.*
Green Turtle Cay (Abaco) — *Brace.*
Guana, Great (Exuma Chain) — *Britton & Millspaugh, Howe.*
Gun Cay (Biminis) — *Howe, Millspaugh.*
Harbor Cay, Great (Berry Isl.) — *Britton & Millspaugh, Howe.*
Harbor Cay, Little (Berry Isl.) — *Britton & Millspaugh, Howe.*
Hog Island (N. Providence) — *Brace, Britton, N. L., Britton, E. G., Britton & Brace, Britton & Millspaugh, Northrop, Wight.*
Inagua — *Hitchcock, Nash & Taylor.*
Inagua, Little — *Nash & Taylor.*
Isaac, Great — *Brace.*
Joulter's Cays (Andros) — *Howe, Millspaugh.*
Lignum Vitæ Cay (Berry Is.) — *Britton & Millspaugh, Howe.*
Long Cay see Fortune Island.
Long Island — *Coker.*
Mangrove Cay, Little (Andros) — *Coker.*
Mangrove Cay (Andros) — *Coker.*

Man o'War Cay (Abaco) — *Brace.*
New Providence — *Brace, Britton, N. L., Britton, E. G., Britton & Brace, Britton & Millspaugh, Coker, Cooper, Curtiss, Earle, Hitchcock, Howe, Millspaugh, Northrop, Wight.*
No Harbor Cay (Rose Isl.) — *Britton & Millspaugh.*
Pigeon Cay (Abaco) — *Brace.*
Rose Island (N. Providence) — *Britton & Millspaugh, Howe, Northrop.*
Rum Cay — *Coker.*
Salt Cay (N. Providence) — *Northrop.*
Sheep Cay (Inagua) — *Nash & Taylor.*
Ship Channel Cay (Exuma Chain) — *Britton & Millspaugh, Howe.*
Silver Cay (N. Providence) — *Howe, Millspaugh.*
Spanish Cay (Abaco) — *Brace.*
Stocking Island (Exuma Chain) — *Britton & Millspaugh, Howe.*
Sturrup Cay, Great (Berry Isl.) — *Britton & Millspaugh, Howe.*
Turk Island, Grand — *Nash & Taylor.*
Water Cay (Cay Sal Bank) — *Coker.*
Watlings Island — *Coker, Hitchcock.*
Whale Cay (Berry Islands) — *Britton & Millspaugh, Howe.*
Wide Opening, Cay N. of (Exuma Chain) — *Britton & Millspaugh, Howe.*

Critical investigation of the above collections has so far resulted in the following publications:

"A New Waltheria from the Bahamas" N. L. Britton in Torreya 3: 105 (July 25, 1903).
"Notes on Bahaman Algæ" Marshall A. Howe in Bull. Torr. Club, 31: 93-100 (Feb. 11, 1904).
"Savia Bahamensis" N. L. Britton in Torreya 4: 104 (Nov. 21, 1904).
"A new Bahaman Euphorbia" C. F. Millspaugh in Torreya 4: 172 (Nov. 21, 1904).
"Notes on the Flora of the Bahamas" N. L. Britton before the Torry Botanical Club. Digest in Torreya 4: 190 (Dec. 30, 1904).
"On Pisonia obtusata and its Allies" N. L. Britton in Bull. Torr. Club 31: 611-615 (Jan. 9, 1905).
"Contributions to the Flora of the Bahama Islands - I" N. L. Britton in Bull. New York Bot. Gard., 3: 441-453 (Feb. 7, 1905).
"The Polyporaceæ of North America - X." W. A. Murrill in Bull. Torr. Club 32: 91. Agaricus deplanatus (Fr.) Murr. (March 22, 1905).

"Phycological Studies - I" Marshall A. Howe in Bull. Torr. Club 32: 241-252 (May 6, 1905).

"Contributions to the Flora of the Bahama Islands - II" N. L. Britton in Bull. New York Bot. Gard. 4: 115-127 (Aug. 24, 1905).

"Phycological Studies - II" Marshall A. Howe in Bull. Torr. Club 31:563-586 (Dec. 6, 1905).

AMARANTHACEÆ, EUPHORBIACEÆ, RUBIACEÆ, VERBENACEÆ, AND SOLANUM DIDYMACANTHUM.

AMARANTHACEÆ.

Amaranthus crassipes Schlecht.

Waste grounds infrequent:

New Providence — Fort Charlotte, *B. & Br. 778.*

Amaranthus emarginatus Salzm.

In cultivated grounds:

New Providence — Nassau, *B. & Br. 794.*

Not before known from the Bahamas. There appears to be no doubt as to the validity of this species. It comes up from Brazil through Guadeloupe (Duss 4067) to the Bahamas.

Amaranthus hybridus Linn.

Waste grounds about dwellings:

Fortune Island — *Hitchcock* (*A paniculatus*).

Amaranthus polygonoides Linn.

Sandy waste places:

Eleuthera — Governor's Harbor, *Hitchcock.*

Inagua — *N. & T. 1079.*

Amaranthus spinosus Linn.

Waste grounds:

New Providence — Nassau, *Hitchcock; Brace 204.*

Amaranthus tristis Linn.

Waste grounds near habitations:

Abaco — Cherokee Sound, *Brace 1922.*

New Providence — Grants Town, *B. & Br. 792*; Soldiers Road, *Coker 264.*

Great Guana Cay — *B. & M. 2910.*

Not before known from the Bahamas.

Amaranthus viridis Linn.

Waste grounds near dwellings:

Great Bahama — Eight Mile Rocks Settlement, *B. & M. 2429.*

New Providence — Nassau, *B. & Br. 785; Brace 9, 206; Curtiss sine num.*

Not before known from the Bahamas.

Achyranthes indica (L.) Mill.

A. aspera obtusifolia (Lam) Griseb. A weed in waste places and cultivated soils:

Abaco — Cherokee Sound, *Brace 1921.*

New Providence — Nassau, *Earle 23; B. & M. 2086; Hitchcock.*

Exuma — Georgetown, *B. & M. 2991.*

Alternanthera maritima St. Hil.

In maritime sands on the upper beach line, often within wash of the waves:

Great Bahama — Barnett's Point, *B. & M. 2620;* near Dead Man's Reef, *Brace 3632.*

Frozen Cay — *B. & M. 2205.*

South Bimini — *Millsp. 2353, 2410.*

New Providence — Southwest Bay, *B. & Br. 478.*

Alternanthera paronychioides St. Hil.

In sand, especially where trodden down:

Abaco — Cherokee Sound, *Brace 1925.*

Great Bahama — Eight Mile Rocks, *B. & M. 2367, 2412, 2419;* Road to Dead Man's Reef, *Brace 3623.*

New Providence — near Nassau, *Hitchcock (A repens); Northrop 197; B. & Br. 263; Curtiss 161; Wight 121.*

St. George's Cay — *Coker 313.*

Inagua — *N. & T. 979.*

Lithophila muscoides Sw.

Usually in trodden sands of roadside paths:

Great Bahama — Eight Mile Rocks, *B. & M. 2573.*

New Providence — interior of Old Fort, *Millsp. 2253;* Nassau, *Curtiss 69; Northrop 150.*

Inagua — *Hitchcock (Alternanthera muscoides); N. & T. 892.*

Grand Turk Island — *N. & T. 3786.*

Lithophila vermicularis (L.) Uline.

On maritime rocks and beach dunes:

Abaco — Butler Bay, *Brace 1514.*

Great Bahama — Barnett's Point, *B. & M.*

Great Sturrup Cay — *B. & M.*
Frozen Cay — *B. & M.*
South Bimini — *Millsp. 2409.*
Little Mangrove Cay — *Coker 201.*
Rose Island — *B. & M.*
New Providence — Southwest Bay, *B. & Br. 459;* Swingate, *Millsp. 2251;* Nassau neighborhood, *Coker 37; Cooper sine num.; Northrop 147; Wight 10.*
Eleuthera — Governor's Harbor, *Hitchcock* (*Philoxerus vermicularis*).
Exuma — rocks of West Beach, *B. & M.*
Watlings Island — *Coker 476.*

Iresine keyensis sp. nov.

Caule lignoso erecto ramoso glabro, foliis petiolatis anguste lanceolatis vel oblongo-lanceolatis rotundo-obtusis submucronatis basi ad petiolam utrubique decurrentibus, margine integris subrevolutis pagina utrinque minute pustulosis, paniculis elongatis tenuiter ramosis laxis subaphyllis, rachi glabris, floribus albis paleaceis, calyce bracteas laterales medio superante, sepalis obtusiusculis enerviis glabris. Semen obeso-lenticularis.

Plants strictly erect 4.5–6.0 dm. Leaves 4 cm. x 6 mm., 9 x 1.5 cm. to 6 x 2 cm. petiole about one-quarter the length of the blade, panicles 1 – 2 dm. the ultimate branchlets often up to 4 cm. long, very delicate, almost capillary. Seeds dark-red, smooth and polished .5 x .5 mm.

On maritime rocks:

Great Bahama — Eight Mile Rocks, *B. & M. 2485.*
Great Sturrup Cay — *B. & M.*
Little Harbor Cay — *B. & M.*
Lignum Vitae Cay — where it forms a strong character plant, *B. & M.*
Goat Cay — *B. & M. 2289.*
Frozen Cay — *B. & M.*
Whale Cay — *B. & M. 2179* **type.**
South Bimini — *Millsp. 2390.*
South Cat Cay — *Millsp. 2437.*
Andros — Calabash Cay, Stafford Creek, *Northrop 362a* (*I. paniculata*). Here called "NEWBURN WEED."
Mangrove Cay — *Bryant 11.*
Silver Cay — *Millsp. 2450.*
New Providence — Southwest Bay, *B. & Br. 480;* neighborhood of Nassau, *Brace 424; Hitchcock* (*I. celosioides*)
Eleuthera — Governor's Harbor, *Hitchcock* (*I. celosioides*).
Great Galiot Cay — *B. & M. 2854.*
Cave Cay — *B. & M. 2820.*

Exuma — West Beach, *B. & M.*
Cat Cay — Port Howe, *Hitchcock* (*I. celosioides*).
Watlings Island — *Hitchcock* (*I. celosioides*).

Iresine inaguensis sp. nov.

Caule ad basin lignoso erecto ramosissimo glabro. Foliis sessilis oppositis vel opposito - fasciculatis, glabris, anguste linearis obtusis margine integris; paniculis elongatis, terminalis densus et tenuiter ramosissimis subaphyllis, ramis densis, spiculis oppositis vel alternis, sessilibus, tenuis, rachi glabris, floribus sessilis paleaceis, calyce bracteas laterales paulo superante, sepalis acutiusculis deltoideis in sicco carinatis; utriculus glaber, semen reniforme, obesum, nitidum, fusco - nigrum.

Plants erect 6 – 9 dm. compactly myriad branched, branches tenuous, internodes 5 – 8 cm. long, leaves 3 – 6 cm. long, 1 mm. wide or slightly larger. Seeds .6 x .5 mm.

Sheep Cay — Inagua, Oct. 18, 1904, *Nash & Taylor 1139* **type.**
Inagua — Salt Pond Hill, *N. & T. 929.* This with almost capilliform leaves.

EUPHORBIACEÆ

Savia bahamensis Britton.

Rocky places in coppices and pine barrens :
Abaco — Marsh Harbor, *Brace 1644, 1723, 1609, 1638*, and Cherokee Sound, *Brace 1965, 1970.*
Great Bahama — Eight Mile Rocks, *B. & M. 2407;* West End, *Brace 3504, 3501, 3640.*
Andros — Fresh Creek, *Northrop 610* (*S. erythroxyloides*), where it is known as "MAIDEN BUSH."
New Providence — *Brace 345, 3906; B. & Br. 670; Coker 157, 160;* Coppice on West Bay Street Road, *Britton 84* **type;** and *Millsp. 2163* from the same bush.
Hog Island — *B. & Br. 438.*
Wide Opening, Cay north of — *B. & M. 2772.*
Exuma — near Georgetown, *B. & M. 2959.*
Inagua — *N. & T. 1439.*

Securinega acidothamnus (Griseb.) Muell.

In maritime coppices and scrub lands :
New Providence — at Southwest Landing, *B. & Br. 475; E. G. B. 3332.*
Mangrove Cay — *Coker 225.*
Exuma — near Georgetown. *B. & M. 2958.*

(PHYLLANTHUS ANGUSTIFOLIUS Gard. & Br.

This species of Swartz, reported by Gardner & Brace in Proc. Acad. Nat. Sci. Phila. 1889: 405, has not been collected by Mr. Brace, nor seen as yet from the islands.)

Phyllanthus bahamensis Urb.

In coppices:

Abaco — California Road, *Brace 2037*.

Andros — at Red Bays, *Northrop 488*.

New Providence — near Nassau, *Curtiss 183*; Waterloo, *B. & Br. 741*; *E. G. B. 3435*; Farringdon Road, *E. G. B. 3403*.

Eleuthera — *Coker 328*.

Phyllanthus distichus L.

Escaped from cultivation:

Andros — Fresh Creek, *Northrop 653*, where it is known as "GOOSEBERRY TREE."

Phyllanthus epiphyllanthus L.

(*P. falcatus Sw.*) In various situations throughout the islands from Andros southward:

Andros — Morgan's Bluff, where it is known as "HARDHEAD," *Northrop 146a*.

North Bimini — *Millsp. 2375*.

South Bimini — *Millsp. 2411*.

South Cat Cay — *Millsp. 2426*.

Silver Cay — *Millsp. 2453*.

New Providence — *B. & Br. 223, 520; Britton 14, 57; Coker 31; Northrop 325; Cooper 48; Earle 57; Curtiss 4; Brace 58, 230; Hitchcock; Millsp. 2068, 2081, 2132; Wight 18*.

Eleuthera — Governor's Harbor and Palmetto Sound, *Hitchcock*.

Cave Cay — *B. & M.*

Little Galiot Cay — *B. & M. 2837*.

Great Guana Cay — *B. & M. 2866, 2919*.

Exuma — *B. & M. 3034, 3080*.

Cat Island — *Hitchcock*.

Fortune Island — *Hitchcock*.

Water Cay — *Coker 524*.

Watlings Island — *Hitchcock*.

Inagua — *N. & T. 875; Hitchcock*.

Grand Turk Island — *N. & T. 3766*.

Varies from very long, slender leaves, through broader forms to short, broad, nearly ovate phyllodes.

Phyllanthus niruri L.

Open sandy places general:

Abaco — Cherokee Sound, *Brace 2083*.

Little Harbor Cay — *B. & M. 2252*.

Great Harbor Cay — *B. & M. 2338.*
Andros — Nichols Town, *Northrop 338; Wight 265.*
North Bimini — *Millsp. 2400.*
New Providence — *E. G. B. 3296* known as "GALE OF WIND"; *B. & Br. 736; Curtiss 68; Brace 260; Wight 93.*
Mangrove Cay — *Coker 227.*
Great Guana Cay — *B. & M.*
Exuma — *B. & M.*
Fortune Island — *Hitchcock.*
Inagua — *N. & T. 1376; Hitchcock.*
Grand Turk Island — *N. & T. 3866.*

Phyllanthus radicans (Muell Arg.) Small.

In pine barrens:
Great Bahama — Eight Mile Rocks, *B. & M. 2381.*

Phyllanthus saxicola Small.

On coral rock or sands in open places. The **type** is from South Florida between Coconut Grove and Cutler, Small & Carter 775 in herb. N. Y. Bot. Garden.
Great Bahama — Eight Mile Rocks and Barnett's Point, *B. & M. 2489, 2623* (simple stemmed).
Great Sturrup Cay — *B. & M. 2273* (simple stemmed).
Little Harbor Cay — *B. & M. 2250.*
Great Harbor Cay — *B. & M. 2333.*
New Providence — at Tea House, *E. G. B. 3447;* near Nassau, *Curtiss 79.*
Great Guana Cay — *B. & M. 2861.*

Drypetes sp.

Specimen in leaf only:
Exuma — in a rocky coppice near Georgetown, *B. & M. 2984.* Apparently quite a different species from the following two. Leaves ovate narrowing to a prolonged sharp point, reticulate on both surfaces, upper surface dark, shining, lower surface pale, smooth. 4 – 6 x 2 – 1.5 cm., petioles about .5 cm.

Drypetes diversifolia Kr. & Urb.

D. keyensis Kr. & Urb. See remarks upon this species by Dr. Britton in Bull. N. Y. Bot. Gard. 3: 444, since which the following new localities have been determined:
Great Bahama — West End, *Brace 3618.*
Lignum Vitae Cay — *B. & M. 2319.*
Little Harbor Cay — *B. & M.*, where it is known as "WHITE WOOD."
Whale Cay — *B. & M.*

New Providence — at Winton, *E. G. B. 3290.*
Wide Opening, Cay north of — *B. & M. 2769.*
Little Galiot Cay — *B. & M.*
Stocking Island — *B. & M. 3060.*
Exuma — *B. & M.*

Drypetes lateriflora (Sw.) Kr. & Urb.

Maritime sandy coppices:
Elbow Cay — *Brace 1688.*
Great Harbor Cay — *B. & M. 2350.*
New Providence — coppice on the north side of Blue Hills, *E. G. B. 3452.*, the Race Course *3421*, and at Winton *3293; Eggers 4331.*

Croton cascarilla (L). Linn.

This species, first depicted by Catesby vol. 2 plate 46, has only been collected once since, then on New Providence by Mr. W. F. Daniell, whose specimen, as seen by Dr. Britton, proves Catesby's drawing to be a good representation of the species. All other reports of the species from the Bahamas or Antillean Islands are in error and are principally based upon forms of Croton linearis. Prof. Hitchcock's specimens are not this species.

Croton discolor Willd.

So far known from only one station:
Rum Cay — *Coker 453* at Port Nelson.

Croton eluteria (L) Sw.

In coppices and scrub lands, where it is known as "CASCARILLA" or "SWEETWOOD BARK." This is the *C. niveus* of Gardner & Brace:
Great Harbor Cay — *B. & M. 2339.**
Hog Island — *Eggers 4151.*
New Providence — *Daniell; Brace 56, 289; Curtiss 185; Coker 3a; E. G. B. 3143.*
Eleuthera — *Eggers 4425; Hitchcock*, at Governor's Harbor.
Exuma — rocky coppices near Georgetown, *B. & M. 2985.*

Croton flocculosus Geis.

So far known from only one island:
New Providence — near Nassau, *Curtiss 61; Brace 516.*

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*Dr. Britton finds that Wright's type of Croton homolepidus in herb. British Museum is the same as B. & M. 2339, and identical with Catesby's specimen of C. eluteria.

Croton Hjalmarssoni Griseb.

In sandy opens and whitelands:

Great Guana Cay — *B. & M. 2891.*

Fortune Island — *Hitchcock.*

Inagua — *N. & T. 874, 882* ("compares with the type in Herb. Kew" — Britton); *Hitchcock.*

Grand Turk Island — *N. & T. 3782, 3802.*

Croton humilis Linn.

The only specimens that we have seen from the Bahamas are:

Cat Island — at Port Howe, *Hitchcock.*

Croton linearis Jacq.

Maritime sand plains and dunes from the Berry Islands southward, where it is known generally as "GRANNY BUSH":

Great Sturrup Cay — *B. & M.*

Little Harbor Cay — *B. & M. 2244.*

Great Harbor Cay — *B. & M.*

Whale Cay — *B. & M. 2184.*

South Bimini — *Millsp. 2407.*

Gun Cay — *Millsp. 2315.*

Andros — Fresh Creek, *Northrop 615.*

Rose Island — *B. & M. 2113.*

New Providence — *Northrop 113; Cooper sine num.; Coker 23; B. & Br. 304; Britton 85; Millsp. 2154; Wight 65.*

Eleuthera — Governor's Harbor, *Hitchcock.* (*C. cascarilla linearis*); *Coker 387.*

Great Guana Cay — *B. & M.*

Little Galiot Cay — where it occupies the southwest plateau almost to the exclusion of all other vegetation, *B. & M. 2844.*

Exuma — in scrublands north of Georgetown, *B. & M. 2942.*

Cat Island — at Port Howe, *Hitchcock.*

Watlings Island — *Hitchcock* (*C. cascarilla L.*). This specimen is a counterpart of a sheet of C. linearis from Palm Beach, Florida, Curtiss 5360, in Herb. Field Col. Mus.

Inagua — *N. & T. 906*, these specimens have very long and narrow leaves, and smaller seeds than the usual form.

Croton lobatus Linn.

In cultivated soils. This species can be unhesitatingly placed among the Antillean weeds that have been more or less lately introduced in the Bahamas:

New Providence — *Earle 32; B. & Br. 783; Coker 553; Brace 353.*

Croton lucidus Linn.

Sandy scrub and white-lands near the sea :

Great Sturrup Cay — *B. & M. 2283.*

Great Harbor Cay — *B. & M.*

New Providence — near Clifton, *E. G. B. 3323; Cooper 22; Britton 21, 82; Brace 68, 288, 3896; Curtiss 108; Millsp. 2077, 2156; Wight 109, 173.*

Eleuthera — *Coker 326.*

Exuma — *B. & M. 2930.*

Watlings — *Coker 471.*

Croton rosmarinifolius Griseb.

One locality only is known up to this date :

Exuma — abundant in one situation, an open, rocky field just north of Georgetown, where it forms small, bushy trees up to 3.5 m. high, *B. & M. 2978.*

Our specimens compare exactly with Wright's, Cuba, 1968 in Hb. Kew.

Argythamnia argentea sp. nov.

Fruticulus ad basi ramosissimus, rami virgatis subdense foliosis, ramuli canescentibus. Foliis lanceolatis utraque attenuatis breve petiolatis margine superne pauco-dentatis utraque pagina argenteo-sericeis ; stipulis crassis cuspidatis. Racemulis depauperatis supra axillaribus. Flores masc. 3, sepalis 4 ovato-lanceolatis, petalis 4 crassis, sepalis similiter sed brevissimis, bracteola 1 scaphoideis ; flores foem. 3, sepalis elongato-lanceolatis, petalis minute ligulatis glandulae alternantibus; stylis 3, prox basi bifurcatis ad apice bilobatis, ovario canescentibus.

Near A. sericea from which, however, its characters plainly separate it. The **type** and only plants so far seen are from :

Grand Turk Island — in scrubland Aug. 27–Sept. 1, 1905, *Nash & Taylor 3830.*

Argythamnia candicans Sw.

So far only known in the Bahamas through the following specimens that are clearly this species :

Cat Island — Port Howe, *Hitchcock.*

Inagua — *Hitchcock.*

Argythamnia lucayana sp. nov.

Fruticulus ramosis prostratis vel ascendentibus. Rami minute sericeis sparse foliosis, foliis sessilis elliptico- velobovato-lanceolatis apice acute vel brevissime acuminatis margine integris vel praeter admodum paucos minute et remote glanduloso-denticulatis, matura glabris imma-

tura subtus sparse et minute strigose pilosis. Racemuli 4-6 floris. Sepalis masc. deltoideo-lanceolatis petalem aequantibus, petalis spathulatis, pilosis, staminis 4, laevis, calycis foem. laciniis foliaceis lanceolatis acuminatis, petalis minutis, angustis-lanceolatis obtusis paleaceis calyce pluries brevioribus, ovario villoso-pubescentis, stylis villosis bis dichotome divisis, dichotomiis terminiis brevis. Semen ad maturitas globosis, apiculatis, anastomoso-reticulatis.

A small shrubby plant with branches 3 – 5 dm. long. Leaves bluish-green 2.5 – 3.5 cm. long, 1 – 1.5 cm. broad. Racemes 6 – 10 mm. long, 4 – 6 flowered. Seeds 1.5 mm. in both diameters, dark brown, the surface coated with a hydnum-like porous integument.

This is the common Argythamnia of the Bahamian islands, where it is to be found on the floor of the coppices or at times in more open situations:

Great Sturrup Cay — *B. & M. 2280.*
Little Harbor Cay — *B. & M. 2232.*
Eleuthera — Tarpum Bay, *Coker 409* (*A. candicans*).
Ship Channel Cay — *B. & M. 2760.*
Wide Opening, Cay north of — *B. & M. 2789.*
Cave Cay — *B. & M. 2834.*
Great Guana Cay — in rocky coppice, *B. & M. 2913* **type.**
Little Galiot Cay — *B. & M. 2839.*
Exuma — *B. & M. 3601.*

Argythamnia sericea Griseb.

The only island upon which this species has as yet been found in typical form is:

Inagua — in sand on whitelands at Tenados, Oct. 14, 1904, *N. & T. 1030.*

A striking form with flabellate leaves and minor character differences is returned from:

Fortune Island — *Brace 462.*

Mercurialis annua L.

Cultivated ground:

New Providence — *Wight 118.*

This is the first return of this species from the Bahamas.

Bernardia bernardia (L.) Britton.

Coker in Shattuck's "Bahama Islands" p. 257. *Adelia Bernardia* L. *Bernardia carpinifolia* Griseb., *Bernardia dichotoma* Mill.

Eleuthera — at Tarpum Bay, *Coker 405*; Governor's Harbor, *Hitchcock* (*B. mexicana*).
Cat Island — Port Howe, *Hitchcock* (*B. mexicana*).
Fortune Island — *Brace 458.*

Lasiocroton macrophyllus Griseb.

So far known only from Mrs. Northrop's specimens which, while not absolutely agreeing with Marsh's Jamaican specimen in Hb. N. Y. Bot. Garden, are undoubtedly the species. The sheet in Hb. Field Col. Mus. is in good flowering condition.

Andros — at Deep Creek, *Northrop 689*, where it is known as "WILD OAK," "LIGHTWOOD" or "BITTERS".

Acalypha alopecuroidea Jacq.

Doubtless an introduced weed in waste and cultivated grounds:

Abaco — at Marsh Harbor, *Brace 1751*.

New Providence — near Nassau, *Northrop 32; Curtiss 22; Hitchcock; Wight 39; Brace 132*, and at Southwest Landing, *B. & Br. 474*.

Eleuthera — at Governor's Harbor, *Hitchcock*.

Inagua — at Mathew Town, *N. & T. 1080*.

Acalypha ostryaefolia Ridd.

Known only by the following plant, probably introduced from Florida:

New Providence — at Nassau, *Brace 385 (300?)*

Acalypha setosa A. Rich:

Known only by the following plant, doubtless an introduced weed.

New Providence — at Nassau, *Brace 299 (267?)*.

Pera bumeliaefolia Griseb.

In coppices; known as "BLACK EBONY":

Abaco — at Marsh Harbor, *Brace 1603*.

Andros — *Brace 411*.

New Providence — coppice at Seven Hills, *E. G. B. 3360* the *forma parvifolia* of Urban in Hb. Kew.; Fox Hills, *B. & Br. 376;* near Nassau, *B. & Br. 267; Coker 537; Curtiss sine num., Brace 226; Wight 166*.

Ricinus communis Linn.

Escaped from gardens on:

New Providence — *Wight 169*.

Fortune Island — *Hitchcock*.

Jatropha curcas Linn.

Known only by the following specimen, probably an escape from a garden:

New Providence — near Nassau, *Brace 305*.

Jatropha gossypiifolia Linn.

The only specimens seen are from waste lands near Nassau:
New Providence — *Hitchcock; Brace.*

Manihot manihot (Linn.) Cockl.

Manihot apii Pohl. Known only as cultivated at:
Andros — Nichols Town, *Northrop 363.*
Eleuthera — Governor's Harbor, *Hitchcock.*

Excoecaria Sagraei Muell.

In coppices. The plant has a strong mephitic odor:
Andros — Stafford Creek, *Northrop 539.*
New Providence — *Curtiss 190; B & Br. 665;* Fox Hills Road, *E. G. B. 3388; Britton 78; Millsp. 2160, 2486.*
Exuma — *B. & M. 3079.*
Watlings Island — *Coker 478.*

Bonania cubana A. Rich.

In coppices and scrub lands:
Andros — at Fresh Creek, *Northrop 628 (B. emarginata); Wight 254.*
New Providence — in a coppice at Winton, *E. G. B. 3294; Brace 141, 340.*
Cat Island — in a low, dry coppice at Arthur's Town, *Coker 428.*
Exuma — near Rolletown, *B. & M. 3074.*

Hippomane mancinella Linn.

In coppices and scrub lands. Known generally as "MANCHINEEL" or "POISON BUSH."
Abaco — Cherokee Sound, *Brace 1920.*
Andros — Fresh Creek and Conch Sound, *Northrop 622, 565* (misprinted 556 in Fl. N. P. & Andros).
Great Guana Cay — *B. & M. 2873.*
Watlings Island — *Coker 485.*
Inagua — at Lantern Head and Tenados, *N. & T. 1392, 1048; Hitchcock.*
Grand Turk Island — in scrublands, *N. & T. 3826.*

Gymnanthes lucida Sw.

Coppices and scrublands. Known generally as "CRABWOOD":
Allen's Cay — *Brace 1547.*‡
Green Turtle Cay — *Brace 1512.*‡
Great Bahama — at Barnett's Point, *B. & M. 2642.*‡
Great Harbor Cay — *B. & M.*
Lignum Vitae Cay — *B. & M.*
Great Sturrup Cay — *B. & M.*

Goat Cay — *B. & M.*, where it forms character thickets.
Whale Cay — *B. & M.*
South Bimini — *Brace 3476.*‡
Gun Cay — *Millsp. 2327.*°
Cat Cay — *Brace 3751.*†
Andros — at Fresh Creek and Nichols Town, *Northrop 375;*° *Wight 248.*°
Rose Island — *B. & M.*
New Providence — near Clifton, *E. G. B. 3326;*° coppice at Lake Cunningham, *B. & Br. 606,*‡ *607;*§ Fox Hills, *B. & Br. 862;*° *E. G. B. 3393;*° *Britton 103;*§ *Brace 299,*† *335;*† *Curtiss 190; Millsp. 2183.*§
George's Island — Spanish Wells, *Coker 314.*†
Ship Channel Cay — *B. & M.*
Wide Opening, Cay north of — *B. & M. 2804.*‡
Great Guana Cay — *B. & M.*
Exuma — *B. & M.*
Watlings Island — *Coker 467.*†
Inagua — on Salt Pond Hill, *N. & T. 927,* 992.**
Sheep Cay — N. & T. *1145.**

Hura crepitans Linn.

Cultivated, only at Nassau.

Euphorbia Berteriana Balbis.

So far seen only in the redlands of:
Exuma — *B. & M. 2938, 3031.*

Euphorbia Blodgettii Engelm.

On rocks, sand dunes, whitelands and in pot holes common. Not yet found on the islands of the Abaco group.
Great Bahama — *B. & M. 2383, 2470, 2619.*
Great Sturrup Cay — *B. & M. 2257, 2272, 2274.*
Frozen Cay — *B. & M. 2216.*
Whale Cay — *B. & M. 2182.*
North Bimini — *Millsp. 2404; Brace 3462.*
South Bimini — *Millsp. 2364.*
Gun Cay — *Millsp. 2310.*
Andros — Nichols Town, *Northrop 379.*
Salt Cay — *Northrop 277* (*E. serpens*).
Hog Island — *B. & M. 2169, 2174.*
Rose Island — *B. & M. 2146.*

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*Leaves ovate 3 x 1.5 cm. †Leaves ovate-spatulate 5 x 1.7 cm. ‡Leaves ovate-lanceolate 8 x 2.7 cm. °Leaves ovate-lanceolate 6 x 1.8 cm. §Leaves willow-like 6-8 x 1 cm.

New Providence — *Cooper sine num.*; *Millsp. 2100, 2149, 2150, 2167, 2271*; *Curtiss 70* (*E. Nashii Small*); *Britton 72, 74, 90*; *B. & Br. 195, 279, 309, 313, 340, 400, 477, Northrop 41*; *Hitchcock.*
Eleuthera — Governor's Harbor, *Hitchcock* (3 sheets).
Ship Channel Cay — *B. & M. 2746, 2755,*
Great Guana Cay — *B. & M. 2863,*
Cave Cay — *B. & M. 2805, 2818.*
Great Galiot — *B. & M. 2859.*
Exuma — *B. & M. 2961, 2966, 3107, 3112.*
Fortune Island — *Hitchcock.*
Crooked Island — *Hitchcock.*
Inagua — *N. & T. 954, 1090, 1435*; *Hitchcock.*
Sheep Cay — *N. & T. 1159.*
Grand Turk Island — *N. & T. 3851, 3869.*

Euphorbia Bracei sp. nov;

§ Chamaesyceae. Caulibus prostratis ad basin ramosis, rami lignosis canescentis, foliis petiolatis oppositis oblongis vel ovatis ad basin oblique-deltoideis apice rotundo-obtusis margine integris revolutis utrinque pagina hirsutis et resinosis, stipulis triangulo-lanceolatis acutis, involucris axillaribus, cupuliformis, pedicelis tubo aequantibus, extus canescentis intus ciliatis, mure crassis interiore in columnae alaribusque 5 productis, lobis triangularis acutis, glandulis minutis transverse-ovatis appendice angustissima vel obsoleta crenato-3 dentatis, stigmatis ad basin bifurcatis. Capsulae aciculo-hirsutis, semen triangulo-ovoideis leviter anastomo-rugosis.

A low, grayish plant near E. cayensis Millsp. from which it differs in many characters. Leaves 8 x 5 to 5 x 3 mm. dotted with minute amber-like resin globules; petiole one-fifth the length of the blade; internodes 1.3-2 cm.; fifth gland replaced by a broad fifth tooth equalling the breadth of a gland; seed .9 x .7 mm., the angles prominent.

Abaco — in sand at Eight Mile Bay, *Brace 1856* **type**.
Man o'War Cay — on whitelands, *Brace 1571.*

Euphorbia brasiliensis Lam.

In open places and grassy coverts:
New Providence — at Lake Cunningham, *Britton 137*; *Millsp. 2227*; cultivated ground, Farringdon Road, *E. G. B. 3199.*
Eleuthera — at Gregory Town, *Coker 371.*

Euphorbia Brittonii sp. nov.

§ Chamaesyceae. Pilosa praegracilis erectis ad basin ramosis, rami filosis ascendentibus, foliis oppositis breviter petiolatis rotundatis vel oblongo-ellipticis apice rotundatis basi leviter et oblique cordatis margine integerrimis vel acute subdentatis revolutis obsolete venosis nervo

medio subtus prominentis, crassiusculis, pagina subtus pilosis glauco-viridis; stipulis triangulatis plus minusve aequaliter fimbriatis; involucris solitariis axillaribus, campanulatis, pedicellatis, extus glabris intus ad faucam dense tomentosis, lobis triangularis inflexis praeciliatis, glandulis ovatis albo-viridis, appendice magnis orbiculatis albis. Stamina insertis pilosis (paleis linearibus glabris intermixtis), stigmatis supra bifurcatis; capsulae glabris; semina roseo-cinereis ovatis valide triangulatis leviter transverse rugosis.

A small, erect, wiry plant branching from the base, 5 – 7 cm. high; leaves 4 x 3 mm. glands 4 the fifth replaced by a sharp fissure flanked by 2 larger involucral lobes.

So far known only from sandy whitelands, as follows:

New Providence — at the Race Course, Aug. 26, 1904, *B. & Br. 839* **type** and *279*.

Euphorbia buxifolia Lam.

Maritime beaches from Great Bahama southward.

Green Turtle Cay — *Brace 1508*.

Abaco — Cherokee Sound, *Brace 1902*, and Butler Bay, *1520*.

Great Bahama — infrequent, low and undeveloped. Eight Mile Rocks, in a clearing near the sea, *B. & M. 2781*.

Great Sturrup Cay — *B. & M. 2256*.

Great Harbor Cay — *B. & M.*

Lignum Vitae Cay — *B. & M.*

Frozen Cay — *B. & M.*

Whale Cay — *B. & M.*

Gun Cay — *Millsp. 2317*.

South Cat Cay — *Millsp. 2417, 2418*.

Andros — at Red Bays and Big Cabbage Creek, *Northrop 457, 672*.

Silver Cay — *Millsp. 2454*.

Rose Island — *B. & M.*

New Providence — South shore, *Millsp. 2109;* near Nassau, *Cooper sine num.; E. G. B. 3185; Northrop 87; Coker 114; Hitchcock; Wight 55*.

Eleuthera — Governor's Harbor, *Hitchcock*.

Ship Channel Cay — *B. & M.*

Wide Opening, Cay north of — *B. & M. 2781*.

Great Guana Cay — *B. & M.*

Great Galiot Cay — *B. & M.*

Little Galiot Cay — *B. & M.*

Cave Cay — *B. & M.*

Exuma — *B. & M.*

Stocking Island — *B. & M.*

Cat Island — Port Howe, *Hitchcock*.

Watlings Island — *Hitchcock.*
Crooked Island — *Hitchcock.*
Fortune Island — *Hitchcock.*
Inagua — *N. & T. 1038.*
Sheep Cay — *N. & T. 1160.*
Grand Turk Island — *N. & T. 3793, 3889.*

Euphorbia cassythoides Boiss.

Known so far only from the following specimens:
Andros — Deep Creek, *Northrop 702.*

Euphorbia cayensis Millsp.

Maritime sands. So far found only on the smaller cays from Joulter's Cays northward.
Man o'War Cay — *Brace 1571.*
Great Sturrup Cay — *B. & M. 2266.*
Great Harbor Cay — *B. & M. 2334* (prostrate).
Little Harbor Cay — *B. & M.*
Frozen Cay — *B. & M.*
Whale Cay — *B. & M. 2178*, where it is the character plant of the maritime whitelands, and is known as "MILK BUSH."
Joulter's Cays — *Millsp. 2295* **type.**

Euphorbia flexuosa Kth.

E. buxifolia flexuosa (Kth.) Boiss. Anyone seeing this species in the field would at once recognize it as clearly distinct from E. buxifolia. Its purplish coloration, cinereous glaucescence, rounded flat leaves and spreading habit cause it to resemble E. Cayensis far more closely than E. buxifolia.

Leaves glauco-cinereous, ovate, rounded at the apex and unequal base .3–1 cm. x .2–.6 cm. Involucres turbinate, short pediceled, smooth without, densely bearded within, margin entire; glands 4, large, cordate, nearly equalling the appendages; stamens 5, the filaments bearded and tufted below; seeds triangular, pink-ashen, farinose, the angles rounded and prominent, the facets slightly anastomose-rugose transversely.

Maritime sands and sand-pocketed rocks. Not seen north of the Exuma Chain.
Ship Channel Cay — *B. & M. 2747.*
Wide Opening, Cay north of — *B. & M. 2777, 2779,* On the open sea-side of this cay the plants are strongly characteristic and to be found in great quantity both erect and prostrate.
Little Galiot Cay — *B. & M.*

Stocking Island — *B. & M. 3071.*

Rum Cay — *Coker 452* (*E. cayensis*). Mr. Coker mentions seeing this plant also on Abaco, but doubtless mistook the Abacan E. Bracei for this species.

Euphorbia havanensis Willd.

E. heterophylla graminifolia Eng. This species as it occurs in South Florida and the Keys, Cuba and the Bahamas, is plainly distinct from E. heterophylla.

Green Turtle Cay — *Brace 1479.*

Great Sturrup Cay — *B. & M. 2255.*

New Providence — *Northrop 92; Millsp. 2146; Britton 69; Coker 45; Wight 14.*

Eleuthera — Governor's Harbor, *Hitchcock* (*E. heterophylla graminifolia*).

Exuma — near Georgetown, *B. & M. 3133.*

Cat Island — Port Howe, *Hitchcock* (*E. heterophylla graminifolia*).

Euphorbia heterophylla Linn.

This species appears to exist in all its forms in the Bahama Islands where it is principally found in open waste grounds.

Green Turtle Cay — *Brace 1503, 1479.*

Great Bahama — Eight Mile Rocks in pine barren, *B. & M. 2461;* West End, *Brace 3499.*

Little Harbor Cay — *B. & M.*

South Bimini — *Millsp. 2365.*

South Cat Cay — *Millsp. 2435.*

New Providence — near Nassau, *Northrop 96; Millsp. 2204; Hitchcock; Wight 29.*

Eleuthera — Governor's Harbor, *Hitchcock.*

Great Guana Cay — *B. & M.*

Little Guana Cay — *B. & M.*

Exuma — in a cornfield, *B. & M.*

The form with the lower (and often all) leaves broadly ovate-lanceolate, entire or obsoletely repand, *E. prunifolia* Jacq. This latter form plainly belongs to E. heterophylla rather than to E. geniculata Ortega. Under this form the following specimens may be grouped:

Green Turtle Cay — *Brace 1539.*

South Cat Cay — *Millsp. 2426.*

New Providence — near Nassau, *Earle 33; Curtiss 73; Hitchcock* (*E. geniculata*); *Wight 5.*

Eleuthera — Governor's Harbor, *Hitchcock* (*E. geniculata*).

Cat Island — Port Howe, *Hitchcock* (*E. geniculata*).

Fortune Island — *Hitchcock* (*E. geniculata*).

Inagua — Mathew Town, *N. & T. 1086; Hitchcock* (*E. geniculata*).
Abaco — Eight Mile Bay, *Brace 1870.*

Euphorbia hypericifolia Linn.

In grassy open lands :
Great Bahama — Eight Mile Rocks, *B. & M. 2476.*
North Bimini — *Millsp. 2370, 2399.*
Andros — Nichols Town, *Northrop 380* (*E. nutans*).
New Providence — at Lake Cunningham, *Millsp. 2227;* near Nassau, *Earle 46[a]; B. & Br. 470, 535; Hitchcock; Wight 46.*
Eleuthera — Governor's Harbor, *Hitchcock.*
Great Guana Cay — *B. & M. 2906.*
Exuma — near Georgetown, *B. & M. 2945.*
Inagua — Smith's Thatch Pond, *N. & T. 1401, 1406; Hitchcock.*

Euphorbia lactea Haw.

Widely escaped from cultivation and forming dense thickets on:
New Providence — along the West Bay Street Road, *Northrop* (*E. antiquorum*).
Inagua — Mathew Town, *Hitchcock* (*E. antiquorum*).

Euphorbia lecheoides sp. nov.

Tota griseo furfureo-farinoso caulibus e rhizomate lignoso, ramosissimo. Rami longis, diffusis rigidis dichotomis, internodiis inferioribus prox. 1 cm. longis, superne tenuiter virgatis rigidis. Foliis breviter petiolatis, deltoideo-ovatis vel triangulari-ovatis abrupte attenuatis ad margine revoluto-intumescentis, pagina utruque furfureo-farinosis, stipulis late ovatis blepharociliatis, involucris solitariis turbinatis brevi pedicellatis, extus glabris intus ad faucam barbatis, lobis triangularibus acutis ciliatis, glandulis nigris complano-orbiculatis, facie notis variolarum insignis, appendices minutis carnosis vel obsoletis, stigmata ad mediam bifurcatis, filamentae barbatis. Capsulae glabris. Semen fuscis triangulo-ovatis fascies minute papillatis.

Plants rigidly erect or diffusely prostrate 20 – 30 cm. Leaves 2.5 to 5 mm. long, 1 to 2.5 mm. wide. Seeds .8 x .5 mm. The specimens representing the extremes of this species are so widely different in general appearance as to almost convince one that they represent two strongly marked species. This difference, however, lies entirely in the habit of the plants and the size of the leaves. The tallest erect form with small, ovate leaves (3796) passes through the type (3888) to a more diffuse, larger leaved form (1305) and a fully prostrate plant with much larger, sickle-shaped leaves (1 cm. x 3 mm.) with a somewhat less intumescent margin.

Inagua — in scrubland on the trail from Canfield Bay to Cabbage Pond, Oct. 22, 1904, *Nash & Taylor 1305.*

Grand Turk Island — in sandy scrublands, *Nash & Taylor 3888* **type** and on the strand, *3796*.

Euphorbia obliterata Jacq.

This species, considered a synonym of E. pilulifera procumbens by Boissier, is distinct both in characters and in habitat.

Great Bahama — at Eight Mile Rocks, *B. & M. 2471*.
Little Harbor Cay — *B. & M. 2247*.
New Providence — on coral limestone (the usual habitat) along Farringdon Road, *B. & Br. 199*, and Soldiers Road *807; Wight 179*.
Cave Cay — *B. & M. 2817*.
Exuma — *B. & M. 2938, 3031*.
Inagua — *Hitchcock* (*E. pilulifera obliterata*.)

Euphorbia pilulifera Linn.

Frequent in cultivated grounds and along roads and paths:

New Providence — *B. & Br. 757, 805; Millsp. 2216; Hitchcock*.
Eleuthera — Governor's Harbor, *Hitchcock*.
Cat Island — Port Howe, *Hitchcock*.

The prostrate form with the same characteristic jointed amber colored hairs (*E. pilulifera procumbens* Boiss.) from:

New Providence — *B. & Br. 757*.
Inagua — *N. & T. 1088*.

Euphorbia prostrata Aiton.

So far known only from two localities:

New Providence — near Nassau, *Curtiss sine num*.
Grand Turk Island — *N. & T. 3871*.

Euphorbia punicea Sw.

On the southern islands only:

Watlings Island — on a small cay in the lake, *Coker 487*.
Fortune Island — *Hitchcock*.
Inagua — *N. & T. 1263, 1446*.
Little Inagua — *N. & T. 1216*.

Euphorbia trichotoma Lam.

This species, common on the maritime sands of the Florida Keys and the Antillean Islands, is so far only known in the Bahamas by specimens collected on:

Allen's Cay — *Brace 1551*.
Great Bahama — at Eight Mile Rocks, *B. & M. 2364;* West End, *Brace 3493*.

Euphorbia vaginulata Griseb.

The following specimens represent the important rediscovery of this endemic species.

Little Inagua — Moujean Harbor, *N. & T. 1222.*

Inagua — *N. & T. 1170, 1304.*

Grand Turk Island — *Hjalmarsson* (**type,**) *N. & T. 3764.*

The plants grow in great profusion on Grand Turk Island. The Inagua specimens, while apparently differing from those of Grand Turk Island and Little Inagua on account of their longer leaves (twice or thrice the length) and darker bark, have the same characters as the type.

Pedilanthus tithymaloides (L) Poit. ?

In coppices, rare:

Andros — at Deep Creek, *Northrop 693* (*P. angustifolius ?*)

Inagua — at Mathew Town, *N. & T. 1363.*

Grand Turk Island — *N. & T. 3761.*

Plants from Grand Turk Island are now growing in the conservatory of the Garden which give promise of settling upon the specific character of this form.

RUBIACEÆ.

Rachicallis maritima (Jacq.) K. Sch.

R. rupestris (Sw.) D. C. On maritime rocks throughout the Islands. Often the only vegetation on many of the sea washed islets. Observed by *B. & M.* and *Millsp.* on each island visited. The collections contain the following sheets:

Spanish Cay — *Brace 1562.*

Great Bahama — *Allen 36.*

South Cat Cay — *Millsp. 2425.*

North Cat Cay — *Millsp. 2415.*

Andros — Red Bays and Fresh Creek, *Northrop 458* (*R. Americana*) where it is known as "SAND-FLY BUSH," "SALT WATER BUSH," "SEAWEED" and "WILD THYME."

New Providence — *Cooper 2; B. & Br. 293; Curtiss 32; Coker 19; Wight 190; Millsp. 2249; Brace 161, 165, 173; Hitchcock* (*R. Americana.*)

Crooked Island — *Hitchcock* (*R. Americana*).

Inagua — *N. & T. 904, 1366, 1391.*

Grand Turk Island.— *N. & T. 3812.*

Exostema caribaeum (Jacq.) Willd.

In shady coppices. Known as "PRINCE WOOD.

Elbow Cay — *Brace 1698.*

Abaco — Cherokee Sound, *Brace 1930.*
Great Bahama — Eight Mile Rocks and Golden Grove, *B. & M. 2433, 2733;* West End, *Brace 3516.*
Andros — Kemp Sound and Deep Creek. *Northrop, 685.*
Rose Island — *B. & M. 2117.*
New Providence — Fort Montague, *B. & Br. 316; Brace 187;* Fox Hills, *E. G. B. 3392.*
Wide Opening, Cay north of — *B. & M. 2787.*
Exuma — *B. & M.*
Watlings Island — *Coker 465.*
Crooked Island — *Hitchcock.*
Inagua — *N. & T. 952, 1431.*

Genipa clusiaefolia (Jacq.) Griseb.

Coastal rocks of all islands visited (*B. & M., Millsp.*). Known generally as "SEVEN YEAR APPLE."
Andros — Mastic Point, *Northrop 299.*
North Cat Cay — *Millsp. 2346.*
New Providence — *Brace 41; Millsp. 2113; Hitchcock.*
Watlings Island — *Hitchcock.*
Cat Island — *Hitchcock.*
Crooked Island — *Hitchcock.*
Fortune Island — *Hitchcock.*
Inagua — *N. & T. 937, 1345.*
Little Inagua — *N. & T. 1183.*

Randia aculeata Linn.

In thickets, coppices and scrublands. The farther south in the Archipelago the plants are found the smaller the leaves appear. The spinous or aspinous character is not, however, so constant. Not seen on the Bimini Group.

Elbow Cay — *Brace 1703.*
Abaco — Cherokee Sound, *Brace 1918.*
Great Bahama — Eight Mile Rocks, *B. & M. 2432,* West End, *Brace 3540.*
Berry Islands — on all islands visited except Frozen and Goat Cays, *B. & M.*
Little Harbor Cay — *B. & M. 2225.*
Cat Cay — *Brace 3743.*
Andros — Nichols Town, *Northrop 383; Wight 252.*
Rose Island — *B. & M.*
New Providence — *B. & Br. 323; Coker 56; Hitchcock.*
Exuma Chain — noted on all islands visited except Great Guana Cay, *B. & M.*

Eleuthera — Palmetto Sound, *Hitchcock.*
Cat Island — Port Howe, *Hitchcock.*
Crooked Island — *Hitchcock.*
Inagua — *N. & T. 1060, 1062* with very small leaves; *Hitchcock.**
Grand Turk Island — *N. & T. 3759.*

Hamelia patens Jacq.

Waste grounds near habitations. This habitat, and the absence of the species from other islands, place it as a doubtless escape from cultivation.

New Providence — Lake Cunningham, *B. & Br. 635;* Bluebeard's Tower, *Coker 127;* Nassau, *Northrop 40; Wight 147.*

Catesbaea campanulata La Sagra.

C. parviflora septentrionalis Urb. In coppices and scrub lands:
New Providence — *Brace 167.*
Crooked Island — *Hitchcock* (*C. parviflora*). See remarks on Grand Turk Specimen below.
Inagua — *N. & T. 1272.*
Grand Turk Island — *N. & T. 3771.* This is a low, scrubby specimen having no spines developed upon the short new shoots. It appears to be a depauperate mutant with narrower and more revolute leaves and smaller seeds than the typical form.

Catesbaea fasciculata Northrop.

In sandy coppices and whitelands:
Abaco — Eight Mile Bay, *Brace 1852.*
Little Harbor Cay — *B. & M. 2226.*
Great Harbor Cay — *B. & M.*
Andros — Fresh Creek, *Northrop 627* **type.**
New Providence — scrublands along West Bay Street Road, *Britton 83; Millsp. 2162;* coppice at Winton, *E. G. B. 3292;* whitelands near Race Course and Miller's, *B. & Br. 284, 529.*
Green Cay — maritime beach, *Coker 247.*
Ship Channel Cay — *B. & M. 2750.*
Wide Opening, Cay north of — *B. & M.*
Great Guana Cay — *B. & M.*

Catesbaea spinosa Linn.

Sandy open lands:
Andros — at Fresh Creek, *Northrop 624.* Known as "PRICKLY APPLE."

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*Prof. Hitchcock observes on p 93 Pl. Bah.: "The Inagua specimens are spineless and have small leaves about 7 mm. long." The Nash & Taylor specimens have such leaves and also spines.

Eleuthera — on a side hill near Gregory Town, *Coker 367.*
New Providence — So far only seen in the Governor's Garden (*Britton 153; Millsp. 2247*) where it is planted from Harbor Island. Mr. Brace remarks that he once knew a bush of this species in the scrubland back of Nassau but that it has long since disappeared.

Guettarda elliptica, Sw.

In coppices and scrub lands:
Abaco — Cherokee Sound, *Brace 1935.*
Great Bahama — Eight Mile Rocks, *B. & M. 2583;* West End, *Brace 3554.*
Andros — Lisbon Creek, *Northrop 677.*
Hog Island — *B. & Br. 349.*
New Providence — near Nassau, *Brace 166; Hitchcock;* Fort Montague, *B. & Br. 173.*
Eleuthera — Governor's Harbor, *Hitchcock.*
Great Guana Cay — *B. & M.*
Exuma — *B. & M. 2979.*
Cat Island — Arthur's Town, *Coker 425.*
Long Island — Clarence Harbor, *Coker 515.*
Fortune Island — *Hitchcock.*
Inagua — *N. & T. 1266; Hitchcock.*

Guettarda Krugii Urban.

In scrub lands and rocky coppices:
Man o'War Cay — *Brace 1582.*
Great Guana Cay — *B. & M. 2870.*
Exuma — scrub lands along Hayne's Road, *B. & M. 3022.*
Little Inagua — *N. & T. 1309.*
Inagua — Mathew Town, *N. & T. 918, 919, 1369; Hitchcock* (*G. calyptrata*).
Grand Turk Island — *N. & T. 3800.*

Guettarda scabra Lam.

In scrub lands and coppices:
Abaco — Cherokee Sound, *Brace 1909.*
Great Bahama — Eight Mile Rocks, *B. & M. 2399.*
Andros — at Fresh Creek, *Northrop, 535, 730.*
New Providence — Near Nassau, *Curtiss sine num.; Hitchcock; Brace 186, 197;* Village Road and Farringdon Road, *B. & Br. 369, 259.*
Eleuthera — opposite Spanish Wells, *Coker 318.*
Inagua — *Hitchcock.*

Antirrhoea.

This genus is being considered by Dr. Britton,

Laugeria densiflora (Griseb.) Benth. & Hook.

A viscid shrub frequent in coppices:

Abaco — Marsh Harbor, *Brace 1604, 1614, 1714.*

New Providence — *Eggers 4460 ; Curtiss sine num.; Brace 389 ;* Blue Hills Road, *Coker 551 ;* Soldiers Road, *B. & Br. 587;* Fox Hills, *E. G. B. 3389 ; Hitchcock.*

Erithalis fruticosa Linn.

Everywhere. In low, sandy coppices, sandy thickets, scrub lands, coastal thickets and sand dunes, where it is generally known as "BLACK TORCH."

Man o'War Cay — *Brace 1569.*

Abaco — Cherokee Sound, *Brace 1899.*

Great Bahama — Eight Mile Rocks, *B. & M. 2371 ;* West End, *Brace 3511.*

Great Sturrup Cay — *B. & M.*

Little Harbor Cay — *B. & M. 2229.*

Great Harbor Cay — *B. & M.*

Frozen Cay — *B. & M.*

Whale Cay — *B. & M.*

South Bimini — *Millsp. 2413*

Gun Cay — *Millsp. 2311.*

Andros — Deep Creek and Red Bays, *Northrop 691, 365.*

Silver Cay — *Millsp. 2449.*

Rose Island — *B. & M. 2126.*

New Providence — near Nassau, *Cooper 4 ; Brace 27 ; Coker 73, 161, 192 ; Wight 138 ;* South Shore, *Britton 43, 52 ; Millsp. 2115, 2123 ; Hitchcock.*

Eleuthera — Governor's Harbor, *Hitchcock.*

Exuma Chain — on all cays visited and on Exuma Island, *B. & M.*

Cat Island — Port Howe, *Hitchcock.*

Watlings Island — *Hitchcock ; Coker 463.*

Crooked Island — *Hitchcock.*

Fortune Island — *Hitchcock.*

Inagua — *Hitchcock ; N. & T. 949, 1029, 1054, 1443.*

Sheep Cay — *N. & T. 1149.*

Grand Turk Island — *N. & T. 3768, 3809, 3816, 3817.*

The form of the exposed sea beaches has leaves nearly orbicular, in that of the denser coppices the leaves are quite narrowly lanceolate.

Erithalis odorifera Jacq.

"Common in coppices on New Providence, and distinct from the more abundant E. fruticosa L., being much taller, the corolla twice as

large as in that species, the fruit and persistent calyx-limb larger."— N. L. Britton.

Andros — Deep Creek, *Northrop 739* (*E. rotundata*).

New Providence — low coppices, *Coker 43* (*E. fruticosa*); near Nassau, *B. & Br. 234*, Blue Hills road, *580*, Lake Cunningham *605*; *Britton 147*; *Millsp. 2242*; Nassau, *Curtiss sine num.*:

Phialanthus myrtilloides Griseb.

Coppices and scrublands. Known generally as "CANDLE WOOD."

Andros — Fresh and Stafford Creeks, *Northrop 698, 541.*

New Providence — near Nassau, *B. & Br. 677*; *Curtiss 189.*

Watlings Island — *Coker 469.*

Exuma — near Rolltown, *B. & M. 3081.*

Fortune Island — *Hitchcock.*

Little Inagua — *N. & T. 1196.*

Inagua — *N. & T. 1271, 1379,*

Chiococca alba (L.) Rusby.

C. racemosa Jacq. Pine barrens, coppices and scrub lands common:

Green Turtle Cay — *Brace 1484.*

Abaco — Marsh Harbor, *Brace 1713, 1789*, Butler Bay, *1522*, and Eight Mile Bay, *1881.*

Great Bahama — Barnett's Point, *B. & M. 2713.*

Great Harbor Cay — *B. & M.*

Lignum Vitae Cay — *B. & M.*

Goat Cay — *B. & M.*

Mangrove Cay — *Bryant 7.*

Silver Cay — *Millsp. 2447.*

Rose Island — *B. & M.*

New Providence — near Nassau, *Cooper 9*; *Northrop 28*; *B. & Br. 230, 434, 656*; *Wight 149.*

Eleuthera — Governor's Harbor, *Hitchcock;* Gregory Town, *Coker 363.*

Wide Opening, Cay north of — *B. & M.*

Exuma — *B. & M.*

Cat Island — Port Howe, *Hitchcock.*

Crooked Island — *Hitchcock* (*C. parvifolia*).

Inagua — *N. & T. 1298.*

Chiococca parvifolia Wulls.

In coppices, infrequently collected:

Abaco — Marsh Harbor, *Brace 1839.*

Andros — Deep Creek, *Northrop 688.*

New Providence — near Winton, *B. & Br. 729 ;* along Soldiers Road, *Coker 557 ;* near Nassau, *Brace 80.*

Chiococca pinetorum Britton sp. nov.

A vine, creeping or low-climbing sometimes 1.5 m. long, usually shorter. Branches short ; leaves ovate, lanceolate or elliptic, small, 2 – 4. 5 cm. wide, varying from acute to obtuse at the apex, narrowed at the base, coriaceous, dark green and shining above, paler and dull beneath, the midvein impressed on the under side, the lateral veins few and obscure, the petiole slender, 2 – 3 mm. long ; racemes few-flowered, shorter than the leaves or about equalling them ; pedicels about as long as the calyx, or sometimes a little longer ; calyx campanulate 2 mm. long ; corolla funnel-form-campanulate, about 5 mm. long, white or cream color, veined with purple ; berry white, somewhat compressed, 4 – 6 mm. in diameter.

Differs from C. parvifolia Wullsch. by its smaller darker green leaves, smaller pale corolla and less compressed berries. C. pinetorum occurs only, so far as known, on islands inhabited by Pinus bahamensis Griseb., and in association with it.

Abaco — opposite Cherokee Settlement, *Brace 1990.*

Great Bahama — Eight Mile Rocks, *B. & M. 2408 ;* West End, *Brace 3563.*

Andros — near Red Bays, *Northrop 477.*

New Providence — near Nassau, *Northrop 138* (*C. parvifolia*) ; *Hitchcock* (*C. parvifolia*) ; *B. & Br. 430* **type ;** *Cooper 19, 25 ; Britton 20; Curtiss 159* (*C. parvifolia*) ; *B. & M. 2103 ; Millsp. 2076, 2238 ; Coker 18, 80, 163, 185.*

Scolosanthus bahamensis Britton.

Occasional in coppices :

Andros — at Fresh Creek, *Northrop 646* (*Scolosanthus sp.*).

New Providence — coppice on East Road near Nassau, *Coker 138 ;* coppice on Soldiers Road, *Millsp. 2488 ;* coppice on Village Road, *B. & Br. 367* **type.**

Strumpfia maritima Jacq.

Borders of brackish swamps and on coastal rocks :

Abaco — opposite Cherokee Settlement, *Brace 1981.*

Great Bahama — *Allen 33.*

Whale Cay — *B. & M.*

Joulter's Cays — *Millsp. 2300.*

Rose Island — *B. & M. 2138.*

New Providence — *Hitchcock ; Cooper sine num. ; Coker 59 ; Curtiss 188 ; Brace 159, 550 ;* southeast shore near Fox Hills, *B. & Br. 550 ;* Dix Point, *Northrop 151 ;* Swingate on the shore rocks, *Millsp. 2248 ; Wight 116.*

Eleuthera — Governor's Harbor, *Hitchcock.*
Wide Opening, Cay north of — *B. & M.*
Great Guana Cay — *B. & M.*
Watlings Island — *Hitchcock.*
Crooked Island — *Hitchcock.*
Little Inagua — *N. & T. 1186, 1250.*
Inagua — *N. & T. 986.*
Grand Turk Island — *N. & T. 3813; Hjalmarsson.*

Psychotria bahamensis Millsp.

Bull. N. Y. Bot. Gard. 3 : 451. In coppices and thickets. Fruits globular, bright orange; flowers white.

Great Bahama — Eight Mile Rocks, *B. & M. 2529; Brace 3675;* Barnett's Point, *B. & M. 2665.*
Great Sturrup Cay — *B. & M. 3269.*
Lignum Vitae Cay — *B. & M.*
Great Harbor Cay — *B. & M.*
South Bimini — *Millsp. 3478.*
Rose Island — *B. & M. 2134.*
New Providence — *B. & Br. 206* **type**, *208, 662; Earle 43, 52; Britton 17; Millsp. 2483; E. G. B. 3359.*
Fortune Island — *Hitchcock* (*Myrstiphyllum undatum*). (Reported on Eleuthera in Pl. Baham p. 94, label says Fortune Is.)

(PSYCHOTRIA LANCEOLATA Nutt.

This species reported by Grisebach as having been seen in the so-called Swainson collection, has not yet been re-collected in the Bahamas.)

Psychotria ligustrifolia (Northrop)

Myrstiphyllum ligustrifolium, Northrop, Flora New Prov. & Andros p. 68.

New Providence — near Nassau, *Northrop 206* **type**; Blue Hills, *Millsp. 2071; Wight 205.*
North Cat Cay — *Millsp. 2342.*

Psychotria pubescens Sw.

In coppices and pine barrens :

Abaco — Marsh Harbor, *Brace 1836.*
Great Bahama — Eight Mile Rocks, *Brace 3700.*
Andros — Conch Sound, *Northrop 585* (*Myrstiphyllum pubescens*).
New Providence — Farringdon Road, *B. & Br. 204;* near Nassau, *Cooper 78; Brace 168.*
Cat Island — Port Howe, *Hitchcock* (*Myrstiphyllum undatum*).

Psychotria undata Jacq.

In coppices and pine barrens. The common form in the Bahamas. Known as "WILD COFFEE."

Abaco — Marsh Harbor, *Brace 1596, 1613.*
Great Bahama — West End, *Brace 3547.*
South Bimini — *Millsp. 2381.*
Andros — Nichols Town, *Northrop 361* (*Myrstiphyllum undatum*).
Hog Island — *B. & Br. 347.*
Rose Island — *B. & M. 2116.*
New Providence — *Britton 26, 100, 117, 142; Coker 28, 29; B. & Br. 179, 347, 437; Millsp. 2051, 2083, 2180, 2197, 2236, 2484; E. G. B. 3149, 3147; Brace 29; Cooper 59; Hitchcock* (*Myrstiphyllum undatum*).
Eleuthera — opposite Spanish Wells and at Tarpum Bay, *Coker 330, 412.*
Great Guana Cay — *B. & M. 2868.*
Exuma — near Georgetown, *B. & M. 3138.*
Long Island — Clarence Harbor, *Coker 507.*

Morinda royoc L.

Scrublands and pine barrens. Known as "RHUBARB" and "WILD MULBERRY."

Abaco — Marsh Harbor, Great Cistern, and Butler Bay, *Brace 1590, 1763, 1517.*
Great Bahama — Eight Mile Rocks, *B. & M. 2427;* West End, *Brace 3487.*
Andros — Conch Sound, *Northrop 425.*
Eleuthera — Gregory Town, *Coker 379.*

Ernodea

This genus is being considered by Dr. Britton.

Hemidiodia ocimifolia (Willd) Schum.

In water holes. Not before collected on the Islands:
New Providence — water hole on Harold Road, *B. & Br. 532.*

Borreria

This genus is being considered by Dr. Britton.

Spermacoce aspera Aubl.

On waste grounds and in sink holes:
Abaco — Eight Mile Bay, *Brace 1861.*
Great Bahama — Eight Mile Rocks, *B. & M. 2473.*

New Providence — Farringdon Road and Fort Charlotte, *B. & Br. 182, 779; Brace 490; Hitchcock; Wight 32.*
Eleuthera — Governor's Harbor, *Hitchcock.*
Cat Island — Port Howe, *Hitchcock.*
Inagua — *N. & T. 1332, 1377; Hitchcock,*

Spermacoce tenuior (L.) Lam.

Only to be found in pot or banana holes:
Abaco — Marsh Harbor, *Brace 1640.*
Great Bahama — Eight Mile Rocks, *B. & M. 2475.*
New Providence — South West Point, *Northrop 319;* near Nassau, *Eggers 1441; Earle 18 b; Curtiss 18;* Blue Hills road, *Millsp. 2471.*
Eleuthera — Governor's Harbor, *Hitchcock.*
Great Guana Cay — *B. & M. 2898.*
Inagua — *N. & T. 1414; Hitchcock.*

Galium hispidulum Mx.

Pinelands infrequent. Identical with the species as found in the southeastern United States.
Elbow Cay — *Brace 1694.*
Abaco — Marsh Harbor, *Brace 1621;* Which Point, *Coker 563.*
Great Bahama — Eight Mile Rocks, *B. & M. 2403.*
Andros — Conch Sound, *Northrop 523* (*Relbunium hypocarpium*, this is a high mountain species of Jamaica).
New Providence — near Harold Road, *B. & Br. 429;* near Nassau, *Brace 330;* Blue Hills, *Millsp. 2062.*

VERBENACEÆ.

Ghinia curassavica (L.)

Ischnia verbenacea D. C. Verbena curassavica Linn. *Ghinia verbenacea* Sw.

Waste grounds, doubtless an introduced weed:
New Providence — Farringdon Road, *B. & Br. 183;* near Nassau, *Curtiss sine num.; Brace 192, 432.*

Lantana bahamensis Britton.

In coppices and scrub lands:
New Providence — near Ft. Montague, *B. & Br. 174* **type,** *328;* near Nassau, *Curtiss 109; Coker 126* (*L. crocea*); *Northrop 129* (*L. camara*); *E. G. B. 3441; Hitchcock* (*L. crocea*); *Millsp. 2089, 2257; Wight 87, 122.*
Andros — Conch Sound and Nichols Town, *Northrop 561, 352* (*L. crocea*); Red Bays, *490* (*L. camara*).

Eleuthera — Governor's Harbor, *Hitchcock* (*L. crocea*).
Exuma — near Georgetown, *B. & M. 2939*.
Cat Island — Port Howe, *Hitchcock* (*L. crocea*).

Lantana balsamifera Britton.

The range of this striking species is as yet rather intermittent. It is found in sand and on whitelands, and is known on Inagua as "MOUJEAN TEA."

Whale Cay — *B. & M. 2187*.
Eleuthera — Tarpum Bay, *Coker 410* (*L. involucrata*).
Little Inagua — *N. & T. 1211* **type,** *1198, 1203*.

Lantana camara L.

So far known only from the following Islands :

Watlings — *Hitchcock*.
Inagua — Mathew Town, *N. & T. 1468*.
Long Island — Clarence Harbor, *Coker 513* (*L. crocea*).

(LANTANA CROCEA Jacq.

This species, though reported by all writers on Bahamian plants, has not yet been seen from the islands).

Lantana demutata sp. nov.

Frutex glabro valido ramoso cortice rugoso. Rami virgatis ascendentis, foliis petiolatis oblongis vel oblanceolatis ad basin attenuatis, obtusis margine revolutis crenato-dentatis pagina utraque minute et strigose pilosis, supra reticulato-rugosis infra pilis densis nervis crassis prominentis. Inflorescentia axillaribus longe pedunculatis pedunculæ filosis ad apice intumescentis capitulae brevis globosis 5-8-floris bractae foliosis ovato-rotundatis crassis. calyce paleaceis coronatis irregulariter dentatis margine ciliatis, corolla tubo longis infundibuliformis aliquid curvatis limbo irregulariter lobatis, lobis superiora erectis rotundatis integris, lateralis parvis irregulariter fisso-dentatis inferiora transverse-ovatis reflexis integris ad basi auriculatis. Fructus globosis carnosis, pyrena profunde et similariter tuber cibariae foveolatis.

A spreading, globose-headed, odorless shrub 1.5 to 2 m. high. Leaves 1 – 1.5 cm. x 6 – 8 mm., petioles 2 mm., peduncles 2 – 4 cm. long. Calyx 1 mm., corolla 3.5 mm. The species approximates L. involucrata, from which it differs, however, in many characters. No counterpart of the specimens could be found in Hb. Kew or British Museum.

In scrublands:

Exuma — near Georgetown, Feb. 26, 1905, *B. & M. 2940* **type.**

Lantana involucrata Linn.

Common in scrub and open lands. Known as "WILD SAGE."

Allen's Cay — *Brace 1534*.

Abaco — Cherokee Sound, *Brace 1940.*
Great Bahama — Eight Mile Rocks, *B. & M. 2444.*
Great Sturrup Cay — *B. & M.*
Lignum Vitae Cay — *B. & M.*
Little and Great Harbor Cays — *B. & M.*
Frozen Cay — *B. & M.*
Whale Cay — *B. & M. 2188.*
Gun Cay — *Millsp. 2306.*
South Cat Cay — *Millsp. 2422.*
Mangrove Cay — *Bryant 15.*
Rose Island — *B. & M. 2127.*
New Providence — near Ft. Montague, *Northrop 56; Curtiss sine num.; Britton 51; Earle 45; Coker 21; Brace 70; Hitchcock; Wight 45.*
Eleuthera — Governor's Harbor, *Hitchcock.*
Exuma Chain — on all islands visited except Exuma Island, *B. & M.;* Cave Cay, *B. & M. 2821.*
Cat Island — Port Howe, *Hitchcock.*
Watlings Island — *Hitchcock.*
Crooked Island — *Hitchcock.*
Fortune Island — *Hitchcock.*
Inagua — Mathew Town, *N. & T. 890, 933; Hitchcock.*
Grand Turk Island — *N. & T. 3763; Hjalmarsson.*

Lantana odorata Linn.

Doubtless rare on the Bahamian Islands. So far only known by the following specimen:

Green Turtle Cay — *Brace 1478.*

Lantana ovatifolia Britton.

A peculiar large and coarse-leaved species, sprawling among shrubs and Pteridium in the pine lands of:

Great Bahama — at Eight Mile Rocks, *B. & M. 2430* **type**; *Brace 3686.*

NASHIA gen. nov.

Frutices. Truncus 4-costatus. Cortex roseo-cinereus in laciniae tenuiter exfolientibus. Rami opposito robustis, ramuli ad tuberculae reductus. Foliis ad apicem tuberculae fasciculato vel ad rami oppositi dispositis. Inflorescentia capitellata, rhachi crasso, calyce in annulo reducto corolla tubulo-campanulatis in aestivo valvato lobis 4 aequaliter magnitudo stamina 4 didymamo. Fructus drupaceus, pyrenae in nuculis osseis coherentibus.

I take great pleasure in dedicating this striking genus to Mr. George Valentine Nash, who, in his energetic field work in the Bahamas, South Florida and Haiti, has rediscovered many little known species and amassed very valuable collections toward a flora of these regions.

Nashia inaguensis sp. nov.

Frutex citronellae odoratis. Rami crassis oppositis tereto-quadrangularis cortex roseo-cinereis in laminii longitudinale exfoliatis. Folia brevissime petiolatis ad ramuli, baculatum et lanatum in fasciculi dispositis, ovatis vel obovatis vel spathulatis vel ligulatis, obtusis ad basin attenuatis pagina supra valde reticulo-rugosa strigosis infra strigose-tomentosis margine ad siccam revolutis integris. Inflorescentia sessilis, ad media ramulorum dispositis; flores 6 – 8 albis cum tubo aurentio-luteus, bractae rutelliformis apiculatis ciliatis floribus longioribus. Calyce minutis annulatis dentatis ciliatis ad rachi persistentibus, corolla campanulatis lobis aequantis duo exterior magnis ad basin auriculatis apice emarginatis duo interior integris, stigma peltatis post anthesis sagittatis, stylis indusis, filmenta abbreviata tubo tertia demittere insertis. Drupa pyriformis extus carnosis, putamen duris laevis.

A stout, straggling, endemic bush 1.5 to 2m. high, with strong, stout branches issuing at right angles. Trunk 4 – 5 dm. long 3 – 4 cm. in diameter, leaves 5 – 8 x 3 – 5 mm. ; bracts 2.5 x 2 mm. Drupes fleshy 3 x 4 mm. ; nutlets 2.5 x 3.5 mm. So far only known from:

Inagua — in scrublands back of Mathew Town, Oct. 13, 1904, *Nash & Taylor 1006* **type**, *1454*. A sheet also found in the *Hitchcock* collection marked "Lantana sp. from Inagua Dec. 3, 1890". *Mr. Brace* sends a small specimen of the species from a garden in Nassau "where it was planted from Inagua." It is well known to the natives, who use the leaves in decoction as a febrifuge known as "MOUJEAN TEA."

Lippia nodiflora (L.) Michx.

Open sandy places :

Great Bahama — clearing at Eight Mile Rocks, *B. & M. 2368;* West End, *Brace 3575*.

North Cat Cay — *Millsp. 2337*

Andros — Red Bays, *Northrop 481*.

Hog Island — *Northrop 250*.

New Providence — near Nassau, *Brace 265;* near Grants Town, *Coker 280;* at Lake Cunningham, *Britton 105*, *Millsp. 2185; Wight 162*.

Eleuthera — Governor's Harbor, *Hitchcock*.

Exuma — near Georgetown, *B. & M.*

Cat Island — Port Howe, *Hitchcock*.

Inagua — *N. & T. 1091, 1276, 1465*.

Lippia reptans H. B. K.

Shores of the sea or brackish marshes :

New Providence — near Nassau, *Northrop 114*, (*L. canescens*); *Coker 98*, (*L. canescens*) ; *Hitchcock* (*L. nodiflora*).

Inagua — Lower Savannah near Blakeville, *N. & T. 1131; Hitchcock* (*L. nodiflora*).

Lippia stoechadifolia (L.) H. B. K.

Borders of fresh water pools or marshes and in water holes:

New Providence — near Clifton, *B. & Br. 745.*

Exuma — in a water hole in palmetto lands back of Georgetown, *B. & M. 2964.*

Cat Island — near Arthur's Town, *Coker 430.*

Bouchea prismatica (L.) Ktze.

B. Ehrenbergii Cham. In waste grounds:

New Providence — at Fort Charlotte, *B & Br. 782; Brace 371.*

Valerianodes fruticosa sp. nov.

Stachytarpheta et *Stachytarpha* et *Abena*. § Pachyurae: Frutex. Caule erectis duro-lignosis superne ramosis, rami teretis glabriusculis, ramuli subtetragonis; foliis ovato-lancolatis basi contracta in petiolum spurium decurrentibus, apice acutis margine plus minusve patenti-dentatus, pagina supra nitidis subtus pallidulo-viridis glabriusculis, nervi medius alboviridis, utrinque minute nigro-punctatis. Spices terminalibus cylindraceus brevis tortis, glabris, floribus arrectis demum rhachi incrassatae immersis bracteis ovato-lanceolatis calyce subcarinatis margine integris non scariosis, calyce compressis bifidis aequantibus. Fructus obpyriformis manifeste apiculatis, pyrenae jugis pars dorsalibus et citra apicem rugis evidentis anastomosantibus.

A shrub 1 – 2 m. high with a strong, erect stem one-half to three-fourths of a meter long, with white bark and dense, pinkish wood (in our specimen showing 12 annular rings). Leaves 4 – 7 cm. long by 1 – 2 cm. broad. Spikes 5 – 10 cm. long, 4 mm. thick. Pyrenae 6 mm. long, by 2 mm. broad, full twice the dimensions of those of V. jamaicensis to which the species appears nearest related. From that species it also strongly differs in its shrub character, short spikes, and punctate glabrous leaves. In scrublands, infrequent:

Great Bahama — West End, *Brace 3574.*

Rose Island — Jan. 27, 1905, *Britton & Millspaugh 2125* **type.**

Wide Opening, Cay north of — from crevices in rocks, *B. & M. 2771.*

Valerianodes jamaicensis (L.) Medic.

In scrublands and open waste grounds:

Great Bahama — Eight Mile Rocks, *B. & M. 2479.*

Great Sturrup Cay — *B. & M.*

Goat Cay — *B. & M. 2300.*

Lignum Vitae Cay — *B. & M.*

Mangrove Cay — *Bryant 18.*
Rose Island — *B. & M.*
New Providence—near Nassau, *Earle 8; Brace 320; Northrop 19 (Abena); Coker 113. (Abena); Millsp. 2465; Hitchcock (Abena); Wight 85.*
Eleuthera — Governor's Harbor, *Hitchcock (Abena).*
Great Guana Cay — *B. & M.*
Exuma — *B. & M.*
Fortune Island — *Hitchcock (Abena).*
Inagua — *N. & T. 1068; Hitchcock (Abena).*
Grand Turk Island — *N. & T. 3870.*

Priva lappulacea (L.) Pers.

P. echinata Juss. Waste places near habitations, doubtless an introduced weed.

Green Turtle Cay — *Brace 1482.*
New Providence — near Nassau, *Curtiss 24; B. & Br. 534, 655; Earle 12; Coker 268; Wight 40.*
Eleuthera — Governor's Harbor, *Hitchcock.*
Inagua — *Hitchcock.*

Citharexylon* *sp.*

A shrub with obovate short-acuminate acute or emarginate glabrous leaves and paniculate inflorescence.

Inagua — Salt Pond Hill, *N. & T. 935.*

The specimens are too incomplete for satisfactory specific determination.

Citharexylon Berterii Spreng. (?)

In coppices:

Andros — Fresh Creek, *Northrop 608.*

The specimen under this number in herb. Field Col. Museum possesses either teratological or very immature flowers, hence this determination is rendered somewhat doubtful.

Citharexylon caudatum L.

In a coastal coppice:

Andros — Couch Sound, *Northrop 571* (*C. lucidum*) Cham. & Schlecht.

(CITHAREXYLON QUADRANGULARE Jacq.

Prof. Coker's specimens referred to this species in his "Vegetation. The Bahama Islands" have not been seen by the writer.)

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*This consideration of the genus Citharexylon is by Dr. J. M. Greenman.

Citharexylon villosum Jacq.

In coastal coppices :

Abaco — Eight Mile Bay, *Brace 1882.*

New Providence — at Southwest Bay and along Farringdon Road, *B. & Br. 499, 233;* near Nassau, *Hitchcock.*

Cat Island — Port Howe, *Hitchcock.*

This species shows considerable variation in leaf outline, degree of pubescence and size and color of the pyrenae. Mr. Combs' No. 468 from Cieneguita, Cuba ; *Mr. Brace's* Abaco *No. 1882;* and Mr. Nash's 991 from Hayti are broad leaved forms. These pass through *Britton & Brace's* New Providence *499* to narrower leaved forms representing C. bahamense Millsp. (Bull. N. Y. Bot. Gard. 3. 450.) To this form are referable, *Britton & Brace's* New Providence *233* type; *Hitchcock's* New Providence and Cat Island specimens ; and Paulsen's St. Thomas No. 156, the last specimen cited was distributed as C. cinereum L.

Duranta repens Linn.

D. Plumieri Jacq. Plentiful where found at all. Generally in the pine barrens and open scrublands. Apparently native though possibly introduced and now spreading.

Abaco — Marsh Harbor, *Brace 1740.*

Great Bahama — pine barrens at Eight Mile Rocks, *B. & M. 2434; Brace 3687.*

New Providence — near Nassau, *Northrop 39; Cooper 33; Curtiss 1; Coker 61; Brace 22; Millsp. 2050; Hitchcock; Wight 4, 49.*

Eleuthera — Governor's Harbor, *Hitchcock.*

Callicarpa fulva Rich.

In scrub land and coppice :

Cat Island — *Hitchcock.*

Mr. Hitchcock's plant, while having (on account of its greatly reduced leaves) a quite distinct general appearance of difference from C. fulva (as well represented by C. Wright's 1357 Monte Verde, Cuba, May 30, 1859,) nevertheless has no other characters of differentiation. It is fairly well connected in leaf size and form with the Wright plant through Mr. Wright's other 1357 collected at the base of Farallones, Sept. 29, 1860, which is in the same fruiting stage as the Hitchcock plant. Of this Farallones plant Mr. Wright says, "A slender bush 6 to 10 feet high : in thick woods."

Sauvalle (Fl. Cub. 113) considers this species synonymous with the Jamaican C. ferruginea Swartz, this however is not the case, the differences are broad and evident.

Grisebach in his Catalogus Plantarum Cubensium includes under C. fulva Rich. Mr. Wright's Majanabajo, Cuba 3173 with the remark "forma foliis lanceolatis." The sheet of this number in Herb. Gray, Cambridge (one of Mr. Wright's original series), proves to be an entirely different species. This may be designated as follows:

Callicarpa lancifolia sp. nov.

Ramulis cum cymis petiolis foliorumque tomento stellari ferrugineo canescentibus, foliis crassis lanceolatis apice acutis ad basin attenuatis brevipetiolatis, supra nigra, ad sicca valde reticulato-rugosis et minute resinosis, infra lutea dense stellato-canescentibus, margine leviter et irregulariter crenato-denticulosis. Cymis axillaribus folio medio brevioribus ramoso-dichotomis, calyce campanulatis dense resino-granulatis cum quidam pilae stellatis et perpauci hirtis, limbo in lobis triangularis valde divisis.

Eastern Cuba, C. Wright No. 3173 in Herb. Gray, Cambridge, U.S.A. **type**. Leaves 5 cm. long, 1 cm. broad, strongly bicolor; they differ from those of C. fulva Rich. in their shape, the far less prominence of the veins beneath, and in not having the pubescence thereon so thick and strongly tufted.

Petitia domingensis Jacq.

P. Poeppigii Schl. In pine barrens and scrublands:
Abaco — Marsh Harbor, *Brace 1630, 1721.*
Great Bahama — Eight Mile Rocks, *B. & M. 2593.*
Andros — Nichols Town, *Northrop 358.*
Mangrove Cay — *Coker 224.*
New Providence — near Nassau, *Cooper 34; Eggers 4201; Britton 27; Millsp. 2090; Wight 206; Coker 162, 556; Curtiss 136; Brace 55;* near Lake Cunningham, *B. & Br. 604;* Lake Killarney, *E. G. B. 3288.*
Eleuthera — Governor's Harbor, *Hitchcock* (*P. Poeppigii*).
Cat Island — Arthur's Town, *Coker 423* (*P. Poeppigii*).

PSEUDOCARPIDIUM gen nov.

Arbusculae aut frutices folia simplicia opposita integra aut crenato-dentata, flores paniculata. Calyces campanulata 5-dentata aequalia. Corolla tubulosa 5-fida. Stamina 4, didynama exserta, stigma bifida. Drupa 2-pyreneis, pyrene osseis 2-loculus monospermis in drupa centralia dispositis.

The name from ψευδής false, καρπίδιον carpid, in reference to the four carpid-like prominences on the fruit; these apparent cocci are simply fleshy masses, Richard's fig. 3, pl. 64 in La Sagra to the contrary. notwithstanding. The known species are as follows:

(PSEUDOCARPIDIUM ILICIFOLIUM (Rich.)

Vitex ilicifolia Rich. in La Sagra Hist. Cuba Bot. 2; 148).

(PSEUDOCARPIDIUM AVICENNIOIDES (Rich.).

Vitex avicennioides Rich. in La Sagra Hist. Cuba Bot. 2; 149).

Pseudocarpidium Wrightii sp. nov.

Frutex a basi ramosissimis, rami glabris crassis, cortice argenteo-albis. Foliis coriaceis late obovatis vel orbiculatis vel ovato-lanceolatis apice obtusis, basi subcordatis, margine superante subsinuoso-dentatis spinosis vel tantummodo spinosis, pagina supra nitidis valde reticulo-venosis, infra cum grana resinosa pulverulentibus ad venae minutissime pubescentibus. Inflorescentia paniculatis, paniculae laxis longe et filosae pedunculatis folio plus longioribus supra dichotomis, tota minutissime resinoso-pulverulentibus, bractae linearis. Calyce campanulatis obtuse 5-deltoideo-dentatis, corolla bilabiatis limbo explanatis, labia superiore erectis integris apice deltoideis, labia inferiore in dentibus quatior productis, dentes lateralia ovatis acutis, dentes inferiore deltoideis. Drupa depressa producte in lobis quatior ad centro bipyreneis, pyrenæ osseis hemisphaeris dorso bi-costatis ventro profunde sulcatis.

A tall, lax and woody shrub with opposite, ascending branches and shining holly-like leaves. Leaves 2.5–3.5 x 1.3–2 cm., petioles about 4 mm., the spines confined to the upper half of the leaf. Peduncles 3.5–5 cm.

In coppices and scrublands:

Mangrove Cay — *Bryant 2.*

Andros — at Fresh Creek, *Northrop* June 6, 1890, *no. 625*, **type**; *Wight 261.*

The specimens agree with those of Combs, Calicita, Cuba 239, and Shafer, Madruga, Cuba 74. There are two plants of Wright, Cuba orientali bearing his number 421, one being this species and the other P. ilicifolium, evidently a case of attempted matching of plants before distribution, unfortunately therefore I am compelled to take the later gathered Bahamian plant for the type.

The foliage form and shape is very variable, never however even approaching that of P. ilicifolium, in which the margins are crenate and spinous throughout, while those of P. Wrightii are simply spinous and that only on the upper half of the leaf. Both sides of the leaf in P. ilicifolium are pubescent, while in P. Wrightii the upper side is shining and strongly reticulate, while the lower surface is resinous pulverulent.

Clerodendron aculeatum (L.) Griseb.

Rare in collections. Only known by:

New Providence — "Escaped" near Nassau, *Northrop 296* (*Ovieda*).

Inagua — *N. & T. 1471.*

Ovieda fragrans (Willd.) Hitch.

Escaped from cultivation and becoming fully naturalized along roadways on:

New Providence — Blue Hills Road, *Northrop 328*; roadside at Lake Cunningham, *Millsp. 2221*; Nassau, cult. *Hitchcock*.

Avicennia nitida Jacq.

In salt and brackish borders, nowhere common:

Abaco — Cherokee Sound, *Brace 1849*.
Great Bahama — Barnett's Point, *B. & M.*
Great Harbor Cay — In the large savannah, *B. & M.*
Frozen Cay — *B. & M.*
South Bimini — at the south end, *Millsp. 2396*.
New Providence — collected by M. A. Howe far out from the south side beach, *Millsp. 2482*.
Andros — at Mastic Point, *Northrop 593*.
Ship Channel Cay — *B. & M.*
Great Guana Cay — *B. & M.*
Exuma — in the tide pond at Georgetown, *B. & M.*
Fortune Island — *Hitchcock*.
Inagua — *N. & T. 1326*.
Grand Turk Island — *N. & T. 3823*.

SOLANACEÆ.

Solanum didymacanthum sp. nov.

§ *Leptostemonum – Graciliflora.* Rami pilis stellatis pilosi, aculiatissimis, foliis minutis integris utrinque stellati-pilosis. Caulis fruticosus ramosissimus 1–1.5 m. alt. Rami nigro-viridibus subtomentosis, pilis stellaris, aculeatissimis, aculeis acicularibus ad nodi geminibus foliis bis vel tres longioribus, praegracilis leviter recurvis divaricato-horizontalibus rubro-brunneus basi incrassatis, medio centim. longis. Foliis fasciculatis omnes minutis, petiolatis, oblongis vel obovatis integris 2–2.5 mm. longis utrinque stellati-pilosis, basi acutis, apice acutis vel obtusis. Inflorescentia solitaria terminalia. Pedunculi 3 mm. longi, uniflori, stellato-pilosi inermi; calyce stellato-pilosis inermis 5-dentatis, laciniis lanceolato-triangularis acutis, 1 mm. longis; corolla alba (?) 5-partita, laciniis liguliformis stellato-pilosis, 8 mm. longis. Stamina 5 corolla nonnihil breviore. Ovarium globosum minimum; stylus filiformis staminibus longior. Bacca ignota.

A densely virgate-branching, spiny shrub, with minute leaves, the uppermost of which often bear a single spine central upon the midrib of the same length and character as those of the nodes; slightly recurved, needle-like spines full twice or thrice the length of the

leaves, issuing in twins from each node; and single, comparatively large flowers terminal on each branchlet.

Exuma — in the open scrubland near the west end of Hayne's road, *B. & M. 3037* **type.**

Cat Island — at Port Howe, *Hitchcock*. This specimen has ovate-spatulate leaves as long as or nearly the length of the spines or sometimes exceeding them.

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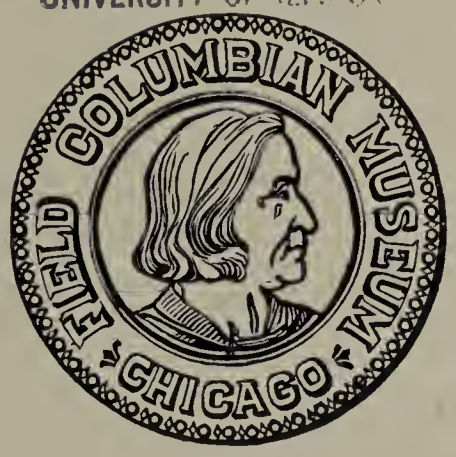

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STUDIES IN THE GENUS CITHAREXYLUM.

BY J. M. GREENMAN.

The present paper embodies the results of a study of the material representing the genus Citharexylum in the collections of John Donnell Smith, the Gray Herbarium, and the herbarium of the Field Museum of Natural History. It is intended as preliminary to a synoptical revision of the group, which the writer already has well under way. The generic limitations are those of Bentham & Hooker, f. Genera Plantarum, ii, 1149, and of Briquet in Engler & Prantl, Die natürlichen Pflanzenfamilien, iv. Ab. 3a, 159; and the Latin form of the generic name is that adopted by Linnæus in the first edition of the Species Plantarum, notwithstanding the earlier use of the Greek termination. The writer desires to express his thanks to Mr. John Donnell Smith for the loan of his excellent suite of specimens of this genus, and to Prof. B. L. Robinson of the Gray Herbarium, where the greater part of this work was done.

Citharexylum Bourgeauianum, sp. nov.

Tree: branches somewhat 4-angled, striate, alternately flattened at the nodes; the ultimate branches evenly pubescent with short spreading hairs: leaves opposite, ovate to oblong-lanceolate, including the petiole 6 to 18 cm. long, 1.5 to 6 cm. broad, usually acuminate, acute or obtuse, entire, glabrous above except for a slight puberulence on the sunken midrib, velvety pubescent beneath, narrowed at the base into a canaliculate 1 to 2 cm. long petiole; midrib and lateral nerves rather prominent on the under surface: inflorescence terminating the stem and branches in elongated racemes, occasionally somewhat paniculately disposed, 2 dm. or less in length, hirsutish pubescent; bracts subulate, 1 to 2 mm. long, equaling or slightly exceeding the stoutish pedicels, soon recurved and more or less persistent: calyx somewhat tubular or deeply cup-shaped, about 5 mm. long, crenately 5-lobed, hirtellous on the outer surface and slightly puberulent within: corolla subsalverform, white; tube equaling or barely exceeding the calyx, pubescent in the throat; lobes oblong, 3 mm. long, pubescent on both surfaces: fruit not seen.—Mexico. State of Vera Cruz: region of Orizaba, *Bourgeau*, no. 2525 (hb. Gray) type; Orizaba, *Botteri*, nos. 880 (hb. Gray), 1092 (hb. Gray, hb. John Donnell Smith, and hb. Field Mus.).

Citharexylum crassifolium, sp. nov.

Stem terete, covered with a grayish bark; ultimate branchlets subtetragonal, compressed at the nodes, striate, pubescent: leaves opposite, petiolate, oblong to oblong-lanceolate, including the petiole 5 to 13.5 cm. long, 2 to 5 cm. broad, obtuse or retuse, entire, revolute-margined, narrowed at the base into the petiole, dull green and minutely scabrellous above, conspicuously reticulate-nerved and pubescent beneath; petioles 0.5 to 1 cm. long, stout, 2 to 5 mm. thick, canaliculate, puberulent: racemes terminal and solitary or several and paniculately disposed, short-hirsute; bracts minute, triangular, acute, about equaling the pedicels: flowers in anthesis 4 to 5 mm. long: calyx narrowly campanulate, 2 to 2.5 mm. long, 5-angled in cross section, shallowly sinuate, 5-denticulate, externally minutely pubescent: corolla tubular-funnelform, about twice as long as the calyx; tube externally glabrous, pubescent within, especially in the throat; lobes subequal, ovate-rotund, 1 to 1.5 mm. long and broad, pubescent on both surfaces: perfect stamens 4, the fifth reduced to a minute staminodium: ovary and style glabrous: mature fruit unknown.—*C. cinereum*, Donnell Smith, Enum. Pl. Guat. ii. 60 (1891), and vi. 33 (1903), not L.—GUATEMALA. Department of Baha Vera Paz, in forests of Santa Rosa, altitude 1520 m., July, 1887, *H. von Tuerckheim*, no. 1308 (hb. John Donnell Smith). This species has been confused with *C. cinereum*, L., from which it is readily separated on leaf-character alone. The leaves in *C. crassifolium* are thicker or more leathery in texture, dull green and not conspicuously reticulate-veined above, and furthermore the calyx is smaller than in *C. cinereum*, L.

Citharexylum Donnell-Smithii, sp. nov.

Tree: stem covered with grayish bark; ultimate branches terete, compressed at the nodes, reddish-brown, striate, dotted with scattered lenticels: leaves opposite or rarely subalternate, petiolate, lanceolate to lance-oblong, rarely ovate, including the petiole 0.5 to 2.1 dm. long (mostly 1 to 2 dm.), 2 to 5.5 cm. broad, usually acuminate and acute, occasionally obtuse, entire, slightly if at all revolute-margined, rather gradually narrowed at the base into the petiole, green above, a little paler and inconspicuously punctate beneath, glabrous on both surfaces, bearing 1 to several small glands at the junction of blade and petiole and an occasional gland on the under side of the lamina; midrib and lateral nerves rather prominent especially on the under side of the leaf; petioles 1 to 3 cm. in length: inflorescence terminal; racemes 0.5 to 3.5 dm. in length, solitary or several and paniculately disposed, glabrous; bracts minute, subulate, mostly shorter than the 2 to 3 mm. long pedicels: flowers numerous, about 6 mm. long in anthesis: calyx tubular-campanulate, approximately 3 mm. long, strongly 5-angled in cross section, sinuately 5-dentate, ciliolate, otherwise glabrous: corolla about twice exceeding the calyx, tubular-campanulate, subequally 5-lobed, externally glabrous, pubescent within; lobes oblong about 2 mm. long, rounded at the apex, pubescent on the upper or inner surface, glabrous on the outer or lower surface: perfect stamens 4, slightly projecting beyond the tube of the corolla: ovary and style

glabrous: fruit drupaceous, oblong-spherical, 6 to 7 mm. long, bluish or purplish-black; pyrenæ submeniscoidal, 5 to 6 mm. long, 3 to 3.5 mm. broad, smooth.—*C. caudatum*, Donnell Smith, Prim. Fl. Costaricensis ii. 209 (1898) in part, not L. *C. villosum*, Donnell Smith, Enum. Pl. Guat. ii. 60 (1891), not Jacq.—GUATEMALA. Pecaya, Department of Amatitlan, altitude 1675 m., March, 1890, *John Donnell Smith*, no. 1879 (hb. Gray, and hb. John Donnell Smith) type. COSTA RICA. Plantations of the Café near Aserri, August, 1889, *Tonduz*, no. 1274 (hb. John Donnell Smith); along the highway en route to San Pedro, 18 November, 1889, *Tonduz*, no. 1419 (hb. John Donnell Smith); Volcano of Barba, altitude 2000 m., 10 January, 1890, *Tonduz*, no. 1741 (hb. John Donnell Smith); road to Santa Maria de Dota, altitude 1492 m., April, 1893, *Tonduz*, no. 7855 (hb. John Donnell Smith); San José, altitude 1135 m., January, 1895, *Tonduz*, no. 9623 (hb. John Donnell Smith); San Pedro del Mojon, altitude 1100 m., January, 1895, *Pittier & Tonduz*, no. 9624 (hb. John Donnell Smith); environs of the Hacienda Belmira, near Santa Maria de Dota, altitude 1450 m., *Tonduz*, no. 11,646 (hb. John Donnell Smith).

Citharexylum Emrickianum, sp. nov.

Branches sharply 4-angled, striate, glabrous, reddish-brown: leaves opposite, petiolate, ovate, 6 to 12 cm. long, 3.5 to 6 cm. broad, obtuse or submucronate at the apex, entire, abruptly contracted at the base and slightly decurrent on the petiole, bi-glandular at the junction of petiole and blade, glabrous on both surfaces, slightly paler and minutely punctate beneath; petioles 1 to 3 cm. long: inflorescence in axillary pedunculate racemes, 8 to 16 cm. in length; bracts minute, subulate: flowers numerous, 5 to 6 mm. long during anthesis: calyx tubular-campanulate, 3 mm. long, 5-denticulate, 5-angled in cross section, externally glabrous, pubescent within and ciliolate about the orifice: corolla about twice as long as the calyx, pubescent in the throat, otherwise glabrous; lobes subrotund: drupe oblong-elliptic, 6 to 8 mm. long; pyrenæ deeply concave on the ventral side, dorsally somewhat obliquely corrugated.—MEXICO. State of Michoacan: Hacienda Coahuayula, February, 1901, *Dr. G. M. Emrick*, no. 179 (hb. Field Mus.).

Citharexylum hexangulare, sp. nov.

Stem sharply 6-angled, striate, glabrous: leaves verticillate, 3 in a whorl, petiolate, lanceolate to oblong-lanceolate, including the petiole 8 to 18 cm. long, 2.5 to 5.5 cm. broad, obtuse or acuminate and submucronate-acute, entire, narrowed at the base into a petiole, pale green and glabrous on both surfaces, bearing 1 or 2 glands at the junction of petiole and blade, rather strongly reticulate-veined; midrib and lateral veins rather prominent; petioles 1 to 1.5 cm. in length, glabrous: inflorescence terminating the stem in flabellate panicles; the individual spicate racemes of the inflorescence 1 to 2 dm. in length, glabrous or inconspicuously puberulent; bracts minute, subulate, equaling or slightly exceeding the pedicels, persistent: flowers on jointed pedicels, rather crowded, 5 to 6 mm. long in anthesis:

calyx tubular-campanulate, about 3.5 mm. long, 5-toothed, 5-nerved and with intermediate smaller subanastomosing veins, ciliolate, otherwise glabrous: corolla tubular-campanulate, pubescent on both surfaces; tube slightly exceeding the calyx; lobes somewhat unequal, ovate-rotund to broadly oblong, 2 to 3 mm. long, nearly or quite as broad, spreading or reflexed: perfect stamens 4, the fifth reduced to a mere staminodium, included: ovary glabrous; style pubescent: mature fruit unknown.—*C. reticulatum*, Donnell Smith, Enum. Pl. Guat. vi. 34 (1903), not HBK.—GUATEMALA. Cubilquitz, Department of Alta Vera Paz, altitude 350 m., September, 1901, *H. von Tuerckheim*, no. 7765 (hb. John Donnell Smith, and hb Gray). This number was distributed in the exsiccatæ of John Donnell Smith under the name "*Citharexylum reticulatum*, H. B. et K.," from which species, however, the one here described differs in having larger leaves disposed in whorls of three, and a paniculate inflorescence with longer individual racemes.

Citharexylum Kerberi, sp. nov.

Stem terete to subtetragonal, covered with a light gray or whitish bark, glabrous; ultimate branchlets reddish brown, pubescent: leaves opposite, obovate to elliptic-lanceolate, including the petiole 5 to 15 cm. long, 2 to 6 cm. broad, rounded to short-acuminate and acute at the apex, narrowed at the base into a 0.5 to 1 cm. long petiole, hispidulous above, densely pubescent beneath, usually biglandular at the junction of blade and petiole; midrib and lateral nerves somewhat sunken from the upper surface and rather prominent beneath: inflorescence terminating the stem and branches in elongated spicate racemes 13 to 18 cm. in length; rhachis hirsute-pubescent; bracts subulate, equaling or somewhat exceeding the short pedicels, usually persistent: flowers scattered, 12 to 15 mm. in length: calyx tubular, 6 to 7 mm. long, subulately 5-dentate, pubescent on both surfaces: corolla salver-shaped, about twice exceeding the calyx, puberulent at the base of the lobes in the throat and in the upper part of the tube, otherwise glabrous; tube 8 to 10 mm. long; lobes obovate to obovate-cuneate, 3 to 4.5 mm. long, two-thirds as broad: perfect stamens 4, included, the fifth stamen much reduced, often to a mere staminodium: ovary and style glabrous: mature fruit not seen.—MEXICO. Without definite locality, *E. Kerber*, no. 430 (hb. John Donnell Smith) This species passes under the native name of "Aceitunillo."

Citharexylum macradenium, sp. nov.

Shrub or small tree?, glabrous throughout: branches 4-angled, covered with a light gray or whitish cortex; ultimate branchlets striate, reddish brown, deciduously atomiferous glandular: leaves opposite or rarely subalternate, lanceolate to elliptic-lanceolate, 7 to 15 cm. long, 2 to 3.5 cm. broad, acute, entire, narrowed at the base into a 1 to 2 cm. long petiole, minutely punctate, dark green above, paler beneath, bearing at the base of the blade at its junction with the petiole commonly 2 large elliptic-oblong swollen glands especially prominent on the upper side of the leaf; lateral nerves arcuate, 6 to 9

on either side of the midrib: inflorescence terminating the stem and branches in simple or somewhat paniculately disposed racemes; bracts minute, subulate, 1 mm. long, about equaling the pedicels: calyx cupulate, 2.5 mm. high, subtruncate, minutely 5-denticulate, 5-angled in cross section: corolla tubular-funnelform, white: tube 4 mm. long, externally essentially glabrous, pubescent in the throat; lobes oblong, 2 mm. long, puberulent on both surfaces: stamens included: style puberulent: fruit not seen.—*C. caudatum*, Donnell Smith, Enum. Pl. Guat. v. 70 (1899), not L., and Prim. Fl. Costaricensis ii, 209 (1898) in part, not L.—COSTA RICA. Province of San José, La Palma, altitude 1460 m., August, 1898, *Tonduz*, no. 7407 (hb. Gr., hb. John Donnell Smith, and hb. Field Mus.) exsiccatæ J. Donnell Smith, i. e., no. 12,502 hb. Nat. Costa Rica; forêts du Rancho Flores, altitude 2043 m., 22 February, 1890, *Pittier*, no. 2132 (hb. John Donnell Smith).

Citharexylum punctatum, sp. nov.

Shrub?: stem and branches terete, covered with a grayish bark; ultimate branchlets subtetragonal, cinereous-puberulent: leaves elliptic-oblong to subobovate, including the petiole 1 to 2 cm. long, 5 to 12 mm. broad, usually short acuminate or somewhat pungent-tipped, entire or occasionally bearing 1 or 2 teeth on either margin, glabrous on both surfaces, conspicuously impressed-punctate above, minutely punctate under a lens beneath, narrowed at the base into a short petiole: inflorescence terminating the stem and branches in short few-flowered puberulent racemes, 1.5 cm. or less in length; bracts minute, triangular, acute, shorter than the stoutish pedicels: flowers 2 to 6 in each raceme, 7 to 8 mm. long in anthesis: calyx tubular-campanulate, 3 to 4 mm. long, sinuately 5-toothed, 5-angled in cross section, ciliolate, otherwise glabrous: corolla subsalverform, 5 to 6 mm. long, externally glabrous, pubescent in the upper part of the tube and in the throat; lobes oblong, about one-third the length of the tube: stamens 5, equal, included; filaments adnate to the corolla-tube: ovary and style glabrous; mature fruit drupaceous, slightly oblong, 10 to 12 mm. long, purplish-black in the dried state; pyrenæ oblong, about 7 mm. long, deeply concave on the ventral or inner surface, conspicuously corrugated or somewhat irregularly furrowed longitudinally over the dorsal surface.—BOLIVIA. Without definite locality, *Bang*, no. 1917 (hb. Gray, hb. John Donnell Smith, and hb. Field Mus.), distributed as "*Citharexylum ilicifolium* H.B.K.," from which, however, it differs in having smaller and entirely glabrous leaves with an entire, not spinose-dentate, margin. The striking impressed punctation of the leaves of *C. punctatum* serves as an excellent diagnostic character.

Citharexylum recurvatum, sp. nov.

Stem terete, covered with a gray or grayish-brown bark; ultimate branches terete, compressed at the nodes, striate, glabrous: leaves opposite, petiolate, lanceolate-oblong to subovate, including the petiole 4 to 11.5 cm. long, 1.5 to 3.5 cm. broad, obtuse (rarely emar-

ginate) to acute, entire, revolute-margined, narrowed at the base into the petiole, dark green above, paler and minutely punctate beneath, glabrous on both surfaces; midrib and lateral nerves rather prominent, especially beneath; glands 1 to 4 at the junction of blade and petiole, not conspicuous; petioles 0.5 to 2 cm. long, glabrous: inflorescence terminating the stem and branches in simple rarely branched glabrous racemes, becoming strongly recurved and 1 to 2 cm. in length; pedicels persistent, 2 to 3 mm. long, jointed above the middle, equaling or somewhat exceeding the minute subulate bracts: flowers small: calyx tubular-campanulate, about 3 mm. long, shallowly sinuate, minutely 5-denticulate, glabrous: corolla subequally 5-lobed: perfect stamens 4, included: ovary and style glabrous: mature fruit an oblong drupe, 5 to 7 mm. in length, bluish-black; pyrenæ elliptic-oblong, 4 to 5 mm. long, 3 to 3.5 mm. broad, 2 mm. thick, smooth.—*C. villosum*, Donnell Smith, Enum. Pl. Guat. iv. 123 (1895), not Jacq.—COSTA RICA. Rio Reventado, Prov. Cartago, altitude 1830 m., April, 1888, *Juan J. Cooper*, no. 5889 (hb. John Donnell Smith, and hb. Gray). PANAMA. Without locality, *Duchassing* (hb. Gray).

Citharexylum Schottii, sp. nov.

Stem covered with a grayish bark and dotted with numerous lenticels; branchlets slightly 4-angled, striate, brownish, glabrous: leaves opposite, petiolate, elliptic-lanceolate, including the petiole 4 to 11 cm. long, 1 to 3 cm. broad, obtuse or submucronate-acute, entire, gradually narrowed at the base into a slender petiole, glabrous on both surfaces or very minutely hirtellous above, usually reddish-brown beneath in the dried state, commonly bearing two glands at the junction of petiole and blade; petioles 1 to 2 cm. long: inflorescence a terminal panicle; bracts subulate, equaling or slightly exceeding the short jointed pedicels: flowers numerous: calyx tubular-campanulate, during anthesis about 2.5 mm. high, sinuately 5-dentate, 5-angled in cross section, becoming somewhat saucer-shaped in the fruiting stages: corolla about twice as long as the calyx, externally glabrous or essentially so, pubescent in the throat; tube exceeding the calyx, obconical; lobes oblong-rotund, pubescent on the upper or inner surface, ciliolate: fruit oblong-obovate, 5 to 7 mm. long, drupaceous; pyrenæ oblong, about 5 mm. long, the inner surface concave, the outer convex and smooth or slightly furrowed towards the bidentate base.—*C. quadrangulare*, Millsp. Field Columb. Mus. Bot. Ser. i. 386, not Jacq.—YUCATAN. Near Merida, 28 July, 1865, *Dr. A. Schott*, no. 575 (hb. Field Mus.) type; Izamal, *Dr. G. F. Gaumer*, no. 765 *bis* (hb. Field Mus.); Chichankanab, *Dr. G. F. Gaumer*, no. 1944 (hb. Field Mus.).

The species here proposed differs from *C. quadrangulare*, Jacq. in its more profuse inflorescence, smaller fruit, etc. Superficially *C. Schottii* resembles *C. glabrum*, Greenm., but from this species again it differs in having the spicate branches of the panicle erect or ascending, and in having also a proportionately shorter corolla-tube, and the lobes of the corolla glabrous or essentially so on the outer surface.

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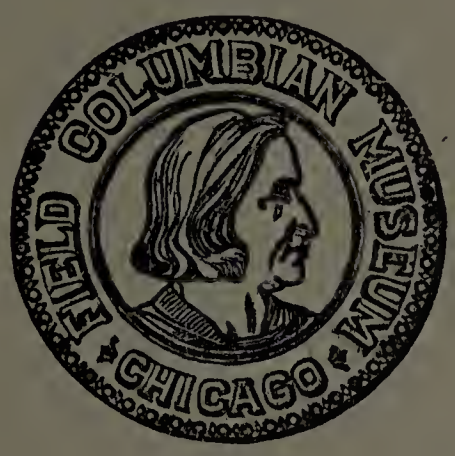

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New or Noteworthy Spermatophytes from Mexico, Central America, and the West Indies.

By J. M. GREENMAN.

The diagnoses and notes here presented are the results of critical study in the determination of several recent collections of plants from Mexico, Central America and the West Indies, particularly those of Mr. Edward A. Goldman, Professor Cassiano Conzatti, Dr. George F. Gaumer, Professors C. R. Barnes, C. J. Chamberlain and W. J. G. Land, Dr. Charles F. Millspaugh, Dr. J. N. Rose and assistants, Sr. Dr. Fernando Altamirano, Professor W. A. Kellerman, the late Dr. G. M. Emrick, Mr. H. A. Van Hermann, and several others including the writer. The material of certain groups, especially in the genus Senecio collected by Mr. C. G. Pringle, has been generously submitted to me for identification by Professor B. L. Robinson. The new species here proposed in this genus are preliminary to a forthcoming monograph of the North American Senecios.

CYPERUS OCHRACEUS Vahl, Enum. ii. 325 (1805).

Specimens agreeing well with the original description and with West Indian representatives of this species were collected at Laguna, near the City of Vera Cruz, Mexico, 22 January, 1906, *J. M. Greenman*, no. 30 (hb. Field Mus.). This species seems not to have been noted by Hemsley in the Biologia Centrali-Americana.

Hechtia macrophylla Greenman, sp. nov.

Leaves about 1 m. in length, 3.5 cm. broad just above the base, gradually tapering to the apex, glabrous above, lepidote-cinereous beneath; margins spinose; spines 3 cm. or less apart, upwardly curved, 6 mm. or less in length, usually bearing a tuft of persistent white floccose tomentum in the axils: inflorescence paniculate, about 4 dm. long, 1.5 to 2 dm. broad, lepidote-tomentulose; ultimate branches 2 to 12 cm. long, spicate, more or less loosely but evenly flowered throughout their entire length; floral bracts ovate, acute, 4 mm. long: staminate flowers sessile, about 5 mm. long in anthesis, spreading or reflexed; sepals

broadly ovate, 2.5 mm. long, acute; petals elliptic or elliptic-obovate, about 4 mm. long, strongly concave, free or slightly united at the base; ovary rudimentary: pistillate flowers and fruit unknown.— MEXICO. State of Vera Cruz: Carrizal, 12 to 14 May, 1901, *E. A. Goldman*, no. 712 (hb. U. S. Nat. Mus.; fragment and photograph in hb. Field Mus.).

The species here described is apparently nearest related to *Hechtia Schottii* Baker, and *H. texensis* Watson; from the former it differs in having longer leaves, more profusely branched inflorescence, and somewhat smaller floral bracts; from the latter it is readily separated by the longer leaves, the presence of conspicuous tufts of tomentum in the upper axils of the leaf-spines, and by the smaller and more scattered flowers.

HECHTIA SCHOTTII Baker, in Hemsl. Biol. Cent.-Am. Bot. iii. 318 (1884) & Handb. Bromel. 139 (1889); Mez in DC., Monogr. Phan. ix. 548 (1896).

In the herbarium of the Field Museum there is a specimen, collected by Schott in Yucatan, which is unmistakably referable to *Hechtia*. The label accompanying the plant bears no number, and likewise no time of collection, but it bears the data "Maxeana." The specimen consists of leaves, an inflorescence of staminate flowers, and a portion of a panicle bearing mature fruit. The characters exhibited by all these parts agree well with Baker's description, hence the plant is confidently referred to the above species; and, moreover, it probably represents a part of the same collection on which the species was founded. With this species are also identified specimens collected at Xcholac, Yucatan, *Dr. Geo. F. Gaumer*, no. 578 (hb. Field Mus.).

TILLANDSIA BALBISIANA Schult. f. in Roem. & Schult. Syst. vii. 1212 (1830); Mez in DC. Monogr. Phan. ix. 709 (1896). *T. setacea*, Millsp. Field Col. Mus. Bot. Ser. i. 356 (1898), not Sw.

To this species are referred the following.— MEXICO. State of Yucatan: Merida, 11 July, 1865, *Dr. A. Schott*, nos. 842, 842a in part (hb. Field Mus.); Izamal, 21 February, 1906, *J. M. Greenman*, no. 403 (hb. Field Mus.).

TILLANDSIA BRACHYCAULOS Schlecht. Linnaea, xviii. 422 (1844); Morr. Belg. Hort. 1878, 185, t. 11; Baker, Handb. Bromel. 201 (1889); Mez in DC. Monogr. Phan. ix. 732 (1896); Millsp. Field Col. Mus. Bot. Ser. i. 356 (1898).

Fruiting specimens of this species were collected by the writer at Izamal, Yucatan, in February of 1906. These agree in habit and foliar characters with flowering specimens which were secured in the same locality by Dr. A. Schott and also by Dr. Geo. F. Gaumer. The species is widely distributed, occurring from Mexico to South America, and although well known from flowering specimens, the fruit seems not to have been hitherto described, hence the following characterization is here given:

Mature capsules large, 3.5 to 4 cm. long, subcylindrical or obtusely triangular, short-acuminate at the apex; valves dorsally pale-stramineous, glabrous, 1-nerved, recurved and somewhat spirally twisted; exocarp readily separating from the endocarp; seeds including the coma about 3 cm. long.— MEXICO. State of Yucatan: Izamal, 21 February, 1906, *J. M. Greenman*, no. 404 (hb. Field Mus.).

TRADESCANTIA FLORIDANA Watson, Proc. Am. Acad. xvii. 381 (1882). *Tradescantella floridana* Small, Fl. Southeastern U. S. 238 (1903).

Dr. Sereno Watson very clearly defined the above species and pointed out the characters by which it is readily distinguished from *T. gracilis* HBK. to which it was referred by C. B. Clarke in DC. Monogr. Phaner. iii. 297 (1881). The examination of a considerable number of specimens from Florida and elsewhere shows that Dr. Watson's species retains the distinctive characters originally ascribed to it without any evidence, at least as far as yet observed by the writer, of intergradation with the South American species. It seems best therefore to regard *T. floridana* Watson as well worthy of specific rank. The following specimens are identical in every detail with Dr. Watson's species.— MEXICO. State of Yucatan: Izamal, *Dr. Geo. F. Gaumer*, no. 573 (hb. Field Mus.); Chichankanab, *Dr. Geo. F. Gaumer*, no. 1855 (hb. Field Mus.). This species has not been recorded hitherto from Yucatan.

SMILAX MOLLIS Humb. & Bonpl. in Willd. Sp. Pl. iv. 785 (1805); A. DC. in DC. Monogr. Phaner. i. 67 (1878); Hemsl. Biol. Cent.-Am. Bot. iii. 365 (1884).

Mature fruiting specimens of this species were collected on old sand dunes along the shore, north of the City of Vera Cruz, 24 January, 1906, *J. M. Greenman*, no. 116 (hb. Field Mus., and hb. Kew). The mature fruit in the fresh state is bright red.

I am indebted to Lieut.-Col. David Prain, Director of the Royal Botanic Gardens, Kew, for the identification of this plant.

POUZOLZIA PRINGLEI Greenm. Proc. Am. Acad. xxxiii. 476 (1898).

This species, hitherto known only by Mr. Pringle's no. 6736 from Tomellin Canyon, has been recollected at El Parion, District of Etla, Oaxaca, Mexico, altitude 1,400 m., 2 September, 1906, *C. Conzatti* no. 1551 (hb. Field Mus.). While Señor Conzatti's specimens present no additional characters, yet the collection records a second station towards mapping the distribution of the species.

PSITTACANTHUS AURICULATUS, Oliver, acc. to Eichl., in Mart. Fl. Bras. v. II, 25 (1866). *Loranthus auriculatus* D. Oliver in Kjoeb. Vidensk. Meddel. 1864, p. 174.

To this well marked species are referred specimens collected at Alturas de Ejutla, Oaxaca, Mexico, altitude 1,300 m., 13 December, 1907, *C. Conzatti*, no. 1641 (hb. Field Mus.).

PHORADENDRON MUCRONATUM Krug & Urban in Engl. Bot. Jahrb. xxiv. 34 (1897). *P. flavescens* Millsp. Field Col. Mus. Bot. Ser. i. 294 (1896) in part, not Nutt.

MEXICO. State of Yucatan: near Izamal, *Dr. Geo. F. Gaumer*, no. 561 in part (hb. Field Mus.). Dr. Gaumer's specimens correspond in every essential detail with the descriptions of this species, and with material in the herbarium of the Field Museum from the West Indies and from South America. This species seems not to have been reported hitherto from Mexico or Central America.

PHORADENDRON QUADRANGULARE Krug & Urban in Engl. Bot. Jahrb. xxiv. 35 (1897) & Urban, Symb. Antil. iv. 207 (1905).

Fruiting specimens of this species were collected near the coast north of the City of Vera Cruz, Mexico, 24 January, 1906, *J. M. Greenman*, no. 120 (hb. Field Mus.).

Phoradendron vernicosum Greenman, sp. nov.

Glabrous throughout: younger parts more or less vernicose: stems and branches terete; ultimate branchlets compressed at the nodes: leaves lanceolate-oblong to ovate-elliptic, often slightly oblique or subfalcate, 2 to 7 cm. long, 1 to 2.7 cm. broad, obtuse or rounded at the apex, entire, narrowed below to a subpetiolate base, 3–5-nerved: spikes sessile or essentially so, 1 to 3 (rarely 5) in the leaf-axils, 1 to 2 cm. long; segments 2 to 5 (usually 4), 5 mm. or less in length, 6–12-flowered in the staminate spike, 2-flowered in the pistillate spike; perianth 3-merous: berry ovate-oblong, about 5 mm. long, not contracted below the calyx-limb, more or less glaucous; endocarp distinct, ovate-oblong, 4 mm. long, 2 mm. wide, abruptly acuminate.— *P. flavescens*, Millsp. Field Col. Mus. Bot. Ser. 1. 294 (1896) in part, not Nutt.— MEXICO. State of Yucatan: Izamal, 22 February, 1906, *J. M. Greenman*, no. 440 (hb. Field Mus.), type; Silam, June, 1895, *Dr. Geo. F. Gaumer*, no. 876 (hb. Field Mus.); Chichankanab, *Dr. Geo. F. Gaumer*, nos. 1850, 2011 (hb. Field Mus.).

The vernicose character of the young stem and leaves, the short axillary inflorescences, the two-flowered segments of the fertile spike and the distinctly acuminate endocarp well characterize this species. The nearest affinity of *P. vernicosum* is with *P. Wattii* Krug & Urban, from which it differs in having relatively shorter and broader leaves, the fruit not constricted below the limb of the calyx, and a smaller and distinctly acuminate instead of acute endocarp.

MILLSPAUGHIA ANTIGONOIDES Rob. in Engl. Bot. Jahrb. xxxvi. Beibl. 80: 14 (1905).

In addition to the specimens cited in the original publication

of this very interesting genus the following collections in the herbarium of the Field Museum represent further the above species.— MEXICO. State of Yucatan: Merida, April, 1865, *Dr. A. Schott*, no. 217; Colonia San Cosme, 20 February, 1906, *J. M. Greenman*, no. 348; Izamal, collection of 1888, *Dr. Geo. F. Gaumer*, without number; Izamal, *Dr. Geo. F. Gaumer*, nos. 3001, 3002, 3004; Puerto Morelos, 12 to 31 March, 1901, *E. A. Goldman*, no. 626 (hb. U. S. Nat. Mus.; fragment in hb. Field Mus.).

Guatteria Gaumeri Greenman, sp. nov. Tree, 10 to 15 m. high: stem and branches covered with a gray bark; ultimate branchlets glabrous or sparingly strigulose-puberulent: leaves alternate, petiolate, lanceolate to elliptic-lanceolate, 5 to 15 cm. long, 2 to 2.5 cm. broad, usually short-acuminate and obtuse, rarely retuse at the apex, entire, glabrous on both surfaces or in the very early stages slightly pubescent with a few scattered appressed hairs, soon glabrate and rather strongly reticulate-nerved; petioles stoutish, 3 to 10 mm. long, canaliculate, often turning blackish in the dried state: inflorescence terminal or lateral; peduncles thickish, 1 to 3 cm. in length, jointed, sparingly pubescent with appressed tawny hairs, bracteate at the base and usually bearing a single ovate acute or acutish ciliate ferrugineous-pubescent bract below the middle: sepals subrotund, 3 to 5 mm. high, usually broader than long, ciliate and sparingly pubescent to glabrous: petals large, oblong-ovate to somewhat obovate, 2 to 4.3 cm. long, 1.2 to 3 cm. broad, thick and leathery: berries numerous, elliptic-obovoid, about 1 cm. long, 7 to 8 mm. in diameter, minutely verrucose, glabrous: stipes slender, 1.5 cm. or less in length; torus somewhat depressed-globose.— MEXICO. State of Yucatan: vicinity of Izamal, specimens communicated February, May, June, and July, 1906, *Dr. Geo. F. Gaumer* (hb. Field Mus., catalogue nos. 189976–189978, 189160, 189161). In general appearance the species here proposed resembles *G. dolichopoda* Donn. Sm., but it differs in the less acuminate and blunt leaves, character of the pubescence, subrotund sepals, larger petals, shorter peduncles and stipes.

G. Gaumeri is rich throughout all its parts in oil-glands, and when crushed it produces a pleasant aromatic odor. Dr. Gaumer in whose honor the species is named states that the plant is known about Izamal under the name of "*Elemuy*," and that from it is obtained one of the most valuable medicines used in Yucatan.

TRISTICHA HYPNOIDES Spreng. Syst. Veg. iv. pt. 2, 10 (1827); DC. Prodr. xvii. 44 (1873); Hemsl. Biol. Cent.-Am. Bot. iii. 39 (1882).

Specimens well representing this species were found growing on stones under water near Cordoba, State of Vera Cruz, Mexico, 25 January, 1906, *J. M. Greenman*, no. 124 (hb. Field Mus.). This interesting species, known from Cuba, from Guatemala to Brazil, from tropical and south Africa and Madagascar, seems not to have been recorded hitherto from Mexico. Specimens

collected at Cordoba by Dr. Asa Gray and referred by him to the above species, although no published record of them has been found by the writer, bear somewhat larger fruit than my number 124, but differ in no other apparent regard.

Caesalpinia yucatanensis Greenman, sp. nov.

Shrub or small tree: stem covered with a light gray bark, dotted with numerous lenticels, glabrous; cortex defoliating in thin scarious layers; ultimate branchlets puberulent; leaves alternate, bipinnate, petiolate, unarmed; petioles 2 to 6 cm. long; pinnae 2 to 3 pairs; leaflets 2 to 4 pairs, oblong-elliptic, 1.5 to 4 cm. long, 0.7 to 2.5 cm. broad, obtuse to rounded at both ends or slightly retuse at the apex, entire, glabrous on both surfaces or somewhat pubescent in the early stages and glabrate; midrib slightly sunken from the upper surface and, as well as the lateral nerves, somewhat prominent beneath; petiolules 1 to 1.5 mm. long: inflorescence usually in terminal panicles, 0.5 to 1.5 dm. in length, occasionally terminating the lateral branches in simple racemes, finely pubescent; pedicels 1 to 2 cm. long, jointed above the middle, pubescent: calyx about 1 cm. long, 5-parted; segments oblong-rotund, imbricated, densely soft-pubescent on the outer surface: petals oblong to oblong-obovate, about 1.5 cm. long, 8 to 10 mm. broad, narrowed at the base into a villous-pubescent claw, chocolate-brown or dark red in color and margined with pale yellow, covered externally in the lower half with sessile or short-stipitate glands; the uppermost petal producing a short fold on the inside near the base: stamens barely exserted; filaments pubescent with more or less matted hairs: ovary and lower part of the style densely pubescent: mature fruit sessile, oblong, slightly oblique, 6 to 12 cm. long, 2 to 2.5 cm. broad, short-pubescent and closely beset with stipitate tack-shaped glands; seeds suborbicular, flat, about 1 cm. in diameter, smooth.— *Caesalpinia exostemma* Millsp. Field Col. Mus. Bot. Ser. i. 21 (1895), not Moc. & Sesse ex DC.— MEXICO. State of Yucatan: vicinity of Izamal, collection of 1895, *Dr. Geo. F. Gaumer*, no. 371 (hb. Field Mus.), type; near Izamal, 13 January, 1895, *Dr. C. F. Millspaugh*, no. 75 (hb. Field Mus.); Izamal, 22 February, 1906, *J. M. Greenman*, no. 417 (hb. Field Mus.); San Anselmo, *Dr. Geo. F. Gaumer*, no. 1715 (hb. Field Mus.); near Merida, *Dr. A. Schott*, without number (hb. Field Mus.); on old hennequin plantations near Merida, February, 1903, *C. & E. Seler*, no. 3844 (hb. Field Mus.); Colonia San Cosme, 20 February, 1906, *J. M. Greenman*, no. 349 (hb. Field Mus.); Itzimna, 19 February, 1906, *J. M. Greenman*, no. 335 (hb. Field Mus.); near Progresso, 5 March, 1899, *Dr. C. F. Millspaugh*, no. 1660 (hb. Field Mus.); without definite locality, coll. of 1896, *Sr. Porfirio Valdez*, no. 7 in part (hb. Field Mus.). State of Campeche: without locality, *Dr. Henry Perrine* (hb. Gray, and hb. Torrey).

This species is related to *C. exostemma* Moc. & Sesse ex DC.

with which it has been confused, but from which it differs in having a pubescent inflorescence, more oblong and copiously glandular petals, in having also the inner or upper petal less conspicuously clawed and bearing a scale-like fold on the inner or upper side near the base, and finally by the shorter barely exserted stamens.

Phaseolus (§Drepanocarpos) polyanthus Greenman, sp. nov.

Stem robust, angulate-striate, sparingly pubescent with ascending, spreading or even reflexed hairs: leaves petiolate, trifoliolate; petioles 4 to 10 cm. long, slightly pubescent; stipules triangular-ovate, 5 to 6 mm. long, acute; leaflets rhombic-ovate, or the lateral obliquely ovate, 4 to 10 cm. long, 3 to 9 cm. broad, mucronate-acute, entire, subtruncate to obtuse at the base, dark green and substrigose-hirsute above, slightly paler and hirtellous-puberulent beneath, more or less glabrate, 3-nerved and bearing tufts of white villous hairs in the axils of the veins on the under side; petiolules stoutish, about 5 mm. long, densely tawny-hirsute above; stipels subfalcate-linear, 3 to 4 mm. long, glabrous or essentially so: inflorescence in elongated axillary racemes, 2.5 dm. or less in length; rhachis pubescent; bracts lance-attenuate, about 7 mm. long, pubescent; pedicels becoming 12 mm. in length, glabrous or nearly so, and as well as the bracts persistent; bracteoles subtending the calyx, linear-lanceolate to lance-oblong, 6 to 7 mm. long, 1 to 1.5 mm. broad, acute, 3–5-nerved, ciliolate: calyx about 5 mm. high, subbilabiate, or 2-lobed; tube 3 mm. long; upper lobe emarginate; the lower lobe 3-toothed with the midddle tooth ovate, acute, 2 mm. long, the lateral teeth shorter and obtuse: vexillum somewhat oblong-obovate, 12 mm. long, nearly or quite as broad, short-unguiculate with a broad claw; disk barely exceeding 1 mm. in length, crenate-margined: ovules commonly 6: mature fruit not seen.— MEXICO. State of Vera Cruz: on railroad banks near Jalapa, 10 September, 1906, *C. R. Barnes, C. J. Chamberlain & W. J. G. Land*, no. 20 (hb. Field Mus., and hb. University of Chicago). The species is rather striking on account of the large membranous leaflets, many-flowered inflorescences, persistent pedicels, and the narrow bracts and bracteoles. It suggests *P. multiflorus* Willd. and *P. pedicellatus* Benth, but is quite distinct from either of them.

ASTROCASIA Rob. & Millsp. in Engl. Bot. Jahrb. xxxvi. Beibl. 80: 19 (1905).

This genus was first described from staminate specimens only. Fertile plants are now at hand, and additional generic characters may be given as follows:—Pistillate flowers solitary or fascicled. Ovary 3-celled; cells 2-ovuled; stigma sessile, 3-lobed, fleshy. Disk cupular. Capsule septicidally dehiscent, each carpel splitting vertically into equal halves; exocarp readily separating from the endocarp. Seeds ecarunculate.

A. PHYLLANTHOIDES Rob. & Millsp. l. c. 20. *Phyllanthus nutans* Millsp. Field Col. Mus. Bot. Ser. i. 306 (1896), as to *Gaumer*, nos. 475, 685, & in Engl. Bot. Jahrb. l. c. 19, not Sw.

A dioecious shrub 1 to 2 m. high: fully developed leaves 4 to 13 cm. long, two-thirds as broad: pistillate flowers few; pedicels rather slender, 2.5 to 4.5 cm. long, gradually enlarged towards the base of the calyx; sepals broadly ovate, ovate-oblong or slightly obovate, 2 to 3 mm. long, two-thirds as broad, reflexed; petals 5, erect or nearly so, oblong-lanceolate, 4 to 5 mm. long, 1.5 mm. broad, crenate-undulate; disk 5-lobed: mature capsule about 8 mm. long, nearly or quite as broad, smooth and glabrous; seeds two in each cell, ovoid, 4 to 5 mm. long, smooth, brownish.— MEXICO. State of Yucatan: Vicinity of Izamal, *Dr. Geo. F. Gaumer*, no. 475 (hb. Field Mus.); Temax, *Dr. Geo. F. Gaumer*, no. 685 (hb. Field Mus.); Calotmul, *Dr. Geo. F. Gaumer*, no. 1795 (hb. Field Mus.); Chichankanab, *Dr. Geo. F. Gaumer*, nos. 1261, 1794 (hb. Field Mus.); Mayapan, *C. & E. Seler*, no. 3874 (hb. Field Mus.); Itzimna, near Merida, *C. & E. Seler*, no. 3943, type, (hb. Field Mus.); near Izamal, 21 February, 1906, *J. M. Greenman*, no. 392 (hb. Field Mus.). State of Campeche: Apazote, near Yohaltun, *E. A. Goldman*, no. 491 (hb. U. S. Nat. Mus., and hb. Field Mus.). Flowering and fruiting specimens of this species were collected by the writer in February of 1906 near Izamal, Yucatan, where the plant is quite abundant, and where it is one of the most attractive shrubs in the "scrub" formation.

Acalypha Seleriana Greenman, sp. nov.

Shrub, 1 to 2.5 m. high, branched; stem and branches covered with a reddish-brown or grayish bark and dotted with numerous lenticels; the younger branchlets densely pubescent with short horizontally spreading tawny hairs: leaves petiolate, ovate to oblong-lanceolate, 2.5 to 5 cm. long, 1 to 3 cm. broad, acute or obtuse, dentate or crenate-dentate, obtuse to rounded at the base, 3-nerved, thin and membranous, at first pubescent on both surfaces especially on the veins beneath, later more or less glabrate; petioles 3 to 18 mm. long, densely pubescent; stipules lance-linear, 1.5 to 2 mm. long; caducous: inflorescence chiefly axillary: spikes of fertile flowers inconspicuous, slender, few-flowered: pistillate flowers small, sessile, solitary in the axils of minute 3-parted bracts about 0.5 mm. high: calyx 1 mm. long, 5-parted into narrowly lanceolate acute divisions, sparingly pubescent: ovary muricate-hispid; style 3-parted, or occasionally 2-parted; divisions thickened and roughish at the base, branching into about 9 laciniate-fimbriate divisions: spikes of staminate flowers numerous, uniaxillary, slender, sessile or short-pedunculate, 1 to 8 cm. long, 2 to 3 mm. thick, erect, spreading, or occasionally more or less reflexed: mature capsules and seeds not seen.— *A. mollis* Millsp. in Field Col. Mus. Bot. Ser. i. 302 (1896), & in Engl. Bot. Jahrb. xxxvi. Beibl. 80: 19

(1905), not HBK.— MEXICO. State of Yucatan: in forests about Xkombec, 5 April, 1903, *C. & E. Seler*, no. 4028 (hb. Field Mus.), type; in forests near Xcolumkin, 5 April, 1903, *C. & E. Seler*, no. 4040 (hb. Field Mus.); in forests about Izamal, March-April, 1895, *Dr. Geo. F. Gaumer*, no. 477 (hb. Field Mus., and hb. Gray), and in the same locality coll. of 1888, *Dr. Geo. F. Gaumer*, specimens without number (hb. Field Mus.); vicinity of Izamal, 21 February, 1906, *J. M. Greenman*, no. 390 (hb. Field Mus.).

Acalypha mollis HBK. to which species some of the specimens above cited have been hitherto referred is described as an herbaceous plant with distinctly pedunculate spikes, and with 2–3-flowered reniform-ovate-11-15-dentate bracts. On these characters alone *A. Seleriana* may be readily separated. The species here proposed seems to be quite unique on account of the shrubby habit, the numerous sender sessile or subsessile spikes of staminate flowers, and the pistillate flowers solitary in the axils of exceedingly minute 3-parted bracts.

Dalechampia Schottii Greenman, sp. nov.

Stems twining, covered below with a grayish bark; branches terete, striate, pubescent with spreading or reflexed hairs: leaves petiolate, simple and undivided, subtrinervate from the base, ovate or ovate lanceolate, 2-7.5 cm. long, 1.5-4 cm. broad, rounded to acuminate at the apex, mucronate-acute, subentire or somewhat dentate in the lower half, obtuse to subcordate at the base, usually bearing on the upper side at the junction of petiole and blade two subulate appendages, pubescent on both surfaces, glabrate above; petioles 0.5-2.5 cm. long, pubescent; stipules narrowly lanceolate to almost subulate, 2-6 mm. long: peduncles 1-3 cm. long, striate, pubescent; the petaloid involucral bracts small, ovate, 6-12 mm. long, 3-8 mm. broad, acuminate or merely acute at the apex, obtuse at the base, 3-nerved, sparingly denticulate, externally pubescent, ciliate: calyx of the staminate flowers 6-parted; divisions lanceolate, 2-2.5 mm. long, acute, entire, glabrous: calyx of pistillate flowers 7–12-parted; divisions linear-lanceolate, about 5 mm. long during anthesis, pectinate and hirsute-pubescent, persistent and becoming 1 cm. in length at maturity; ovary 3-celled, puberulent; style cylindrical, stoutish; stigma subtrilobed, not dilated: capsule depressed-globose, inconspicuously puberulent, reddish-brown or blackish in the dried state; seeds subglobose, about 3.5 mm. long, rugulose.— MEXICO. State of Yucatan: Merida, 3 August, 1865, *Dr. A. Schott*, nos. 534, 956 (hb. Field Mus.), type; Chichankanab, *Dr. Geo. F. Gaumer*, nos. 1430 in part, 1463 (hb. Field Mus.); Merida, February, 1903, *C. & E. Seler*, no. 3836 (hb. Field Mus.) distributed as "*Dalechampia denticulata* Griseb.?;" Izamal, 22 February, 1906, *J. M. Greenman*, no. 422 (hb. Field Mus.).

Var. **trifoliolata** Greenman, var. nov.

Leaves simple or trifoliolate; divisions lanceolate, entire or

somewhat irregularly dentate: other characters as in the species. —MEXICO. State of Yucatan: Chichankanab, *Dr. Geo. F. Gaumer*, nos. 1512, 1430 in part (hb. Field Mus.).

Some of the specimens above cited have been hitherto doubtfully referred to *Dalechampia denticulata* Wright of the West Indies. From this species, however, *D. Schottii* differs in having uniformly smaller leaves, shorter petioles, smaller floral bracts and a nondilated stigma. Moreover, in *D. denticulata* the leaves and floral bracts are distinctly cordate, while in *D. Schottii* the leaves are from obtuse to subcordate at the base and the floral bracts are narrowed below to an obtuse base. The variety *trifoliolata* suggests *D. triphylla, var. mexicana* Müll. Arg., but the latter has petioles very much longer in proportion to the length of the leaf-blade.

Jatropha Gaumeri Greenman sp. nov.

Tree, 5 to 10 m. high, much-branched: trunk 2 to 5 dm. in diameter; branches and branchlets thick and somewhat fleshy: leaves alternate, petiolate, palmately 7-nerved, broadly ovate, 5 to 18 cm. long, 4.5 to 15 cm. broad, abruptly caudate-acuminate, acute, entire, or occasionally subdenticulate in the lower portion, rarely sublobate, deeply cordate to subtruncate at the base, membranous, glabrous above, tawny-pubescent along the veins at the base of the blade beneath, otherwise glabrous; petioles 2.5 to 13 cm. long, glabrous except near the blade: inflorescence in terminal or axillary short-pedunculate compound cymes, 2.5 cm. or less in length, glabrous or with a few tawny hairs in the axils of the deltoid or triangular-ovate acute glabrous bracts; peduncles 1 cm. or less in length: flowers sessile, monoecious, whitish or cream-colored: calyx gamosepalous, 2 to 3 mm. high, glabrous, 5-lobed, persistent; lobes erect in anthesis, subrotund, slightly unequal, entire: corolla 6 to 7 mm. long, tubular for about two-thirds its length, externally glabrous, densely ferruginous-pubescent towards the base within; lobes 5, erect or slightly spreading, oblong-ovate, rounded at the apex: glands usually 5, occasionally 3: stamens 8, included; the outer series or cycle consisting of 5 distinct stamens about equalling the more or less coalescent filaments of the 3 inner stamens; anthers oblong, acutish: capsule oblong-globose, subtriangular in cross-section, 15 to 18 mm. long, nearly or quite as broad, glabrous, septicidally dehiscent; the carpels later splitting along the median line: seeds carunculate, oblong, about 13 mm. long, 11 mm. broad, slightly roughened.— *Ficus Jaliscana* Millsp. Field Col. Mus. Bot. Ser. i. 293 (1896), not Watson. *Jacaratia Mexicana* Millsp. l. c. 35 (1895), not DC. —MEXICO. State of Yucatan: near Izamal, collection of 1895, *Dr. Geo. F. Gaumer*, no. 365 (hb. Field Mus.); San Anselmo, *Dr. Geo. F. Gaumer*, no. 1705 (hb. Field Mus.); near Izamal, 15 January, 1895, *Dr. Chas. F. Millspaugh*, no. 96 (hb. Field Mus.); vicinity of Izamal, 22 February, 1906, *J. M. Greenman*, no. 478 (hb. Field Mus.).

In leaf-outline and in the pubescence of the leaf the species here proposed suggests *J. yucatanensis* Briquet in Ann. Conserv. & Jard. Bot. Genève, iv. 230 (1900), but it differs in having larger leaves which are abruptly caudate-acuminate and terminated by a very slender acumen, shorter peduncles, essentially glabrous inflorescence, deltoid bracts, sessile flowers, and 8 instead of 10 stamens.

The plant grows as a rather profusely branching tree with thick and somewhat fleshy branches and twigs. The almost leafless condition of the tree and its light gray appearance render it a conspicuous feature of the "scrub" and woodlands about the City of Izamal. It passes under the Mayan name of "Pomolché;" and its stems are said to be used by the native people in making the so-called "Chul" or whistles.

Gouania Conzattii Greenman, sp. nov.

Stem terete or slightly angulate above, sparingly pubescent; leaves alternate, petiolate, ovate or subrotund-ovate, rounded to short-acuminate and submucronate-acute at the apex, crenate-dentate, shallowly cordate at the base, dark green and hirsute-pubescent above in the younger stages, more or less glabrate, subtomentose beneath; midrib and veins prominent on the under side of the leaf; petioles 1 cm. or less in length: inflorescence terminating the stem and upper branches in spicate racemes together forming a more or less leafy panicle: flowers sessile, or on very short pedicels: calyx-limb 5-lobed; lobes triangular-ovate, acute, entire, externally as well as the entire inflorescence tawny-pubescent; disk distinctly 5-lobed and the lobes about one-half as long as the lobes of the calyx, 2-dentate and more or less persistent: petals strongly cucullate, 1 mm. long: mature capsules triangular, 6 to 7 mm. high, including the strongly developed wings 7 to 9 mm. in diameter, glabrous or nearly so; seeds oval, 3 to 4 mm. long, smooth and shining, convex on the outer surface, 2-faced and more or less 2-scalloped on the inner surface.— MEXICO. State of Oaxaca: Cerro San Felipe, altitude 1,700 m., 15 September, 1906, *C. Conzatti*, no. 1567 (hb. Field Mus.). Habitally and in leaf-outline *G. Conzattii* resembles *G. tomentosa* Jacq., but differs in having a sparingly pubescent stem, larger flowers, and also in bearing capsules which are nearly twice as long in the vertical axis, and producing seeds which are fully twice larger than *G. tomentosa*.

MACROSCEPIS OBOVATA HBK. Nov. Gen. & Sp. iii. 201, t. 233 (1818); DC. Prodr. viii. 599 (1844); Hemsl. Biol. Cent.-Am. Bot. ii. 320 (1881).

Specimens agreeing in all details with the original description and illustration of this species were collected at Izamal, Yucatan, by *Dr. Geo. F. Gaumer*, no. 1198 (hb. Field Mus.), and again at Chichankanab by the same collector, no. 2239 (hb. Field Mus.). This species has not been recorded hitherto from Yucatan.

Ipomoea Conzattii Greenman, sp. nov.

Stem ligneous, covered with a gray bark and dotted with numerous lenticels; ultimate branches pubescent; leaves not seen: inflorescence in axillary, sessile, or short-pedunculate 1–several-flowered (1-16) more or less nodding sericeous-hirsute cymes; bracts triangular-acuminate, acute, caducous; pedicels 1 to 2 cm. long, upwardly thickened, striate, pubescent: calyx about 7 mm. high; sepals ovate-rotund to broadly ovate, 5 to 7 mm. long, nearly or quite as broad, rounded or slightly emarginate and submucronate at the apex, the outermost densely sericeous-hirsute on the outer surface, the inner slightly pubescent to glabrous externally, scarious-margined and often tinged with purple: corolla tubular-campanulate, 3.5 to 4.5 cm. long, externally glabrous; tube subcylindrical 2.5 to 3 cm. long, more or less abruptly expanded into the 5-lobed limb, purple or somewhat magenta-colored in the dried state: stamens included or barely exserted; filaments bearing a tuft of coarse hairs at their insertion near the base of the corolla: style more or less persistent: capsule subglobose, about 1 cm. in diameter, smooth and glabrous; seeds 2 in each cell, oblong-ovate, 9 mm. long, bearing from its apex a reflexed coma somewhat exceeding the body of the seed.— MEXICO. State of Oaxaca: Almoloyas, altitude 800 m., 25 December, 1906, *C. Conzatti*, no. 1666 (hb. Field Mus.).

It is with some hesitation that the writer describes a leafless plant as new to science, but the present one is so distinctive in its ligneous stem, inflorescence and floral characters that it seems best to present the above characterization. The species is named in honor of the distinguished botanist, Professor Cassiano Conzatti, Director of the Normal School in the City of Oaxaca, Mexico.

IPOMOEA TENTACULIFERA Greenm. Proc. Am. Acad. xxxiii. 482 (1898).

Specimens collected on the Cerro San Felipe, Oaxaca, Mexico, altitude 1,700 m., 12 August, 1906, *C. Conzatti*, no. 1618 (hb. Field Mus.), match perfectly the original material secured by Mr. C. G. Pringle in Tomellin Cañon in 1897. Professor Conzatti's specimens in addition to perfect flowers show well developed fruit. The capsules are spherical-ovate, nearly or quite 1.5 cm. high, fully 1 cm. in diameter, smooth and glabrous with a single well developed seed in each cell.

Stachytarpheta purpurea Greenman, sp. nov.

Suffruticose: stems terete or slightly 4-angled, hirsute-pubescent: leaves opposite, rhombic-ovate, 2 to 5 cm. long, 1 to 2.4 cm. broad, rounded or acute at the apex, crenate-serrate, rather abruptly contracted below the middle to an entire base, hirsute-hispid and more or less rugose above, slightly paler and more densely hirsute beneath: inflorescence terminating the stem and branches in slender elongated spikes, 2 to 2.5 dm. or less in length; rhachis sparingly pubescent, 2 mm. or less in diameter; floral bracts rather remote, ovate, abruptly acuminate, 4 to 5 mm.

long, 2 to 2.5 mm. broad, glabrous or nearly so, ciliate and, as well as the entire inflorescence, more or less purplish: calyx tubular, about 7 mm. long, minutely 4-toothed, glabrous except along the ribs, posteriorly parted for about one-third its length, or occasionally parted both posteriorly and anteriorly: corolla trumpet-shaped, 1 to 1.5 cm. long, 10 to 13 mm. in diameter when fully expanded; tube curved, glabrous without, hairy within; limb 5-lobed; lobes broader than long: stamens included: staminodia pubescent: style exserted: fruit oblong, 4 mm. long, glabrous.— MEXICO. State of Vera Cruz: hillsides near Chavarillo, 7 September, 1906, *C. R. Barnes, C. J. Chamberlain & W. J. G. Land*, no. 48 (hb. Field Mus., and hb. University of Chicago).

Citharexylum Altamiranum Greenman, sp. nov.

Stem and branches covered with a rough gray bark; ultimate branchlets hexangular, brownish, short-hirsute pubescent: leaves opposite, petiolate, ovate, ovate-oblong to subrotund, 1 to 4 cm. long, 0.5 to 2.5 cm. broad, obtuse to rounded or occasionally emarginate at the apex, entire or not infrequently with one or two teeth towards the apex, ciliate, hirsute-pubescent on both surfaces, slightly paler beneath, usually bearing one to three disc-like glands on the blade; petioles 3 to 15 mm. long, pubescent: inflorescence terminating the branchlets in pubescent few-flowered spicate racemes, 1 to 3 cm. in length; bracts subulate, exceeding the short pedicels: flower not seen: calyx persistent and in the fruiting stage becoming somewhat chartaceous, turbinate, 4 to 4.5 mm. high, 5–angulate-keeled at the base, distinctly 5-dentate with short erect acute teeth, slightly pubescent on both inner and outer surfaces, ciliate about the orifice: mature fruit oblong-elliptic, 7 to 8 mm. long in the dried state; pyrenae elliptic, 6 to 7 mm. long, concavo-convex, smooth.— MEXICO. State of Queretaro: Hacienda del Ciervo, between San Juan del Rio and Cadereyta, 20 August, 1905, *J. N. Rose, Jos. H. Painter & J. S. Rose*, nos. 9666, 10,268 (hb. U. S. Nat. Mus., and hb. Field Mus.); del Ciervo al cerro de la mesa, 20 August, 1905, *Dr. F. Altamirano*, no. 1566 (hb. U. S. Nat. Mus.; fragment in hb. Field Mus.).

The plant here described suggests in general appearance *C. Berlandieri* Rob., but differs in having smaller leaves, fewer-flowered inflorescence and in its calyx characters. The species is named in honor of the distinguished Mexican naturalist, Sr. Dr. Fernando Altamirano, Director of the National Medical Institute in the City of Mexico.

CITHAREXYLUM CINALOANUM Rob. in Bot. Gaz. xvi. 342 (1891).

To this species the following specimens are referred.— MEXICO. State of Sinaloa: near Rosario, on the road to Acaponeta, 27 July, 1897, *Dr. J. N. Rose*, no. 1858 (hb. U. S. Nat. Mus., and hb. Field Mus.); between Rosario and Concepcion, 23 July, 1897, *Dr. J. N. Rose*, no. 3269 (hb. U. S. Nat. Mus., and hb.

Field Mus.). The affinity of *C. cinaloanum* is in all probability with the obscure *C. scabrum* Moc. & Sesse, and it may eventually prove to be conspecific. The leaf-margins on an individual plant often vary from entire to conspicuously dentate in the apical portion; and the inflorescence, here as in several other species of the genus, may be either simple or compound.

Citharexylum Rosei Greenman, sp. nov.

Stem and branches covered with a grayish or reddish brown cortex, terete or subtetragonal; ultimate branchlets 4-angled, cinereous-hirsute: leaves opposite, lanceolate or oblanceolate, 1 to 3 cm. long, 1 cm. or less broad, obtuse to rounded at the apex, entire, narrowed below to a subpetiolate base, hirtellous-pubescent on the upper surface, cinereous-tomentulose beneath: inflorescence terminating the branchlets in few-flowered short racemes; pedicels 3 to 4.5 mm. long: flowers not seen: calyx persistent and in the fruiting stage 2 to 2.5 mm. high, shallow, somewhat saucer-shaped, truncate, pubescent: mature fruit oblong, 7 to 8 mm. long in the dried state; pyrenae elliptic, 6 to 7 mm. long, concavo-convex, strongly corrugated on the outer or convex surface.— MEXICO. State of Queretaro: between Higuerillas and San Pablo near the latter station, 24 August, 1905, *J. N. Rose, Jos. H. Painter & J. S. Rose*, no. 9827 (hb. U. S. Nat. Mus., and hb. Field Mus.). This species resembles *C. Altamiranum* to which it is closely related, but from which it differs amply in having smaller leaves of different outline, a more dense tomentum, and in its shorter, shallower and truncate calyx, and corrugated pyrenae.

Vitex Gaumeri Greenman, sp. nov.

Tree, 10 to 15 m. in height: branches covered with a grayish bark; ultimate branchlets tawny-pubescent: leaves opposite, petiolate, palmately compound; petioles 3 to 9.5 cm. long, velvety pubescent; leaflets 5 to 7, petiolulate, ovate to elliptic-oblong, rarely tending to become obovate, 1.5 to 11 cm. long, 0.5 to 5. cm. broad, usually short-acuminate and acute or occasionally rounded at the apex, entire, obtuse to subcordate at the base, dark green and pubescent above, glabrate in age, pale and densely tomentulose beneath; midrib and lateral veins prominent on the under surface, but the anastomosing of the ultimate veins not conspicuously reticulated; petiolules 0.5 to 2.7 cm. in length, velvety pubescent: the pedunculate paniculate cymes axillary, clustered at the ends of the branches, 2 dm. or less in length: calyx small, 2.5 mm. long, subbilabiate, rather acutely 5-toothed, externally pubescent: corolla irregular, bilabiate, about 9 mm. long; tube erect, 5 mm. high, narrowly funnel-form; the two posterior corolla-lobes small, subrotund, 2 mm. long and broad, reflexed; the lower lip or three anterior lobes of the corolla spreading, 5 to 6 mm. long, the median lobe slightly pulverulent on the upper surface near its base: stamens 4, didynamous, exserted; filaments narrow, slightly

pubescent: style about equalling the two longer stamens: fruit depressed-globose, 1.5 cm. in diameter in the dried state.— *Vitex pyramidata* Millsp. Field Col. Mus. Bot. Ser. i. 317 (1896), not Rob.— MEXICO. State of Yucatan: vicinity of Izamal, March-April, 1895, *Dr. Geo. F. Gaumer*, no. 607, flowering specimen, (hb. Field Mus., and hb. Gray), type; near Izamal, coll. of 1888, *Dr. Geo. F. Gaumer*, flowering specimen, without number (hb. Field Mus., and hb. Kew); vicinity of Merida, June, 1865, *Dr. A. Schott*, no. 582, fruiting specimen, (hb. Field Mus.).

The species here described is nearly related to *V. pyramidata* Rob. with which it has been confused, but from which it differs in being a tree instead of a shrub, in having longer petiolules which, as well as the petioles themselves, are velvety pubescent instead of pulverulent, in having a paler lower leaf-surface, smaller flowers, in the absence of villous hairs at the base of the anterior lip of the corolla on its upper surface, and finally in having a more pubescent and somewhat more sharply dentate calyx. Dr. George F. Gaumer in whose honor the above species is named states that the plant here described is a tree growing in the forests about Izamal, where it attains a height of about 15 meters. The flowers, moreover, are said by Dr. Gaumer to be bright purple. The tree passes under the native Mayan name of "Yaxnic."

SCUTELLARIA AUREA Rob. & Greenm. Am. Journ. Sci. l. 163 (1895).

Specimens well representing this species were collected on the Cerro San Antonio, Oaxaca, Mexico, altitude 1,800 m., 28 October, 1906, *C. Conzatti*, no. 1583 (hb. Field Mus.).

Var. **Conzattii** Greenman, var. nov.

Stem erect or ascending: leaves petiolate, ovate to ovate-lanceolate, 2 to 7 cm. long, 1 to 3 cm. broad, acuminate, acute, entire; petioles 1.5 cm. or less in length: other characters as in the species.— MEXICO. State of Oaxaca: Cerro San Antonio, altitude 1,800 m., 28 October, 1906, *C. Conzatti*, no. 1584 (hb. Field Mus.). The variety differs from typical forms of the species in having smaller and perfectly entire leaves.

Bacopa procumbens,* n. comb. *Erinus procumbens* Mill. Gard. Dict. ed. 8, no. 6 (1768) & ed. 9, no. 13 (1797). *Lindernia dianthera* Sw. Prodr. Veg. Ind. Occ. 92 (1788); Mill. Gard. Dict. ed. 9, no. 2 (1797); Willd. Sp. Pl. iii. 326 (1800). *Herpestis chamædryoides* HBK. Nov. Gen. & Sp. ii. 369 (1817); Benth. in DC. Prodr. x. 393 (1846); Gray, Syn. Fl. ii. part I. 280 (1878); Hemsl. Biol. Cent.-Am. Bot. ii. 451 (1882). *Microcarpæa americana* Spreng. Syst. i. 42 (1825). *Monniera procumbens* O. Kuntze, Rev. Gen. Pl. ii. 463 (1891). *Bacopa chamædryoides* Wettst.

*The strict use of the earlier specific name requires the restoration of Miller's *procumbens* for this well known plant which has long passed under the name of *Herpestis chamaedryoides* HBK.; and in accordance with the International Rules of Botanical Nomenclature, in adopting *Bacopa* of Aublet for this group of plants, it becomes necessary to transfer the two species following.

in Engl. & Prantl. Nat. Pflanzenf. iv. Ab 3[b]. 76 (1895). *Monniera dianthera* Millsp. Field Col. Mus. Bot. Ser. ii. 98 (1900), as to binomial and synonomy, not as to specimen cited. *Mecardonia procumbens* Small, Fl. Southeastern U. S. 1065 (1903).

Var. **Schottii,** var. nov.

Habit and foliar characters as in the species: pedicels slender, varying in length from somewhat shorter to twice the length of the leaves: flowers 6 to 7 mm. long in anthesis; the outer upper sepal sharply denticulate.— MEXICO. State of Yucatan: Merida, 29 August, 1865, *Dr. A. Schott*, no. 616 (hb. Field Mus.); vicinity of Izamal, collection of 1888, *Dr. Geo. F. Gaumer*, specimen without number (hb. Field Mus.); Izamal, collection of 1895, *Dr. Geo. F. Gaumer*, no. 474 (hb. Field Mus., and hb. Gray); in moist places near Izamal, 22 February, 1906, *J. M. Greenman*, no. 464 (hb. Field Mus.); San Anselmo, *Dr. Geo. F. Gaumer*, no. 1792 (hb. Field Mus.); Chichen Itza, 28 January to 10 February, 1901, *E. A. Goldman*, no. 555 (hb. U. S. Nat. Mus., and hb. Field Mus.). Differs from typical representatives of the species in the somewhat smaller flowers, slightly narrower parts of the calyx, and in the rather striking denticulate character of the outer upper sepal.

B. auriculata, n. comb. *Herpestis auriculata*, Rob. Proc. Am. Acad. xxvi. 172 (1891).

B. decumbens, n. comb. *Herpestis decumbens*, Fernald. Proc. Am. Acad. xxxiii. 91 (1897).

JUSTICIA FURCATA Jacq., var. **terminalis,** n. comb. *Adhatoda furcata*, *α terminalis* Nees in DC. Prodr. xi. 398 (1847).

In Mr. Pringle's *Plantae Mexicanae* two different numbers, namely no. 6498 and 11665, have been distributed under the above name, but no authority assigned to the combination. Definite mention of the variety *terminalis* under the genus *Justicia* with complete reference to synonomy seems not to have been made hitherto. To this variety may also be referred specimens collected at El Parián, District of Etla, Oaxaca, Mexico, altitude 1,400 m., 2 September, 1906, *C. Conzatti*, no. 1556 (hb. Field Mus.).

JACOBINEA VIRGATA Hemsley. Biol. Cent.-Am. Bot. ii. 522 (1882). *Drejera virgata* Oerstd. in Kjoeb. Vidensk. Meddel. 1854, p. 154; Walp. Ann. v. 660.

Specimens collected at De Almoloyas á Sta. Catarina, Oaxaca, Mexico, altitude 1,000 m., 26 December, 1906, *C. Conzatti*, no. 1662 (hb. Field Mus.), agree well with the original description of the above species.

Morinda yucatanensis Greenman, sp nov.

A more or less climbing shrub: stem and older branches covered with a grayish bark; the younger branches and branchlets yellowish and densely pubescent with short horizontally spread-

ing hairs: leaves petiolate, lanceolate to elliptic-lanceolate, occasionally ovate, 5 to 12 cm. long, 1 to 5 cm. broad, acuminate, acute, entire, gradually narrowed below to a 2 - 10-mm. long petiole, pubescent on both surfaces more densely so beneath; interpetiolar stipules 1 to 4 mm. high, abruptly apiculate-acuminate or occasionally bidentate: inflorescence in spherical sessile or subsessile axillary pubescent heads: flowers numerous, united to the inconspicuous truncate calyx-limb: corolla tubular or tubular-funnel-form, about 7 mm. long, rather deeply 5-lobed, pubescent on the outer surface, glabrous in the lower portion of the tube within, pubescent above: stamens and style of two lengths, reciprocally exserted or included: fruit somewhat succulent, spherical, about 1.5 cm. in diameter; pyrenae obliquely oblong-obovate, 6 mm. long, 3 to 4 mm. broad, smooth or nearly so.— *M. Roioc* Millsp. Field Col. Mus. Bot. Ser. i. 321 (1896) & in Engl. Bot. Jahrb. xxxvi. Beibl. 80: 28 (1905), not L. *M. Royoc* Millsp. Field Col. Mus. Bot. Ser. l. c. 392 (1898), not L.— MEXICO. State of Yucatan: Nojcacab, 21 November, 1865, *Dr. A. Schott*, no. 709 (hb. Field Mus.); in brush lands about Izamal, collection of 1895, *Dr. Geo. F. Gaumer*, no. 362 (hb. Field Mus., and hb. Gray), type; near Merida, *Sr. Porfirio Valdez*, no. 67 (hb. Field Mus.); Chichankanab, *Dr. Geo. F. Gaumer*, no. 1700 (hb. Field Mus.); Chichen Itzá, 28 January to 10 February, 1901, *E. A. Goldman*, no. 547 (hb. U. S. Nat. Mus., and hb. Field Mus.); Titas, 17 March, 1903, *C. & E. Seler*, no. 3971 (hb. Field Mus.); in forests near Xkombec, 5 April, 1903, *C. & E. Seler*, no 4032 (hb. Field Mus.); near Izamal, 22 February, 1906, *J. M. Greenman*, nos. 421, 471 (hb. Field Mus.).

This species has been referred hitherto to *M. Royoc* L., but it may be readily separated by the persistent pubescence over the entire plant, the sessile or subsessile inflorescence and fruit slightly shorter corolla, somewhat more complete union of the flowers, and by the slightly longer and more oblique pyrenae. The plant is known in Yucatan under the Mayan name of "Joyoc" (Hoyoc).

CRUSEA VIOLACEA A. Brongn., acc. to Neumann, in Rev. Hortic. Sér. II. iv. 368 (1846); v. 61, pl. 30, fig. 4 (1846).

The following specimens agree in every essential detail with the descriptions and illustration of the above little-known species, and for the present at least they seem best placed here. — MEXICO: State of Vera Cruz: Teocelo, 8 May, 1901, *E. A. Goldman*, no. 685 (hb. Field Mus., and hb. U. S. Nat. Mus.); meadows, Orizaba, May, 1905, *C. A. Purpus*, no. 447 (hb. Field Mus.), distributed as "*Spermacoce rubra* Ch. & Schl."; along the railroad near Cordoba, 25 January, 1906, *J. M. Greenman*, nos. 188, 209 (hb. Field Mus.); railroad banks near Jalapa, *C. R. Barnes, C. J. Chamberlain & W. J. G. Land*, no. 16 (hb. Field Mus., and hb. University of Chicago).

Professor William Trelease has kindly furnished me with a copy

of the original descriptions and a photograph of the illustration of the above species from the Revue Horticole.

I am indebted, moreover, to Dr. Casimir DeCandolle who has kindly made for me a critical comparison of my no. 209 with *Crusea calocephala* DC. in the Prodromus herbarium. From Dr. DeCandolle's letter I quote the following:— "I have compared the *Crusea* specimens you sent me with that of *C. calocephala* in the Prodromus herbarium. The case of that species is unfortunately not quite clear as you will see by the following: *C. calocephala* DC. is represented in the herbarium by Mocino's plate n. 497 (an original plate, by the way, and not a tracing), together with Dunant's specimen from Peru. Now it happens that these two documents do not seem to belong to the same species, for the plate (of which I sent you yesterday a good tracing, in a separate roller) shows penninerved leaves, whilst in Dunant's specimen the leaves have the same nervation as in your specimen. Now on the other hand Dunant's specimen differs from yours — 1st by the shape of its involucral leaves which are more attenuate at the base; 2d by its calyx being *densely* pubescent from its base upwards, whilst in your specimens it is much less pubescent and mostly on its upper part only. Consequently I consider your specimens as specifically distinct from both Mocino's plate and Dunant's specimen.

Moreover I must also draw your attention to the fact that in Mocino's plate, the corolla is coloured in red (which please inscribe on the tracing when it reaches you) whilst your plant seems to have blue flowers. As for *C. rubra* Cham. & Schlecht. it is also certainly distinct from your plant, as it has much shorter and strigose hairs and longer petioles."

Both *C. calocephala* DC. and *C. rubra* Cham. & Schlecht. are somewhat confused, and very little is known about *C. violacea* Brongn. In fact the entire genus *Crusea*, as well as *Spermacoce*, needs a careful revision, which, however, can only be done satisfactorily after a critical comparison of the ample material of our recent collections with types existing only in European herbaria.

LOBELIA REGALIS Fernald, Proc. Am. Acad. xxxvi. 503 (1901).

Excellent specimens of this species were collected at Ejutla, State of Oaxaca, Mexico, altitude 1,300 m., 12 December, 1906, *C. Conzatti*, no. 1638 (hb. Field Mus.). This collection records another station for one of the most beautiful species of the genus, and one which is well worthy of introducing into cultivation.

OAXACANIA MALVAEFOLIA Rob. & Greenm. Am. Journ. Sci. l. 151 (1895).

This interesting monotype has been found at De Almoloyas á Sta. Catarina, Oaxaca, Mexico, at an altitude of 1,000 m., 26 December, 1906, *C. Conzatti*, no. 1654 (hb. Field Mus.). The only other recorded locality for this species is that cited under the original description, namely Tomellin Cañon, Oaxaca, where it was secured by Mr. C. G. Pringle in 1894.

Brickellia Kellermanii Greenman, sp. nov.

Stem erect, nearly 1 m. in height, lignescent at the base, terete, tomentulose: lower leaves opposite, the upper alternate, short-petiolate, oblong-lanceolate, 3 to 6 cm. long, 1 to 2 cm. broad, obtuse or acute, crenate-dentate to entire, subhirtellous above, paler and whitish-tomentulose beneath, rather strongly reticulate-nerved; petioles about 0.5 cm. long: inflorescence a subcorymbose rather leafy panicle: heads many, sessile or nearly so, 12 to 14 mm. high, usually 12-flowered: involucre narrowly campanulate or subcylindric; bracts of the involucre about 7-seriate, strongly unequal, imbricated, sparingly pubescent, ciliate, striate, pale with greenish nerves, or purplish; the outer bracts ovate-oblong, mucronate, strongly ciliate, the inner lance-linear, acute: flowers somewhat exceeding the involucre: pappus silvery white, 6 mm. long, about as long as the white or purplish-tinged corolla: achenes 3 mm. long, pubescent.— GUATEMALA. Department of Baha Vera Paz: Sierra de las Minas, altitude 1,158 m., 3 March, 1907, *W. A. Kellerman*, no. 6127 (hb. Field Mus.).

In leaf-outline *B. Kellermanii* resembles *B. cylindrica* and *B. Pringlei* Gray, but it is amply distinct from both these species in the nature of the inflorescence, tomentum, and in the technical characters of the head.

EGLETES VISCOSA Less. Syn. Comp. 252 (1832). *Cotula viscosa* L. Sp. Pl. 892 (1753); Willd. Sp. Pl. iii. 2167 (1800).

This species was based on material collected by Houston in the region of Vera Cruz, Mexico. Specimens obtained at La Purga, 31 kilometers southwest of the City of Vera Cruz, 27 January, 1906, *J. M. Greenman*, no. 257 (hb. Field Mus.), agree well with the early although brief descriptions of the above species, and are confidently referred to it. The species is of rather wide distribution, occurring in southern Mexico, the West Indies and, according to Hemsley, in South America; it is, moreover, well characterized by its viscid-hirsute character and somewhat lyrate or pinnately incised foliage, suggesting vigorous forms of *Senecio viscosus* L.

In 1890 and again in 1892 Mr. C. G. Pringle collected on river banks at Las Palmas, Mexico, an *Egletes* which was referred to *E. viscosa* Less. The latter of the two collections made by Mr. Pringle was distributed by clerical error as "*Egletes viscida* Less." Mr. Pringle's specimens differ in several particulars from Lessing's species. Moreover, they do not correspond to any known species of the genus, hence they may be characterized as follows:

Egletes Pringlei Greenman, sp. nov.

Annual: stem erect or essentially so, simple or branched from near the base, somewhat geniculate above, viscid-hirsute: leaves ovate to more or less obovate, 1.5 to 7.5 cm. long, one-half to two-thirds as broad, thin or membranous, rather coarsely

and unequally sinuate-dentate, contracted below into a narrowly winged petiole and subamplexicaul by a slightly auricular base: inflorescence terminating the stem and branches in a paniculate cyme: heads 4 to 5 mm. high, radiate: ray-flowers many-seriate; corollas minute, 1.5 to 2 mm. long, less than 0.5 mm. broad: disk-flowers numerous; corollas about 1 mm. long, 4–5-toothed; tube on the outer surface glandular-pilose: achenes slightly compressed, produced above into a somewhat irregular saucer-shaped subcartilaginous pappus.— MEXICO. State of San Luis Potosi: river banks, Las Palmas, 4 June, 1890, *C. G. Pringle*, no. 3531 (hb. Field Mus.); and in the same locality, 18 June, 1892, *C. G. Pringle*, no. 4101 (hb. Field Mus.).

E. Pringlei is readily distinguished from *E. viscosa* Less. by the ovate or obovate undivided leaves, the more numerous heads, shorter hairs on stem and branches, and finally by the smaller narrower rays, the more conspicuously flaring pappus, and the less conical receptacle.

Erigeron pacayensis Greenman, sp. nov.

Suffruticose: stems erect or ascending, branched, 1 to 1.5 dm. high, pubescent with upwardly appressed or but slightly spreading hairs: leaves narrowly linear-oblanceolate, 1 to 2 cm. long, 1 to 3 mm. broad, acute or obtusish, entire or bearing a single tooth on one or both margins, gradually narrowed below to a subpetiolate base, sparingly pubescent on either surface to nearly glabrous: heads few, small, 5 to 6 mm. high, less than 1 cm. in diameter including the rays, terminating the stem and branches on long slender appressed-pubescent peduncles 6 cm. or less in length: involucre subcampanulate; bracts of the involucre about 3-seriate, unequal, lance-linear, acute, appressed-pubescent, more or less purplish; the outer bracts shorter: ray-flowers 3-seriate, many; rays narrow, white or roseate: flowers of the disk numerous: pappus bristles slender, 2 to 2.5 mm. long: achenes pubescent.— GUATEMALA. Department of Amatitlan: crater of the Volcano of Pacaya, altitude 2,500 m., 6 January, 1907, *W. A. Kellerman*, no. 6111 (hb. Field Mus., and hb. Gray).

The species here proposed has its affinity with *Erigeron Ervendbergii* Gray, and **E. irazuensis* Greenman. From the former it differs in having smaller heads, appressed instead of spreading hairs on the involucre, more unequal involucral bracts, etc. Although similar in habit to *E. irazuensis*, yet it differs in several particulars, namely in having narrower and less pubescent leaves, also in the appressed pubescence on the stem and peduncles, as well as in other details.

I am indebted to Mr. H. H. Bartlett of the Gray Herbarium for a critical comparison of Professor Kellerman's plant with the type of *E. irazuensis*.

* By oversight published as *Erigeron irazuense*.

Baccharis Kellermanii Greenman, sp. nov.

Stem terete, sulcate, hirtellous-puberulent with crisp sordid hairs: leaves elliptic-lanceolate to oblanceolate, 1 to 3.5 cm. long, 2 to 8 mm. broad, acute or obtuse, sharply dentate with unequal and somewhat spreading teeth, narrowed at the base into a short petiole, at first slightly puberulent above but soon becoming glabrous, persistently hirtellous-pubescent beneath, subtrinervate and rather prominently reticulate-veined: inflorescence a terminal subcorymbose cyme: heads of the pistillate plant numerous, 6 to 7 mm. high: involucre subcampanulate; bracts of the involucre unequal, 4-5-seriate, linear-ob-long, obtuse or rounded at the tip, more or less purplish on the back and ciliate towards the apex, the outermost shortest: flowers 18 to 24; pappus about 4 mm. long, slightly tawny, exceeding the slender corolla-tube: mature achenes 1.5 mm. long, glabrous: staminate plant not seen.— GUATEMALA. Department of Solala: Volcano of Atitlan, 16 February, 1906, *W. A. Kellerman*, no. 5356 (hb. Field Mus.). In leaf-outline *Baccharis Kellermanii* suggests *B. thesioides* HBK., but the two species are amply distinct in habit, inflorescence, involucral details, and in the character of the surface of stem and leaves.

Gnaphalium brachyphyllum Greenman, sp. nov.

An herbaceous perennial, lanate-tomentose throughout: stems several, erect or nearly so, from a ligneous base, 1 to 2 dm. high, slender, leafy: leaves linear-oblong or slightly oblanceolate, 0.5 to 1.5 cm. long, 1 to 4 mm. broad, obtuse, entire, slightly repand-margined, sessile and semiamplexicaul, densely lanate-tomentose on both surfaces: inflorescence terminating the stems in rather dense cymes: heads 4 to 5 mm. high: involucre subcampanulate, tomentose at the base otherwise essentially glabrous; bracts of the involucre 3-4-seriate, pale stramineous, the outer ovate and about 3 mm. long, the inner linear-lanceolate, 3.5 to 4 mm. long, greenish at the base especially along the median line: pistillate flowers numerous: perfect flowers 6 to 10: pappus caducous: achenes glabrous, 1 mm. long, reddish.— GUATEMALA. Department of Quezaltenango: Cerro Quemada, 8 February, 1906, *W. A. Kellerman*, no. 5301 (hb. Field Mus.). The numerous slender stems and short crowded leaves render this species readily recognizable among all the other known species of the genus.

MELAMPODIUM KUNTHIANUM DC. Prodr. v. 519 (1836); Hemsl. Biol. Cent.-Am. Bot. ii. 146 (1881); Rob. Proc. Am. Acad. xxxvi. 460 (1901).

To this little known species the writer refers specimens collected on hillsides near Chavarillo, State of Vera Cruz, Mexico, 7 September, 1906, *C. R. Barnes, C. J. Chamberlain & W. J. G. Land*, no. 8 (hb. Field Mus., and hb. University of Chicago). In all essential characters these specimens agree with descriptions of the above species. The leaves in our material, however, are

either linear or 3-parted with linear divisions instead of lanceolate-linear and entire, as indicated in the original characterization.

Gymnolomia scaberrima Greenman, n. comb. *G. platylepis* Gray, Proc. Am. Acad. xix. 5 (1883); Rob. & Greenm. Proc. Bos. Soc. Nat. Hist. xxix. 102 (1899), excluding plants of Pittier. *G. decurrens* Klatt, Leopoldina, xxiii. 90 (1887). *Tithonia scaberrima* Benth. in Kjoeb. Vidensk. Meddel. 1852, p. 91 & Gen. Pl. ii. 368; Walp. Ann. v. 223 (1858). *T. platylepis* Schz. Bip., acc. to Benth. & Hook. f. Gen. Pl. ii. 368 (1876). *Mirasolia scaberrima* Benth. & Hook. f. l. c. 375; Hemsl. Biol. Cent.-Am. Bot. ii. 168 (1881). *Perymeniopsis perfoliata* Schz. Bip., acc. to Klatt., l. c.— In addition to the specimens cited under *G. platylepis* Gray by Robinson and Greenman, l. c. (excluding Pittier's nos. 3136, 3735), the following collection may be recorded,— GUATEMALA. Department of Socatepéquez: Volcano Agua, altitude 2440 m., 18 February, 1905, *Prof. W. A. Kellerman*, no. 5361 (hb. Field Mus.).

Following the International Rules of Botanical Nomenclature, adopted by the International Botanical Congress held at Vienna in 1905, it becomes necessary to form the above binomial for this well known south Mexican and Central American species.

Wedelia rugosa Greenman, sp. nov.

An herbaceous perennial: stems erect or nearly so, 5 dm. or more high, simple or branched, subterete, strigose-hispid with upwardly appressed hairs: leaves opposite, short-petiolate, oblong to oblong-lanceolate, 3 to 10 cm. long, 1.5 to 5 cm. broad, acute or obtuse, entire or slightly crenate-dentate, rounded to subcordate at the base, tuberculate-hispid and rugose above, hirsute-hispid and strongly reticulate-nerved beneath; petioles 2 to 5 mm. long: inflorescence terminating the stem and branches in few-headed cymes: heads radiate, 5 to 8 mm. high, including the rays 10 to 16 mm. in diameter; peduncles 0.5 to 4 cm. long, strigose-hispid: involucre campanulate; bracts of the involucre biseriate, oblong to elliptic-ovate, 3 to 4 mm. long, 1 to 1.5 mm. broad, obtuse or acute, externally appressed-pubescent: ray-flowers 12 to 14, fertile; rays yellow, about 6 mm. long, 2.5 mm. broad, 2-3-dentate; achenes 3-angled: disk-flowers numerous; achenes at first laterally compressed, densely atomiferous-glandular over the upper one-third, glabrous below, at maturity oblong, 2.5 mm. long and subquadrangular in cross-section: pappus of both ray- and disk-flowers a fimbriate crown of 2 (-3) small scales at the angles of the achene with minute more or less coalescent intermediate scales: pales of the receptacle rather conspicuous, more or less uncinate-tipped especially in the mature state.— *Wedelia reticulata* Greenm. in Trans. Acad. Sci. St. Louis. vii. 434 (1897), not DC.— CUBA. Province of Santa Clara: Abresus, 29 June, 1895, *Robert Combs*, no. 269 (hb. Field Mus.), type. Province of Havana: Managua, 19

July, 1904, *Chas. F. Baker & Percy Wilson*, no. 292 (hb. Field Mus.); Managua, 23 September, 1904, *Carl F. Baker*, no. 1554 (hb. Field Mus.); Madruga, 23 November, 1904, *A. H. Curtiss*, no. 528 (hb. Field Mus.).

Var. **tenuis** Greenman, var. nov.

Similar to the species, but with smaller and more slender stems: leaves 2.5 to 6 cm. long, 0.5 to 2.2 cm. broad.— CUBA. Province of Pinar del Rio: Herradura, 30 September, 1904, *Carl F. Baker*, no. 2154 (hb. Field Mus.); Herradura, 24 August, 1905, *H. A. Van Hermann*, no. 705 (hb. Field Mus.).

The species here described resembles *W. reticulata* DC.; but the oblong or oblong-lanceolate outline of the leaves with their distinctly pinnate venation and entire or slightly crenate margin, the shorter involucral bracts, and the peculiar uncinate-tipped pales amply distinguish it from the De Candolle species.

Perymenium Goldmanii Greenman, sp. nov.

Stem terete or slightly tetragonal, striate, strigillose: leaves opposite, petiolate, ovate-lanceolate, 3 to 8 cm. long, 1 to 4 cm. broad, acuminate, acute, dentate to subentire, rounded to subcordate at the base, scabrous above and becoming slightly rugose in age, hirsutish-pubescent beneath, green on both sides, 3-nerved from near the base; petioles 3 to 10 mm. long; inflorescence terminating the stem and the horizontally spreading or ascending lateral branches in rather dense cymose clusters: heads numerous, small, 6 to 7 mm. high, about 3 mm. in diameter, radiate; primary and secondary peduncles short, usually less than 2 cm. in length, appressed-pubescent; involucre subcampanulate; bracts of the involucre unequal, 2-3-seriate, the outer shorter, ovate to ovate-oblong, 3 to 4.5 mm. long, acute or obtuse, externally strigillose, ciliate: ray-flowers commonly 5; rays lemon-yellow: disk-flowers about 20: pappus of numerous unequal setae: mature achenes laterally compressed or somewhat 3-angled, about 2.5 mm. long, ciliate or narrowly winged, transversely rugose under a lens and slightly pubescent on the surface especially in the upper half.— MEXICO. State of Campeche: Apazote, near Yohaltun, 27 to 29 December, 1900, *E. A. Goldman*, nos. 487, 502 (hb. U. S. Nat. Mus., and hb. Field Mus.).

The affinity of the species here described is with *P. microcephalum* Schz. Bip., and *P. gracile* Hemsl., but it differs from the former by the larger leaves and from the latter in foliar and achenial characters. The narrowly winged achenes of *P. Goldmanii* suggest *P. gymnolomoides* DC., but that species has smaller leaves, shorter petioles and fewer heads in the inflorescence.

Notoptera Gaumeri, n. comb. *Salmea Gaumeri* Greenm. in Field Col. Mus. Bot. Ser. iii. 124 (1904).

The homogamous heads, the short accumbent involucre, the characteristic ear-like wing on the posterior pappus-awn,

and the habit of the plant render it a congener of Professor Urban's recently published genus *Notoptera*, Symb. Antil. ii. 465 (1901). In addition to Dr. Gaumer's no. 977, cited in the original publication of the above species, the following is typical. — MEXICO. State of Campeche: Apazote, near Yohaltun, 26 December, 1900, *E. A. Goldman*, no. 483 (hb. U. S. Nat. Mus., and hb. Field Mus.).

ENCELIA ADENOPHORA Greenm. Proc. Am. Acad. xxxix. 109 (1903).

In addition to the stations recorded for this species under the original description is the following: Hacienda Guadalupe, State of Oaxaca, Mexico, altitude 1600 m., 7 October, 1906, *C. Conzatti*, no. 1529 (hb. Field Mus.).

OTOPAPPUS VERBESINOIDES Benth. in Hook. Ic. Pl. xii. 47, t. 1153 (1876); Hemsl. Biol. Cent.-Am. Bot. ii. 192 (1881).

A careful examination of a considerable number of specimens representing this species shows a marked variation in the form and size of the outer spreading subfoliaceous involucral bracts. These vary from spatulate to lanceolate or linear and from 3 to 12 mm. in length. There is also some diversity in the size of the rays. The following specimens are here referred.— MEXICO. State of Vera Cruz: Canton de Cordoba, altitude 1200 m., 25 December, 1897, *C. Conzatti & V. González*, no. 622 (hb. Gray). State of Chiapas: near Yajalon, 21 November, 1895, *E. W. Nelson*, no. 3409 (hb. Gray); Palenque, collection of 1895, *A. V. Armour*, no. 7 (hb. Field Mus.). State of Campeche: Apazote, near Yohaltun, 26 December, 1900, *E. A. Goldman*, no. 482 (hb. U. S. Nat. Mus.; fragment in hb. Field Mus.). GUATEMALA. Department of Alta Vera Paz: altitude 1310 m., June, 1882, *H. von Tuerckheim*, without number (hb. Gray); Pansamalá, altitude 1158 m., January, 1887, *H. von Tuerckheim*, no. 1110 (hb. Gray). Depart. of Santa Rosa: Rio Chiquito, altitude 700 m. September, 1893, *Heyde & Lux*, no. 6174 (hb. Gray, and hb. Field Mus.), an extreme form with narrow elongated outer involucral bracts. COSTA RICA: Turrialba, altitude 570 m., November, 1893, *Ad. Tonduz*, no. 8337 (hb. Gray); San José, altitude 635 m., December, 1898, *Ad. Tonduz*, no. 12,739 (hb. Gray). Thus the species, as known at the present time, has a geographical distribution ranging from the State of Vera Cruz, Mexico, to Costa Rica.

Goldmania Greenman, gen. nov. of *Compositæ* (*Coreopsideæ*).

Heads heterogamous, radiate. Involucre campanulate; bracts 3-4-seriate, free. Receptacle conical, paleaceous; pales thin, membranous. Ray-flowers uniseriate, fertile: achenes compressed dorsally. Disk-flowers regular; corolla-tube short, gradually ampliated above into a 5-toothed limb; achenes more or less dorsally compressed. Anthers slightly sagittate at the base, terminated by a short appendage. Style-branches elongated, acute. Pappus of 2 to 4 short thick awns, or subcoroni-

form. Herbaceous perennials with alternate undivided leaves and few-headed cymose inflorescence.

G. sarmentosa Greenman, sp. nov.

Stem prostrate or ascending, rooting at the lower nodes, terete, glabrous below, slightly pubescent above: leaves sessile, or the lowermost short-petiolate, ovate, 3 to 6 cm. long, two-thirds as broad, acute or mucronate-acute, somewhat oblique or unsymmetrical at the base, at first pubescent with a few scattered hairs on both surfaces, soon glabrate: inflorescence terminating the stem and branches in few-headed cymes: heads pedunculate, including the rays about 1.5 cm. in diameter; peduncles slender, 1 to 7 cm. long, naked or sparingly bracteolate, subappressed-pubescent: involucre 6 to 8 mm. high; bracts glabrous, yellowish with reddish-brown nerves, the outer shorter, ovate and acute, the inner oblong, rounded at the apex and subscarious-margined: ray-flowers 5 to 8; rays oblong or oblong-obovate, about 6 mm. long, 3 to 4 mm. broad, 2-3-dentate, white or pale yellow: disk-flowers about 20: pappus persistent as short thick awns, sometimes subcoronate: mature achenes oblong, 2.5 to 3 mm. long, much thickened, glabrous but with a slightly roughened surface, reddish-brown.— MEXICO. State of Campeche: Canasayal, 12.5 km. above Champotan river, 12 December, 1900, *E. A. Goldman*, no. 448 (hb. U. S. Nat. Mus., and hb. Field Mus.). The plant here described in the appearance of the involucre suggests some of the *Galinsogeæ*, particularly *Calea* and *Geissolepis*, and certain of the *Helenioideæ*, especially *Jaumea*. The paleaceous receptacle, the dorsally appressed achenes, and the character of the pappus place it, however, with the *Coreopsideæ*.

The genus is named in honor of its collector Mr. Edward A. Goldman of the United States National Museum.

Bidens Urbanii Greenman, sp. nov.

Perennial: stem ligneous, twining; branches terete, minutely striate, glabrous, or puberulent in decussating lines: leaves opposite, petiolate, triangular-ovate in general outline, exclusive of the petiole 3 to 7 cm. long, 2 to 6 cm. broad, bi-tri-pinnatisect with narrowly lanceolate acute submucronate-dentate divisions, glabrous to minutely and sparingly hispidulous on the upper surface, paler and glabrous or essentially so beneath; petioles slender, 0.5 to 3.5 cm. long: inflorescence in terminal more or less leafy paniculate cymes; the individual axillary pedunculate cymes exceeding the leaves: heads radiate, during anthesis 8 to 10 mm. high, including the rays 2 to 2.5 cm. in diameter: involucre biseriate; the outer bracts of the involucre herbaceous, lance-linear to narrowly spatulate, acute or obtusish, reflexed, glabrous or slightly puberulent; inner involucral bracts thin, dark brown or chocolate-colored with yellowish subscarious margins: ray-flowers usually 5, sterile; rays narrowly oblong, about 1 cm. long, obtuse or retuse, pale yellow, about 7-nerved

with dark brown or blackish nerves: disk-flowers 20 to 25: mature achenes of the fertile flowers linear, 12 mm. or less in length, erect or somewhat recurved, 2-4-awned with relatively short retrorsely barbed persistent pappus-awns, striate, 2-4-angled in cross-section, ciliate along the angles otherwise glabrous. — PORTO RICO. On slopes of Mt. Montoso, near Maricao, 23 November, 1884. *Sintenis*, no. 387 (hb. Field Mus. Catalogue No. 79397), type. MEXICO. State of Campeche: Apazote, near Yohaltun, 20 December, 1900, *E. A. Goldman*, no. 468 (hb. U. S. Nat. Mus.; fragment and photograph in hb. Field Mus.).

This species has its affinity with a small natural group of plants to which *B. rubifolia* HBK, *B. tereticaulis* and *B. coreopsidis* DC. belong, but the smooth or lineate-puberulent stem and branches, the pinnatisect leaves with their numerous narrow divisions, the nature of the pubescence, and certain technical characters of the head seem to the writer to warrant its specific rank. *B. Urbanii* is apparently most closely allied to *B. Coreopsidis, var.* (?) *incisa* DC. v. 599 (1836) (*Coreopsis incisa* Ker-Gawl. Bot. Reg. t. 7), but here again a careful comparison with the original description and illustration shows several important differences.

CALEA PRINGLEI Rob., var. **rubida** Greenman, var. nov.

Leaves short-petiolate, ovate, 1.5 to 3 cm. long, two-thirds as broad, densely tomentose beneath; petioles 2 to 4 mm. long, tawny-pubescent: involucral bracts elliptic-oblong, red-dish-margined.— MEXICO. State of Vera Cruz: on hillsides near Chavarillo, 7 September, 1906, *C. R. Barnes, C. J. Chamberlain & W. J. G. Land*, no. 4 (hb. Field Mus., and hb. University of Chicago). Differs from the type of the species chiefly in the short but distinctly petioled leaves, and by the slightly narrower and reddish-margined involucral bracts.

Florestina Liebmannii Schz. Bip., in herb.

Stem erect or somewhat ascending from an indurated base, 3 to 5 dm. high, simple or sparingly branched, terete below, striate-angled above, substrigillose and more or less closely beset with stipitate glands: lower leaves opposite, simple, petiolate, narrowly lanceolate-oblong, 2 to 3.5 cm. long, 4 to 12 mm. broad, obtuse or acute, entire or occasionally few-dentate, obtuse at the base, substrigose-hispid on both surfaces, 3-nerved; petioles 0.5 to 1.5 cm. long, hispid-pubescent intermixed with stipitate-glandular hairs; the upper stem-leaves alternate and gradually reduced to linear bracts: inflorescence terminating the stem in a glandular-pubescent subcorymbose cyme: heads homogamous, 8 to 10 mm. high: involucre subturbinate; bracts of the involucre 8, uniseriate or essentially so, elliptic-oblong to obovate-oblong, 4 to 5 mm. long, 2 to 3 mm. broad, rounded at the apex, scarious-margined and more or less erose-ciliate, ap-pressed-puberulent on the outer surface: flowers 12 to 14: pappus of 8 obovate or broadly spatulate hyaline-scarious pointless

scales, these about 1.5 mm. long and narrowed below into a thickened opaque base: corolla 4 mm. long, deeply 5-toothed, externally somewhat pubescent: achenes narrowly obpyramidal, 3 to 4 mm. long, 4-5-angled, striate, pubescent.— MEXICO. State of Vera Cruz: Boca del Rio, *Liebmann*, no. 71 (hb. Copenhagen, fragment and good drawing in hb. Gray, photograph in hb. Field Mus.); along the shore, north of the City of Vera Cruz, 24 January, 1906, *J. M. Greenman*, no. 114 (hb. Field Mus., and hb. Gray).

The general habit and simple leaves of this species suggest a relationship with *Palafoxia* or *Polypteris*, but the technical characters of the involucre, pappus, corolla and style-branches place it rather with *Florestina*. The affinity of the plant, as well as its specific rank, was first recognized by Schultz Bipontinus, and subsequently by the late Professor F. W. Klatt, but the name seems not to have been hitherto published.

I am indebted to Professor Eug. Warming for the identification of my no. 114 with the Liebmann plant in the Botanical Museum at Copenhagen.

TAGETES JALISCENSIS Greenm., var **minor** Greenman, var. nov.

Leaves 3 cm. or less in length, about two-thirds as broad: heads 1.3 to 1.8 cm. high; involucre 1 to 1.4 cm. long: mature achenes 7 to 7.5 mm. in length.— MEXICO. State of Oaxaca: Cercainas de Oaxaca, altitude 1550 m., 8 November, 1906, *C. Conzatti*, no. 1516 (hb. Field Mus.). The chief distinguishing characters separating var. *minor* from the species are the smaller leaves, shorter involucre and flowers.

Dysodia (§**Gymnolæna**) **oaxacana** Greenman, sp. nov.

Shrub: stem and branches covered with a grayish bark; ultimate branchlets terete, somewhat striate, greenish or reddish-brown, minutely pubescent in decussating lines: leaves opposite, sessile or essentially so, lanceolate, 1 to 4 cm. long, 4 to 11 mm. broad, acute, finely serrulate, narrowed below to an entire or occasional subsetiferous subpetiolate base, pellucid-punctate, slightly pubescent on both surfaces under a lens especially on the midrib of the upper surface, or glabrous: heads few, heterogamous, 1.5 to 2 cm. high, terminating the stem and branches on minutely bracteate 1.5-5 cm.-long glabrous peduncles: involucre at first narrowly campanulate or subcylindric, often split on one side, 12 to 14 mm. long, (7-) 8-dentate, naked or essentially so at the base, glabrous, bearing several linear-elliptic glands, later separating into more or less distinct lance-linear bracts; teeth, or the terminal portion of the individual bracts, short, triangular, acute, pubescent-tipped: ray-flowers commonly 8; rays including the slender tubular portion 1.5 cm. long, 4 to 5 mm. broad, deep orange-red: disk-flowers about 30: pappus of numerous lacerate-fimbriate scales, tawny: achenes 6 mm. long, pubescent.— MEXICO. State of Oaxaca: Almoloyas,

altitude 800 m., 25 December, 1906, *C. Conzatti*, no. 1653 (hb. Field Mus. Catalogue no. 195851; fragment in hb. De Candolle).

I am indebted to Dr. Casimir De Candolle for a detailed comparison of Professor Conzatti's plant with the type of *Dysodia serratifolia* DC. From this species, as pointed out by Dr. De Candolle, *D. oaxacana* differs in having smaller leaves, few heads instead of a multiflorous corymb, and pubescent-tipped involucral bracts.

To this natural group also belong *D. integrifolia* Gray, and *D. Seleri* Rob. & Greenm. From the former the species described above is readily separated by the pubescent branchlets and puberulent leaves; and from the latter by the presence of pellucid glands on leaves and involucre.

CHRYSACTINIA MEXICANA Gray, Pl. Fendl. 93 (1849). *Pectis taxifolia* Greene. Leaflets Bot. Obs. & Crit. i. 148 (1905).

Specimens collected at Kingston, New Mexico, by Mr. O. B. Metcalfe, and distributed under no. 1440 (hb. Field Mus.), as "*Pectis taxifolia*, Greene, n. sp." are identical with the above species of *Chrysactinia*.

LIABUM CADUCIFOLIUM Rob. & Bart. Proc. Am. Acad. xliii. 59 (1907).

To this very distinct species must be referred specimens collected at Paso del Rio, State of Colima, Mexico, November, 1906, *Dr. G. M. Emrick*, no. 187 (hb. Field Mus.). Dr. Emrick's specimens show the uppermost leaves to be ovate, acuminate, acute, entire or remotely mucronate-denticulate and abruptly narrowed below the middle to an acute base. The mature achenes, moreover, are 4 mm. in length, pubescent and strongly striate.

Schistocarpha platyphylla Greenman, sp. nov.

Stem terete, striate, glabrous or slightly pubescent above: leaves opposite, petiolate, ovate, 10 to 25 cm. long, 6.5 to 22 cm. broad, acuminate, acute, sinuate-dentate, subcordate to cuneate at the base and decurrent on the subconnate petioles, 3-nerved, sparingly pilose on both surfaces, slightly paler beneath, thin and membranous: inflorescence a terminal subcorymbose many-headed pubescent panicle; bracts linear, subsetaceous: heads 7 to 8 mm. high: involucre narrowly campanulate; bracts of the involucre 3-seriate, lance-oblong, 3 to 5 mm. long, 1 to 1.5 mm. broad, obtuse or obtusish, pale stramineous, striate, glabrous: pales hyaline, subcuneate, about 3 mm. long, irregularly 3-5-toothed: pistillate flowers usually 13; corollas tubular; tube 2 mm. long, externally pubescent: perfect flowers 14 to 18; corollas about 5 mm. long, slightly exceeding the pappus; tube puberulent, gradually ampliated above into a 5-toothed limb: mature achenes 1 mm. long, glabrous or sparingly puberulent under a strong lens.— GUATEMALA. Department of Quezaltenango: Santa Maria, 5 February, 1906, *W. A. Kellerman*, no.

5295 (hb. Field Mus.), type; south side of the volcano of Santa Maria, altitude 1370 m., 19 January, 1907, *W. A. Kellerman*, no. 6114 (hb. Field Mus.). The affinity of this species is with *Schistocarpha paniculata* Klatt, from which, however, it differs in having a more sparse tomentum on stem and foliage, larger leaves, smaller heads with fewer flowers, and also in the shorter broader pales.

Senecio (§**Eremophili**) **durangensis** Greenman, nom. nov. *S. ctenophyllus* Greenm. Proc. Am. Acad. xliii. 20 (1907), not Phil.

Senecio (§ **Sanguisorboidei**) **coahuilensis** Greenm.

An herbaceous perennial, glabrous or essentially so throughout: stem erect, 3 to 4 dm. high, branched, striate: leaves pinnatifid, 5 to 10 cm. long, 2 to 3 cm. broad, thickish in texture and slightly glaucous, glabrous on both surfaces or puberulent beneath; segments obtusely crenate-dentate, the terminal segment largest and subreniform, the lateral ones obovate; the lowermost leaves petiolate, the upper stem-leaves sessile and amplexicaul: inflorescence terminating the stem and branches in a compound corymbose cyme: heads about 7 mm. high, radiate: involucre campanulate, calyculate with 2 or 3 small bracteoles, glabrous; bracts of the involucre 13 (-15), linear-lanceolate, 4 to 5 mm. long: ray-flowers 8 to 10; rays oblong, 3 to 4 mm. long, 4-nerved: disk-flowers 35 to 40: achenes glabrous, striate.—Monogr. Senecio, I Th. 23 (1901) & in Engl. Bot. Jahrb. xxxii. 19 (1902), without complete description.— MEXICO. State of Coahuila: Lerios, February to October, 1880, *Dr. Edward Palmer*, no. 755 (hb. Gray, and hb. Kew). This species has been confused with *S. Sanguisorbæ* DC., but it is amply distinct in habit, size and foliar characters.

Senecio (§ **Sanguisorboidei**) **Ervendbergii** Greenm.

Glabrous throughout: stem herbaceous, leafy, striate: upper stem-leaves thin, membranous, sublyrately pinnatifid, sessile, more or less expanded and subamplexicaul at the base; segments 7 to 9, sublaciniate, the ultimate divisions usually 3-toothed and the teeth tipped by a short mucro; terminal segment obovate-rotund, the lateral oblong or somewhat obovate-oblong; midrib more or less winged throughout and often bearing small tooth-like expansions between the main segments; inflorescence a terminal compound corymbose cyme: heads small about 5 mm. high, on slender pedicels: involucre campanulate, ecalyculate; bracts of the involucre about 21, slightly shorter than the flowers of the disk: ray-flowers 12 to 14: disk-flowers 75 to 80: achenes hispidulous.— Monogr. Senecio, I Th. 23 (1901) & in Engl. Bot. Jahrb. xxxii. 19 (1902) without complete characterization.— MEXICO. State of Vera Cruz: Wartemberg, near Tantoyuca, province of Huasteca, October, 1858, *C. L. Ervendberg*, no. 90 (hb. Gray). Nearly related to *S. tampicanus* DC.

Senecio (§ **Sanguisorboidei**) **leonensis** Greenm.

An herbaceous perennial, more or less lanate-tomentose throughout, somewhat glabrate in age: stem 2 to 3 dm. high, leafy at the base, essentially naked above: leaves petiolate, pinnatifid, including the petiole 8 to 12 cm. long, about 3 cm. broad, at first lanate-tomentose on both surfaces, later glabrate: segments or lobes rather coarsely, somewhat unequally and sharply toothed; the terminal segment subreniform, the lateral ones (3 to 6 on either side) obovate-cuneate, becoming smaller towards the petiole: heads few, about 1 cm. high, radiate: involucre campanulate, subecalyculate and, as well as the bracteate peduncles, tomentulose; bracts of the involucre usually 21, lanceolate, acute, 6 mm. long: ray-flowers about 13; rays oblong, 6 to 7 mm. in length, 4-5-nerved: disk-flowers numerous, about 60: achenes pubescent.— Monogr. Senecio, I Th. 23 (1901) & in Engl. Bot. Jahrb. xxxii. 19 (1902), without complete characterization. — MEXICO. State of Nuevo Leon: Sierra Madre, near Monterey, 1 June, 1889, *C. G. Pringle*, no. 2894 (hb. Gray).

Senecio (§ **Aurei**) **cyclophyllus** Greenman, sp. nov.

An herbaceous perennial: stem simple, 3.5 to 5 dm. high, sparingly tawny-tomentose at the base and in the leaf-axils otherwise glabrous, striate, purplish: radical and lowermost stem-leaves subrotund, 4 to 7 cm. long, equally broad, cordate, crenate-dentate, green and glabrous above, more or less purplish and sparingly hirsute to glabrous beneath; petioles 5 to 8 cm. long: upper stem-leaves sessile, amplexicaul, lyrately pinnatifid with a relatively large terminal segment and narrowly obovate-cuneate unequally dentate lateral divisions: inflorescence terminating the stem in a many-headed subcorymbose cyme; bracts of the inflorescence linear-lanceolate to subulate, tawny-tomentulose, purplish-tipped: heads 7 to 9 mm. high, radiate: involucre campanulate, sparingly calyculate with minute bracteoles; bracts of the involucre about 21, lance-linear, 5 to 6 mm. long, acuminate, acute, more or less purplish-tipped, glabrous: ray-flowers commonly 13; rays orange-yellow: disk-flowers 50 to 60: mature achenes 2 mm. long, hispidulous.— MEXICO. State of Nuevo Leon: near Monterey, 1906, *C. G. Pringle*, no. 10,230 (hb. Gray), type; Cerro la Scilla, near Monterey, 20 March, 1902, *E. W. Nelson*, no. 6,672 (hb. U. S. Nat. Mus. and hb. Gray). A species somewhat intermediate in general aspect between *S. aureus* L. and *S. Cardamine* Greene. From the former it differs in having shorter petioles and a more rotund leaf-blade to the basal leaves; besides the terminal segment of the stem-leaves is relatively broader and more reniform, and finally the achenes are hispidulous. From *S. Cardamine*, on the other hand, *S. cyclophyllus* differs in its larger stature, size of foliage and leafy stem, and in the many-headed inflorescence.

Senecio (§ **Aurei**) **Rosei** Greenm.

An herbaceous perennial: root-stocks rather short, bearing several fleshy-fibrous roots: stem erect, 4 to 4.5 dm. high, un-

branched, glabrous below, slightly pubescent above, terminated by a single large radiate head, or bearing in addition 1 to 3 reduced heads: leaves petiolate, ovate, 2 to 3 cm. long, two-thirds as broad, obtuse, glabrous on both surfaces, subentire to sparingly and obtusely dentate; the lower leaves on long petioles, 2 to 4 times as long as the blade; the upper stem-leaves somewhat laciniate-dentate or sublyrate, not infrequently expanding at the base and subamplexicaul: peduncles somewhat enlarged above, pubescent: heads about 12 mm. high, including the rays 3 to 3.5 cm. broad: involucre campanulate, essentially naked; bracts of the involucre about 20, lanceolate-linear, 8 to 10 mm. long, acute, green, scarious-margined, glabrous except at the penicillate tip: ray-flowers 10 to 12; rays conspicuous, light yellow: disk-flowers numerous: achenes glabrous.— Monogr. Senecio, I Th. 24 (1901) & in Engl. Bot. Jahrb. xxxii. 20 (1902), without complete characterization.— MEXICO. Territory of Tepic: in the Sierra Madre, near Santa Teresa, 10 August, 1897, *Dr. J. N. Rose*, no. 2,157 (hb. Gray, and hb. U. S. Nat. Mus.).

Senecio (§ **Amplectentes**) **heterodontus** Greenman, sp. nov.

An herbaceous perennial: roots fleshy-fibrous from a short perpendicular root-stock: stem erect, simple or branched, 0.5 to 1 m. high, nearly naked above, striate, glabrous to crisp-pubescent: leaves lanceolate, 1 to 3 dm. long, 1 to 4 cm. broad, slightly hirtellous-puberulent to essentially glabrous on the upper surface, pubescent beneath; the lowermost leaves, obtuse or acute, narrowed below, rather long winged-petiolate, unequally dentate or dentate-lobed; the upper stem-leaves, remote, sessile, amplexicaul, acuminate, more or less regularly denticulate, becoming bract-like toward the inflorescence: heads numerous, 8 to 10 mm. high, radiate, disposed in a terminal corymbose cyme: involucre campanulate, calyculate, glabrous, or slightly pubescent at the base: bracts of the involucre 13 (-21), lanceolate, 4.5 to 5.5 mm. long, acutish, terminated by a blackish penicillate tip: ray-flowers commonly 8; tube pubescent; pappus somewhat exceeding the tube: disk-flowers 48 to 50: achenes striate, glabrous.— *S. potosinus* Greenm. Monogr. Senecio, I Th. 25 (1901) & in Engl. Bot. Jahrb. xxxii. 21 (1902), without complete characterization, not *S. potosianus* Klatt.— MEXICO. State of San Luis Potosi: Valley of San Luis Potosi, in mountains near San Miguelita, September, 1876, *Dr. J. G. Schaffner*, no. 280 (hb. Gray), type; in the region of San Luis Potosi, collection of 1878, *Parry & Palmer*, no. 536 (hb. Gray); Alvarez, 13 to 23 July, 1904, *Dr. E. Palmer*, no. 237 (hb. Gray, and hb. Field Mus.). This species may be found in herbaria under the name of "*Senecio multidentatus*."

Senecio (§ **Amplectentes**) **mohinorensis** Greenm.

Stem erect, striate, puberulent: leaves sessile, amplexicaul, pinnately lobed, lanceolate in general outline, 5 to 15 cm. long, 1 to 4 cm. broad, puberulent on both surfaces, slightly paler

beneath; lobes oblong, mucronate, acute, entire or few-toothed; the uppermost leaves reduced and laciniate-dentate to entire: inflorescence a terminal comparatively few-headed panicle; the branches usually bearing 3 heads: heads about 1.5 cm. high, radiate: involucre campanulate, conspicuously calyculate with linear-lanceolate green bracteoles; involucral bracts proper, lanceolate to lance-oblong, 10 to 12 mm. long obtuse, scarious-margined and, as well as the bracteoles, black-tipped and hirsute-pubescent with spreading jointed hairs: ray-flowers 8 to 10; rays yellow, elliptic-oblong, 10 to 12 mm. long, 4-nerved, the two middle nerves often branching into 3 divisions: disk-flowers about 50: achenes canescent-pubescent.—Monogr. Senecio, I Th. 25 (1901) & in Engl. Bot. Jahrb. xxxii. 21 (1902), without complete characterization.— MEXICO. State of Chihuahua: Mt. Mohinora, 1 September, 1898, *E. W. Nelson*, no. 4881 (hb. Gray, and hb. U. S. Nat. Mus.).

Senecio (§ **Amplectentes**) **platypus** Greenman, sp. nov.

An herbaceous perennial: stem simple or branched, striate, purplish, lightly floccose-tomentulose: leaves petiolate, ovate to ovate-lanceolate, 3 to 9 cm. long including the petiole, 1 to 4 cm. broad, mucronate-acute, entire to irregularly dentate, cuneate to subcordate at the base, floccose-tomentulose above, densely and permanently white tomentose beneath, thin and membranous; petioles 4 cm. or less in length, usually expanded and clasping the stem by an auriculate-stipuliform base: inflorescence a terminal few-headed tomentulose subcorymbose cyme; bracts linear-setaceous: heads 10 to 12 mm. high, radiate: involucre narrowly campanulate, calyculate with minute setaceous bracteoles; bracts of the involucre usually 21, lance-linear, 6 to 8 mm. long, glabrous except at the base, black-tipped: ray-flowers about 13; rays yellow: disk-flowers 40 to 45: achenes densely sericeous-hirtellous.— MEXICO. State of Nuevo Leon: Sierra Madre near Monterey, 21 December, 1906, *C. G. Pringle*, no. 10,352 (hb. Gray), type; on limestone ledges near Monterey, 12 March, 1906, *C. G. Pringle*, no. 13,882 (hb. Gray). The conspicuous stipular-like development at the base of the petioles renders this species easily recognizable, and quite distinct from any other species known to the writer.

Senecio (§ **Mulgedifolii**) **Conzattii** Greenm.

An herbaceous perennial: stem erect, simple or branched above, about 1 m. high, striate, subangulate, at first arachnoid-tomentulose, more or less glabrate: leaves oblong-lanceolate to lance-attenuate, 0.5 to 3 dm. long, 0.5 to 5 cm. broad, acute, glabrous or sparingly arachnoid above, permanently arachnoid-tomentose beneath over a green to more or less purple leaf-surface, dentate to merely callous-denticulate; the lowermost leaves gradually narrowed below the middle into a winged petiolar base, coarsely dentate to lyrately subpinnatifid; the upper leaves sessile and amplexicaul, becoming reduced towards

the corymbose-paniculate inflorescence to attenuate bracts: heads 10 to 12 mm. high, discoid, 35-40-flowered: involucre narrowly campanulate, calyculate with rather conspicuous bracteoles and, as well as the peduncles, pubescent with spreading hirsutish hairs; bracts of the involucre usually 13, lanceolate, acutish, slightly penicillate-tipped and, as well as the corollas, more or less purplish: achenes striate-ribbed, glabrous.— Monogr. Senecio, I Th. 25 (1901) & in Engl. Bot. Jahrb. xxxii. 21 (1902), without complete characterization.— MEXICO. State of Oaxaca: Cerro de San Felipe, altitude 3,000 m., 14 November, 1897, *C. Conzatti & V. González*, no. 559 (hb.Gray), type; Oaxaca, altitude 1,750 m., July-August, 1900, *C. Conzatti & V. González*, no. 1,003 (hb. Gray); Hacienda de Caciques, District of Cuicatlan, altitude 2,130 m., 14 August, 1895, *Rev. Lucius C. Smith*, no. 613 (hb. Gray); mountains of Oaxaca, *Cuming* (hb. Gray).

Senecio (§ Mulgedifolii) decorus Greenm.

Stem erect, striate-grooved, glabrous or nearly so, more or less purplish; leaves runcinate-pinnatifid, 0.5 to 2.5 dm. long, 2 to 14 cm. broad, glabrous above, arachnoid-pubescent beneath; terminal lobe largest, somewhat triangular-acuminate; lateral lobes lanceolate to oblong-lanceolate, acuminate, acute, margin dentate with horizontally spreading and slightly unequal teeth; upper stem-leaves sessile and amplexicaul: inflorescence a terminal rather compact panicle: heads 12 to 15 mm. high, not infrequently somewhat nodding, discoid: involucre campanulate, conspicuously calyculate with broadish bracteoles: bracts of the involucre lance-linear and acute to somewhat oblong and slightly expanded above the middle to an obtuse apex, glabrous, the inner with scarious and slightly lacerated margins: flowers 35 to 45; corollas exceeding the involucre and, as well as the bracts and bracteoles, reddish-purple: achenes striate-ribbed, glabrous.— Monogr. Senecio I Th. 25 (1901) & in Engl. Bot. Jahrb. xxxii. 21 (1902).— GUATEMALA. Department of Zacatepequez: Volcan de Agua, altitude 3,350 m., April, 1890, *John Donnell Smith*, no. 2,361 (hb. Gray); Todos Santos, altitude 3,045 m., 26 December, 1895, *E. W. Nelson*, no. 3,637 (hb. Gray, and hb. U. S. Nat. Mus.).

Senecio (§ Mulgedifolii) jacalensis Greenm.

An herbaceous perennial: roots fleshy-fibrous: stem erect, 3 dm. or more high, from a thickish perennial base, rather leafy, striate, below glabrous, above especially in the inflorescence pubescent: lower leaves oblanceolate, 0.5 to 1.5 dm. long, 1.5 to 2.5 cm. broad, obtuse or acute, shallowly callous-dentate, narrowed below into a winged petiole, glabrous on both surfaces; upper stem-leaves sessile, amplexicaul, acuminate and more or less imbricated on the stem: inflorescence subracemose or paniculately racemose: heads large, 13 to 15 mm. high, discoid, not infrequently somewhat nodding: involucre campanulate, calyculate with rather large bracteoles, glabrous or slightly pubescent

at the base; bracts of the involucre subbiseriate, about 21, lanceolate-linear, 1 cm. long, obtuse or obtusish: flowers numerous, about 70: corollas, as well as the bracts of the involucre, often reddish: achenes striate, glabrous.— Monogr. Senecio, I Th. 25 (1901) & in Engl. Bot. Jahrb. xxxii. 21 (1902), without complete characterization.— *Senecio helodes*, Hemsley, Biol. Cent.-Am. Bot. ii. 241 (1881), in part, not Benth. *Cacalia racemosa*, Schz. Bip., acc. to Hemsl., l. c.— MEXICO. State of Guanajuato: Jacal, *Ehrenberg*, no. 1,293 (hb. Gray, hb. Roy. Bot. Mus. Berlin, and hb. Kew).

Senecio (§ **Mulgedifolii**) **rhyacophilus** Greenm.

Stem herbaceous, glabrous: leaves runcinate-pinnate with rather unequally and irregularly mucronate-dentate or sublobate segments and with rounded sinuses between the segments, glabrous on both surfaces, paler beneath, thin or membranous in texture, more or less expanded below into a laciniate-dentate amplexicaul base, 0.5 to 2 dm. long, 1 to 6 cm. broad; the uppermost leaves undivided, lance-attenuate from a rather broad base, coarsely toothed: inflorescence a terminal somewhat leafy pubescent panicle: heads 12 to 15 mm. high, discoid, about 24-flowered: involucre calyculate with linear-setaceous bracteoles, glabrous; bracts of the involucre usually 13, linear, about 1 cm. long, acute to obtusish and, as well as the corollas, more or less purplish: achenes striate, glabrous. Monogr. Senecio, I Th. 25 (1901) & in Engl. Bot. Jahrb. xxxii. 21 (1902), without complete characterization.— GUATEMALA. Department of Zacatepiquez: Volcan Fuego, altitude 2,735 m., November, 1889. *Heyde & Lux*, no. 4,502 (hb. Gray), exsiccatæ of John Donnell Smith. Department of Quiché: Chiul, altitude 2,400 m., April, 1892, *Heyde & Lux*, no. 3,379 (hb. Gray), exsiccatæ of John Donnell Smith.

Senecio (§ **Fruticosi**) **hirsuticaulis** Greenm.

Shrub: stem above and the branches, as well as the petioles, densely hirsute-pubescent with spreading hairs: leaves petiolate, ovate-oblong, 5 to 8 cm. long, 3 to 6 cm. broad, subcordate, slightly hirtellous above especially on the midrib and lateral nerves, later nearly glabrous, densely and permanently hirsute-tomentose beneath, subangulately 5-7-lobed with broad shallow sinuses, mucronate-denticulate; lobes conspicuously mucronate-acute; petioles stoutish, about 2 cm. long: inflorescence a terminal compound hirsute-tomentose corymb; peduncles setaceous-bracteate: heads about 1 cm. high, radiate: involucre narrowly campanulate, calyculate with setaceous bracteoles; bracts of the involucre usually 13, linear to lance-oblong, acutish, the inner with scarious suberose margins: ray-flowers commonly 8; rays yellow, 4-nerved: disk-flowers 20 to 25, exceeding the involucre: achenes glabrous.— Monogr. Senecio, I Th. 26 (1901) & in Engl. Bot. Jahrb. xxxii. 22 (1902), without complete characterization.— MEXICO. En route from San Luis Potosi to

Tampico, December, 1878 to February, 1879, *Dr. E. Palmer*, no. 1,114 (hb. Gray).

Senecio (§ **Fruticosi**) **santarosæ** Greenman, sp. nov.

Shrub: stem below covered with a grayish cortex, above more or less arachnoid-tomentulose: leaves petiolate, oblong-lanceolate, 1 to 2.5 dm. long, 3 to 7 cm. broad, acute or acuminate, shallowly sinuate-dentate, narrowed below to an obtuse base, rather prominently reticulate-veined, glabrous on both surfaces or slightly pubescent beneath especially on the midrib and lateral nerves, glabrate; petioles 3 to 7.5 cm. long, at first tomentulose, later becoming glabrous: inflorescence a terminal many-headed corymbose panicle: heads about 1 cm. high, radiate: involucre arachnoid-tomentulose to essentially glabrous; bracts of the involucre oblong, 5 to 7 mm. long, obtuse scarious-margined: ray-flowers usually 2; rays 4 to 5 mm. long, yellow: disk-flowers 3 to 5; corollas rather deeply 5-toothed, somewhat zygomorphic: pappus about as long as the corollas of the disk-flowers, copious, white: achenes glabrous.— Monogr. Senecio, I Th. 26 (1901) & in Engl. Bot. Jahrb. xxxii. 22 (1902). *Senecio Ghiesbreghtii*, var. *pauciflorus* Coulter, Bot. Gaz. xvi. 101 (1891), not *S. pauciflorus* Pursh.— GUATEMALA. Department of Santa Rosa: La Vega, altitude 1525 m., February, 1893, *Heyde & Lux* no. 4,520 (hb. Gray), exsiccatæ John Donnell Smith, type. Department of Guatemala: Sapote, altitude, 1,310 m., March, 1890, *John Donnell Smith*, no. 2,359 (hb. Donnell Smith, and hb. Gray). Department of Quezaltenango: Santa Maria, 5 February, 1906, *W. A. Kellerman*, no. 5,277 (hb. Field Mus.). Department of Solala: Volcano of Atitlan, 16 February, 1906, *W. A. Kellerman*, no. 5,353 (hb. Field Mus.).

Senecio (§ **Palmatinervii**) **adenolepis** Greenman, sp. nov.

Perennial: stem covered with a gray cortex; ultimate branchlets glandular-puberulent: leaves petiolate, palmately nerved, ovate-orbicular, 5-lobed, slightly peltate, in specimens at hand 7 cm. long, 7 to 8 cm. broad, dark green and hirtellous-puberulent above, paler and crisp-hirtellous beneath, mucronate-denticulate; lobes triangular-ovate and terminated by a mucro; petioles 6.5 cm. in length, slightly puberulent, purplish: inflorescence a terminal few-headed granulose-glandular cymose panicle; bracts lanceolate to linear-setaceous: heads 10 to 14 mm. high, radiate: involucre narrowly campanulate; bracts of the involucre usually 8, oblong-lanceolate, about 1 cm. long, acuminate, acute or acutish, externally short-glandular-pubescent with a few hirsute hairs intermixed: pappus copious, 6 to 7 mm. long, white: ray-flowers 5, about 1 cm. long; tube of the corolla 4 to 5 mm. long, externally sparingly pubescent; rays equalling or somewhat exceeding the tube, yellow: disk-flowers about 15; corollas 9 mm. long with a short tube gradually amplicated above into the 5-toothed limb; achenes glabrous.— MEXICO. State of Morelos: Sierra de Tepoxtlan, altitude 2,285 m., 13

February, 1907, *C. G. Pringle*, no. 13,909 (hb. Gray). Related to *S. cordobensis* Hemsl., but differs in having smaller leaves, longer involucral bracts and more numerous flowers in the heads.

Senecio (§ **Palmatinervii**) **eriophyllus** Greenman, sp. nov.

Shrub: stem in the dried state of a dark gray or blackish wood, covered with a light gray cortex; ultimate branches white floccose-tomentose in the early stages, glabrate: leaves petiolate, ovate to ovate-oblong, 6 to 10 cm. long, 5 to 8 cm. broad, sinuate-angulate-lobed, entire or sparingly mucronate-denticulate, cuneate to subcordate at the base, at first densely and softly tomentose on both surfaces, later arachnoid-tomentose especially above; the lobes terminated by a short subcartilaginous mucro; petioles 2 to 3 cm. long, tomentose: inflorescence terminating the stem in a many-headed floccose-tomentose panicle: heads about 12 mm. high: involucre calyculate with minute subulate bracteoles, glabrous except at the base; bracts of the involucre 8, lance-linear to lance-oblong, 7 to 8 mm. long, obtuse or obtusish, bluntly keeled on the back, stramineous: flowers 12 to 15: achenes glabrous.— MEXICO. State of Oaxaca: hills near Tula, altitude 1680 m., 20 May, 1906, *C. G. Pringle*, no. 13,864 (hb. Gray). This species has its nearest affinity with *S. albonervius* Greenm.

Senecio (§ **Palmatinervii**) **Gilgii** Greenm.

Suffrutescent: stems at least above densely pubescent with spreading tawny jointed hairs: leaves long-petiolate, rotund, 1 to 3 dm. broad, cordate, 7-9-nerved from the base, sinuately lobed and the lobes again subtrilobate, mucronate-denticulate, hirtellous-pubescent on both surfaces; petioles 8 to 14 cm. long, densely pubescent: inflorescence a terminal panicle; heads large, 1.5 to 1.7 cm. high, radiate: involucre campanulate, calyculate, densely hirsute-pubescent; bracts of the involucre usually 13, oblong to oblong-lanceolate, nearly or quite 1 cm. long, 2.5 to 4 mm. broad, obtuse, more or less overlapping so as to appear subbiseriate, the innermost bracts with scarious margins: ray-flowers 8 to 10; ligules 6 to 7 mm. long, yellow, 4-5-nerved: disk-flowers about 30: achenes conspicuously striate, glabrous.— Monogr. Senecio, I Th. 26 (1901) & in Engl. Bot. Jahrb. xxxii. 22 (1902), without complete characterization. — MEXICO. State of Chiapas: near Pinabete, altitude 2,000 to 2,460 m., 8 February, 1896, *E. W. Nelson*, no. 3,773 (hb. Gray, hb. U. S. Nat. Mus., and hb. Royal Bot. Mus. Berlin).

SENECIO HETEROGAMUS Hemsl., var, **Kellermanii** Greenman, var. nov.

Leaves long-petiolate, suborbicular or somewhat reniform, 7 to 15 cm. long, 9 to 20 cm. broad; petioles 4 to 14 cm. long; inflorescence including the involucre villous-hirsute with long jointed red or reddish-brown hairs: other characters as in the species.— GUATEMALA. Department of Sacatepequez: Volcano

of Agua, 15 February, 1905, *W. A. Kellerman*, no. 4,706 (hb. Field Mus.).

Senecio (§ **Palmatinervii**) **lanicaulis** Greenm.

Shrub: stem, at least above, densely lanate-tomentose: leaves petiolate, subrotund to reniform, cordate, palmately 7-9-nerved, 0.7 to 2.5 dm. broad, shallowly sinuate-lobed, margined with unequal conspicuous more or less curved mucronulations, at first tomentulose above, densely and permanently lanate-tomentose beneath; petioles stout, 0.3 to 1.5 dm. long: inflorescence a terminal many-headed lanate-pubescent compact compound corymb; bracts setaceous: heads 1 cm. high, radiate: involucre narrowly campanulate, calyculate, tomentulose at the base, glabrous above; bracts of the involucre about 13, lanceolate to lance-oblong, acutish, essentially glabrous, the inner scarious-margined: ray-flowers 6 to 8; ligules 4-nerved: disk-flowers 12 to 20, exceeding the involucre: achenes striate, glabrous.— Monogr. Senecio, I Th. 26 (1901), & in Engl. Bot. Jahrb. xxxii. 22 (1902), without complete characterization.— MEXICO. State of Chiapas: near Pinabete, altitude 1,800 to 2,400 m., 8 February, 1896, *E. W. Nelson*, no. 3,771 (hb. Gr., and hb. U. S. Nat. Mus.). GUATEMALA. Department of Quiché: Chiul, altitude 2,400 m., April, 1892, *Heyde & Lux*, no. 3,377 (hb. Gray), exsiccatæ of John Donnell Smith.

Senecio (§ **Palmatinervii**) **Langlassei** Greenm.

Shrub 3-4 m. high: leaves petiolate, palmately nerved, ovate-rotund in general outline, 1-2 dm. long, equally broad, 7-13-lobed, densely granulose on the upper surface with hirsutish hairs intermixed, especially on the nerves, white-tomentose beneath as well as on the petioles; lobes mucronate-apiculate, denticulate-margined: inflorescence a terminal round-topped many-headed paniculate cyme: heads 1 cm. or less high, radiate: involucre narrowly campanulate, sparingly calyculate; bracts of the involucre narrowly oblong-lanceolate, acutish, scarious-margined, dorsally granulose-glandular, thickened along the median line: ray-flowers 6 to 8 with a slender 5 mm.-long puberulent tube equalling the narrowly oblong 4-nerved yellow ray: disk-flowers 15 to 20: achenes glabrous.— Monogr. Senecio, I Th. 26 (1901) & in Engl. Bot. Jahrb. xxxii. 22 (1902), without complete characterization.— MEXICO. "Etats de Michoacan et de Guerrero," Sierra Madre, altitude 1,600 m., 21 April, 1899, *E. Langlassé* no. 1,005 (hb. Gray, and hb. Roy. Bot. Mus., Berlin).

Senecio (§ **Palmatinervii**) **reglensis** Greenm.

Stout herbaceous perennial, 1 to 2 m. high: stem glabrous, smooth, brownish-lineolate at least above: leaves petiolate, palmately nerved, ovate-rotund, 5 to 7 cm. or more long, nearly or quite as broad, rather deeply 5-7-lobed, hirsutish-pubescent on both surfaces especially beneath; lobes acute mucronate-

apiculate; margins cartilaginous-denticulate: inflorescence a terminal round-topped many-headed paniculate cyme: heads subcylindrical, 10 to 12 mm. high, radiate: involucre calyculate with bracteoles less than half the length of the 8 oblong-lanceolate obtusish bracts of the involucre: ray-flowers mostly 6: disk-flowers 18 to 20, equalling or slightly exceeding the involucre; pappus about as long as the corolla: achenes glabrous.— Monogr. Senecio, I Th. 26 (1901) & in Engl. Bot. Jahrb. xxxii. 22 (1902), without complete characterization.— MEXICO. State of Vera Cruz: Regla, *Ehrenberg*, no. 454 (hb. Gray).

Senecio (§ **Multinervii**) **Cooperi** Greenm.

Stout herb?: stem at least above pubescent with brownish hirtellous hairs: leaves large, oblong-ovate, including the petiole 3 to 3.5 dm. long, 1 to 1.5 dm. broad, rather blunt or narrowed at the apex, mucronate-acute, merely denticulate on the margins to somewhat sinuate and unequally dentate, the teeth tipped with a cartilaginous mucro, few and irregularly lobed at the base with rounded open sinuses, decurrent on the petiole, sparingly puberulent on both surfaces; midrib and the numerous lateral nerves prominent beneath: inflorescence corymbose: heads 1.5 cm. high, radiate: involucre barely calyculate with a few small inconspicuous bracteoles; bracts of the involucre 8, linear, acutish, slightly penicillate-tipped, otherwise glabrous: ray-flowers about 8; rays linear-oblong, conspicuous: disk-flowers with a long slender tube and a rather deeply 5-lobed limb: achenes pubescent.— Monogr. Senecio, I Th. 26 (1901) & in Engl. Bot. Jahrb. xxxii. 22 (1902), without complete characterization.— COSTA RICA. Province of Cartago: Cartago, altitude 1,310 m., December, 1887, *Juan J. Cooper*, no. 5,803 (hb. Gray), exsiccatæ John Donnell Smith, distributed as "*Senecio multivenius* Benth."; "la Division, vallée du Général", altitude 2,160 m., *Pittier*, no. 3,405 (hb. Gray), in part.

Senecio (§ **Multinervii**) **megaphyllus** Greenman, sp. nov.

Stem above arachnoid-tomentulose, striate: leaves large, oblong-oblanceolate, including the petiole 3 to 5 dm. long, 1 to 2 dm. broad, acute or acuminate-acute, more or less sinuate, cartilaginous-dentate, narrowed below into a winged petiole half-clasping the stem, arachnoid-tomentulose on both surfaces, somewhat glabrate above except on the midrib; midrib and lateral nerves prominent beneath: inflorescence a terminal corymbose-panicle: heads many, on slender setaceous-bracteolate peduncles: involucre cylindrical; bracts of the involucre 8, linear, 10 mm. long, 1 mm. broad, acutish, glabrous, stramineous, scarious-margined: ray-flowers 3 to 5, yellow: disk-flowers 5 to 8, rather deeply 5-lobed: achenes glabrous.— *S. multivenius*, var. *oliganthus* Greenm. Monogr. Senecio, I Th. 26 (1901) & in Engl. Bot. Jahrb. xxxii. 22 (1902), without complete characterization, not *S. oliganthus* DC.— COSTA RICA. "Bords du Paraita Grande au Copey," altitude 1,800 m., *A. Tonduz*, no. 11,700 (hb.

Gray, and hb. Inst. Physico.-Geogr. Cost. Rica); "bords du rio Paraita au Copey," altitude 1,800 m., *A. Tonduz*, no. 11,844 (hb. Gray, and hb. Inst. Physico.-Geogr. Costa Rica). The long slender cylindrical few-flowered heads with longer and narrower involucral bracts, as shown by additional material, render this species of easy separation from *S. multivenius* Benth. with which it has been hitherto associated.

Senecio (§ **Terminales**) **chicharrensis** Greenm.

Fruticose: stem leafy and white-tomentose above: leaves long-petiolate, oblong-ovate, 1.2 to 2.7 dm. long, 1 to 1.8 dm. broad, subcordate to abruptly contracted below to an unequal base, glabrous above, floccose-tomentose beneath especially along the prominent midrib and lateral nerves, sinuately lobed; lobes mucronate, acute, remotely mucronate-denticulate; petioles 8 to 10 cm. long, more or less floccose-tomentose: inflorescence abruptly terminating the stem in small and many-headed flocculent close compound corymbs on rather long peduncles: heads about 8 mm. high, radiate: involucre 4 mm. high, essentially ecalyculate or with a few small inconspicuous bracteoles; bracts of the involucre 8, oblong or linear-oblong, obtusish, glabrous, the inner scarious-margined: ray-flowers 2 or 3; rays short, oblong 2 to 2.5 mm. long: disk-flowers about 9: achenes glabrous.— Monogr. Senecio, I Th. 26 (1901) & in Engl. Bot. Jahrb. xxxii. 22 (1902), without complete characterization.— MEXICO. State of Chiapas: near Chicarras, altitude 1830 m., 12 to 15 February, 1896, *E. W. Nelson*, no. 3,796 (hb. Gray, and hb. U. S. Nat. Mus.). A species similar to *S. arborescens* Steetz, but with different foliage and involucre. It is also related to *S. Gürkei* Hieron., a species of New Granada, and to *S. grandifolius* Less., but these again have a very different pubescence and involucre.

Senecio (§ **Terminales**) **copeyensis** Greenm.

Arborescent: stem above tomentose: leave petiolate, large, ovate-oblong in general outline, 2 to 3 dm. long, 1.5 to 2 dm. broad, pinnately lobed with deep narrow sinuses, abruptly or somewhat gradually contracted at the base into the petiole, reticulately veined above and sparingly puberulent over the upper surface except along the tomentulose midrib, at first tomentulose beneath later somewhat glabrate; lobes narrowly oblong to lance-oblong, 2.5 to 10 cm. long, 1 to 2.5 cm. broad, terminated by a stoutish cartilaginous mucro, entire or remotely and inconspicuously cartilaginous-denticulate, revolute-margined; petioles nearly or quite 1 dm. long: inflorescence abruptly terminating the stem in two or more compound many-headed tomentose corymbose panicles: heads about 8 mm. high, discoid: involucre calyculate with few setaceous-linear bracteoles, slightly tomentose to essentially glabrous; bracts of the involucre usually 8, lanceolate to oblong-lanceolate, 4 to 5 mm. long, brownish or even blackish in the dried state, the inner with broad scarious

margins: flowers about 10 with a rather slender tube gradually ampliated above into a deeply 5-lobed limb: achenes glabrous. — Monogr. Senecio, I Th. 26 (1901) & in Engl. Bot. Jahrb. xxxii. 22 (1902), without complete characterization.— COSTA RICA. "Forêts du Copey," altitude 1,800 m., February, 1898, *Ad. Tonduz*, no. 11,663 (hb. Gray, and hb. Inst. Physico-Geogr. Costa Rica).

Senecio (§ **Terminales**) **serraquitchensis** Greenm.

Suffruticose: stem above tawny-tomentose: leaves petiolate, oblong-lanceolate to somewhat oblong-obovate, 1.2 to 2.5 dm. long, 3 to 9 cm. broad, mucronate-acute, slightly sinuate, remotely cartilaginous-denticulate, narrowed below to the tomentulose 2.5 to 6.5 cm.-long petiole, at first tomentulose on both surfaces especially on the midrib and lateral nerves beneath, but soon glabrate and rather strongly reticulate-veined: inflorescence abruptly terminating the stem in one or more long-pedunculate compound many-headed corymbs: heads about 1 cm. high, radiate: involucre barely calyculate with minute bracteoles; bracts of the involucre 8, narrowly oblong, about 4 mm. long, obtuse, turning blackish in drying: ray-flowers 5; ligules short, 4-nerved; tube shorter than the pappus: disk-flowers 5 or 6; corollas rather deeply 5-lobed: achenes glabrous.— Monogr. Senecio, I Th. 26 (1901) & in Engl. Bot. Jahrb. xxxii. 22 (1902), without complete characterization. *S. Ghiesbreghtii*, var. *Uspantanensis* Coulter in Bot. Gaz. xx. 52 (1895), in part. — GUATEMALA. Department of Alta Vera Paz: Serraquitché, altitude 760 m., April, 1889, *John Donnell Smith*, no. 1,598 (hb. Gray).

Senecio (§**Terminales**) **uspantanensis** Greenm. Monogr. Senecio, I Th. 26 (1901) & in Engl. Bot. Jahrb. xxxii. 22 (1902). *S. Ghiesbreghtii*, var. *uspantanensis* Coulter, Bot. Gaz. xx. 52 (1895), in part, as to *Heyde & Lux*, no. 3,368 (hb. Gray) and *Botteri*, nos. 609, 820 (hb. Gray).

Although *S. uspantanensis* is similar in habit to *S. serraquitchensis*, yet the former differs markedly in its glabrous stem and foliage, longer and fewer (5 instead of 8) involucral bracts.

TRIXIS PRINGLEI Rob. & Greenm. Proc. Am. Acad. xl. 10 (1904).

Specimens collected by Professor C. Conzatti at De Almoloyas á Sta. Catarina, Oaxaca, Mexico, at an altitude of 1,000 m., 26 December, 1906, no. 1,646 (hb. Field Mus.) agree well with specimens secured by Mr. Pringle on which the species was based, except the leaves in the Conzatti plant have a maximum breadth of 2.5 centimeters.

Jungia Pringlei Greenman, sp. nov.

Stem terete, pubescent: leaves petiolate, orbicular-ovate, cordate, 7-9-lobed, hirtellous-puberulent and rather strongly reticulate-nerved above, crisp-hirsute-pubescent and atomiferous-glandular beneath; lobes ovate-triangular, dentate, mu-

cronate-acute; petioles 1.5 to 10 cm. long, estipulate, pubescent: inflorescence a terminal many-headed open panicle; bracts of the inflorescence more or less foliaceous, ovate-oblong, lance-elliptic to linear, dentate to entire: heads about 1 cm. high, 18-22-flowered: involucre narrowly campanulate; bracts of the involucre linear-lanceolate, 8 mm. long, acuminate, acute, pubescent with jointed hirsute hairs intermixed with a glandular puberulence: flowers bilabiate; the outer lip of the exterior circle of flowers ligulate, 3 mm. long, spreading, pale yellow or whitish: pappus exceeding the involucre, setulose, silvery white: immature achenes narrowed above, pubescent.— MEXICO. State of Michoacan: Uruapan, collection of 1906, *C. G. Pringle*, no. 10,357 (hb. Gray; fragment and photograph in hb. Field Mus.).