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UNITED STATES NATIONAL MUSEUM

CONTRIBUTIONS

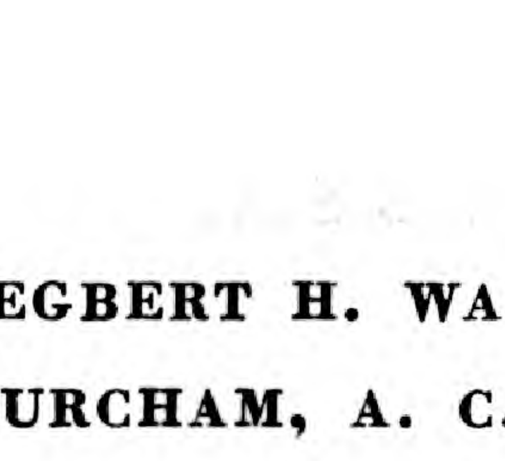
FROM THE

UNITED STATES NATIONAL HERBARIUM

VOLUME 30

STUDIES OF PACIFIC ISLAND PLANTS

ELMER D. MERRILL, EGBERT H. WALKER, ROBERT RODIN
L. T. BURCHAM, A. C. SMITH



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Publications of the United States National Herbarium

The United States National Herbarium, which was founded by the Smithsonian Institution, was transferred in the year 1868 to the Department of Agriculture and continued to be maintained by that department until July 1, 1896, when it was returned to the official custody of the Smithsonian Institution. The Department of Agriculture, however, continued to publish the series of botanical reports entitled "Contributions from the United States National Herbarium," which it had begun in the year 1890, until, on July 1, 1902, the National Museum, in pursuance of an act of Congress, assumed responsibility for the publication. The first seven volumes of the series were issued by the Department of Agriculture.

REMINGTON KELLOGG,
Director, United States National Museum.

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By ELMER D. MERRILL

A SUBJECT INDEX TO ELMER D. MERRILL'S "A BOTANICAL BIBLIOGRAPHY OF THE ISLANDS OF THE PACIFIC"

By E. H. WALKER

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BULLETIN OF THE UNITED STATES NATIONAL MUSEUM

PREFACE

The present number of the Contributions contains two papers on the botanical literature of the Pacific islands. The first, by Elmer D. Merrill, director of the Arnold Arboretum of Harvard University, entitled "A Botanical Bibliography of the Islands of the Pacific," is a revision of two papers published in 1924 and 1937 by the Bernice P. Bishop Museum, with the addition of numerous titles. The second paper, by Egbert H. Walker, assistant curator of the National Herbarium, entitled "A Subject Index to Elmer D. Merrill's 'A Botanical Bibliography of the Islands of the Pacific,'" is designed especially to facilitate reference to this literature on the basis of geographic distribution and systematic relationship. About 3,800 titles are recorded in Dr. Merrill's bibliography, which covers the Pacific islands from Juan Fernández to New Caledonia and New Hebrides on the west, and from Midway Island on the north to the Kermadec Islands on the south. The bibliography includes works upon the lower cryptogams as well as the ferns and seed plants, and on economic as well as taxonomic, ecological, and other botanical studies. These two papers should aid materially in current research upon the flora of these far-flung islands and help solve economic and scientific problems by reducing repetitive search of the literature.

WILLIAM R. MAXON,
Curator, United States National Herbarium.

January 28, 1946.

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A BOTANICAL BIBLIOGRAPHY OF THE ISLANDS OF THE PACIFIC

By ELMER D. MERRILL

INTRODUCTION

By reason of a war that took virtually the whole Pacific world for its battleground, interest in the Pacific Ocean and its countless islands has increased beyond measure. Islands and atolls that perhaps had never before been visited or explored by white men, at least by naturalists, became important military objectives, and information regarding them was at a premium. The war taught us how little we know about many parts of this vast region and served at least one useful purpose in stimulating scientific studies that may fill some of these gaps in our knowledge, particularly in the fields of natural history, anthropology, geography, and oceanography.

The present bibliography is therefore a timely stock-taking of what has been published in the field of Pacific botany. Such an inventory should be the beginning of future important botanical investigations and research of the region, and I have therefore endeavored to make it as accurate and as complete as possible within its defined limits. The work is an enlargement of two previous bibliographies, both by the present author. The first of these, "Bibliography of Polynesian Botany" (Bishop Mus. Bull. 13: 1–68), published in 1924, contained about 1,300 author-entries, representing all the most important publications issued up to the end of 1923 which were basic to studies that might be contemplated on the vegetation of the Polynesian islands. The demand for this publication was so great that it soon became out of print. It was therefore replaced, in 1937, by "Polynesian Botanical Bibliography 1773–1935" (Bishop Mus. Bull. 144: 1–194), which contained about 2,600 author-entries. The style was changed to conform to that of the much larger Merrill-Walker work[1] on eastern Asia, which was then in press, a significant improvement being the addition of short annotations intended to give the investigator some idea of the relative importance of each paper listed. The same plan is followed herein.

In the present work there are about 3,850 author-entries, nearly one-half more than were included in its immediate predecessor. This large increase is the result of the very active period, following 1936, in publication of papers on Pacific botany, and of the critical attention given by the author in the interim to certain runs of horticultural periodical literature ignored by many professional botanists. There is no change in the beginning date, 1773, for no references have been detected in botanical literature pertaining to the region earlier than that year, other

[1] Merrill, E. D., and Walker, E. H. A bibliography of eastern Asiatic botany. i–xlii, 1–719, 2 maps. Arnold Arboretum, Jamaica Plain, Mass., 1938.

than generalized observations on the vegetation or on certain economic species, in pre-Linnaean nontechnical books on exploration, such as that of Capt. William Dampier in the latter part of the seventeenth century.

The region covered in this bibliography is essentially the islands of the Pacific lying between latitude 30° N. and 30° S. (excluding the Bonin Islands), extending from Juan Fernández and Hawaii in the east to the extreme western limits of the Marianas, Caroline, and Palau Islands. It includes all of Polynesia and Micronesia and the eastern parts of Melanesia—as Fiji, New Caledonia, the New Hebrides, Lord Howe Island, Norfolk Island, the Loyalty Islands, and Santa Cruz—but not the larger archipelagoes contiguous to New Guinea, e.g., the Louisiades, the Bismarck Archipelago, and the Solomon Islands, except as papers essentially on these excluded areas have important specific references to the plants within the admitted islands. The Bonin Islands and other islands closer to Japan proper are not here included as they appear in Merrill and Walker's "Bibliography of Eastern Asiatic Botany."

From the standpoint of botanical bibliography all the islands of the Pacific basin within the geographic limits mentioned above are now, with the present work, well provided for. This is not true of the great islands to the west, for apparently no sustained effort has ever been made to assemble a comprehensive bibliography of the botany of the vast Malaysian region. Borneo [2] is fairly well taken care of up to 1921; this was relatively simple, as that island does not figure in the botanical literature, with one exception, before 1839. The task of preparing a comprehensive bibliography of this great archipelago would be a stupendous undertaking, because of the vastness of the region covered, the historical aspects of the situation, the richness of the flora, and the large number of individuals who have concerned themselves with studies of one type or another for the past 300 years. Nothing is available on the Malay Peninsula except the citations in standard descriptive works. The most important botanical papers pertaining to New Guinea and its neighboring islands are listed by Lam.[3]

The Philippine group is reasonably well covered by my own bibliography up to the year 1926.[4] Eastern Asia and Japan are very thoroughly covered to 1938 by the Merrill-Walker work already cited, and the junior author is preparing a supplement to it. In contrast to the 3,850 author-entries in the present work, the former contains about 21,000.

As to type of material included herein, in general the policy is to list those papers in which genera or species are described as new from

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[2] Merrill, E. D. A contribution to the bibliography of the botany of Borneo. Sarawak Mus. Jour. **2**: 99–136. 1915; A bibliographic enumeration of Bornean plants. Jour. Straits Branch Roy. Asiatic Soc. Special No., 1–637. 1921 (pp. 2–6).

[3] Lam, H. J. Materials towards a study of the flora of the island of New Guinea. Blumea **1**: 115–159. 3 maps. 1934.

[4] Merrill, E. D. Bibliography of Philippine botany: *in his* Enumeration of Philippine flowering plants **4**: 155–239. 1926.

the region covered; those in which transfers of the names of Polynesian species are made, with actual citations of the regions where the entity occurs; lists of species from any island or island group; all monographic works in which species of the Pacific islands are *mentioned* (but not those earlier monographic works where later explorations have shown that the group covered does not have Pacific representatives); general works that touch on world botany, of which the Bentham and Hooker "Genera Plantarum" and the Engler and Prantl "Die natürlichen Pflanzenfamilien" are examples; papers on ecology and phytogeography based on plants from this or that part of the region, plant pathology, forestry, horticulture, and some phases of agriculture; and books on travel that contain a reasonable amount of information regarding plants. Probably too many items within the field of popular botany have been included. Perhaps the ethnological field might have been more thoroughly explored, for various papers in this science do contain some information regarding at least the economic plants; but with all due respect to the ethnologists, most of them being untrained in botany and even in ethnobotany, it has been observed that the average botanical treatments are usually very sketchy and inadequate and that the nomenclature may be literally "anything that happens." Also included are such standard reference works as those of Pritzel and Jackson and the Index Kewensis.

The natural groups of plants represented include not only the ferns and fern allies and flowering plants but also all papers dealing with the cellular cryptogams (algae, fungi, lichens, mosses, and liverworts) that qualify under the general principles above mentioned. It is suspected that in the general field of the lower plants there is much less adequate coverage than for the higher plants, for I admit that my knowledge of the special literature pertaining to the cellular cryptogams is merely general in nature.

Definitely not included are papers on plant physiology, genetics, cytology, and morphology, although some of these may have been prepared by residents of botanical centers within the Pacific region, or are based on material originating, at least in part, within the area covered. Such papers cannot be considered as falling within the limits of any particular regional bibliography; and this bibliography is definitely a regional one. Perhaps the bibliography might legitimately have been enlarged by including the titles of certain important published library catalogs, such as those of the British Museum (Natural History) and the Arnold Arboretum, for they do contain much bibliographic information that applies to the region covered; but such publications should already be well known to librarians and to professional botanists.

In the field of systematic botany certain publications based on the vegetation of neighboring regions are admittedly of greater utility in actually identifying Pacific islands material than are the majority of the titles included in this bibliography (except for strictly endemic

Pacific genera and species), and among these might be cited certain Philippine, Malaysian, and Papuasian titles. In the field of economic botany nothing that has yet been published on the economic plants of the Pacific islands can even be compared in value with certain basic works appertaining to the economic botany of the great islands to the west, such as Heyne's "Die nuttige Planten van Nederlandsch-Indie," ed. 1 (1913), ed. 2 (1916–17), second printing (1937), Osche's "Fruits and Fruit-culture in the Dutch East Indies" (1931), Osche's "Vegetables of the Dutch East Indies" (1931), and Burkill's "Dictionary of the Economic Products of the Malay Peninsula" (1935), for very many of the species included in these works either occur naturally in certain of the Pacific islands, or are introduced; and yet none of these works qualifies for admission in a regional bibliography such as this one definitely is. They are essential works that the student or the investigator would naturally consult, but they are not based on material from the Pacific islands.

I have included a great many items of a popular nature and others that may be of very little importance. To illustrate: In the periodical literature of horticulture an attractive species is introduced into cultivation. A consideration of it will run the gauntlet of the horticultural and garden magazines. N. E. Brown's paper of 1882 on the tonga plant of Fiji (*Epipremnum mirabile* Schott) was reproduced in at least half a dozen periodicals, and *Impatiens hawkeri,* which was credited to the "South Sea Islands" (which came from New Guinea and does not occur in the Pacific islands), appeared within two years in six or more horticultural serials, each time with a colored plate. Much of the garden and horticultural literature is literally very repetitive, as are many of the papers on popular botany. It is not the bibliographer's task in a work of this type to evaluate the importance of his entries, but faithfully to record the titles that have come to his attention and that qualify for admission.

A serious attempt has been made actually to examine each paper that has been admitted to this bibliography. The few that have not been examined are indicated by the phrase "not seen" in the annotation. The annotations are not to be treated as abstracts in any sense of the word, but merely as brief indications as to the content of the individual papers. Some of the distinctly unimportant papers have much longer annotations than the really important ones, for monographic treatises are described merely as "monographic": this word is to be interpreted as meaning that the work in question contains a consideration of all the known forms of the particular group involved.

Care has been taken to follow the exact wording of each title and to give complete data as to inclusive pages, inclusive illustrations, date of issue, and clear references to periodical literature wherein so many of the individual papers appeared, including, of course, the series and volume numbers involved. In the case of those volumes that originally

appeared in the form of fascicles issued at irregular intervals over a term of years, and where the title-page date is usually that of the actual printing date of the last part, particular attention has been given to the dates of issue of individual parts. In the annotations references are given to the places of publication of special articles dealing with this matter of dates of publication. Even in those cases where a statement is made at the end of a paper, such as "printed 24/11 1930" and the final part of the volume was not published until 1944, the latter being also the title-page date, care has been taken to determine the actual date of distribution of reprints, for the printing date is not always the date of publication, actual distribution and availability often being involved.

There will be noted certain *lacunae* in this work in the case of papers that may have been published in Europe and in Japan since 1940 based wholly or in part on plants from the Pacific region. Certain periodicals have doubtless ceased publication, either temporarily or permanently. We know that others have appeared more or less regularly, but for the most part our files of foreign periodicals still lack those numbers published since 1940–41. However, owing to the exigencies of the situation I decided to complete the copy in so far as possible. No single library contains all the items listed.

I am under great obligations to a number of individuals who have called attention to items that in their judgment should be included in the bibliography. Among these are Dr. Harold St. John, University of Hawaii; Miss Margaret Titcomb, librarian, Bishop Museum, Honolulu; Dr. F. R. Fosberg, United States Department of Agriculture; Dr. E. H. Walker, United States National Herbarium; and staff members of various other institutions who have supplied data regarding specific items, enabling me to adjust certain incomplete references that were originally detected in review literature and terminal bibliographies. To V. Asmous, assistant librarian, Arnold Arboretum, thanks are due for his search through various files of periodicals for additional references, and for his checking the typed slips on the original works. I am under special obligations to Dr. Hiroshi Hara, Tokyo Imperial University, for his courtesy in providing about 50 items, with abstracts, covering the Japanese literature pertaining to the botany of Micronesia, that were published between 1941 and 1945. The comprehensive indices that accompany this bibliography are the work of Dr. Walker, who also prepared those to the Merrill-Walker bibliography mentioned above.

This index will make consultation of the bibliography a very simple matter as compared with its 1937 predecessor and will add greatly to the utility and value of the work. It is merely an attempt to make the way clearer and easier for all those botanists who must find their way through the mazes of published literature pertaining to the region covered. The author will greatly appreciate the cooperation of those who have occasion to use this compilation, in case they detect errors,

incomplete references, or overlooked items that should be included in any supplement that may be issued in future.

The reference list of serials (p. 7) contains the abbreviations accepted in this paper for those articles published in periodical literature. The titles of about 525 serials are involved. Following the abbreviation is the full name of the periodical, with indication of the year that publication commenced for those that are still being issued. It is entirely probable that if the trouble were taken to examine long runs of general or borderline periodicals, this list might be extended. Defunct periodicals are marked by the sign ||, following the last volume and date entry; those that still continue are marked by the sign +. For more complete data on these serials, with indication of the libraries in the United States and Canada wherein they are available as complete or partial sets, together with their variant titles, the student is referred to the comprehensive list prepared under the auspices of the American Library Association,[5] which contains between 115,000 and 120,000 titles with indication of the libraries wherein they are preserved.

Absolute consistency in the use of these abbreviations is difficult, because of numerous variations in title over the periods of publication. In selecting the abbreviations current botanical usage has been followed in the main, more or less influenced by the forms adopted in Biological Abstracts, but in some cases the forms are tempered by the author's personal preference. There is no absolute standard in regard to all these abbreviations, yet everyone agrees that those selected should be short, concise, and free of ambiguity and that each should clearly indicate the particular periodical intended. Throughout, the modern simplified method has been used of indicating the volume number by boldface Arabic digits, rather than the cumbersome Roman capitals that the ultraconservatives still use—presumably because they started that way. Roman numerals are used only to indicate the series number when two or more series exist, each beginning with volume one, and for the separately paged introductory parts of certain volumes where the Roman notation was followed. Part numbers are indicated in parentheses following the volume numbers only where separate pagination is involved.

If one examines any long list of serial publications, including many that died with volume 1 or shortly thereafter, he will conclude that about every conceivable variant has been used in indicating series, volumes, etc. Some of the titles are so involved, whereas others have been changed from time to time (occasionally for political reasons, but more often apparently for no other reason than the whim of the current editor), that absolutely uniform citation is difficult or impossible. In spite of these difficulties the objectives in preparing this list have been brevity, clarity, and, it is hoped, reasonable uniformity.

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[5] Gregory, W. (editor). Union list of serials in libraries of the United States and Canada. Ed. 2 [1–4], 1–3065. H. W. Wilson Co., New York, 1943; Supplement, January 1941–December 1943. [1–22], 1–1123. 1945.

REFERENCE LIST OF SERIAL ABBREVIATIONS

Abh. Akad. Nützl. Wissensch. Erfurt

Abhandlungen der Kurfürstlich-mainzischen Akademie nützlicher Wissenschaften zu Erfurt. Nova acta Academiae electorialis Moguntinae scientiarum utilium quae Erfurti est. **1** (1798–99)–**4** (1805)‖.

Vol. 1 has continuous pagination; the other volumes have separately paged articles.

Abh. Akad. Wiss. Berlin

Abhandlungen der Königlichen preussischen Akademie der Wissenschaften zu Berlin (1804)–(1907), continued in classes (1908) +.

Abh. Boehm. Ges. Wiss.

Abhandlungen der Königlichen boehmischen Gesellschaft der Wissenschaften. (1775)–(1885), continued in classes (1886) +.

The title varies. The Czech name of the organization is "Ceská Spolecnost nauk."

Abh. Deutsch. Akad. Naturf.

Abhandlungen der Kaiserlichen Leopoldinisch-Carolinischen deutschen Akademie der Naturforscher.

This is the German title for Nova Acta Acad. Leop-Carol. Nat. Cur., which see; the German form is not used in this bibliography.

Abh. Naturw. Ver. Bremen

Abhandlungen herausgegeben vom Naturwissenschaftlichen Verein zu Bremen. **1** (1868) +.

Abh. Senkenb. Ges. Frankf.

Abhandlungen herausgegeben von der Senkenbergischen naturforschenden Gesellschaft, Frankfurt a. M. **1** (1854) +.

Acta Bot. Bohem.

Acta botanica Bohemica. **1** (1922) +.

Acta Bot. Fenn.

Acta botanica Fennica. **1** (1925) +.

Acta Fauna Fl. Univ. II Bot.

Acta pro fauna et flora universali II Botanica. **1** (1932) +

Acta Horti Gothob.
Acta Horti Gotob.

Acta horti Gothoburgensis **(1–7)**; Acta horti Gotoburgensis **8** (1933) +. Meddelanden från Göteborgs trädgård. **1** (1924) +.

Acta Horti Petrop.

Acta horti Petropolitani. **1** (1871–72)–**43** (1930)‖.

Acta Phytotax. Geobot.

Acta phytotaxonomica et geobotanica. Kyoto. **1** (1932) +.

Acta Soc. Fauna Fl. Fenn.

Acta Societatis pro Fauna et Flora Fennica. **1** (1876) +.

Acta Univ. Lund.

Acta universitatis Lundensis. Lunds universitets årsskrift. **1** (1864) +.

Act. Congr. Internat. Bot. Hort. Amsterdam

Actes du Congrès international de botanistes, d'horticulteurs, de negociants et de fabricants de produits du règne végétal, tenu à Amsterdam, en 1877 [published in 1879]‖.

Act. Soc. Linn. Bordeaux

Actes de la Société Linnéenne de Bordeaux. **1** (1826)+.

The first three volumes (1826-29) were issued as "Bulletin d'histoire naturelle de la Société Linnéenne de Bordeaux."

Adansonia

Adansonia. Recueil périodique d'observations botaniques. **1** (1860)–**12** (1876–79)‖.

Agr. Jour. [Fiji]

Agricultural journal issued by department of agriculture, Fiji. **1** (1928)+.

Allg. Bot. Zeitschr.

Allgemeine botanische Zeitschrift für Systematik, Floristik, Pflanzengeographie etc. **1** (1895)–**33** (1925–27)‖.

Am. Anthropol.

The American anthropologist. **1** (1888)–**11** (1898) ; II **1** (1899)+.

Am. Bot.

The American botanist. Devoted to economic and ecological botany. **1** (1901) +.

Am. Fern Jour.

American fern journal. A quarterly devoted to ferns, published by the American Fern Society. **1** (1911) +.

Am. Forests

American forests. The magazine of the American Forestry Association. **16** (1910) +.

This magazine has been published under the following designations: "Forest Leaves" (1882-1898), "The Forester" (1898-1902), "Forestry and Irrigation" (1902-08); "Conservation" (1908-10), "American Forestry" (1910-24), "American Forests and Forest Life" (1924-31), and "American Forests" (1931-).

Am. Jour. Bot.

The American journal of botany. **1** (1914) +.

This is the official organ of the Botanical Society of America.

Am. Jour. Pharm.

The American journal of pharmacy. **1** (1829) +.

Am. Jour. Sci.

The American journal of science. **1** (1818) +.

With vol. 2 (1820) this became "The American Journal of Science and Arts"; with Vol. 119 (1880) the earlier title was resumed. Often cited as "Silliman's Journal".

Am. Midl. Nat.

The American midland naturalist. Devoted to natural history, primarily that of the prairie states. **1** (1909–10) +.

Am. Monthly Mag.

The American monthly magazine and critical revue. **1** (1817)–**4** (1819) ‖.

Am. Orch. Soc. Bull.

American orchid society bulletin. **1** (1932) +.

Amtl. Ber. Deutsch. Naturf. Aerzte

Gesellschaft deutscher Naturforscher und Aerzte. Amtlicher Bericht ueber die Versammlung. (1828)–(1884) ‖.

Anal. Cienc. Nat.

Anales de ciencias naturales. **3** (1801)–**7** (1804) ‖.

Volumes 1 and 2 appeared as "Anales de historia natural," 1799-1800.

Anal. Univ. Chile
Anales de la universidad de Chile. **1** (1843) +.

Ann. Acad. Sci. Fenn.
Annales academiae scientiarum Fennicae. **1** (1909) +.
The Finnish title is: Suomakainen Tiedeaktemia. Toimituksia.

Ann. Bot.
Annals of botany. **1** (1887) +.

Ann. Bot. Gard. Calcutta
Annals of the Royal Botanic Garden. Calcutta. **1** (1888) +.

Ann. Bot. Gard. Peradeniya
Annals of the Royal Botanic Gardens Peradeniya. **1** (1901–02) +.
From vol. 9 (1925) this also bears the title "Ceylon Journal of Science."

Ann. Bot. Kon. & Sims
Annals of botany. Editors: Charles Konig, F.L.S., and John Sims, M.D., F.L.S. **1** (1805)–**2** (1806) ‖.

Ann. Bryol.
Annales bryologici. A yearbook devoted to the study of the mosses and hepatics. **1** (1928) +.

Ann. Bryol. Suppl.
Annales bryologici. Supplementary volume. **1** (1930) +.

Ann. Conserv. Jard. Bot. Genève
Annuaire du Conservatoire et du jardin botaniques de Genève. **1** (1897)–**21** (1922) ‖.
This was succeeded by Candollea 1 (1922-24).

Ann. Crypt. Exot.
Annales de cryptogamie exotique. **1** (1928) +

Ann. di Bot.
Annali di botanica Publicati dal Prof. Romualdo Pirotta. **1** (1904) +.

Ann. École Nat. Agr. Montpel.
Annales de l'École nationale d'agriculture. Montpellier. **1** (1884)–**11** (1890); n. ser. **1** (1900) +.

Ann. Épiph.
Annales des épiphytes. Direction des services scientifiques et sanitaires et de la répression des fraudes. **1** (1912) +.
Vols. 1-6 (1912-19) were issued as "Annales du service des épiphytes."

Ann. Fac. Sci. Marseille
Annales de la faculté des sciences. Marseille. **1** (1891) +.

Ann. Hist.-Nat. Mus. Nat. Hungar.
Annales historico-naturalis musei nationales Hungarici (A Magyar nemzeti muzeum Természetrajzi osztályainak folyóirata). **1** (1903) +.

Ann. Hydrogr. Marit. Meterol.
Analen der Hydrographie und maritimen Meterologie. **1** (1873) +.

Ann. Inst. Colon. Marseille. See **Ann. Mus. Colon. Marseille.**

Ann. Inst. Océanogr.
Annales de l'Institut océanographique. **1** (1909)–**7** (1917); II **1** (1924) +.

Ann. Jard. Bot. Buitenzorg

Annales du jardin botanique de Buitenzorg. **1** (1876) +.

Ann. Mag. Nat. Hist.

Annals and magazine of nautral history; or Magazine of zoology, botany, and geology. **1** (1838) +.

Published in several series; the title varies. See Mag. Nat. Hist.

Ann. Missouri Bot. Gard.

Annals of the Missouri Botanical Garden. **1** (1914) +.

Ann. Mus. Bot. Lugd.-Bat.

Annales Musei botanici Lugduno-Batavi. **1** (1863–64)–**4** (1868–69) ‖.

Ann. Mus. Colon. Marseille

Annales du Musée colonial de Marseille. **1** (1893)–**9** (1902); II **1** (1903)–**10** (1912); III **1** (1913)–**10** (1922); IV **1** (1928) +.

The volumes for 1893-94 were published as "Annales de l' Institut botanico-géologique colonial de Marseille"; those for 1895-96 as "Annales de l' Institut colonial de Marseille."

Ann. Mus. Hist. Nat. [Paris]

Annales du Muséum nationale d'histoire naturelle par les professeurs de cet établissement. [Paris]. **1** (1802)–**20** (1813) ‖.

With vol. 6 (1805) the word "nationale" was dropped from the title.

Ann. Myc.

Annales mycologici editi in notitiam scientiae mycologicae universalis. **1** (1903) +.

Ann. Naturhist. Mus. Wien

Annalen des K.K. Naturhistorischen Hofmuseums in Wien. **1** (1886) +.

Vols. 1-32 were issued with this title; from 33 as "Naturhistorisches Staatsmuseum."

Ann. Rep. Dept. Mines N.S.W.

Annual Report of the Department of Mines, New South Wales.

Ann. Rep. Hawaii Agr. Exp. Sta.

Annual Report of the Hawaii Agricultural Experiment Station. (1901)+.

Ann. Sci. Nat.

Annales des sciences naturelles. **1** (1824)–**30** (1833) ‖.

For continuation see the next entry.

Ann. Sci. Nat. Bot.

Annales des sciences naturelles [ ] série, botanique. **1** (1834) +.

Ten series have been issued with 20 volumes to a series.

Ann. Soc. Bot. Lyon

Annales de la Société botanique de Lyon. **1** (1871–72)–**40** (1918) ‖.

Ann. Soc. Linn. Lyon

Annales de la Société Linnéenne de Lyon. **1** (1836)–**4** (1852); n. sér. **1** (1853) +.

Ann. Wien. Mus. Naturgesch.

Annalen des Wiener Museums der Naturgeschichte. **1** (1836)–**2** (1840) ‖.

Anthropos

Anthropos; ephemeris internationalis ethnologica et linguistica. **1** (1906) +.

Arb. Bot. Inst. Akad. Braunsb.

Arbeiten aus dem Botanischen Institut der Kgl. Akademie (vorm. Kgl. Lyceum Hosianum) in Braunsberg, Ostpreussen. **1** (1901) +.

The title varies. It is preceded by "Index lectionum in lyceo regio Hosiano Brunsbergensi" (1897-1900).

Arch. Bot. Guillemin

Archives de botanique ou recueil mensuel de mémoires originaux, d'extraits et analyses bibliographiques, d'annonces et d'avis divers concernant cette science; redigées par un société de botanistes français et étrangers sous la direction de M. A. J. Guillemin, D.M. **1** (1833)–**2** (1833) ‖.

Arch. Bot. Viguier Bull.

Archives de botanique publiées par René Viguier. Tome [ ] Bulletin mensuel no. [ ] **1** (1927) +.

At the top of each cover is the title: "Bulletin mensuel supplément aux Archives de botanique."

Arch. Bot. Viguier Mém.

Archives de botanique publiées par René Viguier. Tome [ ] Mémoires **1** (1927) +.

Arch. Protistenk.

Archiv für Protistenkunde. **1** (1902) +.

Archivio Bot.

Archivio botanico per la sistematica, fitogeografia, e genetica e bulletino dell' istituto botanico della R. universita di Modena. **1** (1925) +

Arkiv Bot.

Arkiv für botanik uitgifvet af K. Svenska vetenskaps-akademien, Stockholm. **1** (1903–04) +.

Assoc. Franç. Avanc. Sci. Compt. Rend.

Association française pour l'avancement des sciences. Compte rendue. **1** (1872) +.

Atti Soc. Tosc. Sci. Nat.

Atti della Società Toscana di scienze naturali. **1** (1875) +.

Austral. Mus. Mem.

Australian Museum. Memoirs. **1** (1851) +

Australas. Assoc. Adv. Sci. Rep.

Australasian Association for the Advancement of Science. Report. **1** (1888) +.

The first 6 numbers appeared as "Miscellaneous Publications."

Beih. Bot. Centralbl.

Beihefte zum botanischen Centralblatt. **1** (1891) +.

Vols. 1 to 8 contain reviews of published papers only; the publication of original papers commenced with vol. 9 (1900). Beginning with vol. 18 (1905) each volume consists of two separately paged parts.

Beih. Tropenpfl.

Beihefte zum Tropenpflanzer. Wissenschaftliche und praktische Abhandlungen über tropische Landwirtschaft. **1** (1900) +.

Belg. Hort.

La Belgique horticole, journal des jardins des serres et des vergers. **1** (1851)–**35** (1885) ‖.

Ber. Deutsch. Bot. Ges.

Berichte der Deutschen botanischen Gesellschaft. **1** (1883) +.

Ber. St. Gall. Naturw. Ges.

Bericht über die Thätigkeit der St. Gallischen naturwissenschaftlichen Gesellschaft. **1** (1858–60) +.

After 1900-01 this became "Jahrbuch der St. Gallischen naturwissenschaftlichen Gesellschaft."

Ber. Schweiz. Bot. Ges.

Berichte der Schweizerischen botanischen Gesellschaft. **1** (1891) +.

The French title is "Bulletin de la Société botanique Suisse."

Bibl. Bot.

Bibliotheca botanica. Abhandlungen aus dem Gesamtgebiete der Botanik. **1** (1886) +.

Bibl. Contr. Lloyd Libr.

Bibliographical contributions from the Lloyd Library, Cincinnati, Ohio. **1** (1911–14)–**3** (1917–18) ‖.

Bibl. Univ. Arch. Sci. Phys. Nat.

Bibliotèque universelle.—Archives des sciences physiques et naturelles [Genève]. **1** (1846) +.

Biol. Centralbl.

Biologisches Centralblatt. **1** (1881–82) +.

Bishop Mus. Bull.

Bernice P. Bishop Museum Bulletin. **1** (1922) +.

Bishop Mus. Spec. Publ.

Bernice P. Bishop Museum Special Publication. **1** (1892) +.

Blumea

Blumea. Tijdschrift voor de systematiek en de geografie der planten (A journal of plant-taxonomy and plant-geography). **1** (1934) +.

Boissiera

Boissiera; Mémoires du conservatoire de botanique et de l'Institut de botanique systématique de l'Université de Genève. **1** (1936) +.

Bol. Mus. Nac. Chile

Boletino de la Museo nacional de Chile. **1** (1892) +.

Boll. Ort. Bot. Palermo

Bolletino del R. Orto Botanico di Palermo. **1** (1897)–**11** (1912); II. **1** (1914) +.

Bonplandia

Bonplandia. Zeitschrift für die gesammte Botanik. Officielles Organ der K.L.-C. Akademie der Naturforscher. **1** (1853)–**10** (1862) ‖.

With vol. 8 the subtitle was changed to "Organ für Botaniker, Pharmaceuten, Gärtner, Forst- und Landwirthe."

Bot. Abh. Goebel

Botanische Abhandlungen herausgegeben von K. Goebel. **1** (1922)–**21** (1932) ‖.

Bot. Arch. Mez

Botanisches Archiv. Zeitschrift für die gesammte Botanik, herausgegeben von Dr. Carl Mez. **1** (1922) +.

Vols. 1 to 20 are mimeographed.

Bot. Bull. Hawaii Board Agr. For.

Botanical bulletin Territory of Hawaii. Board of Agriculture and Forestry. **1** (1911)–**6** (1919) ‖.

Bot. Centralbl.

Botanisches Centralblatt. Referendes Organ für des Gesammtgebiet der Botanik des In- und Auslandes. **1** (1880) +.

Bot. Exch. Club Brit. Isles Rep.

The Botanical Exchange Club of the British Isles. Report for [ ]. **1** (1880–1901) +.

The title varies.

Bot. Gaz.

The botanical gazette. **1** (1875–76) +.

Vol. 1 was issued as the "Botanical Bulletin."

Bot. Jahrb.

Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie herausgegeben von A. Engler. 1 (1880–81) +.

For exact dates of publication of the various parts of vols. 1-25 see Bot. Jahrb. 26: Beibl. 61: 5-8. 1899.

Bot. Mag.

The botanical magazine; or, flower-garden displayed . . . . **1** (1793) +.

With vol. 15 (1801) this became "Curtis's Botanical Magazine." The subtitle varies. By some botanists it is cited as Curtis's Bot. Mag.

Bot. Mag. (Tokyo)

The botanical magazine. Published by the Tokyo Botanical Society. **1** (1887) +.

With vol. 46 (1932) the sponsoring organization became the "Botanical Society of Japan."

Bot. Miscel. Hook.

Botanical miscellany; containing figures and descriptions of such plants as recommend themselves by their novelty, rarity, or history—with occasional botanical notices and information. By William Jackson Hooker. **1** (1828–30)–**3** (1832–33) ‖.

This is succeeded by Jour. Bot. Hook.

Bot. Mus. Leafl. Harvard Univ.

Botanical museum leaflets, Harvard university. **1** (1932) +.

Bot. Not.

Botaniska notiser (Lunds botaniska förening). **1839** +.

From 1849 to 1856 this appeared as "Nya botaniska notiser".

Bot. Reg.

The botanical register. **1** (1815)–**33** (1847) ‖.

Beginning with vol. 15 this was edited by John Lindley under the title: "Edward's Botanical Register". The subtitle varies.

Bot. Repos.

The botanist's repository for new and rare plants, containing colored figures of such plants as have not hitherto appeared in any similar publication . . . **1** (1797)–**10** (1811) ‖.

The title varies. For data by J. Britten on the dates of issue see Jour. Bot. 54: 236-246. 1916.

Bot. Tidsskr.

Botaniska Tidsskrift udgivet af den botaniske förening i Kjøbenhavn. **1** (1866) +.

Botaniste.

Le botaniste. **1** (1889) +.

Bot. Zeit.

Botanische Zeitung. **1** (1843)–**68** (1910) ‖.

Brittonia

Brittonia. A series of botanical papers, published by the New York Botanical Garden. **1** (1932–35) +.

700080—47—2

Bryol.

The bryologist, an illustrated bimonthly devoted to North American mosses, hepatics, and lichens. **1** (1898) +.

The title varies. Vols. 1 and 2 were issued as a part of the "Fern Bulletin" with the pagination of that periodical.

Bull. Acad. Int. Géogr. Bot.

Bulletin de l'Académie internationale de géographie botanique. **8** (1898–99)–**27**, (1917) ‖.

Vols. 1 (1892) to 7 (1898) appeared under the title "Le Monde des Plantes. Revue Mensuelle de Botanique." From vol. 21 (1911) the title was changed to "Bulletin de Géographie Botanique. Organ Mensuel de l'Académie Internationale de Botanique."

Bull. Acad. Sci. Belg.

Bulletin de la Académie royale des sciences, des lettres et des beaux-arts de Belgique. **1** (1832)–**23** (1856) ; II **1** (1857)–**50** (1880) ; III **1** (1881)– **36** (1898) ‖.

Bull. Acad. Sci. St. Pétersb.

Bulletin de l'Académie imperiale des sciences de St. Pétersbourg. **1** (1836) +.

This was published in several series. The title varies.

Bull. Am. Geogr. Soc.

Bulletin of the American Geographical Society of New York. **1** (1859)– **32** (1915) ‖.

Bull. Appl. Bot. & Pl. Breed.

Bulletin of applied botany, genetics and plant breeding. Trudy po prikladnoi botanike, genetike i selektsii. **1** (1908) +.

Title varies. At present it is published in 13 series.

Bull. Biogeogr. Soc. Japan

Bulletin of the Biogeographical Society of Japan. **1** (1929) +.

Bull. Cercle Alumni Fond. Univ. Brux.

This serial has not been identified.

Bull. Exp. Sta. Hawaiian Sugar Pl. Assoc. Bot. Ser.

Bulletin of the Experiment Station of the Hawaiian Sugar Planters' Association, Botanical Series. **1** (1905) +.

Nos. 1-9 were issued as "Bulletin of the Division of Pathology and Physiology"; 10-12 as "Pathological and Physiological Series."

Bull. Fan Mem. Inst. Biol.

Bulletin of the Fan Memorial Institute of Biology. **1** (1829–30) +.

Bull. Gard. Club Am.

Bulletin of the Garden Club of America. **1** (1913) +.

Bull. Géogr. Bot. See **Bull. Acad. Int. Géogr. Bot.**

Bull. Herb. Boiss.

Bulletin de l'Herbier Boissier. **1** (1903)–**7** (1909) ; II **1** (1901)–**2** (1908) ‖.

Bull. Inst. Bot. Buitenzorg

Bulletin de l'Institut botanique de Buitenzorg. **1** (1898)–**22** (1905) ‖.

This is succeeded by the "Bulletin de Département de l' Agriculture aux Indes Néerlandaises." **1** (1906).

Bull. Jard. Bot. Brux.

Bulletin du Jardin botanique de l'état à Bruxelles. **1** (1902) +.

Bull. Jard. Bot. Buitenzorg

Bulletin du Jardin botanique de Buitenzorg. II **1** (1911)–**23** (1918); III **1** (1918–20) +.

The "first series" was the "Bulletin du département de l'agriculture aux Indes Néerlandaises". 1 (1896)-47 (1911).

Bull. Jard. Bot. Prin. U. R. S. S.

Bulletin du Jardin botanique principal de la république Russe. **18** (1918) +.

Earlier volumes were issued as "Bulletin du Jardin impériale botanique de St. Pétersbourg".

Bull. Kagoshima Col. Agr. For.

Bulletin of the Kagoshima Imperial College of Agriculture and Forestry. **1** (1915) +.

Bull. Lloyd Libr.

Bulletin of the Lloyd Library of Botany, Pharmacy, and Materia Medica. **1** (1900) +.

The botanical bulletins are also numbered separately.

Bull. Mus. Hist. Nat. [Paris]

Bulletin de Muséum d'histoire naturelle [Paris]. **1** (1895)–**34** (1928); II **1** (1929) +.

Bull. N. Y. Bot. Gard.

Bulletin of the New York Botanical Garden. **1** (1896) +.

Bull. Soc. Bot. Belg.

Bulletin de la Société royale de botanique de Belgique. **1** (1862) +.

Bull. Soc. Bot. France

Bulletin de la Société botanique de France. **1** (1854) +.

Bull. Soc. Bot. Genève

Bulletin des travaux de la Société botanique de Genève. **1** (1879)–**11** (1905); II Bulletin de la Société botanique de Genève. **1** (1909) +.

Bull. Soc. Bot. Ital.

Bullettino della Societa botanicà Italiana. (1892)–(1926).

The volumes are not numbered; from 1927 this serial continued as appendices to the "Nuovo Giornale Botanico Italiano."

Bull. Soc. Bot. Suisse. See **Ber. Schweiz. Bot. Ges.**

Bull. Soc. Étud. Océan.

Bulletin de la Société des études océaniennes. **1** (1917) +.

Bull. Soc. Géol. France

Bulletin de la Société géologique de France. **1** (1830)–**14** (1843); II **1** (1844)–**29** (1872); III **1** (1872)–**28** (1900); IV **1** (1901) +.

Bull. Soc. Hist. Nat. Toulouse

Bulletin de la Société d'histoire naturelle de Toulouse. **1** (1867) +.

Bull. Soc. Linn. Normandie

Bulletin de la Société Linnéenne de Normandie. **1** (1855) +.

Bull. Soc. Linn. Paris

Bulletin mensuel de la Société Linnéenne de Paris. **1** (1874–89)–**2** (1889–97); II **1** (1898–99) ||.

Bull. Soc. Myc. France

Bulletin de la Société mycologique de France. **1** (1885) +.

The title varies; vols. 1 and 2 were issued as "Société Mycologique Bulletin"; with vol. 3 (1887) it became "Société Mycologique de France"; with vol. 8 (1892), "Bulletin de la Société Mycologique de France"; with vol. 25 (1919), "Bulletin Trimestriel de la Société Mycologique de France."

Bull. Soc. Nat. Acclim. France

Bulletin de la Société d'acclimation de France. **1** (1854) +.

The title varies. It is published in several series.

Bull. Soc. Nat. Mosc.

Bulletin de la Société impériale des naturalistes de Moscou. **1** (1829)–**62** (1886); II **1** (1887) +.

The volumes for 1829 to 1842 are not numbered.

Bull. Soc. Philom. Paris

Bulletin de la Société philomathique de Paris. **1** (1789) +.

It is published in several series.

Bull. Soc. Sci. Nancy

Bulletin des séances de la Société des sciences de Nancy. **1** (1868–71) +.

Bull. Soc. Tosc. Ort.

Bulletino della R. Società Toscana di orticultura. **1** (1876) +.

Bull. Torr. Bot. Club

Bulletin of the Torrey Botanical Club. **1** (1870) +.

Bull. U. S. Nat. Mus.

Bulletin of the United States National Museum. **1** (1875) +.

Candollea

Candollea. Organe du Conservatoire et du jardin botaniques de la ville de Genève. **1** (1922–24) +.

Carnegie Inst. Washington News Serv. Bull.

Carnegie Institution of Washington, News service bulletin. Staff edition. **1** (1926) +.

Carnegie Inst. Washington Publ.

Carnegie Institution of Washington. Publications. **1** (1914) +.

Carnegie Inst. Washington Yearb.

Carnegie Institution of Washington, Yearbook. **1** (1902) +.

Castanea

Castanea: the journal of the South Appalachian Botanical Club. **1** (1936) +.

Chem. Drug. Australas. Suppl.

The chemist and druggist, with Australasian supplement. **1** (1878)–**8** (1885) ||.

The first volume appeared as "The Melbourne Chemist and Druggist." In 1883 it became the "Australian Chemist and Druggist", which in 1886 was succeeded by the "Australian Journal of Pharmacy" and the "Chemist and Druggist of Australia."

Chron. Bot.

Chronica botanica. **1** (1935) +.

Circ. Exp. Sta. Hawaiian Sugar Planters' Assoc.

Circular no. [ ] Experiment Station of the Hawaiian Sugar Planters' Association. **1** (1907) +.

Col. Hawaii Bull.

College of Hawaii Bulletin. College of Hawaii Publications. Bulletin **1** (1911)–**4** (1916) ||.

Comment. Soc. Physiogr. Lund.

Commentationes quas in memoriam sollemnium secularium A. D. III nonas Oct. MDCCCLXXVIII edidit regia Societas physiographorum Lundensis. (1878) ||.

This is a series of nine separately paged papers in one volume.

Comment. Soc. Reg. Sci. Gotting.

Commentationes Societas regia scientiarum Gottingensis. **1** (1878)–**16** (1808); Commentationes . . . recentiores. **1** (1811)–**7** (1837). Continued as "Abhandlungen der Königlichen Gesellschaft der Wissenschaften zu Göttingen." **1** (1843) +.

Comp. Bot. Mag.

Companion to the Botanical magazine; being a journal, containing such interesting botanical information, as does not come within the prescribed limits of the magazine; with occasional figures. By W. J. Hooker. **1** (1835)–**2** (1836) ‖.

The same title, "Companion to the Botanical Magazine," was used for separately paged parts of vol. 71 (1845) to vol. 74 (1848) of the Botanical Magazine.

Compt. Rend. Acad. Sci. Paris

Comptes rendus hebdomadaires des séances de l'Académie des sciences. Paris. **1** (1835) +.

Compt. Rend. Soc. Biogéogr.

Compte rendue sommaire des séances de la société de biogéographie. **1** (1924) +.

Contr. Arnold Arb.

Contributions from the Arnold Arboretum of Harvard University. **1** (1932)–**11** (1938) ‖.

Contr. Bot.

Contributions to botany, iconographic and descriptive. **1** (1851)–**3** (1871) ‖.

By John Miers.

Contr. Brooklyn Bot. Gard.

Contributions. Brooklyn Botanic Garden. **1** (1911) +.

This is a series of reprints from technical periodicals.

Contr. Gray Herb.

Contributions from the Gray Herbarium of Harvard University. **1** (1891) +.

The earlier numbers are all reprints from various periodicals; many of the later numbers are original papers, while others are reprints. Up to No. 75 all bear the legend "new series," which was dropped with No. 76, as, strictly speaking, there was no preceding series under this title.

Contr. Herb. Taihoku Univ.

Contributions from the Herbarium of Taihoku Imperial University. **1** (1930) +.

This is a series of reprints from various periodicals.

Contr. Lab. Syst. Bot. Taihoku Univ. 1 (1937) +.

Contributions from the laboratory of systematic botany and plant ecology, Taihoku University. **1** (1937) +.

This is a series of reprints from technical periodicals.

Contr. U. S. Nat. Herb.

Contributions from the United States National Herbarium. **1** (1890–95) +.

Vols. 1-7 were issued by the Division of Botany, U. S. Department of Agriculture; all later volumes, by the Smithsonian Institution, U. S. National Museum.

Cornell Univ. Agr. Exp. Sta. Mem.

Cornell University Agricultural Experiment Station memoir. **1** (1913) +.

Curtis's Bot. Mag. See **Bot. Mag.**

Dansk Bot. Arkiv

Dansk botanisk arkiv udgivet af Dansk botanisk förening. **1** (1913–15) +.

Dansk Ugeskr.

Dansk ugeskrift. **1** (1831)–**8** (1836); II. **1** (1842)–**3** (1846) ‖.

DC. Monog. Phan.

Monographiae phanerogamarum prodromi nunc continuatio, nunc revisio, auctoribus Alphonso et Casimir de Candolle aliisque botanicis ultra memoratis. Suites au prodromus systematici naturalis regni vegetabilis. **1** (1878)–**9** (1896) ‖.

DC. Prodr.

Prodromus systematis naturalis regni vegetabilis, sive enumeratio coñtracta ordinum generum specierumque plantarum huc usque cognitarum, juxta methodi naturales normas digesta. Auctore Aug. Pyramo de Candolle. **1** (1824)–**17** (1873) ‖.

Index was issued by Buek, 1 (1842)-4 (1874).

Denkschr. Math.-Nat. Kl. Akad. Wiss. Wien

Denkschriften der mathematisch-naturwissenschaftlichen Klasse der Kaiserlichen Akademie der Wissenschaften Wien. **1** (1850) +.

Dept. Agr. Fiji Bull.

Department of Agriculture, Fiji, Bulletin. **1** (?) +.

Deutsche Gart. Zeit.

Deutsche Garten-Zeitung. Wochenschrift für Gärtner und Gartenfreunde. Herausgegeben von Dr. L. Wittmack und W. Perring. **1** (1886) ‖.

This is a continuation of "Garten Zeitung Wittmack" which was combined in 1887 with Regel's "Gartenflora".

Deutsche Kolon. Zeit.

Deutsche Kolonialzeitung. **1** (1884)–**39** (1922) ‖.

Deutsch. Mag. Gart.-Blumenk.

Deutsches Magazin für Garten- und Blumenkunde. **1** (1848)–**46** (1893) ‖.

Vols. 35-46 appeared as "Dr. Neubert's deutsches Garten-Magazin, illustrierte Monatshefte für die Gesammt-Interessen des Gartenbaues."

Dict. Sci. Nat.

Dictionnaire des sciences naturelles—par plusiers Professeurs du Jardin du Roi, et des principles écoles de Paris. **1** (1816)–**60** (1830); planches 1–10.

Dobutu Syokub. [Bot. and Zool.]

Dobutu Syokubutu [Botany and Zoology]. **1** (1933) +.

Drugg. Circ.

The Druggists' circular and chemical gazette. **1** (1857) +.

The title varies slightly.

Ecology

Ecology. All forms of life in relation to environment. Official publication of the Ecological Society of America. **1** (1920) +.

Edinb. New Philos. Jour.

The Edinburgh new philosophical journal. **1** (1826)–**57** (1854); n. ser. **1** (1855)–**19** (1864) ‖.

Empire Forestry Jour.

Empire forestry journal. **1** (1922) +.

Étud. Mélanés.

Études Mélanésiennes. Bulletin périodique de la Société d'études Mélanésiennes. Noumea. **1** (1838–39) +.

Fairchild Trop. Gard. Bull.

The Fairchild tropical garden bulletin. **1** (1945)–

Farlowia

Farlowia; a journal of cryptogamic botany. **1** (1943–44) +.

Field Mus. Nat. Hist. Bot. Ser.

Field Museum of Natural History, Botanical Series. **1** (1895–1902) +.

Vol. 1 and part of vol. 2 appeared as: "Field Columbian Museum, Botanical Series." The institution is now the Chicago Natural History Museum.

Fifth Int. Bot. Congr. Cambr. Rep. Proc.

Fifth International Botanical Congress, Cambridge, August 16–23, 1930. Report of Proceedings. (1931) ‖.

Fl. Life.

Floral life, devoted to nature and ornamental gardening. **1** (1903) +.

Fl. Pomol.

The florist and pomologist: a pictorial monthly magazine of flowers, fruits, and general horticulture. **1862–1883** ‖.

Fl. Pomon.

Flora en pomona. **1** (1854)–**6** (1866) ‖.

Fl. Serr. Jard. Eur.

Flore des serres et des jardins de l'Europe. **1** (1845)–**23** (1880–83) ‖.

Flora

Flora oder botanische Zeitung. **1** (1818) +.

Flora & Sylva

Flora and sylva. A monthly review for lovers of garden, woodland, tree or flower; new and rare plants, trees, shrubs and fruits; the garden beautiful, home woods and home landscape. **1** (1903)–**3** (1905) ‖.

Floral Mag.

The floral magazine: comprising figures and descriptions of popular garden flowers. **1** (1860)–**10** (1871); **n.s. 1872–1881** ‖.

The volumes of new series are not numbered.

Forest Quart.

Forest Quarterly. Published under the direction of a board of advisors of the faculty and alumni of the New York State College of Forestry. **1** (1902–03)–**14** (1916) ‖.

With vol. 15 (1927) this became the "Journal of Forestry" combining "Forest Quarterly" and "Proceedings of the Society of American Foresters."

Fragm. Phyt. Austral.

Fragmenta phytographiae Australiae contulit Ferdinandus Mueller. **1** (1858–59)–**11** (1878–81) ‖.

Friend

The friend: a journal devoted to temperance, seamen, marine and general intelligence. **1** (1843) +.

Gard. Bull. Straits Settlem.

Garden's Bulletin Straits Settlements. **1** (1891)–**9** (1900); **II 1** (1901)–**10** (1911); **III 1** (1912) +.

Series 1 was issued as "Agricultural Bulletin of the Malay Peninsula," 2 and 3 (nos. 1 to 5) as "Agricultural Bulletin of the Straits and Federated Malay States."

Gard. Chron.

The gardeners' chronicle. (1841)–(1873), **II 1** (1874)–**26** (1886); **III 1** (1887) +.

Gard. Chron. Am.

Gardener's chronicle of America. **1** (1905) +.

Gard. & For.
Garden and forest; a journal of horticulture, landscape art and forestry. **1** (1888)–**10** (1897) ‖.

Gard. Mag. Bot.
The gardener's magazine of botany, horticulture, floriculture and natural science. **1** (1850)–**3** (1851) ‖.

Gard. Monthly
The gardeners' monthly and horticulturist, devoted to horticulture, arboriculture and rural affairs. **1** (1859)–**29** (1887) ‖.

Garden
The garden, an illustrated weekly journal of horticulture in all its branches. **1** (1872)–**91** (1927) ‖.

Gart. Zeit. Wittmack
Garten-Zeitung. Monatsschrift (Wochenschrift) für Gärtner und Gartenfreunde —Herausgegeben von Dr. L. Wittmack. **1** (1882)–**5** (1886) ‖.
In 1886 this became the "Deutsche Garten-Zeitung", and in 1887 the latter was combined with "Gartenflora."

Gartenfl.
Gartenflora. Monatsschrift für Garten- und Pflanzenkunde. Begründet von Eduard Regel. **1** (1852) +.
The subtitle varies, that of the later volumes being here used.

Gartenwelt
Die Gartenwelt; illustriertes Wochenblatt für den gesamten Gartenbau. **1** (1896) +.

Gentes Herb.
Gentes herbarum (The kinds of plants). **1** (1920–25) +.

Geogr. Jour.
The geographical journal (Royal Geographic Society of London). **1** (1923)–.

Geogr. Rev.
Geographical review. **1** (1916) +.

Giorn. Soc. Let. Conversaz. Sci.
Giornale della Società di lettere e conversazioni scientifiche. Genova. **1** (1877)–**44** (1917) ‖.

Globus
Globus. Illustrierte Zeitschrift für Länder- und Völkerkunde. **1** (1861)–**98** (1910) ‖.
This was merged with "Petermann's Mittheilungen aus Justus Perthes' geographischer Anstalt."

Götting. Nachr.
Göttinger Nachrichten. **1** (1845) +.

Grevillea
Grevillea, a quarterly record of cryptogamic botany and its literature. **1** (1872–73)–**22** (1894) ‖.
In vols. 1 and 2 "quarterly" is replaced by "monthly."

Guam Record.
Guam recorder. **1** (1924) +.

Hakubut. Zassi
Hakubutsugaku zassi. **1** (1898)–.

Hamburg. Gart. Blumenzeit.

Hamburger Garten- und Blumenzeitung. Zeitschrift für Garten und Blumenfreunde, Kunst- und Handelsgärtner. **1** (1845)–**46** (1890) ‖.

Hawaii Agr. Exp. Sta. Bull.

Hawaii Agricultural Experiment Station bulletin. **1** (1901) +.

Hawaii Agr. Exp. Sta. Ext. Bull.

Hawaii Agricultural Experiment Station extension bulletin. **1** (1917) +.

Hawaii Agr. Exp. Sta. Circ.

Hawaii Agricultural Experiment Station circular. **1** (1931) +.

Hawaii Nat. Park Nat. Hist. Bull.

Hawaii national park natural history bulletin. **1** (1936) +.

Hawaiian Annual

Hawaiian almanac and annual. **1** (1875)–**58** (1932) ‖.

For index see Titcomb, M. and Ames, A., Index to the Hawaiian Annual 1875-1932. Bishop Mus. Spec. Publ. 24:1-59. 1935.

Hawaiian Club Papers

Hawaiian Club papers. **1** (1866–68).

Hawaiian For. Agr.

The Hawaiian forester and agriculturist. **1** (1903)–**30** (1933) ‖.

This is an official publication of the Board of Commissioners of Agriculture and Forestry, Territory of Hawaii.

Hawaiian Pl. Rec.

The Hawaiian planters' record (Hawaiian Sugar Planters' Association Experiment station). **1** (1909) +.

Hawaiian Sugar Pl. Exp. Sta. Div. Path. Phys. Bull.

Report of the work of the experiment station of the Hawaiian Sugar Planters' Association, Division of Pathology and Physiology, Bulletin. **1** (1905)–**12** (1912) ‖.

Hedwigia

Hedwigia. Ein Notizblatt für kryptogamische Studien. **1** (1852–57) +.

The subtitle varies. With vol. 24 (1885) it became "Organ für specielle Kryptogamenkunde nebst Repertorium für kryptogamische Literatur," and with vol. 37 (1898) the words "und Phytopathologie" were added after "Kryptogamenkunde."

Herbarium

Herbarium. Organ zur Förderung des Austausches wissenschaftlicher Exsiccatensammlungen. **1** (1920–32) ‖.

This was published by T. O. Weigel, Liepzig. It chiefly lists sets of specimens for sale but contains a few original botanical papers.

Herbertia

Herbertia. American Amaryllis Society. **1** (1934) +.

Hess. Beitr.

Hessische Beiträge zur Gelehrsamkeit und Kunst. **1** (1784–85)–**2** (1786–87) ‖.

Hook. Ic.

Icones plantarum; or figures, with brief descriptive characters and remarks, of new or rare plants, selected from the author's herbarium. By Sir William Jackson Hooker. **1** (1836–37) +.

With vol. 11 (1867-71) the latter part of the subtitle was changed to "selected from the Kew Herbarium."

Hook. Jour. Bot. Kew Gard. Miscel.

Hooker's Journal of botany and Kew Garden miscellany. **1** (1849)–**9** (1857) ‖.

This is the successor to the "London journal of botany."

Horae Phys. Berol.

Horae physicae Berolinenses, collectae ex symbolis virorum doctorum. Auctor Nees ab Esenbeck. **1** (1820) ‖.

Hort.

Horticulture, an illustrated journal devoted to the florist, plantsman, landscape gardener, and kindred interests. **1** (1904)–**37** (1923); II **1** (1924) +.

The subtitle varies. In the second series, which is not thus designated, the entire title is reduced to "Horticulture, illustrated, Boston, Massachusetts."

Hort. Belg.

L'horticulteur belge. Journal des jardiniers et amateurs. **1** (1833)–**5** (1838) ‖.

This is not the same as "La Belgique Horticole."

Hort. Univ.

L'horticulteur universel, journal général des jardiniers et des amateurs . . . **1** (1839)–**6** (1844); ser. II. **1** (1846); n. s. **1** (1847) ‖.

Ic. Pl. As. Orient.

Iconographia plantarum Asiae Orientalis. **1** (1935) +.

Ill. Hort.

L'illustration horticole. Journal international populaire de l'horticulture dans toutes ses branches. **1** (1854)–**43** (1896) ‖.

The subtitle varies.

Illinois Biol. Monogr.

Illinois Biological Monographs. **1** (1914) +.

Ind. Mycol. Writ. Lloyd

Index of the Mycological Writings of C. G. Lloyd. **1** (1898–1905)–**7** (1922–25) ‖.

This is the title page designation. The individual parts bear the title "Mycological Notes."

Ind. Schol. Gymn. Hamb. Acad.

Index scholarum in gymnasio Hamburgensium academico. Edited by J. G. C. Lehmann. **1** (1829)–**10** (1853) ‖.

The title varies considerably.

Ind. Sem. Hort. Bot. Petrop.

Index seminum quae hortus botanicus imperialis Petropolitanus pro mutua commutatione offert. Accedunt animadversiones botanicae nonnullae. **1** (1835)–**1892** ‖.

This was continued as "Delectus Seminum."

Internat. Rev. Hydrobiol. Hydrogr.

Internationale revue der gesamten Hydrobiologie und Hydrographie. **1** (1908) +.

Jahrb. Bot. Gart. Berlin

Jahrbuch des Königlichen botanischen Gartens und des botanischen Museums zu Berlin. **1** (1881)–**5** (1889) ‖.

Jahrb. Hamb. Wiss. Anstalt.

Jahrbuch der Hamburgischen wissenschaftlichen Anstalten. **1** (1883)–**34** (1916) ‖.

Jahresb. Schles. Ges. Vaterl. Cult.

Jahresbericht der Schlesischen Gesellschaft für vaterländische Cultur. **1** (1824) +.

Jard. Fleur.

Le jardin fleuriste, journal général des progrès, et des intérêts horticoles et botaniques . . . redigé par Ch. Lemaire. **1** (1851)–**4** (1854) ‖.

Jorden Runt

Jorden runt; magazin för geografi och resor. **1** (1929) +.

Jour. Agr. Univ. Porto Rico

The Journal of Agriculture of the University of Porto Rico. **1** (1917) +.

The first 17 volumes appeared as "The Journal of the Department of Agriculture, Porto Rico."

Jour. Arnold Arb.

Journal of the Arnold Arboretum. **1** (1920) +.

Jour. As. Soc. Bengal

Journal and Proceedings of the Asiatic Society of Bengal. **1** (1832)–**75** (1905); II **1** (1905) +.

Jour. Bombay Nat. Hist. Soc.

The journal of the Bombay Natural History Society. **1** (1866) +.

Jour. Bot.

The journal of botany, British and foreign. **1** (1863) +.

Jour. Bot. Hook.

The journal of botany, being a second series of the Botanical Miscellany—by William Jackson Hooker. **1** (1834)–**4** (1842) ‖.

This was succeeded by "The London Journal of Botany."

Jour. Bot. Morot

Journal de botanique. Directeur: M. Louis Morot. **1** (1887)–**22** (1909), and **23** (1), printed 1914, distributed June, 1925 ‖.

Jour. Bot. Néerl.

Journal de botanique néerlandaise, rédigé par F.-A.-W. Miquel. **1** (1861) ‖.

Jour. Bot. Schrad.

Journal für die Botanik. Herausgegeben von Medicinalrath Schrader. **1** (1799)–**4** (1801) ‖.

For continuation see Neu. Jour. Bot. Schrad.

Jour. Coll. Sci. Univ. Tokyo

The journal of the College of Science, Imperial University of Tokyo. **1** (1893) +.

Jour. Dep. Agr. Kyushu Univ.

Journal of the Department of Agriculture, Kyushu Imperial University, Fukuoka. Japan. **1** (1932) +.

Jour. Ecol.

Journal of ecology. **1** (1913) +.

Jour. Geogr.

Journal of geography. **1** (1902) +.

Jour. Hered.

The journal of heredity, a monthly publication devoted to plant breeding, animal breeding and eugenics. **1** (1910) +.

Vols. 1-4 (1910-13) were published as "American Breeders Magazine."

Jour. Hort. Soc. Lond.

Journal of the Horticultural Society of London. **1** (1846)–**9** (1855) ‖.

See Jour. Roy. Hort. Soc.

Jour. Jap. Bot.

The journal of Japanese botany. **1** (1916–18) +.

Jour. Jap. For. Soc.

Journal of the Japanese Forestry Society (Dai-Nippon sanrinkwai-ho). **1** (1911) +.

The original title for No. 1 (1911) was Sanrin; later the Japanese title became Dai-Nippon sanrinkwai-ho.

Jour. Linn. Soc. Bot.

Journal of the Proceedings of the Linnean Society, Botany. **1** (1855–57)–**7** (1862–64) ; The Journal of the Linnean Society, Botany. **8** (1863–65) +.

Jour. Linn. Soc. Zool.

Journal of the Linnean Society, Zoology. **1** (1855) +.

Jour. Mus. Godeffroy

Journal des Museum Godeffroy. Geographische, ethnographische und naturwissenschaftliche Mittheilungen. **1** (1873–74)–**6** (1909–10) ‖.

Jour. Mycol.

The journal of mycology. **1** (1885)–**14** (1908) ‖.

Jour. N. Y. Bot. Gard.

Journal of the New York Botanical Garden. **1** (1900) +.

Jour. New Zeal. Inst. Hort.

Journal of the New Zealand Institute of Horticulture. **1** (1930) +.

Jour. Pan-Pacif. Res. Inst.

Journal of the Pan-Pacific Research Institution. **1** (1926)–**10** (1935) ‖.

Jour. Pharm. Chim.

Journal de pharmacie et de chimie (Société de pharmacie de Paris). **1** (1809) +.

This is now in its seventh series.

Jour. Polynes. Soc.

Journal of the Polynesian Society. **1** (1892) +.

Jour. Roy. Geogr. Soc.

Journal of the Royal Geographic Society. **1** (1830)–**50** (1880) ‖.

This is succeeded by "The Geographical Journal."

Jour. Roy. Hort. Soc.

Journal of the Royal Horticultural Society. **10** (1888) +.

This is a continuation of Jour. Hort. Soc. Lond.

Jour. Roy. Micr. Soc.

Journal of the Royal Microscopic Society. **1** (1878) +.

Jour. Roy. Soc. N.S.W.

Journal and Proceedings of the Royal Society of New South Wales. **1** (1867) +.

The title varies. Vols. 1 (1867-8) (1874) appeared as "Transactions," 9 (1875) as "Proceedings."

Jour. Soc. Bibl. Nat. Hist.

The journal of the society for the bibliography of natural history. **1** (1836–41) +.

Jour. Soc. Centr. Hort. France

Journal de la société centrale d'horticulture de France. **1** (1855)–IV. **28** (1927) ‖.

The title varies greatly. In 1928 the Journal was replaced by the Bulletin.

Jour. Soc. Hort. France

Journal de la Société nationale d'horticulture de France. **1** (1827)–**45** (1854) ; II **1** (1855)–**12** (1866) ; III **1** (1879)–**21** (1899) ; IV **1** (1900)–**28** (1927) ‖.

This was published in four series, the title varying. It was replaced in 1928 by Bull. Soc. Nat. Hort. France.

Jour. Soc. Trop. Agr.

Journal of the Society of Tropical Agriculture (Taihoku Imperial University). **1** (1929) +.

Jour. Trans. Victoria Inst. London

Journal of the Transactions of the Victoria Institute, or Philosophical Society of Great Britain. London. **1** (1865) +.

Jour. Washington Acad. Sci.

Journal of the Washington Academy of Sciences. **1** (1911) +.

Karsten & Schenck Vegetationsbilder

Vegetationsbilder—herausgegeben von Dr. G. Karsten und Dr. H. Schenck. Jena.

This is a series of halftone illustrations of the types of vegetation in various parts of the world.

Kew Bull.

Royal Botanic Gardens, Kew. Bulletin of miscellaneous information. (1887) +.

One unnumbered volume was issued each year. The word "botanic" was added to the title in 1900.

Kudoa

Kudoa. **1** (1933)–**5** (1937) ‖.

Latv. Univ. Bot. Darza Darbi

Latvijas Universitates botaniska Darza Darbi. **1** (1926) +.

Leafl. Western Bot.

Leaflets of western botany. **1** (1932–36) +.

Lilloa

Lilloa, revista de botánica. Tucumán. **1** (1937) +.

Linnaea

Linnaea. Ein Journal für die Botanik in ihrem ganzen Umfange. **1** (1826)–**43** (1880–82) ‖.

Lloydia

Lloydia, a quarterly journal of biological science. **1** (1938) +.

Lodd. Bot. Cab.

The botanical cabinet, consisting of colored delineations of plants from all countries . . . by Conrad Loddiges & Sons. **1** (1818)–**20** (1833) ‖.

Lond. Edinb. & Dubl. Philos. Mag.

The London, Edinburgh and Dublin philosophical magazine and journal of science.

This is the latest variation in the title of the Philos. Mag., which see for dates, titles, etc.

Lond. Jour. Bot.

The London journal of botany; containing figures and descriptions of such plants as recommend themselves . . . , by Sir W. J. Hooker. **1** (1842)–**7** (1848) ‖.

Succeeded by the "Journal of Botany and Kew Garden Miscellany."

Lond. Med. Phys. Jour.

The London medical and physical journal. **1** (1799)–**69** (1833) ‖.

Madroño

Madroño. A west American journal of botany. **1** (1916–29) +.

Mag. Nat. Hist.

The magazine of natural history, and journal of zoology, botany, mineralogy, and meterology. **1** (1828)–**9** (1836) ‖.

It was merged with the Annals of natural history as Annals and magazine of natural history.

Malay. Forest.
The Malayan Forester. **1** (1931) +.

Malesia
Malesia. Raccolta di osservazioni botaniche intorno alle piante dell' archipelago Indo-Malese e Papuano . . . . **1** (1877)–**3** (1886–90) ||.

Malpighia
Malpighia. Rassegna mensuale di Botanica. **1** (1886)–**31** (1928) ||.

Marcellia
Marcellia. Rivista internazionale di Cecidologia. **1** (1902) +.

Med. Bot. Mus. Univ. Utrecht
Mededeelingen ven het Botanisch Museum en Herbarium van de Rijks Universiteit te Utrecht. **1** (1932) +.

Med. Göteb. Bot. Trädgård
Meddelanden från Göteborgs botaniska trädgård. The Swedish title of Acta Horti Gothob., which see.

Med. Rijks Herb. Leiden
Medeleelingen van 's Rijks Herbarium, Leiden. **1** (1910)–**69** (1931) ||.
This was succeeded by Blumea in 1934.

Melbourne Chem. Drug.
The Melbourne Chemist and Druggist. **1** (1878) ||.
The title was changed in 1879; see Chem. Drug Australas. Suppl.

Mém. Acad. Sci. Lyons
Mémoires de la Académie des sciences, belles-lettres et arts, Lyons. **1** (1845)–**2** (1846); II **1** (1851)–**28** (1892); continued as Mémoires. . . . classe des sciences et lettres. III **1** (1893) +.

Mém. Acad. Sci. St. Pétersb.
Mémoires de l'Académie Impériale des Sciences de St. Pétersbourg. **1** (1728) +.
This was published in several series.

Mem. Accad. Lincei. See **Reale Accad. Lincei Mem.**

Mem. Accad. Sci. Torino
Memorie della Reale Accademia della Scienze di Torino. **1** (1759)–**40** (1838); II 1 (1839) +.
The title varies.

Mem. Am. Acad. Arts Sci.
Memoirs of the American Academy of Arts and Sciences. **1** (1780)–**4** (1821); n. ser. **1** (1826) +.

Mem. Bishop Mus.
Memoirs of the Bernice Pauahi Bishop Museum of Polynesian Ethnology and Natural History. **1** (1899) +.

Mem. Bost. Soc. Nat. Hist.
Memoirs of the Boston Society of Natural History. **1** (1862) +.

Mem. Col. Sci. Kyoto Univ.
Memoirs of the College of Science, Kyoto Imperial University. **1** (1914) +.

Mém. Herb. Boiss.
Mémoires de l'Herbier Boissier. **1–22** (1900) ||.
This is a series of 22 separately paged papers published during 1900, when no numbers of the "Bulletin de l'Herbier Boissier" appeared.

Mém. Mus. Hist. Nat. [Paris]
Mémoires du Muséum d'histoire naturelle par MM. les professeurs du Jardin du Roi. [Paris]. **1** (1815)–**20** (1832) ‖.

Mem. Nat. Acad. Sci. [Washington]
Memoirs of the National Academy of Sciences [Washington]. **1** (1866) +.

Mém. Soc. Acad. Maine et Loire
Mémoires de la Societé académique de Maine et Loire. **1** (1857)–**38** (1883); n. sér. **1** (1890)–**3** (1895) ‖.

Mém. Soc. Biogéogr.
Mémoires de la Société de biogéographie. **1** (1926) ‖.
The title page bears the title "Société biogéographie"; the advertisement facing the title page reads "Memoires de la Société de biogéographie."

Mem. Soc. Fauna Fl. Fenn.
Memoranda societatis pro fauna et flora Fennica. **1** (1927) +.

Mém. Soc. Linn. Paris
Mémoires de la Société Linnéenne de Paris. **1** (1822)–**6** (1827) ‖.

Mém. Soc. Phys. Hist. Nat. Genève
Mémoires de la Société de physique et d'histoire naturelle de Genève. **1** (1821) +.

Mém. Soc. Sci. Nat. Cherbourg
Mémoires de la Société des sciences naturelles de Cherbourg. **1** (1852) +.

Mem. Tanaka Citrus Exp. Sta.
The memoirs of the Tanaka Citrus Experiment Station. **1** (1927) +.

Mem. Torr. Bot. Club
Memoirs of the Torrey Botanical Club. **1** (1899–90) +.

Mem. Wern. Soc.
Memoirs of the Wernerian Natural History Society. Edinburgh. **1** (1808)–**8** (1838) ‖.

Merkbl. Volkshochschule Zürich.
Merkblatt der Volkshochschule, Zürich. **1** (?).
This serial has not been seen.

Mid-Pacif. Mag.
Mid-Pacific magazine. **1** (1911) +.

Minn. Bot. Studies
Minnesota botanical studies. Geological and natural history survey of Minnesota. **1** (1894–98)–**4** (1909–16) ‖.

Missouri Bot. Gard. Rep.
Missouri Botanical Garden [ ] Annual Report. 1890–1912 ‖.
The first volume bears merely the title "Missouri Botanical Garden"; the succeeding ones, second, third, etc., annual report. It was succeeded by the "Annals of the Missouri Botanical Garden," 1 (1914).

Mitt. Bot. Mus. Univ. Zürich
Mitteilungen aus dem Botanischen Museum der Universität Zürich. **1** (1894) +.

Mitt. Bot. Staatsinst. Hamb.
Mitteilungen aus den Botanischen Staatsinstituten in Hamburg. 1903–1912 ‖.
In 1913 it was succeeded by the Mitt. Inst. Bot. Hamb.; see below.

Mitt. Geogr. Ges. Jena
Mitteilungen der geographischen Gesellschaft (für Thüringen) zu Jena. **1** (1882) +.

Mitt. Inst. Bot. Hamb.

Mitteilungen aus dem Institut für allgemeine Botanik in Hamburg. **1** (1914) -|.

A successor to Mitt. Bot. Staatsinst. Hamb.

Mitt. Naturw. Ver. Steiermark

Mitteilungen des Naturwissenschaftlichen Vereins für Steiermark. Graz. **1** (1862) +.

Mitt. Perth. Geogr. Anstalt

Mittheilungen aus Justus Perthes' Geographischer Anstalt über wichtige neue Erforschungen auf dem Gesammtgebiete der Geographie von A. Petermann. **1** (1855) +.

Mitteilungsbl. Ges. Volkerk. [Leipzig]

Mitteilungsblatt der Gesellschaft für Volkerkunde herausgegeben vom Vorstand. Leipzig. **1** (1933) +.

Möller's Deutsch. Gärtn. Zeit.

Möller's Deutsche Gärtner-Zeitung. **1** (1886) +.

Monatschr. Ver. Gartenb. Preuss. Staat.

Monatschrift des Vereines zur Beförderung des Gartenbaues in den König. Preuss. Staaten. **1** (1858)–**24** (1881) ||.

In earlier volumes of the series "Wochenschrift" replaces "Monatschrift," and in still earlier ones the term "Verhandlungen" was used.

Mycologia

Mycologia. In continuation of the Journal of Mycology. **1** (1900) +.

With volume 17 (1925) the subtitle was dropped; with volume 25 (1933) it became: "Mycologia, official organ of the Mycological Society of America."

Nat. Appl. Sci. Bull. Univ. Philip.

Natural and applied science bulletin, University of the Philippines. **1** (1930) +.

Nat. Geogr. Mag.

The national geographic magazine. **1** (1899) +.

Nat. Park Serv. Circ. Gen. Inf. Hawaii Nat. Park

National Park Service. Circular of General Information, Hawaii National Park. (1930 ?) +?

This serial has not been seen.

Nat. Hist. Rev.

The natural history review. A quarterly journal of zoology, botany, geology, and palaeontology. **1** (1853–54)–**12** (1865) ||.

The subtitle varies.

Nat. Sci. & Mus.

Natural science and museum (Tokyo Science Museum). Japanese title: "Shizen kagaku no hakubutsu-kan." **1** (1930) +.

Nat. Tijdschr. Nederl. Ind.

Natuurkundig tijdschrift voor Nederlandsch-Indie. Uitgegeven door de (koninlijke) natuurkundige vereeniging in Nederlandsch-Indie. **1** (1851) +.

Nat. Verh. Holl. Maatsch. Wetensch. Haarlem

Natuurkundige verhandelingen van de Hollandsche mattschaapij der Wetenschappen te Haarlem. **1** (1799)–**24** (1844); II **1** (1841)–**25** (1871); III **1** (1872) +.

Natur

Die Natur. Zeitung zur Verbreitung naturwissenschaftlicher Kenntnisse und Naturanschauung für Leser aller Stände. **1** (1852)–**51** (1902) ||.

This was merged with "Naturwissenschaftliche Wochenschrift".

Nature Mag.
Nature magazine. **1** (1923) +.

Naturen
Naturen. Illustrert maanedsskrift for populaer naturvidenskap. (Bergens Museum). **1** (1877) +.

Naturf.
Der Naturforscher. Herausgegeben von Joh. Ernst Imman Walch. **1** (1774)–**30** (1804) ‖.

Nederl. Kruidk. Arch.
Nederlandsch kruidkundig archief. **1** (1846)–**6** (1870); II **1** (1871)–**6** (1895); III **1** (1896)–**2** (1900–03) +.
After 1903 the volumes are not numbered.

Neu. Jour. Bot. Schrad.
Neues Journal für die Botanik; herausgegeben von Professor [H. A.] Schrader. **1** (1805)–**4** (1810) ‖.
This is a continuation of Jour. Bot. Schrad.

Neubert's Deutsche Gart. Mag. See **Deutsch. Mag. Gart.-Blumenk.**

Neue Allg. Deutsche Gart. Zeit.
Neue allgemeine deutsche Garten- und Blumenzeitung. **1** (1845–46)–**46** (1890) ‖.
Volumes 8 to 46 appeared as "Hamburger Garten- und Blumenzeitung".

Neue Denkschr. Schweiz. Ges. Naturw.
Neue Denkschriften der allgemeinen schweizerischen Gesellschaft für die gesamten Naturwissenschaften. Nouveaux mémoirs de la Société Helvétique des sciences naturelles. **1** (1837) +.

Nippon Gakujit. Kyokai Hokuku
Nippon Gakujitsu Kyokai Hokuku (Proceedings of the Japanese Association for the Advancement of Science). **1** (1906) +.

Norske Vid. Selsk. Forhandl.
K. Norske videnskabers selskab forhandlinger. **1** (1926) +.

Norske Vid. Selsk. Skrifter
K. Norske videnskabers selskab skrifter. (1917) +.

Not. Syst.
Notulae systematicae. Herbier du Muséum de Paris. Phanérogamie. **1** (1909–11) +.

Notes Bot. Gard. Edinb.
Notes from the Royal Botanic Garden, Edinburgh. **1** (1900) +.

Notes Ptérid.
Notes Ptéridologiques. **1** (1915)–**16** (1921) ‖.
This was published by Prince Roland Bonaparte. No. 6 was never issued.

Notizbl. Bot. Gart. Berlin
Notizblatt des Königl. botanischen Gartens und Museums zu Berlin. **1** (1895–97) +.
The title varies; "Königl." was dropped with vol. 8 (1921-24).

Nouv. Arch. Mus. Hist. Nat. Paris
Nouvelles archives du Muséum d'histoire naturelle de Paris. **1** (1865) +.
This was published in several series.

Nova Acta Acad. Leop.-Carol. Nat. Cur.

Nova acta Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum. Verhandlungen (Abhandlungen) der Kaiserlichen Leopoldinisch-Carolinischen Akademie der Naturforscher. **1** (1757) +.

The title varies; the first 19 volumes (1757-1839) appeared as "Nova Acta Physico-medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum."

Nova Acta Phys.-Med. Acad. Leop.-Carol. Nat. Cur. See the preceding entry.

Nova Acta Soc. Sci. Upsal.

Nova acta regiae Societatis scientiarum Upsaliensis. II (1773)–**14** (1850); III **1** (1851–55)–**20** (1901–04); IV **1** (1905–07) +.

Nuova Notar.

La nuova Notarisia, rassegna consacrata alla studio delle alghe. **1** (1890)–**36** (1925) ‖.

Nuovo Giorn. Bot. Ital.

Nuovo giornale botanico Italiano. **1** (1869)–**25** (1893); n. ser. **1** (1894) +.

Nyt Mag. Naturvid.

Nyt magazin för naturvidenskaberne. Grundlagt af den physiographiske förening i Christiania. **1** (1836) +.

Occ. Pap. Bishop Mus.

Occasional papers of the Bernice Pauahi Bishop Museum of Polynesian Ethnology and Natural History. **1** (1896–1901) +.

Öfvers. Finska Vet. Soc. Förh.

Öfversigt af Finska vetenskaps-societetens förhandlingar. **1** (1838)–**64** (1922) ‖.

Öfvers. Vet. Förh. (Stockholm)

Öfversigt af Kongl. vetenskaps-akademiens förhandlingar. Stockholm. **1** (1844) +.

Oesterr. Bot. Zeitschr.

Oesterreichische botanische Zeitschrift. **1** (1851) +.

Volumes 1-7 (1851-57) were published as "Oesterreichisches botanisches Wochenblatt".

Oesterr. Tour. Klub Mitt. Sekt. Naturk.

Oesterreichischer Touristen-Klub. Mitteilungen der Sektion für Naturkunde. **1** (1899)–**32** (1920) ‖.

Orchidaceae

Orchidaceae: Illustrations and studies of the family Orchidaceae issuing from the Ames Botanical Laboratory, North Easton, Mass. **1** (1905)–**7** (1922) ‖.

Ostenia

Ostenia. Collecion de trabajos botanicos dedicados a Don Cornelio Osten en ocasion del LXX aniversario de su nacimiento. (1933) ‖.

Otia Bot. Hamburg.

Otia botanica hamburgensia. **1–2** (1878) ‖.

Pacific Islands Monthly

Pacific islands monthly. **1** (1930) +.

Palao Trop. Biol. Stat. Studies

Palao tropical biological station studies. **1** (1940?)–.

Pamiet. Towarz. Nauk Scislych Paryzu

Pamietnik Towarzystwa nauk scislych w Paryzu. [Memoirs of the Society of Exact Sciences in Paris.] **1** (1871)–**12** (1882) ‖.

Pap. Mich. Acad. Sci.

Pap. Mich. Acad. Sci. Pt. I. Bot. & For.

Papers of the Michigan Academy of Sciences, Art and Letters. **1** (1921) 1923—

With vol. 24 (1938) 1939 it was split into four sections, Pt. 1—Botany and Forestry.

Pap. Proc. Roy. Soc. Tasmania

Papers and proceedings of the Royal Society of Tasmania. **1** (1848) +.

The title varies.

Parad. Pacif.

Paradise of the Pacific. **1** (1888) +.

Paxton's Mag. Bot.

Paxton's magazine of botany and register of flowering plants. **1** (1834)–**16** (1849) ‖.

Petermann's Geogr. Mittheil. See **Mitt. Perth. Geogr. Anstalt.**

Pflanzenar.

Die Pflanzenareale. **1** (1926) +.

Pflanzenr.

Das Pflanzenreich. Regni vegetabilis conspectus. Im Auftrage der Preuss. Akademie der Wissenchaften herausgegeben von A. Engler. **1** (IV–45) (1900) +.

Philip. Jour. Sci.

Philip. Jour. Sci. Bot.

The Philippine journal of science. **1** (1906) +.

In vol. 1 the botanical papers form a separately paged supplement. In vols. 2-13 botany forms a separately paged annual volume designated Section C. Botany.

Philos. Mag.

[London, Edinburgh and Dublin] Philosophical magazine [and Journal of Science]. **1** (1798) +.

The title varies. From 1798-1813 as "Philosophical Magazine"; 1814-26 as "Philosophical Magazine and Journal"; 1827-32 as "Philosophical Magazine, or Annals of Chemistry, Mathematics, Astronomy, Natural History and General Science"; 1832-40 as "London and Edinburgh Philosophical Magazine and Journal of Science"; 1841+ as "London, Edinburgh and Dublin Philosophical Magazine and Journal of Science". See Lond. Edinb. & Dublin Philos. Mag.

Phytopath.

Phytopathology. Official organ of the American Phytopathological Society. **1** (1911) +.

Pl. Disease Rep.

The plant disease reporter. Issued by Division of Mycology and Disease Survey. Bureau of Plant Industry, U. S. Department of Agriculture. **1** (1917) +.

This is a mimeographed publication. Vols. 1 (1917)-6 (1923) were issued as "Plant disease Bulletin."

Plant World

The plant world. A monthly journal of popular botany. **1** (1897)–**22** (1919) ‖.

The subtitle changed with vol. 3 (1900) to "An Illustrated Monthly Journal of Popular Botany"; with vol. 10 (1907) to "An Illustrated Monthly Magazine of General Botany"; and with vol. 15 (1912) to "A Monthly Magazine of General Botany". Vols. 5 to 9 bear the additional subtitle "Official organ of the Wild Flower Preservation Society of America". It was succeeded by Ecology **1** (1920).

Polynesian Soc. Mem.

Polynesian Society memoires. **1** (1910)–**10** (1834) ‖.

Postelsia

Postelsia. The yearbook of the Minnesota Seaside Station. 1901 (1902) and 1906 ‖.

Preslia

Preslia. Véstnik Československe botanické spolecnosti (Reports of the Czechoslovak Botanical Society of Prague). **1** (1921) +.

Proc. Acad. Nat. Sci. Philadelphia

Proceedings of the Academy of Natural Sciences of Philadelphia. **[1]** (1846) +.

Proc. Am. Acad. Arts Sci.

Proceedings of the American Academy of Arts and Sciences. **1** (1848) +.

Proc. Am. Assoc. Adv. Sci.

Proceedings of the American Association for the Advancement of Science. **1** (1848) +.

Proc. Am. Philos. Soc.

Proceedings of the American Philosophical Society held at Philadelphia for promoting useful knowledge. **1** (1883) +.

Proc. Am. Soc. Hort. Sci.

Proceedings of the American Society for Horticultural Science. **1** (1903) +.

Proc. Biol. Soc. Washington

Proceedings of the Biological Society of Washington. **1** (1880–82) +.

Proc. Bost. Soc. Nat. Hist.

Proceedings of the Boston Society of Natural History. **1** (1841–44)–**88** (1938) ‖.

Proc. Calif. Acad. Sci.

Proceedings of the California Academy of Sciences. **1** (1854) +.

Proc. Essex Inst.

Proceedings of the Essex Institute. **1** (1848)–**6** (1871) ‖.

Proc. Fifth Pacific Sci. Congr. Canada

Proceedings of the Fifth Pacific Science Congress, Canada, 1933. **1** (1934)–**5** (1935) ‖.

Proc. Fourth Pacific Sci. Congr. Java

Proceedings of the Fourth Pacific Science Congress, Java, 1929. **1** (1930)–**4** (1930) ‖.

Proc. Hawaii Acad. Sci. See **Bishop Mus. Special Publ.**

Proc. Internat. Congr. Pl. Sci. Ithaca

Proceedings of the International Congress of Plant Sciences, Ithaca, New York, 1926. **1–2** (1929) ‖.

Proc. Iowa Acad. Sci.

Proceedings of the Iowa Academy of Sciences. **1** (1887) +.

Proc. Linn. Soc.

Proceedings of the Linnean Society of London. **1** (1838) +.

Proc. Linn. Soc. N. S. W.

The Proceedings of the Linnean Society of New South Wales. **1** (1875) +.

Proc. Nat. Acad. Sci.

Proceedings of the National Academy of Sciences (Washington). **1** (1915) +

Proc. Roy. Soc. Queensl.

Proceedings of the Royal Society of Queensland. **1** (1884) +.

Proc. Sixth Pacific Sci. Congr.
Proceedings of the Sixth Pacific Science Congress of the Pacific Science Association, held at the University of California, Berkeley, Stanford University, and San Francisco, July 24 to August 12, 1939. **1–4** (1940–41).

Proc. Third Pan-Pacific Sci. Congr. Tokyo
Proceedings of the Third Pan-Pacific Science Congress, Tokyo. **1–2** (1928) ‖.

Proc. Zool. Acclim. Soc. Victoria
Proceedings of the Royal Zoological and Acclimatization Society of Victoria. **1** (1881)–**73** (1930) ‖.
The tile varies.

Progr. Rei Bot.
Progressus rei botanicae. Fortschritte der Botanik. Herausgegeben von der Association Internationale des Botanistes. **1** (1907)–**5** (1917) ‖.

Prometheus
Prometheus. Illustrierte Wochenschrift über die Fortschritte der angewandten Naturwissenschaften. **1** (1889)–**32** (1921) ‖.
The subtitle varies slightly.

Publ. Arnold Arb.
Publications of the Arnold Arboretum. **1** (1891) +.

Publ. Inst. Centr. Meteor. Chile
Publicaciones del Instituto central meteorologico y geofisico de Chine. **1** (1911) +.

Quart. Jour. For.
The quarterly journal of forestry (Royal English Arboricultural Society) London. **1** (1907) +.

Quart. Jour. Microsc. Sci.
The quarterly journal of microscopical science. London. **1** (1853)–**8** (1860); II **1** (1861) +.

Quart. Rev. Biol.
The quarterly review of biology. **1** (1926) +.

Queen's Hosp. Bull.
Queen's Hospital bulletin. Honolulu. **1** (1924) +.

Reale Accad. Lincei Mem. Cl. Sci. Fis. Mat. Nat.
Reale Accademia dei Lincei. Memorie della Classe di scienze fisiche matematiche e naturali. III **1** (1876)–**19** (1884); IV **1** (1884)–**7** (1890); V **1** (1894) +.
Up to 1876 this appeared as "Atti", but in that year it was continued in three series, "Transunti", the above, and "Classe di scienze morali".

Rec. Auckl. Mus.
Records of the Auckland Institute and Museum. **1** (1930–35) +.

Rec. Bot. Surv. India
Records of the Botanical Survey of India. **1** (1893–1902) +.

Rec. Dominion Mus. [New Zeal.]
Records of the Dominion Museum. New Zealand. **1** (1942–44) +.

Rec. Oceanogr. Work Japan.
Records of oceanographic work in Japan. **1** (1928) +.

Rec. Trav. Bot. Néerl.
Recueil des travaux botaniques néerlandais. Publié par la Société botanique néerlandaise. **1** (1904) +.

Rees Cyclop.

The Cyclopedia; or Universal dictionary of arts, sciences, and literature, by Abram Rees . . . **1** (1802)–**39** (1820), with 6 volumes of plates ‖.

The title page date of all volumes is 1819. For dates of issue of individual volumes see **B. D. Jackson,** Jour. Bot. **34:** 310-316. 1896.

Rep. Com. Agr. For. Hawaii

Report of the Board of Commissioners of Agriculture and Forestry of the Territory of Hawaii. **1** (1905) +.

Rep. Guam Agr. Exp. Sta.

Annual Report of the Guam Agricultural Experiment Station. (1911) +.

Rep. Kew Gard.

Report on the progress and conditions of the Royal Gardens at Kew. (1844–82) ‖.

Rep. Voy. H. M. S. Challenger Bot.

Report on the scientific results of the voyage of H.M.S. *Challenger* during the years 1873–76. . . . Botany. **1** (1885)–**2** (1886) ‖.

Repert. Nov. Sp. See next entry.

Repert. Sp. Nov.

Repertorium novarum specierum regni vegetabilis. Centralblatt für Sammlung und Veröffentlichung von Einzeldiagnosen neuer Pflanzen. **1** (1905–06) +.

With vol. 8 (1910) the title was altered to "Repertorium specierum novarum regni vegetabilis". This serial is often cited as "Repert. Sp. Nov. Fedde" and as "Fedde Repert."

Repert. Sp. Nov. Beih.

Repertorium specierum novarum vegetabilis. Beihefte. **1** (1911–13) +.

Rev. Agr. Nouvelle-Calédonie

Revue agricole de Nouvelle-Calédonie; organe de la Chambre d'agriculture de Nouvelle-Calédonie. **1** (1910) +.

Rev. Alg.

Revue algologique. **1** (1924) +.

Rev. Bot. Appl. Agr. Colon.

Revue de botanique appliquée & d'agriculture coloniale. Paris. **1** (1921)–**8** (1928) ‖.

The subtitle varies. For continuation see the next entry.

Rev. Bot. Appl. Agr. Trop.

Revue de botanique appliquées et d'agriculture tropicale; revue mensuelle contenant les Actes & Comptes Rendus de l'association Colonies-sciences. Paris. **9** (1929) +.

This is a continuation of the preceding entry.

Rev. Bryol. See the next entry.

Rev. Bryol. Lichénol.

Revue bryologique. **1** (1874)–**53** (1928) ; II. **1** (1928) +.

In 1931 the title was changed to "Revue Bryologique et Lichénologique" and in 1942 to "Travaux Bryologiques."

Rev. Gén. Bot.

Revue générale de botanique. **1** (1899) +.

Rev. Hist. Nat. Appl.

Revue d'histoire naturelle appliquée. **1** (1920) +.

Rev. Hort.

Revue horticole. Journal d'horticulture pratique. **1** (1829) +.

Rev. Hort. Belge

Revue de l'horticulture Belge et étrangère, recueil mensuel illustré. **1** (1875)–**40** (1914) ‖.

Rev. Marit. Colon.

Revue maritime et coloniale. **1** (1861) +.

The title varies.

Rev. Myc.

Revue mycologique. Recueil trimestriel illustré, consacré à l'étude des champignons et des lichens. **1** (1879)–**28** (1906) ‖.

Rev. Sci. Fr.

La revue scientifique de la France et de l'étranger. **1** (1863) +.

The title varies.

Revis. Chil. Hist. Geogr.

Revista Chilena de historia natural y geografía. **1** (1911) +.

Revis. Chil. Hist. Nat.

Revista Chilena de historia natural. Dedicado al fomento y cultivo de las ciencias naturales en Chile. **1** (1897) +.

Revis. Sudam. Bot.

Revista Sudamericana de botánica Organo oficial de la Associación Sudamericana de Botánica. **1** (1934) +.

Revis. Univ. Nac. Córdoba

Revista de la Universidad nacional de Córdoba. **1** (1914) +.

Revis. Universit. Univ. Catól. Chile

Revista universitaria de la Universidad católica, de Chile. **1** (1915) +.

Rhodora

Rhodora. Journal of the New England Botanical Club. **1** (1899) +.

Rozpr. Sprawodz. Wydz. Matem. Przyr. Akad. Um. Krakow.

Rozprawy i sprawozdania wydzialu matematyczno-przyrodnicznego Akademii Umiejetnosci w Krakowie. **1** (1874) +.

Sargentia

Sargentia. A continuation of the contributions from the Arnold Arboretum of Harvard University. **1** (1942) +.

Schenk & Luerssen Mitt. Bot.

Mittheilungen aus dem Gesammtgebiete der Botanik. Herausgegeben von Prof. Dr. A. Schenk and Dr. Chr. Luerssen. **1** (1871–74)–**2** (1875) ‖.

Sci. Monthly

The scientific monthly. **1** (1915) +.

Sci. Pap. Inst. Alg. Res. Fac. Sci. Hokkaido

Scientific papers of the Institute of Algological Research, Faculty of Science of the Hokkaido Imperial University, Sapporo. **1** (1937) +.

Sci. Rep. Tokyo Bunrika Daigaku B.

Science report Tokyo Bunrika Daigaku, Section B. **1** (1932–34) +.

Science

Science. **1** (1883)–**23** (1894) ; n. ser. **1** (1895) +.

The subtitle varies.

Scripta Bot. Hort. Univ. Petrop.

Scripta botanica horti Universitatis Imperalis Petropolitanae. **1** (1886–87)–**28** (1910–12) ‖.

Sempervirens

Sempervirens. Weekblad voor den Tuinbouw in Nederland. **1** (1872) +.

The subtitle varies.

Siboga Exped.

Siboga-Expeditie. Résultats des explorations zoologiques, botaniques, océanographiques et géologiques enterprises aux Indes néerlandaises orientales en 1899–1900 à bord du *Siboga*. **1** (1902) +.

Sinensia

Sinensia. Contributions from the National Research Institute of Biology, Academia Sinica. **1** (1929–31) +.

The subtitle varies.

Sitzber. Akad. Wiss. Wien

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften. Wien. **1** (1848) +.

Sitzber. Böhm. Ges. Wiss.

Sitzungsberichte der Königlichen böhmischen Gesellschaft der Wissenschaften. (1859)–(1884) ; continued as classes +.

The Czech title of the organization is "Ceská spolecnost nauk."

Sitzber. Ges. Naturf. Freunde Berlin

Sitzungsberichte der Gesellschaft Naturforschender Freunde, Berlin. **1** (1839) +.

Sitzber. Math.-Nat. Kl. Akad. Wiss. Wien

Sitzungsberichte der mathematisch-naturwissenschaftlichen Klasse, Akademie der Wissenchaften, Wien. (1848) +.

Sitzber. Math.-Phys. Kl. Akad. Wiss. München

Sitzungsberichte der Mathematisch-physikalischen Klasse der Königlichen Baierischen Akademie der Wissenschaften zu München. **1** (1871) +.

Skrivt. Naturh.-Selsk.

Skrivter. Naturhistorie-selskabet. **1** (1790)–**6** (1810) ‖.

Smithsonian Misc. Coll.

Smithsonian Miscellaneous Collections. **1** (1862) +.

Smithsonian Rep.

Annual report of the Board of Regents, Smithsonian Institution. (1846) +.

Soc. Hist. Nat. Autun Bull.

Société d'histoire naturelle d'Autun [ ] Bulletin. **1** (1888)–**27** (1914 ‖.

Southern Sci. Record

The southern science record. **1** (1880–81)–**3** (1883) ; n. ser. **1** (1885)–**2** (1886) ‖.

Sprengel Neue Entdeck.

Neue Entdeckungen im ganzen Umfang der Pflanzenkunde, herausgegeben von K. Sprengel. **1** (1820)–**3** (1822) ‖.

Stanford Univ. Publ. Univ. Ser.

Stanford University publications. University series. (1908)–(1920) ‖.

Stud. Bot. Čechoslovaca

Studia botanica Čechoslovaca. **1** (1938) +.

Beginning with vol. 2 this was published as "Studia Botanica Čechica."

Sunyat.

Sunyatsenia. Journal of the Botanical Institute, College of Agriculture, Sun Yat-sen University, Canton, China. **1** (1930) +.

Svensk Bot. Tidsk.

Svensk botanisk Tidskrift (Svenska botaniska Föreningen) Stockholm. **1** (1907) +.

Svenska Vet. Akad. Handl.

Svenska vetenskaps akademiens Handlingar. **1** (1739) +.

This was published in several series. The title varies slightly.

Symb. Bot. Upsal.

Symbolae Botanicae Upsalienses. Arbeten från botaniska institutionen i Uppsala utgivna av Prof. S. Svedelius och Prof. E. Melin. **1** (1932) +.

Terre Vie

La terre et la vie; revue d'histoire naturelle. **1** (1931)–**9** (1939) ‖.

Torreya

Terreya. A monthly journal of botanical notes and news. **1** (1901)–**45** (1945) ‖.

Trans. Acad. Sci. St. Louis

Transactions of the Academy of Science of St. Louis. **1** (1856–60) +.

Trans. Am. Philos. Soc.

Transactions of the American Philosophical Society, held at Philadelphia, for promoting useful knowledge. **1** (1769)-**6**(1804); II **1** (1818) +.

Trans. Bot. Soc. Edinb.

Transactions of the Botanical Society [Edinburgh]. **1** (1844-46) +.

With vol. 12 (1876) this became the "Transactions and Proceedings of the Botanical Society," and with vol. 19 (1893) "Transactions and Proceedings of the Botanical Society of Edinburgh."

Trans. Brit. Mycol. Soc.

Transactions of the British Mycological Society. **1** (1896) +.

Trans. Cambr. Philos. Soc.

Transactions of the Cambridge Philosophical Society. **1** (1843) +.

Trans. Connect. Acad.

Transactions of the Connecticut Academy of Arts and Sciences. **1** (1866) +.

Trans. Hort. Soc. Lond.

Transactions of the Horticultural Society of London. **1** (1807)–II **3** (1848) ‖.

Trans. Illinois Acad. Sci.

Transactions of the Illinois State Academy of Science. **1** (1908) +.

Trans. Linn. Soc.

Transactions of the Linnean Society. **1** (1791)–**30** (1874–75) ‖.

Trans. Linn. Soc. II Bot.

Transactions of the Linnean Society II Botany. **1** (1875–1880) +.

Trans. Mass. Hort. Soc.

Transactions of the Massachusetts Horticultural Society. (1829)–(1919) ‖.

Trans. Nat. Hist. Soc. Formosa

Transactions of the Natural History Society of Formosa. **1** (1911) +.

Trans. Proc. New Zeal. Inst.

Transactions and proceedings of the New Zealand Institute. **1** (1868)–**63** (1933) ‖.

See next entry.

Trans. Proc. Roy. Soc. New Zeal.
Transactions and proceedings of the Royal Society of New Zealand. **64** (1934–35) +.
Volumes **1** to **63** appeared as "Transactions and Proceedings of the New Zealand Institute."

Trans. Roy. Soc. N. S. W. See **Jour. Roy. Soc. N. S. W.**

Trans. Third N. Am. Wildlife Confer.
Transactions of the Third North American Wildlife Conference. (1938).

Trav. Bryol.
Travaux bryologiques. [13] (1942) +.
A continuation of "Revue Bryologique et Lichénologique."

Trop. Agr.
Tropical agriculture. Trinidad. **1** (1924) +.

Trop. Woods
Tropical woods (Yale University, School of Forestry). **1** (1925) +.

Tropenpfll.
Tropenpflanzer. Zeitschrift für tropische Landwirtschaft. **1** (1897) +.

Univ. Calif. Publ. Bot.
University of California Publications, Botany. **1** (1902–03) +.

Univ. Hawaii Agr. Ext. Serv. Ext. Bull.
University of Hawaii Agricultural Extension Service extension bulletin. **1** (1929) +.

Univ. Hawaii Agr. Studies
University of Hawaii agricultural studies. **1** (1927) +.

Univ. Hawaii Occ. Pap.
University of Hawaii occasional papers. **1** (1923) +.

Univ. Hawaii Res. Publ.
University of Hawaii research publications. **1** (1927) +.

Univ. Illinois Bull.
University of Illinois bulletin. **1** (1902) +.

Univ. Iowa Studies Nat. Hist.
University of Iowa studies in natural history. **1** (1883) +.

Univ. Queensl. Pap. Dept. Biol.
University of Queensland papers Department of Biology. **1** (1939–41)–.

U. S. Dept. Agr. Bur. Forestry Bull.
United States Department of Agriculture, Bureau of Forestry. Bulletin. **1** (1887)–**127** (1913) ‖.

U. S. Dept. Agr. Misc. Publ.
United States Department of Agriculture miscellaneous publications. **1** (1927) +.

U. S. Dept. Agr. Off. Exp. Stations Bull.
United States Department of Agriculture, Office of Experiment Stations. Bulletin. **1** (1889) +.

Van Heurck. Obs. Bot.
Observationes botanicae et descriptiones plantarum herbarii Van Heurckiani. Recueil d'observationes botaniques et de descriptions de plantes nouvelles. **1** (1870)–**2** (1871) ‖.

Vegetationsbilder

Vegetationsbilder, herausgegeben von Dr. G. Karsten und Dr. H. Schenck. **1** (1904) +.

Verh. Bot. Ver. Prov. Brandenb.

Verhandlungen des botanischen Vereins für die Provinz Brandenburg und die angrenzenden Länder. **1** (1859) +.

Beginning with volume 12 (1870) the last four words of the title were dropped.

Verh. Deutsch. Geographentag.

Verhandlungen des deutschen Geographentages. **1** (1881) +.

Verh. Ges. Erdk. Berlin

Verhandlung der Gesellschaft für Erdkunde zu Berlin. **1** (1873)–**28** (1901) ‖.

In 1902 this was combined with the "Zeitschrift" of the same society.

Verh. Kon. Akad. Wetensch. Amsterdam Afd. Natuurk.

Verhandelingen koninklijke akademie van wetenschappen, Amsterdam, afdeeling natuurkunde. **1** (1854) +.

Verh. Zool. Bot. Ver. Wien

Verhandlungen des Zoologisch-botanischen Vereins in Wien. **1** (1852) +.

Became the "Kaiserlich-Königlichen-Zoologisch-botanischen Gesellschaft" with vol. 8 (1858).

Verh. Zool. Bot. Ges. Wien

See the preceding entry.

Veröffentl. Geobot. Inst. Rübel Zurich

Veröffentlichungen des Geobotanischen Institutes Rübel in Zürich. **1** (1923) +.

Vers. Med. Akad. [Amsterdam]

Verslagen en Mededeelingen der Koniklijke Akademie van wetenschapen. Amsterdam. **1** (1853) +.

Verz. Vorles. Akad. Braunsb.

Verzeichnis der Vorlesungen in der Akademie zu Braunsberg. (1906) +.

The title varies; formerly it was the "Königlichen Lyceum Hosianum zu Braunsberg."

Vict. Nat.

The Victorian naturalist: The journal & magazine of the Field Naturalist Club of Victoria. **1** (1884) +.

Viert. Naturf. Ges. Zürich

Vierteljahrsschrift der Naturforschenden Gesellschaft in Zürich. **1** (1856) +.

Viestn. Ross. Obshch. Sad.

Viestnik (imperatorskago) Rossiiskago Obshchestva Sadovodstva (Review of the Imperial Horticultural Society). (1860) +.

The title varies.

War Dept. Tech. Man.

War Department technical manual. Washington.

Webbia.

Webbia. Raccolta di scritti botanici publicati in occasione del 50° anniversario della morte de Filippo Barker Webb. **1** (1905)–**5** (1921–23) ‖.

With vol. 2 the subtitle changed to "Raccolta de scritti botanici edita da Ugolino Martelli."

Wochenschr. Gartn. Pflanzenk.

Wochenschrift des Vereines zur Beforderung des Gartenbaues in den Königlich Preussischen Staaten fur Gärtnerei und Pflanzenkunde. **1** (1858)–**15** (1873) ‖.

It was merged with the Monatschr. Ver. Gartenb. Preuss. Staat.

Ymer

Ymer. Tidskrift utgifven af Svenska Sällskapet för antropologi och geografi. 1 (1881) +.

Zeitschr. Deutsch. Wiss. Ver. Kult. Landeskunde Argentiniens

Zeitschrift des deutschen Wissenschaftlichen Vereins zur Kultur und Landeskunde Argentiniens. 1 (?) +.

Zeitschr. Ges. Erdk. Berlin

Zeitschrift der Gesellschaft für Erdkunde zu Berlin. 1 (1853)–6 (1856); II 1 (1856)–19 (1865); III 1 (1866)–36 (1901); IV 1 (1902) +.

The first series appeared as "Zeitschrift für allgemeine Erdkunde."

BIBLIOGRAPHY

A

Abbay, R.

1877. New Caledonia; its character and capabilities. Gard. Chron. II. **7:** 85–88. *f. 13–14.*

Includes botanical and economic notes on various species of plants.

Abbott, I. A.

1945. The genus Liagora (Rhodophyceae) in Hawaii. Occ. Pap. Bishop Mus. **18:** 145–169. *f. 1–16.*

Thirteen species with extensive notes and a key, *Liagora kahukuana* and *L. papenfussi* described as new.

1946. The genus Griffithsia (Rhodophyceae) in Hawaii. Farlowia **2:** 439–454. *pl. 1–4.*

Five species recognized and described, none new.

Acharius, E.

1810. Lichenographia universalis, in qua Lichenes omnes detectos, adjectis observationibus et figuris horum vegetabilium naturam et organorum carpomorphorum structuram illustrantibus sollicite definitas redegit. i-viii, 1–696. *pl. 1–14.*

Includes some Polynesian species.

1814. Synopsis methodica Lichenum, sistens omnes hujus ordinis naturalis detectas plantas, quas, secundum genera, species et varietates disposuit, characteribus et differentiis emendatis definivit, nec non synonymis et observationibus selectis illustravit. i-xiii, 1–393. *portr.*

Includes some Polynesian species.

Aellen, P.

1929. Beitrag zur Systematik der Chenopodium-Arten Amerikas, vorwiegend auf Grund der Sammlung des United States National Museum in Washington, D. C. (I) Repert. Sp. Nov. **26:** 31–64, (II) 119–160.

Includes a few Hawaiian forms.

1933. Nomenclatorische Bemerkungen zu einigen Chenopodien. Ostenia **1933:** 98–101.

Includes *Chenopodium oahuense* Aellen (*Atriplex oahuensis* Mey.) from Hawaii.

Agardh, J. G.

1839. Recensio specierum generis Pteridis. i-vi, 1–86.

Includes the then-known Polynesian species.

1848–76. Species genera et ordines Algarum, seu descriptiones succinctae specierum, generum et ordinum, quibus Algarum regnum constituitur. **1:** i-viii, 1–363. 1848 (Fucoideae); **2:** i-xii, 1–1291. 1851–1863; **3:** i-vii, 1–724. 1876 (Florideae).

Includes some Polynesian species.

1880–90. Till Algernes systematik. Nya bidrag. Act. Univ. Lund. **9**(2, 8): 1–71. 1872–73; **17**(3, 4): 1–134, [1–2]. *pl. 1–3.* 1880–81; **19**(2): 1–177, [1–4]. *pl. 1–4.* 1882–83; **21**(3, 8): 1–117, [1–3]. *pl. 1.* 1884–85; **23**(3, 2): 1–174, [1–6]. *pl. 1–5.* 1887–88; **26**(3, 3): 1–25. *pl. 1–3.* 1889–90.

Includes various Polynesian species of algae.

1891–99. Analecta algologica. Observationes de speciebus Algarum minus cognitis earumque dispositione. Act. Univ. Lund. **28**(6): 1–182. *pl. 1–3.* 1891–92; **29**(9): 1–144. *pl. 1–2.* 1894; **30**(7): 1–98, [1]. *pl. 1.* 1893; **32**(2): 1–40. *pl. 1.* 1896; **33**(9): 1–106. *pl. 1–2.* 1897; **35**(2, 4): 1–160. *pl. 1–3.* 1899.

Includes some Polynesian species.

Agardh, K. A.

1827. Algae: in Gaudichaud, C., Botanique du voyage . . . sur les corvettes l'Uranie et la Physicienne. 147–165.

Includes some Polynesian species.

Agee, H. P.

1915. A possible remedy for the so-called Lahaina disease. Hawaiian Pl. Rec. **12:** 374–389. *f. 1–2.*

A general note.

1920. The Kudzu—An interesting legume. Hawaiian Pl. Rec. **22:** 215–217. *1 f.*

Includes a description of the introduced plant, *Pueraria thunbergiana.*

Aiken, W. H. See **Lloyd, C. G.,** and **Aiken, W. H.**

Akina, J. K. See **Kaaiakamanu, D. M.,** and **Akina, J. K.**

Albright, H. M. See **Anonymous,** 1930.

Alderwerelt van Rosenburgh, C. R. W. K. van

1922. New or interesting Malayan ferns 12. Bull. Jard. Bot: Buitenzog III. **5:** 179–240. *f. a–c.*

Includes additional descriptive data on *Oleandra whitmeei* Baker from Samoa.

Alexander, J. M.

1883. Mountain climbing on West Maui. Hawaiian Annual (1884) **19:** 32–34.

Relates largely to the vegetation.

Allen, O. N. See **Davis, W. C.,** and **Allen, O. N.**

Allen, T. F.

1887. Some notes on Characeae. A new Nitella from the Feejee Islands. Bull. Torr. Bot. Club **14:** 211. *pl. 71.*

Nitella muthnatae n. sp.

Allen, W. E.

1936. Surface plankton diatoms in the North Pacific Ocean in 1934. Madroño **3:** 250–252.

A brief report, mentioning catches on a run from the Aleutian Islands to Hawaii.

Alston, A. H. G.

1933. Certain ferns in Sir James Smith's herbarium. Philip. Jour. Sci. **50:** 175–182. *pl. 1.*

Includes *Humata banksii* n. sp. from Tahiti, and critical notes on other Polynesian species.

1934. Notes on Selaginella. VII. New species. Jour. Bot. **72:** 227–230.

Includes *S. kanehirae* n. sp. from the Caroline Islands.

1943. Selaginella: in Christensen, C., A revision of the Pteridophyta of Samoa. Bishop Mus. Bull. **177:** 129–132.

Six species recognized, with key to the species, synonymy, and descriptions.

Ames, O.

1914. The orchids of Guam. Philip. Jour. Sci. **9:** Bot. 11–16.

A list with descriptions of new species.

1922. New or noteworthy orchids from different parts of the world. Orchidaceae **7:** 83–140. *pl. 114.*

Includes *Bulbophyllum nigroscapum* n. sp. from Samoa.

1932a. Contribution to the flora of the New Hebrides and Santa Cruz Islands. Orchids collected by S. F. Kajewski in 1928 and 1929. Jour. Arnold Arb. **13:** 127–141.

An enumeration with notes and the descriptions of new species.

1932b. A new genus of the Orchidaceae from the New Hebrides. Jour. Arnold Arb. **13:** 142–144.

Trichochilus neo-ebudicus, type of the genus.

1933. Additional notes on the orchids of the New Hebrides and Santa Cruz Islands. Jour. Arnold Arb. **14:** 101–112.

A list with notes and the descriptions of new species.

Ancona, C. d'

1884. La Kentia Belmoreana Wendl. Bull. Soc. Tosc. Ort. **9:** 140–142. *f. 10.*

Native of Lord Howe Island.

1886. Crinum pedunculatum pacificum. Bull. Soc. Tosc. Ort. **11:** 267–268. *pl. 11.*

Native of Lord Howe Island.

Anderson, J.

1822. Account of a new esculent vegetable called Tetragonia, or New Zealand spinach. Trans. Hort. Soc. Lond. **4:** 488–494.

T. expansa from Tongatabu.

Andersson, N. J.

1855. Om de med Saccharum beslägtade genera. Öfvers. Vet. Akad. Förh. **12:** 151–167.

Includes a few Polynesian references.

1856. Monographiae Andropogonearum. I. Anthistirieae. Nov. Act. Soc. Sci. Upsala III. **2:** 229–256. *pl. 3.* Reprint 1–27. *pl. 1.*

Includes a few Polynesian species.

André, E.

1867. Croton Veitchianum. Rev. Hort. **39:** 189–190. *f. 20.*

Native of the New Hebrides and Fiji.

1872a. Plantes nouvelles ou rares. Ill. Hort. **19:** 55–57. *3 f.* 66–68. *2 f.* 90–91. *2 f.* 120–121. *1 f.* 134–135. *2 f.*

Includes *Croton hookeri, Dracaena regina, D. chelsoni, D. mooreana, Croton multicolor, C. veitchianum,* and *C. irregulare,* natives of the South Sea Islands. Pp. 55-57 erroneously issued as "39-41."

1872b. Dracaena Guilfoylei. Ill. Hort. **19:** 249. *1 f.*

Native of the South Sea Islands.

1872c. Croton Hillianum, H. Veitch. Ill. Hort. **19:** 326. *1 f.*

Native of the South Sea Islands.

1872d. Croton aucubaefolium Éd. André. Ill. Hort. **19:** 327. *1 f.*

Native of the South Sea Islands.

1872e. Dracaena Dennisonii. Ill. Hort. **19:** 360. *1 f.*

Native of Melanesia.

1874a. Pritchardia pacifica, B. Seemann. Ill. Hort. **21:** 27–28. *pl. 161.*

Native of Fiji.

1874b. Dracaena (Cordyline) bellula, Linden & André. Ill. Hort. **21:** 41. *pl. 163.*

Introduced from the South Sea Islands to Europe in 1872.

1874c. Pritchardia grandis. Ill. Hort. **21:** 83–84.

A note on this native of Polynesia.

1874d. Dracaena (Cordyline) Casanovae, Linden & André. Ill. Hort. **21:** 137. *pl. 181.*

Native of the New Hebrides.

1874e. Cordyline densicoma, Linden & André. Ill. Hort. **21:** 185. *pl. 190.*

Native of New Caledonia.

1875a. Araucaria Balansae, Ad. Brongniart & Gris. Ill. Hort. **22:** 26–28. *pl. 197 1 f.*

Native of New Caledonia.

1875b. Araucaria Rulei, F. Mueller. Ill. Hort. **22:** 72. *pl. 204.*

Native of New Caledonia.

1875c. Aralia (?) Veitchi, hort. Angl. Ill. Hort. **22:** 184. *pl. 225.*

Native of New Caledonia.

1875d. Todea Wilkesiana, Brackenridge. Ill. Hort. **22:** 185. *pl. 226.*

Native of New Caledonia and Fiji.

1877a. Les aralias filiformes. Ill. Hort. **24:** 30–32. *1 f.*

Notes on *Aralia elegantissima* and *A. gracillima* from New Caledonia.

1877b. Kentia Lindeni, hort. Lind. Ill. Hort. **24:** 61. *pl. 276.*

Native of New Caledonia.

1877c. Barrotia Pancheri, Ad. Brongniart. Ill. Hort. **24:** 138. *pl. 288.*

Introduced from New Caledonia.

1877d. Xeronema Moorei, Brongniart et Gris. Ill. Hort. **24:** 184–185. *pl. 297.*

Native of New Caledonia.

1878a. Dracaena aurora, Linden et André. Ill. Hort. **25:** 26. *pl. 304.*

Native of Polynesia.

1878b. Delarbrea (?) spectabilis, Linden & André. Ill. Hort. **25:** 76–77. *pl. 314.*

Native of New Caledonia.

1878c. Phyllanthus nivosus, hort. Bull. Ill. Hort. **25:** 172. *pl. 332.*

Native of the South Sea Islands, probably New Hebrides.

1879a. Aralia reginae, hort. Linden. Ill. Hort. **26:** 25. *pl. 337.*

Native of New Caledonia.

1879b. Cyphokentia robusta, Ad. Brongniart. Ill. Hort. **26:** 41. *pl. 339.*

Native of New Caledonia.

1879c. Meryta sonchifolia, Linden et André. Ill. Hort. **26:** 42–43. *pl. 340.*

Native of New Caledonia.

1879d. Artocarpus Cannoni, hort. Ill. Hort. **26:** 75–76. *pl. 346.*

Native of the Society Islands.

1879e. Eranthemum Schomburgkii, hort. Ill. Hort. **26:** 89. *pl. 349.*

Native of Melanesia.

1879f. Pritchardia macrocarpa Linden, Ill. Hort. **26:** 105. *pl. 352.*

Native of Hawaii.

1880a. Geissois racemosa, Labillardière. Ill. Hort. **27:** 86. *pl. 385.*

Native of New Caledonia.

1880b. Aspidium obliquatum, Baker, var. Germinyi, Linden. Ill. Hort. **27:** 163. *pl. 402.*

Native of Melanesia.

1883a. Pritchardia Vuylstekeana. Rev. Hort. **55:** 329–330. *f. 59.*

Native of the Pomotou Islands.

1883b. Veitchia Joannis. Rev. Hort. **55:** 344–345. *f. 60.*

Said to be native of Lord Howe Island.

1884a. Veitchia Joannis. Rev. Hort. **56:** 109.

Said to be native of Fiji; see also **André E.,** 1883b.

1884b. Kentiopsis macrocarpa. Rev. Hort. **56:** 372–374. *1 pl.*

Native of New Caledonia.

1885–87. Les palmiers cultivés. Rev. Hort. **57:** 523–526, 561–562. 1885; **58:** 90–92, 133–134. 1886; **59:** 93–95. 1887.

Includes references to some Polynesian species; based on "Garden palms" by W. Watson, published in Gard. Chron. See **Watson, W.,** 1884-93.

1897. Fleurs et fruits de l'Howea (Kentia) Belmoreana. Rev. Hort. **69:** 256–257. *1 pl. f. 92–96.*

Native of Lord Howe Island.

1898. Les plantes nouvelles autres que les palmiers à l'exposition quinquennale d'horticulture de Gand. Rev. Hort. **70:** *227–232. f. 83–86.*

Includes description of *Aralia balfouriana,* native of New Caledonia.

Andrews, E. C.

1941. Origin of the Pacific insular floras. Proc. Sixth Pacific Sci. Congr. **4:** 613–620.

A general discussion.

Andrews, H. C.

1800a. Bignonia pandorana. Bot. Repos. **2:** *pl. 86.*

Native of Norfolk Island.

1800b. Jasminum gracile. Bot. Repos. **2:** *pl. 127.*

Native of Norfolk Island.

1803. Passiflora aurantia. Bot. Repos. **5:** *pl. 295.*

Native of Norfolk Island.

1808. Commersonia echinata. Bot. Repos. **8:** *pl. 519.*

Native of the South Sea Islands.

1810a. Schinus dentata. Bot. Repos. **10:** *pl. 620.*

Native of Hawaii.

1810b. Baeckia virgata. Bot. Repos. **9:** *pl. 598.*

Native of New Caledonia.

Ångström, J.

1872. Förteckning och beskrifning öfver mossor, samlade af Professor N. J. Andersson under Fregatten Eugenies verldsomsegling åren 1851–53. III. Mossor från Honolulu (Sandwichs-öarne), samlade i Juni 1852. Öfvers. Vet.-Akad. Förh. **29(4) : 15–29.**

An enumeration with descriptions of many new species of mosses and hepatics from Hawaii.

1873. Förteckning och beskrifning öfver mossor, samlade af N. J. Andersson under Fregatten Eugenies verldsomsegling åren 1851–53. V. Mossor från Tahiti och Eimeo, samlade i September 1852. Öfvers. Vet.-Akad. Förh, **29(5) : 118–139.**

An enumeration with descriptions of many new species of mosses and hepatics from Tahiti.

1875. Verzeichniss und Beschreibung der Moose, welche Prof. N. J. Andersson auf der Expedition der Fregatte Eugenies Resa im Jahre 1851–53 gesammelt hat. Hedwigia **14:** 85–93.

Discusses the mosses of Tahiti and Eimeo (pp. 86-90); apparently a republication of **Angström, J.,** 1873.

1876. Rättelser och tillägg till förtechning och beskrifning öfver mossor, samlade af Professor N. J. Andersson under Fregatten Eugenies verldsomsegling 1851–53. Öfvers. Vet.-Akad. Förh. **33(4) : 50–55.**

Includes various Polynesian species of mosses.

Anonymous

1845. Schilderungen von Küstenländern und Inseln des Stillen Oceans. Neue Allg. Deutsche Gart. Zeit. **1**: 342–353, 389–398.

An extensive review of Kittlitz, 1844-45, "Vierundzwanzig Vegetations-Ansichten."

1852. Deparia Moorii Hook. Fl. Serr. Jard. Eur. **7**: 206–208. *1 pl.*

Native of New Caledonia.

1861. Araucaria Rulei. Gard. Chron. **1861**: 868. *f. 1–6.*

A new species from New Caledonia.

1864. The cannibal's tomato (Solanum anthropophagorum). Gard. Chron. **1864**: 27–28. *1 f.*

A general description and discussion of this Fijian species taken from Bot. Mag. 90: *pl. 5424.* 1864.

1871. New species of phanerogamous plants published in Great Britain during the year 1870. Jour. Bot. **9**: 54–61. 80–85. 116–125.

A list, including a few Polynesian species.

1873. Alpinia vittata. Garden **4**: 25. *1 f.*

Native of the South Sea Islands (actual place of origin doubtful).

1874a. Pritchardia grandis (Hort. Bull.). Gard. Chron. II **1**: 415. *f. 89.*

Native of Polynesia.

1874b. Erythrina Parcellii. Gard. Chron. II. **2**: 392. *f. 82.*

Native of the South Sea Islands.

1878a. New plants. Gard. Chron. II. **9**: 439–442. *f. 76, 77.*

Includes data on and an illustration of *Davallia fijiensis.*

1878b. [Campsidium filicifolium] Viestn. Ross. Obshch. Sad. **1878**: 339. *1 pl.*

A brief note in Russian and habit sketch of this Fijian species; erroneously given *C. filiciforme.*

1881a. Asplenium Baptisti. Garden **19**: 480. *1 f.*

A general note on this native of the South Sea Islands.

1881b. Croton triumphans. Sempervirens **8**: 67. *1 f.*

Native of New Hebrides.

1881c. New and rare plants. Gard. Month. **23**: 330–332. *1 f.*

Includes *Croton gloriosus* from New Hebrides.

1882a. Tecophilaea cyanocrocus. Gard. Chron. II. **17**: 44.

Native of Juan Fernández.

1882b. Die Tonga-Pflanze. Hamburg. Gart. Blumenzeit. **38**: 110–111.

Notes on *Premna taitensis* and *Rhaphidophora vitiensis,* natives of Tahiti and Fiji, respectively.

1882c. Die Tonga-Pflanze (Epipremnum mirabile). Hamburg. Gart. Blumenzeit. **38**: 296–297.

Native of Fiji.

1882d. Adiantum aneitense. Ill. Hort. **29**: 81–82. *f. 5.*

Brief notes on this native of Aneityum Island.

1882e. Lygodictyon forsteri. Gard. Chron. II **17**: 331. *f. 46–47.*

Native of Polynesia.

1883a. Veitchia Joannis. Gard. Chron. II. **20**: 205. *f. 32.*

Native of Fiji.

1883b. Veitchia Joannis, eine neue Palme. Hamburg. Gart. Blumenzeit. **39**: 435–438.

Native of Fiji.

1884. Araucaria Mülleri A Brong. Hamburg. Gart. Blumenzeit. **40:** 105–106.

Native of New Caledonia.

1885. Die Karolinen. Hamburg. Gart. Blumenzeit. **41:** 490–491.

Includes some observations on the vegetation of the Caroline Islands.

1886a. Podocarpus vitiensis. Gard. Chron. II. **25:** 464. *f. 89.*

A general note.

1886b. Impatiens Hawkeri. Gard. Chron. II. **25:** 760. *f. 168.*

Said to be native of the South Sea Islands, but actually came from New Guinea.

1886c. Neue Pflanzen von den Fijiinseln. Neubert's Deutsch. Gart. Mag. **39:** 344–345.

Compiled from the catalog of Dammann & Co., the indicated "new species" previously published elsewhere; differs from the next entry.

1887. Samen neuer und seltener Pflanzen von den Fidji-Inseln. Gartenfl. **36:** 70–71, 130–131.

Compiled from the catalog of Dammann & Co., the indicated "new species" previously published elsewhere; see preceding entry.

1888. The Araucarias. Gard. Chron. III. **3:** 774. *f. 104–106.*

Includes notes on *A. excelsa,* native of Norfolk Island, and *A. cooki,* native of New Caledonia.

1890a. Howeia Belmoreana. Gard. Chron. III. **8:** 74–75. *f. 14.*

Native of Lord Howe Island.

1890b. Musa Seemanni. Gard. Chron. III. **8:** 182–183. *f. 28.*

A general note; native of Fiji.

1891a. Iris Robinsoniana. Gard. Chron. III. **9:** 457. *f. 94–95.*

Native of Lord Howe Island.

1891b. Dammar from New Caledonia. Kew Bull. **1891:** 76.

A note on *Dammara lanceolata* Lindley, native of New Caledonia.

1892. Der Ursprung der Flora Polynesiens. Globus **61:** 140–141.

General.

1892–1939. Decades Kewenses. Plantarum novarum in Herbario Horti Regii conservatarum. II. Kew Bull. **1892:** 125–128, (III) 195–199. 1892; (VII) **1894:** 4–7, (IX) 344–348. **1894;** (XV–XIX) **1895:** 102–120, (XX–XXI) 180–186. 1895; (XXIII–XXV) **1896:** 16–26, (XXVIII–XXX) 158–167. 1896; (XXXIV–XXXV) **1901:** 138–145. 1901; (XXXVI–XL) **1906:** 1–15, (XLI) 71–78. 1906; (XLIII) **1907:** 56–61. 1907; (XLV–XLVI) **1908:** 11–21, (XLIX) 179–183. 1908; (LXXII) **1913:** 113–118. 1913; (LXVI) **1927:** 75–81. 1927; (CXXXIII) **1939:** 177–185. 1939.

Includes descriptions of various new species from Polynesia.

1893. Notes on economic plants in Tahiti. Gard. Chron. III. **14:** 269–270.

General.

1894a. Todea Moorei. Gard. Chron. III. **15:** 526.

Native of Lord Howe Island.

1894b. The sandalwood of Juan Fernandez. Kew Bull. **1894:** 110–111.

Notes on various species of *Santalum.*

1895. Adiantum aneitense. Ill. Hort. **42:** 126–127. *f. 19.*

Native of "Anet" (Aneiteum) Island, New Hebrides.

1897. Fiji ivory nuts. Kew Bull. **1897:** 236–237.

Thought to be the fruits of *Veitchia Joannis.*

1903a. Due novità della casa Sander. Bull. Soc. Tosc. Ort. **28:** 169–171. *f. 16–17.*

Includes *Dracaena kewensis* native of New Caledonia.

1903b. New plants at Ghent. Gard. Chron. III. **33:** 245. *4 pl. f. 99, 108–109, 116.*

Includes an illustration of *Dracaena kewensis* native of New Caledonia, with a brief note.

1903c. Tree-ferns. Flora & Sylva **1:** 242–246. *1 f.*

Includes notes on *Alsophila excelsa* from Norfolk Island and *A. lunulata* and *Cyathea medullaris* from the Pacific Islands.

1905. The twining ferns (Lygodium). Flora & Sylva **3:** 306–310. *1 f.*

Includes *L. articulatum* from Norfolk Island and *L. reticulatum* and *L. semihastatum* from Polynesia.

1908a. Our supplementary illustration (Hillebrandia sandwicensis). Gard. Chron III. **44:** 412. *1 pl.*

Native of Hawaii.

1908b. Storia della Tetragonia cornuta o spinacio della Nuova Zelanda (Tetragonia expansa). Bull. Soc. Tosc. Ort. **33:** 179–180.

Historical and taxonomic notes on this species extending to New Caledonia.

1914. Agathis vitiensis. Gard. Chron. III. **55:** 11. *f. 6.*

A general note.

1917. The Samoa and Tonga Islands. Gard. Chron. III. **62:** 100.

Includes notes on the vegetation and the botanical literature of Samoa and Tonga.

1920. The vegetation of the Sandwich Islands. Gard. Chron. III. **68:** 235.

A review of **Hitchcock, A. S.,** 1919.

1930. Common trees and shrubs. Nat. Park Serv. Circ. Gen. Inf. Hawaii Nat. Park 2–4.

Not seen. Listed in Bot. Jahresber. **58:** 239. 1938, there credited to H. M. Albright.

1936. Sandalwood, Hawaii's most valuable tree. Science II. **82:** Suppl. 7-8.

A popular account.

1938. Hawaii national park. 1–34. *illus.*

A list of common trees and shrubs appears on pp. 21-23, with local names only; there are several excellent illustrations of the vegetation. Published by the National Park Service, Department of the Interior, Washington, D. C.

1942a. Castaway's Baedeker to the South Seas. i–v, 1–63. *illus.*

Pp. 40-50 are devoted to a consideration of a few selected food plants, based on data supplied by K. P. Emory, of the Bishop Museum, Honolulu.

1942b. Vegetation on Midway. Science II. **96:** Suppl. 11.

A brief note.

1944. Annotated bibliography of the southwest Pacific and adjacent areas. **1:** i[i–iii], 1–317. *1 map;* **2:** [i–iv], 1–274. *1 map;* **3:** [i–v], 1–256. *1 map.*

Includes many references that discuss more or less thoroughly the vegetation of special islands but are not primarily botanical. Vol. 1 covers "The Netherlands and British East Indies and the Philippine Islands"; vol. 2 "The Mandated Territory of New Guinea, Papua, the British Solomon Islands, the New Hebrides and Micronesia"; and vol. 3 "Malaya, Thailand, Indo China, the China coast and the Japanese Empire." Prepared by the Allied Geographical Section, Southwest Pacific Area, and based on material in Australian libraries.

Arnaud, G.

1918. Les Asterinées. Ann. École Nat. Agr. Montpel. n. ser. **18:** 1–288. *pl. 1–53. f. 1–22,* maps 1–3.

A general treatise.

1921–23. Étude sur les Champignons parasites. Ann. Épiph. **7:** 1–115. *pl. 1–10. f. 1–25.* 1921; **9:** 1–40. *pl. 1–10, f. 1–38.* 1923.

Listed by Arnaud as "Les Asterinées II" and "Les Asterinées III." A continuation of the preceding paper.

1925. Les Asterinées IV^e^ partie. (Études sur la systématique des champignons pyrénomycètes). Ann. Sci. Nat. X, Bot. **7:** 645–722. *pl. 1–16, f. 1–25.*

A continuation of the preceding papers.

1930. Les Asterinées V (Étude sur les champignons parasites: Caliciacées, Hemispheriacées, etc.). Ann. Épiph. **16:** 235–302. *pl. 1–14, f. 1–15.*

Includes *Corynelia uberata* from New Caledonia.

1931. Les Asterinées VII. Ann. Crypt. Exot. **4:** 74–97. *pl. 2–7.*

Includes some species from Hawaii.

Arnold, H. L.

1931. Poisonous plants found in Hawaii. Queen's Hosp. Bull. [Honolulu]. **7**(9): [2–5].

A general consideration.

1944. Poisonous plants of Hawaii. 1–71. *pl. 1–24.*

A general consideration. The illustrations are reproductions of plates in **Degener, O.,** 1932-40.

Arnott, G. A. See **Hooker, W. J.,** and **Walker-Arnott, G. A.**

Arwidsson, T.

1940. Einige parasitische Pilze aus Juan Fernandez und der Osterinsel. Svensk Bot. Tidskr. 34: 293–300. *f. 1.*

About 12 species listed, with notes; none new.

Asahina, Y.

1939. Ramalina-Arten aus Japan (II). Jour. Jap. Bot. **15:** 205–223. *f. 11–28.*

Includes *R. pacifica* n. sp. from Saipan.

Ascherson, P.

1867–68. Vorarbeiten zu einer Uebersicht der phanerogamen Meergewächse. Linnaea **35:** 152–208.

Includes a few Polynesian references.

1871. Die geographische Verbreitung der Seegräser. Mitt. Perth. Geogr. Anstalt **17:** 241–248. *pl. 13.*

Includes some Polynesian references.

1875a. Die geographische Verbreitung der Seegräser: in **Neumeyer, G.,** Anleitung zu wissenschaftlichen Beobachtungen auf Reisen 359–373.

Not seen.

1875b. List of marine phanerogams. Jour. Bot. **13:** 112–113.

A list abstracted from the preceding entry; includes some Polynesian species.

1876a. Zugänge zur Kenntniss der geographischen Verbreitung der Seegräser aus dem Jahre 1875. Sitzber. Ges. Naturf. Freunde Berlin **1876: 9–12.** 1876; Bot. Zeit. **34:** 556-558. 1876; Ann. Hydrogr. Marit. Meterol. **1876:** 119–120. 1876.

A list of 25 species with notes, including some from Polynesia.

1876b. Beitrag zur Kenntniss de Seegräser des Indischen und Stillen Oceans. Aus Briefen des Dr. F. Naumann. Verh. Bot. Ver. Brandenb. **18:** 52–63.

Mentions a few Polynesian species.

Ascherson, P., and **Graebner, P.**

1907. Potamogetonaceae. Pflanzenr. **31** (IV. 11): 1-184. *f. 1-36.*

Monographic.

Askenasy, E.

1889. Algen: in Die Forschungsreise S. M. S. "Gazelle" . . . **4** (2): Botanik 1-58. *pl. 1-12.*

Includes some Fijian species.

Atherton, F. C.

1933. Orchid growing in Hawaii. Am. Orch. Soc. Bull. **2:** 24-27. *3 f.*

Popular notes on various cultivated species.

Atwood, A. C. See **Blake, S. F.,** and **Atwood, A. C.**

Aubert de la Rüe, E.

1937. Les divers aspects de la végétation aux Nouvelles Hébrides. Terre Vie **7:** 45-62. *f. 1-9.*

General notes.

Auld, W., and **Baldwin, D. D.**

1890. List of indigenous Hawaiian woods, trees, and large shrubs. Hawaiian Annual (1891) **17:** 87-91.

Data on ancient uses by Auld; identifications by Baldwin.

Auld, W., and **Jaeger, A.**

1889. Hawaiian varieties of bananas. Hawaiian Annual **1890:** 79-81.

Notes on 20 indigenous varieties; not seen.

Austin, C. F.

1869. Characters of some new Hepaticae (mostly North American), together with notes on a few imperfectly described species. Proc. Acad. Nat. Sci. Philadephia **1869:** 218-234. Reprint 1-17.

Includes many new species from Hawaii.

1874a. Sandwich Islands Hepaticae collected by H. Mann and W. T. Brigham. Bull. Torr. Bot. Club **5:** 14-16.

An enumeration of 24 species, 9 new.

1874b. Sandwich Island Hepaticae, collected by Dr. Wm. Hillebrand. Bull. Torr. Bot. Club **5:** 16-18.

A list of 34 species, three described as new.

1876. Notes on hepaticology. Bot. Bull. [Bot. Gaz.] **1:** 31–32. 35–36.

Includes four new species from Hawaii.

1879. Notes on hepaticology. Bull. Torr. Bot. Club **6:** 301-306.

Lists several Hawaiian species, including *Jungermannia mauii* and *Steetzia baldwini* n. spp.

B

B.

1865. Aralia Guilfoylei. Garden **7:** 506. *1 f.*

A general note on this "South Sea Islands" plant.

1904. The pitcher plants (Nepenthes). Flora & Sylva **2:** 65–71. *2 f.* 111–114.

Includes *Nepenthes vieillardii,* native of New Caledonia.

1905. The jasmines (Jasminum). Flora & Sylva **3:** 13–19. *3 f.*

Includes notes on *J. didymum* and *J. simplicifolium,* natives of the Pacific Islands.

B., T.

1887. Impatiens Hawkeri. Garden **31:** 256–257. *pl. 588.*

Description and illustration of this species, said to be native of the "South Sea Islands" but is actually native of New Guinea.

B., Z.

1881. Cycas undulata. Garden **19:** 507. *1 f.*

Native of the South Sea Islands.

Babbitt, S. C.

1940. Some of Honolulu's imported trees. Bull. Gard. Club. Am. VII. **7:** 37–42. *7 f.*

Includes some popular data.

Babcock, E. B., and **Stebbins, G. L.**

1937. The genus Youngia. Carnegie Inst. Washington Publ. **484:** [1], 1–108. *pl. 1–5. f. 1–31.*

Monographic; *26* species recognized; *Y.* (*Crepis*) *japonica* introduced in Hawaii.

Bacigalupi, R.

1931. Taxonomic studies in Cuphea. Contr. Gray Herb. **95:** 3–26. *pl. 1–5.*

Credits *Cuphea carthagenensis* to Hawaii.

Backhouse, J.

1843. A narrative of a visit to the Australian Colonies. i–xviii, 1–560, i–cxliv. *15 pl. 3* maps.

Includes scattered references to the plants of Norfolk Island (pp. 251-273).

Baehni, C.

1938. Mémoires sur les Sapotacées I. Système de classification. Candollea **7:** 394–508.

Chiefly concerns generic limits, with key to the genera; see **Lam, H. J.,** 1939.

1942. Mémoires sur les Sapotacées II. Le Genre Pouteria. Candollea **9:** 147–476.

Monographic; 318 species recognized, including those of Polynesia and New Caledonia, species for the most part originally described under various other generic names.

Bailey, E.

1883. Hawaiian ferns; a synopsis taken mostly from Hooker and Baker, with additions and emendations, adapting it more especially to the Hawaiian Islands. i–iv, 5–62.

An enumeration, including the descriptions of some new species. The cover is dated 1883, the title page 1882.

1887. Flora and fauna of the Hawaiian islands. Hawaiian Annual (1888) **14:** 49–54.

An annotated list of published works, with brief original notes on various species.

Bailey, I. W., and **Smith, A. C.**

1942. Degeneriaceae, a new family of flowering plants from Fiji. Jour. Arnold Arb. **23:** 356–365. *pl. 1–5.*

Includes *Degeneria vitiensis* n. gen., n. sp.

Bailey, J. W.

1853. List of Diatomaceae collected by the United States Exploring Expedition under Capt. Wilkes, U.S.N. Proc. Acad. Nat. Sci. Philadelphia **6:** 431–432.

Includes some Polynesian species.

See also **Harvey, W. H.,** and **Bailey, J. W.**

Bailey, J. W., and **Harvey, W. H.**

1862. Algae. Wilkes U. S. Explor. Exped. **17:** 155–192. *pl. 1–9.*

Includes some Polynesian species.

See also **Harvey, W. H.,** and **Bailey, J. W.**

Bailey, L. H.

1916. Nomenclatural transfers. Rhodora **18:** 152–160.

Publication of new binomials anterior to the publication of the "Standard Cyclopedia of Horticulture"; includes a few names of Polynesian species.

1933. Certain palms of Panama. Gentes Herb. **3:** 33–116. *f. 20–88.*

Eupritchardia O. Ktz. is adopted as the proper generic name for the Polynesian palm genus *Pritchardia* Seem. (*Styloma* O. F. Cook.)

1935. Certain Ptychospermate palms of horticulturists. Gentes Herb. **3:** 410–437. *f. 239–254.*

Includes two Fijian species of *Balaka.*

1939. Howea in cultivation. Gentes Herb. **4:** 189–198. *f. 111–118.*

Howea belmoreana and *H. forsteriana,* natives of Lord Howe Island, with synonymy.

1940a. Neglected jasminums. Gentes Herb. **4:** 342–348. *f. 217–221.*

Includes notes on two Polynesian species of *Jasminum.*

1940b. Two pseuderanthemums, and notes on nomenclature. Gentes Herb. **4:** 351–354.

Concerns the Polynesian *P. atropurpureum.*

1940c. The problem of Colpothrinax. Gentes Herb. **4:** 357–360. *f. 225–227.*

Includes a comparative study of the genera *Colpothrinax* and *Eupritchardia,* the latter from the Pacific Islands.

Baillon, H.

1858. Étude générale du groupe des Euphorbiacées. 1–684; Atlas 1–52, *pl. 1–27.*

Includes various Polynesian species.

1861. Observations sur l'Antholoma, Labill. Adansonia **2:** 21–26.

From New Caledonia.

1861–62a. Remarques générales sur les Phyllanthés de la Nouvelle-Calédonie. Adansonia **2:** 242–248.

A discussion of the genera.

1861–62b. Species Euphorbiacearum. Euphorbiaceae Neo-Caledonicae. Adansonia **2:** 211–242.

Includes descriptions of various new species.

1862. Deuxième mémoire sur les Loranthacées. Adansonia **3:** 50–128.

Includes a few Hawaiian species.

1865–66. Description du genre Longetia. Adansonia **6:** 352–359. *pl. 9.*

Native of New Caledonia.

1866–67a. Sur le Tombea de la Nouvelle-Calédonie. Adansonia **7:** 255–257,

A discussion of *Tombea* in relation to *Sonneratia.*

1866–67b. Sur un genre des Magnoliacées à ovaire syncarpé multiloculaire. Adansonia **7:** 296–299. *pl. 4.*

Zygogynum vieillardii from New Caledonia.

1867–68. Mémoire sur la famille des Anonacées. Adansonia **8:** 162–184, 294–344.

Includes *Oxymitra obtusata* n. sp. from New Caledonia.

1867–95. Histoire des plantes. **1:** i–xi, 1–488. *f. 1–503.* 1867–69; **2:** 1–512. *f. 1–308.* 1870; **3:** 1–545. *f. 1–551.* 1872; **4:** 1–520. *f. 1–527.* 1873; **5:** 1–516. *f. 1–482.* 1874; **6:** 1–523. *f. 1–487.* 1877; **7:** 1–546. *f. 1–432.* 1880; **8:** 1–515. *f. 1–353.* 1882–86; **9:** 1–491. *f. 1–594.* 1888; **10:** 1–476. *f. 1–335.* 1891; **11:** 1–494. *f. 1–574.* 1892; **12:** 1–611. *f. 1–554.* 1894; **13:** 1–523. *f. 1–327.* 1895.

A comprehensive consideration of the families and genera of flowering plants with extensive bibliographic references.

1868. Observations sur les Monimiacées. Adansonia **9:** 111–134. *pl. 3.*

Includes *Hedycarya badaunii* and *H. cupulata* n. spp. from New Caledonia.

1868–79. Stirpes exoticae novae. Adansonia **8:** 198–203, 345–351. 1867–68; **10:** 177–185, 240–247, 334–345. 1871–72; **11:** 175–182, 239–273, 366–373. 1874; **12:** 220–254, 282–296. 1878.

Includes various Polynesian species.

1869. Note sur les Storkiella. Adansonia **9:** 204–206.

A critical note on the Polynesian and New Caledonian species.

1870. Observations sur les Légumineuses-Papilionacées XI. Sur le genre Arthroclianthus. Adansonia **9**: 296–297.

A. sanguineus n. sp. from the Isle of Pines (New Caledonia).

1871a. Description d'un nouveau genre des Tiliacées à fleurs oligostémones. Adansonia **10**: 34–39.

Solmsia calophylla and *S. chrysophylla* n. spp. from New Caledonia.

1871b. Sur le nouveau genre Maxwellia. Adansonia **10**: 98–100.

M. lepidota n. sp. from New Caledonia.

1871c. Sur deux nouveaux genres apétales. Adansonia **10**: 112–119.

Includes *Balanops pancheri* and *B. vieillardi* n. spp. from New Caledonia.

1873. Sur deux genres de Monimiacées. Adansonia **10**: 350–355.

Includes *Nemuaron vieillardi* and *N. humboldtii* n. spp. from New Caledonia

1873–74. Nouvelles observations sur les Euphorbiacées. Adansonia **11**: 72–138. *pl. 9*.

Includes various Polynesian species.

1874. Deuxième étude sur les Mappiées. Adansonia **11**: 187–203.

Includes *Lasianthera austro-caledonica* n. sp. from New Caledonia.

1875. Sur le nouveau genre Sphenostemon. Bull. Soc. Linn. Paris **1**: 53–54.

Two species described from New Caledonia.

1878a. Recherches nouvelles sur les Araliées et sur la famille des Ombellifères en général. Adansonia **12**: 125–178.

Includes many new species from New Caledonia.

1878b. Mémoire sur les genres Canthium et Hypobathrum. Adansonia **12**: 179–213.

Includes various New Caledonian species of *Canthium*.

1878c. Sur l'organisation de l'Olostyla. Bull. Soc. Linn. Paris **1**: 183–184.

Native of New Caledonia.

1879a. Sur un nouveau genre des Saxifragacées. Adansonia **12**: 337–342. *pl. 3–4*.

Dedea, n. gen. with three species, from New Caledonia; see **Baillon, H.**, 1879e.

1879b. Sur les affinités du genre Trisciadia. Bull. Soc. Linn. Paris **1**: 195–196.

Trisciadia and *Olostyla*, the latter from New Caledonia, reduced to *Coelospermum*.

1879c. Sur l'Imantina. Bull. Soc. Linn. Paris **1**: 202.

Native of New Caledonia.

1879d. Sur l'Uragoga lycioides. Bull. Soc. Linn. Paris **1**: 210.

Native of New Caledonia.

1879e. Sur un nouveau type de Saxifragacées à ovules définis. Assoc. Franç. Avanc. Sci. Compt. Rend. **7**: 694–697. *pl. 15*.

Republication of **Baillon, H.**, 1879a.

1879f. Mémoire sur les Uragoga. Adansonia **12**: 323–336.

Includes *Uragoga* (*Amaracarpus*) *hombroniana*, native of Guam.

1880a. Sur l'Hachettea, nouveau genre de Balanophoracées. Bull. Soc. Linn. Paris **1**: 229–230.

Native of New Caledonia.

1880b. Sur quelques nouveaux Geniostoma. Bull. Soc. Linn. Paris **1**: 247–248.

Includes new species from New Caledonia.

1880c. Sur la tribu des Labordiées. Bull. Soc. Linn. Paris **1**: 238–240.

Includes the descriptions of several new species from Hawaii.

1880d. Sur quelques Loganiacées néo-calédoniennes. Bull. Soc. Linn. Paris **1**: 263–264.

Includes several new species of *Geniostoma* from New Caledonia.

1882. Sur l'Apetahi de Raiatea. Bull. Soc. Linn. Paris **1:** 310–311.
A discussion of *A. raiateensis.*

1888a. Observations sur les Gesnériacées. Bull. Soc. Linn. Paris **1:** 731–736.
Includes two new species of *Periomphale* from New Caledonia.

1888b. Types nouveaux d'Apocynacées. Bull. Soc. Linn. Paris **1:** 747–752.
Includes *Podochrosia balansae* n. sp. from New Caledonia.

1888c. Remarques sur le genre Thenardia. Bull. Soc. Linn. Paris **1:** 763–768.
Includes description of some Polynesian species.

1889a. Sur quelques Gynopogon néo-calédoniéns. Bull. Soc. Linn. Paris **1:** 775–776. 781–782.
Includes 11 new species from New Caledonia.

1889b. Sur quelques Melodinus néo-calédoniens. Bull. Soc. Linn. Paris **1:** 785–787.
Four new species described.

1889c. Sur trois Stephanotis néo-calédoniens. Bull. Soc. Linn. Paris **2:** 811–812.
Three new species described.

1890. Sur le Dianthera clavata Forst. Bull. Soc. Linn. Paris **2:** 839–840.
Proposes the new generic name *Diforstera* based on Forster's species; native of Tahiti.

1890–91. Observations sur les Sapotacées de la Nouvelle-Calédonie. Bull. Soc. Linn. Paris **2:** 881–912, 915–920, 922–926, 935–936.
Includes the descriptions of many new species.

1891a. Sur le nouveau genre Oncotheca. Bull. Soc. Linn. Paris **2:** 931–932.
O. balansae n. sp. from New Caledonia.

1891b. Les Phelline de la Nouvelle-Calédonie. Bull. Soc. Linn. Paris **2:** 937–939.
Nine new species described.

1893. L'organisation et les affinités des Campynemées. Bull. Soc. Linn. Paris **2:** 1105–1109.
Includes *Campynemanthe,* a new genus from New Caledonia.

Baines, T.

1873. Ixoras (with a colored figure of I. Duffi). Garden **13:** 312–313. *1 pl.*
I. duffi, native of the South Sea Islands.

Baker, E. G.

1890–93. Synopsis of genera and species of Malveae. Jour. Bot. **28:** 15–18, 140–145, 207–213, 239–243, 339–343, 367–371. 1890; **29:** 49–53, 164–172, 362–366. 1891; **30:** 71–78, 136–142, 235–240, 290–296, 324–332. 1892; **31:** 68–76, 212–217, 267–273, 334–338, 361–368. 1893.
Includes a few species from Polynesia.

See also **Rendle, A. B., Baker, E. G.,** and **Moore, S. le M.**

Baker, I. See **Baker, J. R.,** and **Baker, I.**

Baker, J. G.

1867. Description of six new species of simple-fronded Hymenophyllaceae. Jour. Linn. Soc. Bot. **9:** 335–340. *pl. 8.*
Includes *Trichomanes peltatum* and *T. vitiense* n. spp. from Polynesia.

1868. Les Sélaginelles cultivées. Ill. Hort. **15:** Misc. 20–22.
Records *Selaginella wallichii* from Fiji.

1872. Ferns of Lord Howe's Island. Gard. Chron. **37:** 252–253.
Includes *Hemitelia moorei* and *Deparia nephrodioides* n. spp.

1873a. New ferns from Lord Howe's Island. Jour. Bot. **11:** 16–17.
Two new species in *Todea* and *Asplenium.*

1873b. Synopsis of the East Indian species of Dracaena and Cordyline. Jour. Bot. **11:** 261–266.

Includes *Cordyline eschscholziana* from Polynesia.

1874. Tree-fern from Lord Howe's Island. Jour. Bot. **12:** 279–280.

Cyathea macarthuri n. sp.

1875. Revision of the genera and species of Asparagaceae. Jour. Linn. Soc. Bot. **14:** 508–632. *pl. 17–20.*

Includes a few Polynesian species.

1876a. On a collection of ferns made in Samoa by the Rev. S. J. Whitmee. Jour. Bot. **14:** 9–13.

A list with eight new species.

1876b. On a second collection of ferns made in Samoa by the Rev. S. J. Whitmee. Jour. Bot. **14:** 342–345.

A list with six new species.

1876c. On the Polynesian ferns of the *Challenger* Expedition. Jour. Linn. Soc. Bot. **15:** 104–112.

Includes many new species.

1876d. Revision of the genera and species of Anthericeae and Eriospermeae. Jour. Linn. Soc. Bot. **15:** 253–363.

Includes *Arthropodium neo-caledonicum* n. sp. from New Caledonia.

1877a. Systema Iridacearum. Jour. Linn. Soc. Bot. **16:** 61–180.

Includes a few Polynesian species.

1877b. Arthropodium neo-caledonicum. Bot. Mag. **103:** *pl. 6326.*

Native of New Caledonia.

1878. A synopsis of the Hypoxidaceae. Jour. Linn. Soc. Bot. **17:** 93–126.

Includes a few Polynesian species.

1879. On a collection of ferns gathered in the Fiji Islands by Mr. John Horne, F.L.S. Jour. Bot. **17:** 292–300.

Forty-one species described, 14 new.

1881. A synopsis of the known species of Crinum. Gard. Chron. II. **15:** 763–786; **16:** 39–40, 72. 180, 398–399, 495–496, 588–589, 760.

Sixty-two species recognized.

1883. Recent additions to our knowledge of the flora of Fiji. Jour. Linn. Soc. Bot. **20:** 358–373.

Consists chiefly of amplified descriptions of the new species indicated in **Horne,** 1881.

1883–85. A synopsis of the genus Selaginella. Jour. Bot. **21:** 1–5, 42–46, 80–84, 97–100, 141–145, 210–213, 240–244, 332–336. 1883; **22:** 23–26, 86–90, 110–113, 243–247, 275–278, 295–300, 373–377. 1884; **23:** 19–25, 45–48, 116–122, 154–157, 176–180, 248–252, 292–302. 1885.

Includes the then-known Polynesian species.

1884. A review of the tuber-bearing species of Solanum. Jour. Linn. Soc. Bot. **20:** 489–507. *pl. 41–46.*

Includes *S. fernandezianum* from Juan Fernández.

1886a. Gleichenia moniliformis, Moore. Hook. Ic. **17:** *pl. 1601.*

Native of New Caledonia.

1886b. Gleichenia Milnei, Baker. Hook. Ic. **17:** *pl. 1602.*

Native of the New Hebrides.

1886c. Dicksonia Chamissoi, Hook. et Baker. Hook. Ic. **17:** *pl. 1603.*

Native of Hawaii.

1886d. Deparia nephrodioides, Baker. Hook. Ic. **17:** *pl. 1608.*
Native of Lord Howe Island.

1886e. Hymenophyllum Baldwinii, Eaton. Hook. Ic. **17:** *pl. 1611.*
Native of Hawii.

1886f. Trichomanes Powellii, Baker. Hook. Ic. **17:** *pl. 1615.*
Native of Samoa.

1886g. Davallia botrychioides, Hook. & Baker. Hook. Ic. **17:** *pl. 1621.*
From Polynesia.

1886h. Adiantum monosorum, Baker. Hook. Ic. **17:** *pl. 1633.*
Native of New Caledonia.

1886i. Cheilanthes Lidgatii, Baker. Hook. Ic. **17:** *pl. 1635.*
Native of Hawaii.

1886j. Asplenium pteridoides, Baker. Hook. Ic. **17:** *pl. 1649.*
Native of Lord Howe Island.

1886k. Nephrodium Prenticei, Baker. Hook. Ic. **17:** *pl. 1661.*
Native of Fiji.

1886l. Nephrodium tripartitum, Baker. Hook. Ic. **17:** *pl. 1666.*
Native of Fiji.

1886m. New ferns collected by J. B. Thurston, Esq., in Fiji. Jour. Bot. **24:** 182–183.
Includes the descriptions of five new species.

1886n. A synopsis of the Rhizocarpeae. Jour. Bot. **24:** 274–283.
Includes the descriptions of several Polynesian species.

1886o. Davallia hymenophylloides, Baker. Hook. Ic. **17:** *pl. 1623.*
Native of New Caledonia and Fiji.

1886p. Davallia pallida Mett. Hook. Ic. **17:** *pl. 1624.*
Native of Samoa.

1887a. Handbook of the fern-allies. A synopsis of the genera and species of the natural orders Equisetaceae, Lycopodiaceae, Selaginellaceae, Rhizocarpeae. [1–3]. 1–159.
Monographic.

1887b. Acrostichum Thomsoni, Baker. Hook. Ic. **17:** *pl. 1694.*
Native of the Admiralty Islands.

1887c. Todea Moorei, Baker. Hook. Ic. **17:** *pl. 1697.*
Native of Lord Howe Island.

1888. Handbook of the Amaryllideae, including the Alstroemerieae and Agaveae. i-xii. 1–216.
Monographic.

1889. Handbook of the Bromeliaceae. i-xi, 1–243.
Includes *Ochagavia elegans,* from Juan Fernández.

1891. A summary of the new ferns which have been discovered or described since 1874. Ann. Bot. **5:** 181–222. *pl. 14,* 301–332, 455–500.
An enumeration with many species listed from Polynesia.

1892. Handbook of the Irideae. i-xii, 1–247.
Includes some Polynesian species.

1893. A synopsis of the genera and species of Museae. Ann. Bot. **7:** 189–222.
Includes the Polynesian species.

1894. Species and principal varieties of Musa. Kew Bull. **1894:** 229–314. *9 f.* Republished Kew Bull. Add. Ser. **6:** 1–88. *9 f.* 1896.

Includes the Polynesian species.

See also **Hooker, W. J.,** and **Baker, J. G.,** 1865-74.

Baker, J. R. See **Guillaumin, A.,** 1938.

Baker, J. R., and **Baker, I.**

1936. The seasons in a tropical rain-forest (New Hebrides). Part 2. Botany. Jour. Linn. Soc. Zool. **39:** 507–519. *pl. 9.*

A general discussion with special reference to the times of flowering and fruiting of certain species. For a brief abstract see Proc. Linn. Soc. **148:** 12-14. 1935.

Bakhuizen van den Brink, R. C.

1921. Revisio generis Avicenniae (cum annotationibus diversis). Bull. Jard. Bot. Buitenzorg III. **3:** 199–226. *pl. 14–22.*

Includes the Polynesian forms.

1936–38. Revisio Ebenacearum Malayensium. Bull. Jard. Bot. Buitenzorg III. **15:** 1–368.

Includes some Polynesian species. Pp. 1-48. 1936; 49-176. 1937; 177-368. 1938.

See also **Lam, H. J.,** and **Bakhuizen van den Brink, R. P.,** 1921.

Balansa, B.

1872a. Ascension du Mont Humboldt (Cando des Néo-Calédoniens). Bull. Soc. Bot. France **19:** 303–311.

A general narrative.

1872b. Catalogue des Graminées de la Nouvelle-Calédonie. Bull. Soc. Bot. France **19:** 315–329.

A list with descriptions of new species.

1873. Sur la géographie botanique de l'Océanie et de la Nouvelle-Calédonie. Bull. Soc. Hist. Nat. Toulouse **7:** 327–332.

Phytogeographic.

Baldwin, D. D.

1876. List of Hawaiian mosses and Hepaticae. Hawaiian Annual (1877) **3:** 40–42.

See also **Auld, W.,** and **Baldwin, D. D.**

Baldwin, P. H.

1940. Environmental relationships of birds in the Kilauea Section, Hawaii National Park. Hawaii Nat. Park Nat. Hist. Bull. **6:** 1–26.

Mimeographed data. A study of the birds in relation to the floral zones and human influence on the region. Not seen.

Balfour, I.

1878a. Observations on the genus Pandanus (screw-pines); with an enumeration of all species described or named in books, herbaria and nurserymen's catalogues; together with their synonyms and native countries as far as these have been ascertained. Jour. Linn. Soc. Bot. **17:** 33–68.

Includes the known Polynesian species.

1878b. On the genus Halophila. Trans. Bot. Soc. [Edinb.]. **13:** 290–343. *pl. 8–12.*

Largely morphological; includes the Polynesian species.

1883. Description of a new species of Pandanus, as a note to Mr. J. G. Baker's paper on the flora of Fiji. Jour. Linn. Soc. Bot. **20:** 416.

Pandanus joskei, from Fiji.

Ballard, F.

1937. Notes on ferns and fern allies. I. Kew Bull. **1937:** 346–250.

Includes at least one new name for a Polynesian species, *Dryopteris parksii* (*D. microsora* Copel., non O. Kuntze).

Barillet, F.

1873. Sur la Nouvelle-Calédonie. Rev. Hort. **1873:** 307–308.

General notes on various species.

Barkley, F. A.

1942. A key to the genera of the Anacardiaceae. Am. Midl. Nat. **28:** 465–474.

Includes some Polynesian data.

1944. Schinus L. Brittonia **5:** 160–198. *f. 1–22.*

Monographic; *S. molle* Linn. and *S. terebinthifolius* Raddi recorded from the Pacific Islands (introduced).

Barnéoud, F. M.

1845. Monographie générale de la famille des Plantaginées. 1–52.

Includes the Polynesian species.

Barnes, A. C.

1930. Noxious weeds and their control in Fiji. Agr. Jour. [Fiji] **3:** 112–121.

Includes a list of weeds.

Barnum, C. C. See **Lee, H. A., Martin, J. P., Purdy, H. A., Barnum, C. C.,** and others.

Barrow, J.

1833. Recent accounts of the Pitcairn Islanders. Jour. Roy. Geogr. Soc. **3:** 156–168.

Includes a short list of plants from Pitcairn Island collected by Andrew Matthews.

Barsali, E.

1909. Studio sul gen. Araucaria Juss. Atti Soc. Tosc. Sci. Nat. Mem. **25:** 145–184. *pl. 4.* Reprint. 1–43. *pl. 4.*

Includes the New Caledonian species.

Bartlett, H. H.

1940. The reports of the Wilkes expedition, and the work of the specialists in science. Proc. Am. Philos. Soc. **82:** 601–705.

Contains many bibliographic data appertaining to the reports and papers on botany, pp. 664-682.

Barton, E. S.

1900. On the forms, with a new species of Halimeda from Funafuti. Jour. Linn. Soc. Bot. **34:** 479–482. *pl. 18.*

H. laxa n. sp.

1901. The genus Halimeda. Siboga Exped. **60:** 1–32. *pl. 1–4.*

Includes some Polynesian species.

Bartram, E. B.

1931. Mosses of Raiatea. Occ. Pap. Bishop Mus. **9**(16): 1–14. *f. 1–4.*

A list of 51 species with notes, three new.

1933a. Manual of Hawaiian mosses. Bishop Mus. Bull. **101:** 1–275. *f. 1–195.*

A descriptive manual with keys to all genera and species known from Hawaii; 107 genera admitted.

1933b. Polynesian mosses. Occ. Pap. Bishop Mus. **10(10):** 1–28. *f. 1–12.*

A list of species from various parts of Polynesia, 11 new.

1936. Contribution to the mosses of Fiji. Bishop Mus. Occ. Pap. **11**(20): 1–30. *f. 1–12.*

An enumeration with the descriptions of 12 new species.

1939. Supplement to the manual of Hawaiian mosses. Occ. Pap. Bishop Mus. **15:** 93–108. *f. 1–9.*

Includes various new names with new species in several genera; supplementary to **Bartram, E. B.,** 1933a.

1940. Mosses of southeastern Polynesia. Occ. Pap. Bishop Mus. **15:** 323–349. *f. 1–12.*

An enumeration with description of various new species.

1942. Mosses collected by Hawaiian bog survey of 1938. Occ. Pap. Bishop Mus. **16:** 321–336. *f. 1–3.*

A systematic enumeration, including description of *Campylopus* (*Eucampylopus*) *tubulosus* n. sp.

1944. Additions to the mosses of Fiji. Bryol. **47:** 57–61. *f. 1–7.*

Fifteen new records, *Calymperes petiolatum* described as new.

1945. Pacific outpost mosses. Bryol. **48:** 45–53.

Notes on species from various islands in Polynesia and Micronesia, including new species from Rotuma Island and the Carolines.

Bauer, F. See **Hooker, W. J.,** 1838–42.

Bausch, J.

1938. A revision of the Eucryphiaceae. Kew Bull. **1938:** 317–349.

Paracryphia suaveolens of New Caledonia is excluded from the family, the suggestion being made that it represents a group near the Winteraceae and the Trochodendraceae.

Bay, J. C.

1909. Bibliographies of botany. A contribution toward a bibliotheca bibliographica, compiled and annotated by J. Christian Bay. Progr. Rei Bot. **3:** 331–456.

Includes some references to Polynesia.

Bazilevskaja, N. A.

1930. A critical survey of the systematic division of the tribe Sophoreae, fam. Leguminosae, in connection with its origin. Bull. Jard. Bot. Prin. U.R.S.S. **29:** 339–352. *map.*

The group has a few representatives in Polynesia.

Bazore, K. See **Miller, C. D., Bazore, K.,** and **Robbins, R. C.**

Beaglehole, E., and **Beaglehole, P.**

1938. Ethnology of Pukapuka. Bishop Mus. Bull. **150:** i.v, 1–419. *pl. 1–6. f. 1–53.*

Pages 26-27, botany, contains a list of local plant names, about 40 with binimial equivalents.

Beaglehole, P. See preceding entry.

Beaumont, J. H.

1939. Fruit and nut growing in Hawaii. Parad. Pacif. **51(12): 100–103.** *4 f.*

Economic notes on introduced species of *Macadamia, Carica, Mangifera,* and *Litchi.*

Beauvisage, G.

1894. Revision de quelques genres de plantes Néo-Calédoniennes du R. P. Montrouzier. Ann. Soc. Bot. Lyon **19:** 15–28. *pl. 1.* Reprint 1–14.

Includes descriptions of new genera and species; see **Montrouzier,** 1860.

1897. Deuxième note sur l'herbier du R. P. Montrouzier. Le genre Entrecasteauxia Montr. Ann. Soc. Bot. Lyon **22:** 71–76.

A critical note on this New Caledonian genus.

1901. Genera Montrouzieriana, plantarum Novae Caledoniae. Ann. Soc. Bot. Lyon **26:** 1–96.

Critical notes with descriptions and reductions; see **Montrouzier,** 1860.

See also **Guillaumin, A.,** and **Beauvisage, G.**

Beccari, O.

1884–86. Piante Ospitatrici, ossia piante formicarie delle Malesia e della Papuasia descritte ed illustrate da O. Beccari. Malesia **2:** 1–128. *pl. 1–25.* 1884; 129–212. *pl. 26–54.* 1885; 213–284. *pl. 55–56.* 1886.
Includes a few Polynesian species.

1889. Le palme del genere Pritchardia. Malesia **3:** 281–317. *pl. 37–38.*
Includes the then-known species.

1907. Le palme Americane della tribù delle Corypheae. Webbia **2:** 1–343.
Includes a key for the species of the genus *Pritchardia,* pp. 202-203, with nine Polynesian species.

1908. Asiatic palms—Lepidocaryeae. Part I. The species of Calamus. Ann. Bot. Gard. Calcutta **11**(1) : i–iv, 1–510, i–x. *pl. 1–238.*
Includes *Calamus vitiensis* Warb. n. sp. from Fiji.

1910. Palme Australasiche nuove o poco note. Webbia **3:** 131–165. *f. 1–6.*
An enumeration with descriptions of new species in *Pritchardiopsis, Pritchardia, Cyphosperma, Clinostigma,* and *Gulubia,* all from Polynesia.

1913. Contributi alla conoscenza delle Palme. Webbia **4:** 143–240. *f. 1–17.*
Revisions of *Kentia, Howea,* and *Pritchardia.*

1914. Manipolo di palme nuove polinesiane conservate nell' erbario di Kew. Webbia **4:** 253–291. *f. 18–31.*
Includes the descriptions of six new species from Samoa and Fiji.

1917a. On a new south Polynesian palm, with notes on the genus Rhopalostylis Wendl et Drude. Trans. Proc. New Zealand Inst. **49:** 47–50.
Includes *R. cheesemannii* n. sp. from the Kermadec Islands.

1917b. The origin and dispersal of Cocos nucifera. Philip. Jour. Sci. **12: Bot. 27–43.**
A general consideration.

1918. Asiatic palms—Lepidocaryeae. Part III. The species of the genera Ceratolobus, Calospatha, Plectomia, Plectomiopsis, Myrialepis, Zalacca, Pigafetta, Korthalsia, Metroxylon, Eugeissona, with 120 plates and 6 plates of analytical figures. Ann. Bot. Gard. Calcutta **12**(2) **:** 1–231, 1–2. *pl. 1–6, 1–120.*
Includes the known Polynesian species.

1920. Palmae: in Sarasin, F., & Roux, J., Nova Caledonia Bot. 1: 123–124.
An enumeration.

Beccari, O., and **Rock, J. F.**

1921. A monographic study of the genus Pritchardia. Mem. Bishop Mus. **8**(1)**:** 1–77. *pl. 1–24. f. 1.*
Many new species described; see St. John, H., 1932.

Beccari, O.

1921a. Recensione delle Palme del Vecchio Mondo appartenenti alla Tribù delle Corypheae con descrizione delle specie e varietà nuove che vi appartengono. Webbia **5:** 1–70.
Includes some Polynesian species.

1921b. Le palme della Nuova Caledonia. Webbia **5:** 71–146. *pl. 1–13.*
An enumeration with keys and the descriptions of new species.

1924. Neue Palmen Mikronesiens. Bot. Jahrb. **59:** 11–16.
Five species described, four new.

1931. Asiatic palms—Corypheae. The species of the genera Corypha, Nannorrhops, Sabal, Copernicia, Serenoa, Brahea, Acoelorhaphe, Washingtonia, Pritchardia, Erythea, Livistona, Licuala, Pritchardiopsis,

Pholidocarpus, Teysmannia, Rhapis, Chamaerops, Trachycarpus, Rhaphidophyllum, Trithrinax, Acanthorhiza, Hemithrinax, Thrinax, Coccothrinax, Crysophila. Ann. Bot. Gard. Calcutta **13**: [1–6], 1–354. *pl. 1–99.*

Includes the known Polynesian species.

Becherer, A.

1929. Notes sur quelques Equisetum des herbiers Delessert, de Candolle et Burnat. Candollea **4**: 53–58.

Records *E. debile* from New Caledonia.

1936. Conservation d'homonymes génériques dans les fougères. Candollea **7**: 137–139.

Concerns *Angiopteris, Gleichenia,* and *Hymenolepis,* all represented in Polynesia.

1937. Fougères de la Nouvelle-Calédonie et des îles Loyalty. Candollea **7**: 217–220.

A list of 14 species collected by C. Bergeret, with synonymy.

Beck, G. von

1888a. Itinera principum S. Coburgi. Die botanische Ausbeute von den Reisen Ihrer Hoheiten der Prinzen von Sachsen-Coburg-Gotha . . . mit Benützung des handschriftlichen Nachlasses Heinrich Ritter Wawra von Fernsee. **2**: i–vi. 1–205. *pl. 1–18.*

Includes *Antidesma wawraeanum* n. sp., type from Hawaii, and a list of five Hawaiian species.

1888b. Flora des Stewart-Atolls im Stillen Ocean. Ann. Naturhist. Hofmus. Wien **3**: 251–256.

A systematic enumeration of 17 species, including *Fimbristylis faulensis, Fleurya glaberrima,* and *Schmidelia lasiostemon* n. spp.

Becker, W.

1916. Violae Asiaticae et Australenses. I. Beih. Bot. Centralbl. **34**(*2*): 208–266. *1 f.*

Includes a critical consideration of eight Hawaiian species, with key, pp. 209-216.

Beechey, F. W.

1831. Narrative of a voyage to the Pacific and Behring's Strait, to co-operate with the polar expeditions; performed in His Majesty's ship *Blossom,* under the command of Captain F. W. Beechey . . . in the years 1825, 26, 27, 28. **1**: i–xxii, 1–472. *13 pl. 1 map;* **2**: i–iv, 1–452. *10 pl.*

Concerns, in part, exploration in Polynesia.

Beetle, A. A.

1941–42. Studies in the genus Scirpus L. (III). The American species of the section Lacustres Clarke. Am. Jour. Bot. **28**: 691–700, 1941 (IV). The section Bolboschoenus Palla. **29**: 82–88 (V). Notes on the section Actaeogeton Reichb. **29**: 653–656, 1942.

Includes minor references to Hawaiian species.

1944. Specific and varietal transfers in Cyperaceae, tribe Scirpeae. Leafl. Western Bot. **4**: 44–47.

Includes a few entries appertaining to the Polynesian region.

1945. The genus Isolepis R. Br. Am. Midl. Nat. **34**: 723–734.

A list of published names with reductions, including the half dozen species credited to the Pacific region. No indication of geographical distribution.

Benedict, C. See **Gilg, E.,** and **Benedict, C.**

Benedict, R. C.

1909. The genus Ceratopteris: A preliminary revision. Bull. Torr. Bot. Club **36:** 463–476. *f. 1–3.*

Includes *C. gaudichaudi* from the Marianas Islands.

1911. The genera of the fern tribe Vittarieae, their external morphology, venation and relationships. Bull. Torr. Bot. Club **38:** 153–190. *pl. 2–8.*

Includes a few Polynesian species.

Benl, G.

1940a. Die Systematik der Gattung Gahnia Forst. Bot. Arch. Mez **40:** 151–257. *30 f. 1 map.*

Includes some Polynesian species.

1940b. Nomina nova vel emendata generis Gahniae Forst. Repert. Sp. Nov. **49:** 30–34.

Lists various Polynesian species.

Bennet, H.

1888. Araucaria excelsa. Gard. Chron. III. **3:** 648–649. *f. 85.*

Native of Norfolk Island.

Bennett, F. D.

1840. Narrative of a whaling voyage round the globe, from the year 1833 to 1836, comprising sketches of Polynesia, California, the Indian Archipelago, with an account of southern whales, the sperm whale fishery, and natural history of the climates visited. **1:** i–xv, 1–402. *2 f.;* **2:** i–vii, 1–395, *16 f.*

Vol. 1 includes scattered botanical notes; vol. 2 a descriptive catalog of the plants collected during Tuscan's voyage (pp. 327-395).

Bennett, G.

1832a. Notices on the native plants of the Island of Rotuma, Southern Pacific Ocean. Mag. Nat. Hist. **5:** 92–97.

Includes brief descriptions of various species with notes on their cultivation and use.

1832b. An account of the Sandal wood tree (Santalum) with observations on some of the botanical productions of the Sandwich Islands. Mag. Nat. Hist. **5:** 255–261.

Notes on *Myoporum tenuifolium* and other species, with data on their use.

1832c. Account of the Kava shrub (Piper methysticum), Gambir (Nauclea Gambir) and the Ignatia amara, or St. Ignatius' Bean. Lond. Med. Phys. Jour. **67:** 110–118.

Piper methysticum from Polynesia.

1832d. Botany of the South Sea Islands. Mag. Nat. Hist. **5:** 483–486.

Considers some edible plants and timber trees of Tahiti.

1867. Notes on two species of the genus Alstonia from New Caledonia and New South Wales. Jour. Bot. **5:** 150–151.

Includes *A. edulis* from New Caledonia.

1872. Iris Robinsoniana. Gard. Chron. **1872:** 393. *f. 123–124.*

Native of Lord Howe Island.

Bentham, G.

1831. Labiatae: in Chamisso & Schlechtendal, De plantis in expeditione speculatoria Romanzoffiana observatis . . . Linnaea **6:** 76–82.

Includes some species from Hawaii and Guam.

1832–36. Labiatarum genera et species; or, a description of the genera and species of plants of the order Labiatae; with their general history, characters, affinities, and geographical distribution. i-lxviii, 1–783.

Monographic.

1843. Enumeration of the plants collected by R. B. Hinds, Esq., and by Mr. Barclay in the Feejee Islands, Tanna, New Ireland and New Guinea; to which are added a few species gathered in Amboyna by Mr. Barclay. Lond. Jour. Bot. **2:** 211–240.

A list with the descriptions of new species.

1844–46. The botany of the voyage of H. M. S. *Sulphur* under the command of Captain Sir Edward Belcher, R. N., C. B., F. R. G. S., etc., during the years 1836–42. 1–195. *pl. 1–160.*

Includes *Leucosmia burnettiana* n. sp. from Fiji and a paragraph on the "Islands of the Pacific" (p. 178). There is no enumeration of the species collected in Polynesia. The Fiji plants appear under **Bentham, G.,** 1843.

1856. Notes on Loganiaceae. Jour. Linn. Soc. Bot. **1:** 52–114.

Includes *Geniostoma crassifolium* n. sp. from New Caledonia.

1859. Synopsis of Legnotideae, a tribe of Rhizophoraceae. Jour. Linn. Soc. Bot. **3:** 65–80.

Includes a few species of *Crossostylis* from Polynesia.

Bentham, G., and Hooker, J. D.

1862–83. Genera plantarum ad exemplaria imprimis in herbariis Kewensibus servata definita. **1:** i-xv, 1–1040. 1862–67; **2**(1)**:** i-viii, 1–554. 1873; **2**(2)**:** i-vii, 1–459. 1880; **3:** i-xi, 1–1258. 1880–83.

A critical consideration of the families and genera of flowering plants of the world.

Bentham, G.

1865. Descriptions of some new genera and species of tropical Leguminosae. Trans. Linn. Soc. **25:** 297–320. *pl. 33–43.*

Includes *Desmodium pycnostachyum* n. sp. from New Caledonia.

1871. Revision of the genus Cassia. Trans. Linn. Soc. **27:** 503–591. *pl. 60–63.*

Includes *C. deplanchei* n. sp. from New Caledonia.

1875. Revision of the suborder Mimoseae. Trans. Linn. Soc. **30:** 335–668. *pl. 66–70.*

Includes some Polynesian species.

1877. Stenogyne rotundifolia, A. Gray. Hook. Ic. **13:** 37–38. *pl. 1248.*

Native of Hawaii.

Berg, L. S.

1930. Origin of the northern elements in the fauna and flora of the tropical and southern Pacific. Proc. Fourth Pacific Sci. Congr. Java **3:** 467–470.

General.

Berg, O.

1854. Revisio Myrtacearum Americae huc usque cognitarum s. Klotzschii "Flora Americae aequinoctialis" exhibens Myrtaceas. Linnaea **27:** 1–472.

Includes a few Juan Fernández species.

Berkeley, M. J.

1839–41. Descriptions of exotic fungi in the collection of Sir W. J. Hooker, from memoirs and notes of J. F. Klotzsch, with additions and corrections. Ann. Mag. Nat. Hist. **3:** 375–401. *pl. 8.* 1839; **7:** 451–454. 1841.

Includes some Juan Fernández species.

1842a. Notice of some fungi collected by C. Darwin, Esq., in South America and the islands of the Pacific. Ann. Mag. Nat. Hist. **9:** 443–448. *pl. 9–11.*

Includes *Hexagona fasciata* n. sp. from Tahiti.

1842b. Description of fungi collected by R. B. Hinds, Esq., principally in the islands of the Pacific. Lond. Jour. Bot. **1:** 447–457. *pl. 14–15.*

Includes *Sphaeria feejeensis, Agaricus pacificus,* and *A. musicola* n. spp. from Fiji and Tahiti.

Berkeley, M. J., and Curtis, M. A.

1851. Descriptions of new species of fungi collected by the U. S. Exploring Expedition under C. Wilkes, U. S. N., Commander. Am. Jour. Sci. **61:** 93–95.

Includes eight new species from Hawaii, Samoa, and Fiji.

Berkeley, M. J.

1877. Enumeration of the fungi collected during the expedition of H. M. S. "Challenger" 1874–75 (3d notice). Jour. Linn. Soc. Bot. **16:** 38–54. *pl. 2.*

Includes some Polynesian species.

See also **Curtis, M. A., and Berkeley, M. J.**

Berland, L., and others.

1934. Contribution à l'étude du peuplement zoologique et botanique des îles du Pacifique. [Mém.] Soc. Biogéogr. **4:** 1–288.

The individual botanical papers are here separately indexed.

Bernard, A.

1895. L'archipel de la Nouvelle Calédonie. 1–24, 1–458. [*1*] *illus. 2 maps.*

Not seen.

Bernhardi, J. J.

1801. Tentamen alterum filices in genera redigendi. Jour. Bot. Schrad. **2:** 121–136. *pl. 1–2.*

1802. Ueber Asplenium und einige ihm verwandte Gattungen der Farrenkräuter. Abh. Akad. Nützl. Wissensch. Erfurt **2:** 121–134. *1 pl.* reprint 1–18.

Includes some Polynesian species. The reprint (original not seen) bears the statement "Vorgelesen in der Kürfurstl. Akademie nützlicher Wissenschaften zu Erfurt den 2 May 1801." Combined with a Willdenow paper under the title: "Willdenow, C. L. & Bernhardi, J. J. "Zwei botanische Abhandlungen über einige seltene Farrenkräuter und über Asplenium und einige ihm verwandte Gattungen." Each is separately paged and under its own title. Cited by C. Christensen as from "Schrift. Akad. Erfurt."

Bertero, C. J.

1830. Notice sur l'histoire naturelle de l'Île Juan Fernandez. Ann. Sci. Nat. **21:** 344–351.

General observations on the vegetation and on individual species. Extracts from a letter to M. Guillemin.

Bescherelle, É.

1873. Florule bryologique de la Nouvelle Calédonie. Ann. Sci. Nat. V Bot. **18:** 184–245.

An enumeration with the descriptions of many new species.

1878a. Note sur trois nouvelles espèces de mousses de la Nouvelle-Calédonie appartenant au genre Pterobryella C. Müll. Bull. Soc. Bot. France **25:** 64–68.

Three new species of *Pterobryella* from new Caledonia.

1878b. Note sur deux espèces de mousses du groups des Pterobryella de la Nouvelle-Calédonie. Rev. Bryol. **5:** 30–32.

Five species listed, two indicated by K. Müller as new.

Bescherelle, É., and **Spruce, R.**

1889. Hépatiques nouvelles des colonies françaises. Bull. Soc. Bot. France **36:** Congr. Bot. clxxvii-clxxix. *pl. 13–17.*

Includes new species from New Caledonia and the Marquesas Islands.

Bescherelle, É.

1895a. Florule bryologique de Tahiti et des Îles de Nukahiva et Mangareva. Ann. Sci. Nat. VII Bot. **20:** 1–62.

A critical enumeration of 91 species, many described as new.

1895b. Essai sur le genre Calymperes. Ann. Sci. Nat. VIII Bot. **1:** 247–308. *f. 1–5.*

Includes the Polynesian species.

1898a. Florule bryologique de Tahiti (Supplément). Bull. Soc. Bot. France **45:** 52–67, 116–128.

An enumeration with numerous new species of mosses.

1898b. Note sur le Rhacopilum pacificum Besch. Jour. Bot. Morot **12:** 42–46. *f. 12.*

Native of Tahiti, with varieties in Samoa and New Caledonia.

1898c. Énumération des Hépatiques connues dans les îles de la Société (principalement à Tahiti et dans les îles Marquises). Jour. Bot. Morot **12:** 136–150.

A list of 110 species, including *Frullania jacquinoti* Gottsch. n. sp.

1898d. Nadeaudia Besch., genus novum. Rev. Bryol. **25:** 11.

N. schistostegiella n. sp. from Tahiti.

1898e. Sur le genre Nadeaudia Besch. Rev. Bryol. **25:** 42–43.

Reduced to *Calomnion.*

1901. Deuxième supplément à la flore bryologique de Tahiti. Bull. Soc. Bot. France **48:** 11–17.

A list including six new species.

Bessey, E. A.

1943. Notes on Hawaiian fungi. Pap. Mich. Acad. Sci. **28:** 3–8.

Brief observations.

Betche, E.

1881. Vegetations-Character der Samoa Inseln, nach eigenen Beobachtungen zusammengestellt. Monatschr. Ver. Gartenb. Preuss. Staat. **24:** 28–31, 74–77.

General notes on the vegetation.

1884. Vegetationsskizze der Marshalls-Inseln. Gart. Zeit. Wittmack **3:** 133–134.

A general note.

See also **Moore, C.,** and **Betche, E.**

Biehler, J. F. T.

1807. Plantarum novarum ex herbario Sprengelii centuriam, speciminis loco inauguralis, ut doctoris medici gradum adipiscatur ad diem 30. Maii 1807 exhibit. 1–46.

Includes the descriptions of 100 species including four from Tanna, New Hebrides. Republished as a separately paged part appended to Sprengel, K., "Mantissa Florae Halensis" under the title "Novarum Plantarum ex Herbario meo Centuria," 1–58, 1807, without Biehler's name. See **Sprengel, K.,** 1807.

Bishop, M. B.

1940. Hawaiin life of the pre-European period with a catalogue of the Marcia Brown Bishop collection. i-v, 1–105. *pl. 1–16. 46 f.*

Contains a few data on plants and their uses.

Bitter, G.

1900. Die phanerogamische Pflanzenwelt der Insel Laysan. Ergebnisse einer Reise nach dem Pacific (Prof. Dr. Schauinsland, 1896–97). Abh. Naturw. Ver. Bremen **16:** 430–439. *pl. 4.*

A list of 26 species with notes including *Solanum laysananse* and *Phyllostegia variabilis* n. spp.

1911. Die Gattung Acaena. Vorstudien zu einer Monographie. Bibl. Bot. **17(74):** i–ii, 1–336. *pl. 1–37. f. 1–98.*

Monographic.

1912. Weitere Untersuchungen über die Gattung Acaena. Repert. Sp. Nov. **10:** 489–501.

Discusses the Juan Fernández form under *A. argentea* Ruiz. & Pavon.

1912–13. Solana nova minus cognita II. Repert. Sp. Nov. **11:** 1–18, (V) 349–394. 1912; (VII) 481–491. 1913.

Includes *Solanum robinsonianum* n. sp. and *S. fernandezianum* from Juan Fernández, and a new variety of *S. vaccinioides* from New Caledonia.

1921a. Solanaceae: in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1:** 221–228.

An enumeration with a key and the descriptions of new species.

1921b. Eine neue Solanum-Art von den Marianen. Bot. Jahrb. **56:** 559–560.

S. saipanense n. sp.

1921c. Solana africana. III. Bot. Jahrb. **57:** 248–286.

A new section *Irenosolanum* is proposed for three Polynesian species, *S. woahense, S. sandwicense,* and *S. amicorum.*

1922. Solana nova minus cognita. XXI. Repert. Sp. Nov. **18:** 301–321 (Synonymiea nonnulla 308–309).

Solanum saipanense Bitter is reduced to *S. guamense* Merr.

Blackie, W. J.

1932a. Derris uliginosa. Agr. Jour. [Fiji] **5:** 34–35.

Brief economic notes.

1932b. Didi resin (*Canarium vitiense*). Agr. Jour. [Fiji] **5**(1): 32–33.

Chiefly a study of chemical composition.

1936. Candlenut oil. Agr. Jour. [Fiji] **8**(2): 36–39.

Economical notes on this product of *Alcurites moluccana.*

Blackman, L. G.

1903. The fibres of the Hawaiian Islands. Occ. Pap. Bishop Mus. **2:** 37–64.

General.

Blake, S. F.

1921. Revision of the genus Acanthospermum. Contr. U. S. Nat. Herb. **20:** 383–392. *pl. 23.*

Includes *A. australe* and *A. hispidum* from Hawaii.

Blake, S. F., and **Atwood, A. C.**

1942. Geographical guide to floras of the world; an annotated list with special reference to useful plants and common plant names. Part 1. Africa, Australia, North America, South America, and Islands of the Atlantic, Pacific, and Indian Oceans. U. S. Dept. Agr. Misc. Publ. **401:** 1–336.

Includes many bibliographical data on published papers appertaining to Polynesia.

Blake, S. T.

1939. A monograph of the genus Eleocharis in Australia and New Zealand. Proc. Roy. Soc. Queensl. **50:** 88–132. *pl. 7–10.* Reprinted without change of pagination in Univ. Queensl. Pap. Dept. Biol. **1**(9).

Includes *E. gracilis* extending to Norfolk Island.

1941. Studies on Queensland grasses II. Univ. Queensl. Pap. Dept. Biol. **1**(18): [1], 1–22.

Includes *Tragus australianus* n. sp. extending to New Caledonia.

1944. Monographic studies in the Australian Andropogoneae, part I, including revisions of the genera Bothriochloa, Capillipedium, Chrysopogon, Vetiveria and Spathia. Univ. Queensl. Pap. Dept. Biol. **2**(3): 1–62. *f. 1–2.*

Records *Capillipedium spicigerum* from New Caledonia.

Bloembergen, S.

1939. A revision of the genus Alangium. Bull. Jard. Bot. Buitenz. III. **16:** 139–235. *f. 1–10.*

Monographic.

Bloxam, A.

1925. Diary of Andrew Bloxam, naturalist of the *Blonde* on her trip from England to the Hawaiian Islands 1824–25. Bishop Mus. Spec. Publ. **10:** 1–96. *9 pl. 7 f.*

Includes some general data on the vegetation.

Blume, C. L.

1849–56. Museum botanicum Lugduno-Batavum, sive Stirpium exoticarum novarum vel minus cognitarum ex vivis aut siccis brevis expositio et descriptio. **1:** 1–396. *pl. 1–22.* 1849–51; **2:** 1–256. *pl. 1–32.* 1852–56.

Includes some Polynesian species; vol. 2 is a general treatment of the Urticaceae.

1851. Notice sur quelques Barringtoniées de l'Archipel des Indes. Fl. Serr. Jard. Eur. **7:** 21–25.

Includes *Barringtonia speciosa* and *B. racemosa* from Polynesia.

Bock, C.

1936. Descripción de la inflorescencia del Centaurodendron dracaenoides. Revis. Universit. Univ. Catol. Chile **21:** 57–64. *f. 1–4.*

Native of Masatierra, Juan Fernández.

Bocquillon, M. H.

1861. Observations sur les genres Oxera et Amethystea. Adansonia **2:** 294–305.

Includes some New Caledonian species.

1861–63. Revue du groupe de Verbénacées. Adansonia **2:** 81–165. *pl. 3, 5–6.* 1861; **3:** 177–264. *pl. 8–9.* 1863. Reprinted under title: "Revue du groupe de Verbénacées; recherches des types, organogénie, organographie, affinités, classification, description des genres." [4]. 1–187. *pl. 1–20.* 1863.

Includes references to the species of New Caledonian genus *Oxera.*

Böckeler, O.

1868–77. Die Cyperaceen des Königlichen Herbariums zu Berlin. **Linnaea 35:** 397–612. 1868; **36:** 271–512, 691–768. 1870; **37:** 1–142, 520–647. 1871–73; **38:** 223–409, 410–544. 1874; **39:** 1–152. 1875; **40:** 327–452. 1876; **41:** 145–356. 1877.

Includes various Polynesian species.

1875, Ein Beitrag zur Kenntniss der Cyperaceen-Flora Neuholland's und einiger polynesischer Inseln. Flora **58:** 81–89, 107–112, 116–123.

An enumeration of 84 species, with 10 new species from Samoa and Tongatabu.

1875–80. Diagnosen neuer Cyperaceen. Flora **58:** 257–266. 1875; **63:** 435–440. 1880.

Includes *Cyperus remyi, C. sandwicensis,* and *C. hillebrandii* n. spp. from Hawaii.

1878. Diagnosen theils neuer, theils ungenügend beschriebener bekannter Cyperaceen. Flora **61**: 33–41, 138–144.

Includes new species from Hawaii and New Caledonia.

Boeke, J. E.

1942. On quantitative statistical methods in taxonomy; subdivision of a polymorphous species: Planchonella sandwicensis (Gray) Pierre. Blumea **5**: 47–65. *f. 1.*

Based on herbarium material of this Hawaiian species.

Börgesen, F.

1924. Marine algae from Easter Island: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island. **2**: Botany 247–309. *f. 1–50.*

A list with notes and the descriptions of new species.

Boerlage, J. G.

1895. On Chionanthus Ghaeri, Gaertn. Jour. Linn. Soc. Bot. **31**: 246–248. *8 f.*

Recorded from Samoa (= *Scirpodendron ghaeri*).

Bois, D.

1896. Atlas des plantes de jardins et d'appartements exotiques et européenes . . . i–vi, [1–2], 1–432; Atlas 1–8. *pl. 1–160;* 1–8. *pl. 161–320.*

Includes data on a few species from Polynesia.

1910. Melastoma normale. Rev. Hort. **82**: 332. *1 pl.*

A general note, with a colored plate, the species claimed to extend to New Caledonia.

1917. Pelagodoxa Henryana Beccari, palmier nouveau des îles Marquises. Rev. Hort. **[39]**: 302–304. *f. 76–79.*

A new genus and species.

1919. [Pelagodoxa Henryana Becc.] Bull. Soc. Bot. France **66**: 12–13.

A general description; native of the Marquesas Islands.

1924. Le Pelagodoxa Henryana, nouveau palmier de serre chaude. Rev. Hort. **[96]**: 139. *1 f.*

Native of the Marquesas Islands.

1927–37. Les plantes alimentaires chez tous les peuples et à travers les ages. Histoire, utilisation, culture. **1**: 1–593. *f. 1–255.* 1927; **2**: 1–637. [1] *f. 1–261.* 1928; **3**: 1–289. *f. 1–71.* 1934; **4**: 1–600, [1–2]. *f. 1–111.* 1937.

Discusses some species from Polynesia. Vol. 1 contains: Phanérogames légumières; vol. 2 Phanérogames fruitières; vol. 3 Plantes à épices, à aromates, à condiments; vol. 4 Les plantes à boissons. This is ed. 4 of **Paillieux, A., & Bois, D.**, 1884.

See also **Paillieux, A.**, and **Bois, D.**

Boissier, E.

1848. Plumbaginaceae. DC. Prodr. **12**: 617–696.

Monographic.

1860. Centuria Euphorbiarum. 1–140.

Includes *E. phyllanthoides* n. sp. from New Caledonia, *E. taitensis* n. sp. from Tahiti, and *E. gaudichaudii* n. sp. from the Marianas Islands.

1862. Euphorbieae. DC. Prodr. **15(2)**: 1–188.

Monographic.

1866. Icones Euphorbiarum ou figures de cent vingt-deux espèces du genre Euphorbia, dessinées et gravées par Heyland avec des considérations sur la classification et la distribution géographique des plantes de ce genre. 1–24. *pl. 1–120.*

Includes a few Hawaiian species.

Bolle, C. See **Seemann, B.,** 1857.

Bommer, J. E.

1873. Revue et classification des Cyathéacées. Bull. Soc. Bot. France **20:** Sess. Extr. Belg. XVI–XIX.

Includes the new genera, *Eatoniopteris* and *Fourniera,* the latter from New Caledonia.

Bonaparte, R.

1914a. Filicales de la Nouvelle-Calédonie et des Îles Loyalty: in Sarasin, F., & Roux, J., Nova Caledonia Bot. **1:** 33–51. *pl. 2–4.*

An enumeration of 90 species and varieties.

1914b. Lycopodiales de la Nouvelle-Calédonie et des Îles Loyalty: in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1:** 53–56.

Eight species listed.

1915a. Îles Hawaii. Récoltes de l'Abbé Faurie reçues le 10 Decembre, 1910. Notes Ptérid. **1:** 223–230.

A list of ferns, with notes.

1915b. Nouvelle-Calédonie. Plusieurs collecteurs. Herbier de l'Institut botanique de l'université de Caen. Notes Ptérid. **2:** 165–178.

A list of ferns, with notes.

1915c. Nouvelle-Calédonie. Récoltes de M. Franc. Notes Ptérid. **2:** 179–194.

A list of ferns, with notes.

1915d. Nouvelle-Calédonie et Îles Loyalty. Récoltes de Dr. Fritz Sarasin 1911–12. Notes Ptérid. **2:** 195–219.

A list of ferns, with notes. Republication of data included in **Bonaparte,** 1914a.

1915–21. Océanie. Plusieurs regions. Plusieurs collecteurs. Herbier du Prince Bonaparte. Notes Ptérid. **2:** 155–164. 1915; **10:** 225–233. 1920; **13:** 207–219. 1921.

A list of ferns, with notes, some or all from Polynesia.

1918a. Tahiti. Récoltes de M. Vieillard. Herbier de l'Institut botanique de l'Université de Caen. Notes Ptérid. **7:** 405–410.

A list of Tahitian ferns, with notes.

1918b. Archipel des Îles Marquises. Récoltes de Monsieur Henry. Herbier du Prince Bonaparte. Notes Ptérid. **7:** 411–414.

A list of ferns, with notes.

Bonati, G., and **Petitmengin, M.**

1907. Sur quelques plantes de la Nouvelle-Calédonie. Bull. Herb. Boiss. **II 7:** 647–652. *2 f.*

Includes the descriptions of various new species.

Boodle, L. A.

1915. Thyrsopteris elegans. Kew Bull. **1915:** 295–296. *1 pl.*

Native of Juan Fernández.

Boothby, M. R.

1944. A trip through the lowlands in New Caledonia. Jour. New Zeal. Inst. Hort. **14:** 12–15.

Includes some notes on the vegetation.

Boott, F.

1846. Caricis species novae vel minus cognitae. Trans. Linn. Soc. **20:** 115–147.

Includes *Carex paleata* n. sp. from Juan Fernández.

1858–67. Illustrations of the genus Carex. **1:** i–xii, 1–74. *pl. 1–200.* 1858; **2:** i–iv, 75–103. *pl. 201–300.* 1860; **3:** i–iv, 105–126. *pl. 311–411.* 1862; **4:** 127–233. *pl. 412–600.*

In all, 524 species described and illustrated, a few from Polynesia.

Bornet, E.

1851. Études sur l'organisation des espèces qui composent le genre Meliola. Ann. Sci. Nat. III. Bot. **16:** 257–270. *pl. 21–22.*

Includes *M. moerenhoutiana* from Tahiti.

Bory de Saint-Vincent, J. B. M.

1827–29. Voyage autour du monde, exécuté par ordre du Roi, sur la corvette de Sa Majesté, la *Coquille,* pendant les années 1822–1923, 1824 et 1825 . . . par M. L. I. Duperrey. Botanique. Cryptogamie. 1–300. *pl. 1–39.*

Includes the description of some Polynesian species. See Jour. Bot. **39:** 206. 1901, and Ann. Mag. Nat. Hist. VII. **7:** 391. 1901, for dates of issue; 1-96(1827), 97-136(1828), 137-300(1829).

Borzi, A.

1906. Specie nuove, rare o critiche: Meryta Denhami, Seem. Boll. Ort. Bot. Palermo **5:** *142–144. pl. 3.*

Native of New Caledonia.

Bosch, R. B. van den

1859. Synopsis Hymenophyllacearum. Nederl. Kruidk. Arch. **4:** 341–419.

Reprinted as: "Synopsis Hymenophyllacearum, Monographie Hujus Ordinis Prodromus," 1-79. 1859, erroneously attributed on the title page to volume 3 of the original serial. Includes some Polynesian species. See **Goddijn,** 1913-19.

1861a. Hymenophyllaceae: in Mettenius, G., Filices Novae Caledoniae. Ann. Sci. Nat. IV. Bot. **15:** 88–91.

Ten species considered, six new.

1861b. Erste bijdrage tot de kennis der Hymenophyllaceae. Vers. Med. Akad. Amsterdam Afd. Nat. **11:** 300–330.

Includes some Polynesian species. Translated and republished as the following paper.

1861c. Note sur les Hyménophyllacées. Jour. Bot. Neérl. **1:** 147–192.

A French version of the preceding paper. Includes some Polynesian species.

1861–63. Hymenophyllaceas novas, cum ab aliis, tum a semet ipso distinctas, ceu Synopseos supplementum exposuit. Nederl. Kruidk. Arch. **5:** 135–185. 1861; [3] 135–217. 1863. Reprint 1–133. 1863.

Includes some Polynesian species. The second part, unfortunately repeating the pagination of the first part, appeared after the author's death, in no. 3 of the journal, rather than no. 2 as printed on the title page.

See also **Mettenius, G.,** 1861.

Boswell, H.

1892. New exotic mosses. Jour. Bot. **30:** 97–99. *pl. 320.*

Includes *Homalia densa* n. sp. from Hawaii and *Raphidostegium tegeticula* n. sp. from New Caledonia.

Bouly de Lesdain, M.

1909–37. Notes lichénologiques (IX). Bull. Soc. Bot. France **56:** 170–175. 1909; (XII) **57:** 236–340, (XIII) 460–463. 1910; (XVI) **61:** 82–85. 1914; (XXV) **78:** 726–731. 1932; (XXVII) **81:** 765–768. 1935; (XXX) **84:** 282–284. 1937.

Includes various new species from Polynesia.

Bowers, F. A. I. See **Whitney, L. D., Bowers, F. A. I.,** and **Takahashi, M.,** 1939.

Brackenridge, W. D.

1854–55. United States Exploring Expedition during the years 1838, 1839, 1840, 1841, 1842. Under command of Charles Wilkes, U.S.N. Botany, Cryptogamia. Filices including Lycopodiaceae and Hydropterides. **16:** i–viii. 1–357. 1854; Atlas 1–7. *pl. 1–46.* 1855.

Includes many Polynesian species.

1886. Notes on the flora of the Sandwich Islands. Gard. Monthly **28:** 83–85.

General notes on 13 species.

Braid, K. W.

1925. Revision of the genus Alphitonia. Kew Bull. 168–186. *1 f. 1 map.*

Monographic; 13 species recognized, with a key.

Brand, A.

1901. Symplocaceae. Pflanzenr. **6**(IV. 242): 1–100. *f. 1–9.*

Monographic.

1913. Hydrophyllaceae. Pflanzenr. **5**(IV. 251): 1–210. *f. 1–39.*

Monographic.

1921. Eine neue Symplocacee von den Palau-Inseln. Bot. Jahrb. **56:** 558.

Symplocos chabdui n. sp.

Brand, F.

1905. Ueber die Anheftung der Cladophoraceen und über verschiedene polynesische Formen dieser Familie. Beih. Bot. Centralbl. **18**(1): 165–193. *pl. 5–6.*

Includes several new species from Hawaii.

1911a. Ueber einige neue Grünalgen aus Neuseeland und Tahiti. Ber. Deutsch. Bot. Ges. **29:** 138–145. *pl. 7.*

Includes a few new species.

1911b. Ueber die Siphoneengattung Chlorodesmis. Ber. Deutsch. Bot. Ges. **29:** 606–611. *1 f.*

Includes *C. tahitensis* from Tahiti.

Braun, A.

1849. Characeae Indiae orientalis et insularum maris Pacifici; or characters and observations on the Characeae of the East Indian Continent, Ceylon, Sunda Islands, Marians, and Sandwich Islands. Hook. Jour. Bot. Kew Gard. Miscel. **1:** 292–301.

Includes a few Polynesian species.

1864. Revision of the genus Näjas of Linnaeus. Jour. Bot. **2:** 274–279. *f. 1 (1–5); 1–3.*

Records *N. major* var. *angustifolia* from Hawaii.

1876. Ueber 2 von dem Reisenden Hildebrandt eingeführte Cycadeen nebst Bemerkungen über einige andere Cycadeen. Sitzungsber. Ges. Naturf. Freunde Berlin. **1876:** 113–125.

Includes *Cycas seemannii* n. sp. from Fiji.

See also **Engelmann, G.**, 1860.

Brause, G.

1920. Beiträge zur Flora von Papuasien. VII. Bearbeitung der von C. Ledermann von der Sepik-(Kaiserin-Augusta-) Fluss-Expedition 1912 bis 1913 und von anderen Sammlern aus dem Papuagebiete früher mitgebrachten Pteridophyten, nebst Übersicht über alle bis jetzt aus dem Papuagebiet bekannt gewordenen Arten derselben. Bot. Jahrb. **56:** 31–250.

Includes Polynesian ranges of various species.

1922. Einige neue Samoa-Farne. Notizbl. Bot. Gart. Berlin **8:** 138–141.

Four new species described.

Bremekamp, C. E. B.

1934. A monograph of the genus Pavetta L. Repert. Sp. Nov. **37:** 1–208.

Includes one New Caledonia–New Hebrides species.

1939. A monograph of the genus Pavetta L.; additions and emendations. Repert. Sp. Nov. **47:** 12–28, 81–98.

Includes some additional data on distribution of *P. opulina,* native of Polynesia; supplementary to the preceding item.

Bresadola, G., and Patouillard, N.

1901. Diagnoses of new species of Fungi from Samoa. Ind. Mycol. Writ. Lloyd **1:** 49–51.

Eight new species described and the new genus *Lloydella* proposed.

Bridel, S. E.

1797–1819. Muscologia recentiorum seu analysis, historia, et descriptio methodica omnium muscorum frondosorum hucusque cognitorum ad normam Hedwigii **1:** i–xxiv, 1–179. 1797; 2(1): i–x, 1–222. *pl. 1–6.* 1798: 2(2): i–xii, 1–192, i–iv. *pl. 1–6.* 1801; 2(3): 1–178, [1–6]. *pl. 1–2.* 1803; Suppl. **1:** i–viii, 1–271. 1807; **2:** 1–257, [1–4]. 1812; **3:** i–xxxii. 1–115. 1817; **4:** i–xviii, 1–220. *pl. 1–2.* 1819.

Includes some Polynesian species.

1826–27. Bryologia universa seu systematica ad novam methodum dispositio, historia et descriptio omnium muscorum frondosorum hucusque cognitorum cum synonymia **ex** auctoribus probatissimis. **1:** i–xlvi, 1–856. 1826; **2:** 1–848. *pl. 1–13.* 1827.

Includes some Polynesian species.

Brigham, W. T.

1868a. Notes on Hesperomannia, a new genus of Hawaiian Compositae. Mem. Bost. Soc. Nat. Hist. **1:** 527–528. *pl. 20.*

The reprint cover bears the title: "Four New Genera of Hawaiian Plants," but this includes also Mann's paper on *Alsinodendron, Platydesma,* and *Brighamia.*

1868b. [Results of Mr. Mann's study of the Hawaiian flora.] Proc. Bost. Soc. Nat. Hist. **12:** 158–161.

A general review with a tabulation and discussion of the various families, giving the number of genera and species of each.

1868c. The Hawaiian flora. Hawaiian Club Papers 45–48.

Not seen.

1900. An index to the islands of the Pacific Ocean: A handbook to the chart on the walls of the Bernice Pauahi Bishop Museum of Polynesian Ethnology and Natural History. Mem. Bishop Mus. **1:** 85–256, maps 1–24. *f. 1–12.*

Pages 103-105 include a general description of the flora.

1906. Fruits of the Hawaiian Islands. Hawaiian For. & Agr. **3:** 289–311. *f. 1–2.*

General notes.

Briquet, J.

1898a. Observations sur quelques Flacourtiacées de l'herbier Delessert. Ann. Conserv. Jard. Bot. Genève **2:** 41–78. *pl. 1.*

Includes many new species from New Caledonia.

1898b. Fragmenta monographiae Labiatarum. Fasciculus V. Ann. Conserv. Jard. Bot. Genève **2**: 102–251. *1 f.*

Includes *Hyptis capitata* var. *mariannarum* n. var. from the Marianas Islands.

Britten, J.

1898. Notes on Hoya. Jour. Bot. **36**: 413–418.

Hoya pilosa Seem. of Fiji reduced to *H. australis* R. Br.

1905. The collections of Banks and Solander. Jour. Bot. **43**: 284–290.

Includes data on the Polynesian collections of Banks and Solander.

1907. Notes from the National Herbarium. I. Jour. Bot. **45**: 313–316.

Considers *Dicliptera frondosa* from Tahiti.

[Britton, E. G.]

1907. The Mitten collection of mosses and hepatics. Jour. N. Y. Bot. Gard. **8**: 28–32.

Includes numerous Polynesian types. The Mitten Herbarium is at the New York Botanical Garden.

Britton, N. L., and **Rose, J. N.**

1919–23. The Cactaceae. Descriptions and illustrations of plants of the Cactus family. Carnegie Inst. Washington Publ. **248. 1**: i–vii, 1–236. *pl. 1–36. f. 1–302.* 1919; **2**: i–vii, 1–239. *pl. 1–40. f. 1–305.* 1920; **3**: i–vii, 1–255. *pl. 1–24. f. 1–250.* 1922; **4**: i–vii, 1–318. *pl. 1–37. f. 1–263.* 1923.

Monographic; includes the few species introduced into Polynesia. This work was reprinted verbatim by the Cactus and Succulent Society of America beginning in 1931.

Brongniart, A.

1861. Observations sur un genre remarquable de Violacées de la Nouvelle-Calédonie. Bull. Soc. Bot. France **8**: 77–80.

Includes three species of *Agation* from New Caledonia and Fiji.

Brongniart, A., and **Gris, A.**

1861a. Note sur un genre nouveau d'Ombellifères de la Nouvelle-Calédonie. Bull. Soc. Bot. France **8**: 121–123.

Two species of *Myodocarpus* described.

1861b. Description de quelques Éléocarpées de la Nouvelle-Calédonie. Bull. Soc. Bot. France **8**: 198–203.

Six species of *Elaeocarpus* and one of *Dubouzetia* described.

1861c. Note sur le genre Joinvillea de Gaudichaud et sur la famille des Flagellariées. Bull. Soc. Bot. France **8**: 264–269.

Includes three species from New Caledonia and Hawaii.

1861d. Note sur un nouveau genre de Nyctaginées de la Nouvelle-Calédonie. Bull. Soc. Bot. France **8**: 374–376.

Vieillardia austro-caledonica.

1861e. Note sur le genre Crossostylis de Forster. Bull. Soc. Bot. France **8**: 376–378.

Notes on New Caledonian species.

1862. Notice sur les Saxifragées-Cunoniées de la Nouvelle-Calédonie. Bull. Soc. Bot. France **9**: 67–77.

Includes descriptions of many new species.

1863a. Note sur quelques Protéacées de la Nouvelle-Calédonie. Bull. Soc. Bot. France **10**: 226–229.

Five new species described.

1863b. Note sur deux genres nouveaux de Myrtacées de la Nouvelle-Calédonie. Bull. Soc. Bot. France **10**: 369–374.

Eleven new species of *Tristaniopsis* and *Fremya* described.

1863c. Description de quelques espèces nouvelles d'Éléocarpées de la Nouvelle-Calédonie. Bull. Soc. Bot. France **10: 475–477.**

Seven new species of *Dubouzetia* and *Elaeocarpus* described.

1863d. Description de deux nouveaux genres de Myrtacées de la Nouvelle-Calédonie. Bull. Soc. Bot. France **10: 574–579.**

Eight new species of *Clöezia* and *Spermolepis* described.

1864a. Note sur les Épacridées de la Nouvelle-Calédonie et sur un genre nouveau de cette famille. Bull. Soc. Bot. France **11:** 65–69.

Thirteen new species described.

1864b. Note sur le Chiratia Montrouzier. Bull. Soc. Bot. France **11: 69–71.**

***C. leucantha* from New Caledonia.**

1864c. Descriptions de quelques espèces nouvelles ou peu connues de Myrtacées de la Nouvelle-Calédonie. Bull. Soc. Bot. France **11:** 182–185.

Twelve new species described.

1864d. Descriptions de plusieurs espèces du genre Pittosporum de la Nouvelle-Calédonie. Bull. Soc. Bot. France **11: 185–189.**

Eleven new species described.

1864e. Descriptions de quelques Dilleniacées de la Nouvelle-Calédonie. Bull. Soc. Bot. France **11: 189–192.**

Eight species described, four new.

1864f. Descriptions de quelques palmiers du genre Kentia. Bull. Soc. Bot. France **11: 310–316.**

Six species from New Caledonia described.

1864g. Sur un nouveau genre des Lilacées. Bull. Soc. Bot. France **11: 316–318.**

***Xeronema moorii* n. sp. from New Caledonia.**

1864–71. Observations sur diverses plantes nouvelles ou peu connues de la Nouvelle-Calédonie. Ann. Sci. Nat. V. Bot. **1: 330–381.** 1864; **2: 124–168.** 1864; **3: 197–238.** 1865; **6: 238–266.** 1866; **13: 340–404.** 1871.

The earlier parts are reprinted under the title: "Fragments d'une Flore de la Nouvelle-Calédonie ou Observations sur Diverses Plantes Nouvelles ou Peu Connues de Cette Contrée," 1-97 [1.] 1864. The later parts, 1866-71, are reprinted with the original pagination.

Brongniart, A.

1865a. Considerations sur la flore de la Nouvelle-Calédonie. Ann. Sci. Nat. V. Bot. **3: 187–196;** Compt. Rend. Acad. Sci. Paris **60:** 641–649. Reprint **1–9.**

A general discussion.

1865b. Description de deux genres nouveaux de la famille des Rubiacées, appartenant à la flore de la Nouvelle-Calédonie. Bull. Soc. Bot. France **12:** 402–408.

Includes one species of *Bikkiopsis,* six species of *Grisia,* and one new species of *Lindenia.*

Brongniart, A., and **Gris, A.**

1865a. Description des Protéacées de la Nouvelle-Calédonie appartenant aux genres Grevillea, Stenocarpus, Cenarrhenes et Knightia. Bull. Soc. Bot. France **12:** 37–46.

Twenty-two new species described.

1865b. Observations sur les Myrtacées sarcocarpées de la Nouvelle-Calédonie et sur le nouveau genre Piliocalyx. Bull. Soc. Bot. France **12: 174–187.**

Forty species described.

1865c. Notice sur le genre Soulamea. Bull. Soc. Bot. France **12:** 242–244.

Four species from New Caledonia described.

1865d. Sur quelques Ombellifères de la Nouvelle-Calédonie. Bull. Soc. Bot. France **12**: 270–272.

Includes descriptions of three new species.

1865e. Descriptions de quelques nouvelles espèces de la Nouvelle-Calédonie. Bull. Soc. Bot. France **12**: 299–302.

Ten new species of Myrtaceae, Elaeocarpaceae, and Epacridaceae described.

Brongniart, A.

1866. Note sur le genre Bikkia, de la famille des Rubiacées. Bull. Soc. Bot. France **13**: 40–43.

Five species of *Bikkia* described, mostly from Polynesia.

Brongniart, A., and **Gris, A.**

1866a. Sur quelques Conifères de la Nouvelle-Calédonie. Bull. Soc. Bot. France **13**: 422–427.

Four species described.

1866b. Sur les Symplocos de la Nouvelle-Calédonie. Bull. Soc. Bot. France **13**: 428–431.

Ten species described.

1866c. Supplément aux Myrtacées de la Nouvelle-Calédonie. Bull. Soc. Bot. France **13**: 468–473.

Six species described.

1866d. Sur le prétendu genre Chiratia. Bull. Soc. Bot. France **13**: 479.

Chiratia of New Caledonia is reduced to *Sonneratia*.

1867a. Note sur le genre Spermolepis. Bull. Soc. Bot. France **14**: 253–256.

S. gummifera n. sp. from New Caledonia.

1867b. Note sur le nouveau genre Pleurocalyptus de la Nouvelle-Calédonie. Bull. Soc. Bot. France **14**: 263–265.

P. deplanchei n. sp.

1868–71. Description de quelques plantes remarquables de la Nouvelle-Calédonie. Nouv. Arch. Mus. Hist. Nat. Paris **4**: 1–48. *pl. 1–15*. 1868; **7**: 203–235. *pl. 13–18*. 1871.

Includes some new species.

1869. Nouvelle note sur les Conifères néo-calédoniennes. Bull. Soc. Bot. France **16**: 325–331.

Six species described.

1871a. Supplément aux Conifères de la Nouvelle-Calédonie. Bull. Soc. Bot. France **18**: 130–141.

Six species described.

1871b. Note sur le nouveau genre Garniera de la famille de Proteacées. Bull. Soc. Bot. France **18**: 188–190.

G. spathulaefolia n. sp. from New Caledonia.

1871c. Supplément aux Protéacées de la Nouvelle-Calédonie. Sur le nouveau genre Beauprea. Bull. Soc. Bot. France **18**: 241–246.

Includes *B. pancheri* n. sp.

1872. Révision des Cunonia de la Nouvelle-Calédonie. Bull. Soc. Bot. France **19**: 145–151.

Eight species considered, some new.

Brongniart, A.

1873. Notice sur les palmiers de la Nouvelle-Calédonie. Compt. Rend. Acad. Sci. Paris **77**: 396–402.

Eighteen new species described in *Kentia, Kentiopsis,* and *Cyphokentia;* see **Brongniart,** 1847b.

1874a. Nouveaux documents sur la flore de la Nouvelle-Calédonie. Compt. Rend. Acad. Sci. Paris **79**: 1442–1447.

A brief summary of the flora of New Caledonia.

1874b. Palmiers de la Nouvelle-Calédonie. Rev. Hort. **1874**: 11–13, 86–88.

Sixteen species described. Republication of **Brongniart, A.,** 1873.

1875. Observations sur les Pandanées de la Nouvelle-Calédonie. Ann. Sci. Nat. VI Bot. **1**: 262–293. *pl. 14–15.*

A consideration of the known species, some described as new.

Brongniart, A. T.

1829–34. Voyage autour du monde, exécuté par ordre du Roi, sur la corvette de Sa Majesté la *Coquille* pendant les années 1822, 1823, 1824 et 1825 . . . par M. L. I. Duperrey. Botanique-Phanérogamie. 1–232. *pl. 1–78.*

Includes descriptions of some Polynesian species. About 11 of the numbered plates were not issued. See Jour. Bot. **39**: 206, 1901, and Ann. Mag. Nat. Hist. VII **7**: 391. 1901, for dates of issue; 1-40. 1829; 41-104. 1831; 105-136. 1832; 137-200. 1834; [201-232] 1834?

Brotherus, V. F.

1901. Laubmoose: in Volkens, G., Die Vegetation der Karolinen. Bot. Jahrb. **31**: 450–453.

Includes descriptions of some new species.

1904. Musci Hawaiici quos legit D. D. Baldwin. Bull. Soc. Bot. Ital. **1904**: 14–25.

A list of 163 species, many indicated as new but not described.

1905–10. Contribution à la flore bryologique de la Nouvelle-Calédonie. Öfvers. Finska Vet. Soc. Förh. **48**(15): 1–27. *pl. 1.* 1905–06; (II) **51**(17): 1–31. 1909; (III) **53**(11): 1–42. 1910.

An enumeration with notes and the descriptions of many new species.

1908a. Musci: in Rechinger, K., Botanische und zoologische Ergebnisse. . . . Denkschr. Akad. Wiss. Wien **84**: 387–400. Reprint **2**: 3–16.

An enumeration with the descriptions of new species from Samoa.

1908b. Musci der Samoainseln. Denkschr. Math.-Naturw. Kl. d. Kaiser. Akad. d. Wissenschaften in Wien. Reprint from "Pflanzenphänologische Beobachtungen in Finland". 1–29.

Apparently a republication of the preceding item.

1913. Musci der Hawaiischen und Salomoninseln: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **89**: 464–467. Reprint **5**: 22–25.

A list with the descriptions of new species.

Brotherus, V. F., and **Watts, W. W.**

1915a. The mosses of the New Hebrides. Jour. Proc. Roy. Soc. N. S. W. **49**: 127–157.

A list with the descriptions of new species.

1915b. The mosses of Lord Howe Island. Proc. Linn. Soc. N. S. W. **40**: 363–385.

An enumeration of the known species, many described as new.

Brotherus, V. F.

1924a. Musci Insulae-Paschalis: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island. **2**: Botany 241–246. *pl. 21–23.*

Fourteen species considered, several described as new.

1924b. The Musci of the Juan Fernandez Islands: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island. **2**: Botany 409–448. *pl. 26–27.*

An enumeration with descriptions of new species.

1924c. Tahitian mosses collected by W. A. Setchell and H. E. Parks. Univ. Calif. Publ. Bot. **12:** 45–48.

A list of 22 species, none new.

1927. Hawaiian mosses. Bishop Mus. Bull. **40:** 1–37. *pl. 1–8.*

An enumeration with the descriptions of numerous new species.

1931. Neue exotische Laubmoose. Mitt. Inst. Bot. Hamb. **8:** 399–406. *f. 1–7.*

Dicranella subpycnoglossa, Bryum samoanum, and *Floribundaria samoana* n. spp. from Samoa.

See also **Mueller, K.,** and **Brotherus, V. F.**

Brouwer, F. I.

1938. The genus Stackhousia in the Malay Archipelago. Blumea **3:** 173–178.

Records *S. intermedia* as occurring in the Caroline and Palau Islands.

Brown, E. D. W.

1930. Notes on Marquesan Pteridophytes. Proc. Hawaiian Acad. Sci. Bishop Mus. Spec. Publ. **16:** 14–15.

A short note.

1931. Polynesian leis. Am. Anthropol. II. **33:** 615–619.

Considers the plant parts used.

Brown, E. D. W., and **Brown, F. B. H.**

1931a. Pteridophyta of southern Polynesia. Bishop Mus. Spec. Publ. **19:** 15–16.

A brief abstract. See next entry.

1931b. Flora of southeastern Polynesia. II. Pteridophytes. Bishop Mus. Bull. **89:** 1–123. *pl. 1–21. f. 1–19.*

A systematic treatise of the Marquesan species, including new species and varieties. For parts I and III see **Brown, F. B. H.,** 1931, 1935.

1932. Is there an Indo-Malayan element in the Pteridophyte flora of southeastern Polynesia? Bishop Mus. Spec. Publ. **20:** 16–17.

Not seen; apparently an abstract.

See also **Brown, F. B. H.,** and **Brown, E. D. W.**

Brown, F. B. H.

1921. Origin of the Hawaiian flora. Bishop Mus. Spec. Publ. **7:** (Proc. First Pan-Pacific Sci. Conference, Honolulu, 1920) 131–142. *1 f.*

Considers that the dicotyledonous plants were derived largely from isthmian America.

1922. The secondary xylem of Hawaiian trees. Occ. Pap. Bishop Mus. **8:** 217–371. *f. 1–11.*

Descriptions of the wood structure of many species.

1926. Lautea, a new genus of the Cornaceae; its probable origin and dispersal in the Pacific. Proc. Hawaiian Acad. Sci. Bishop Mus. Spec. Publ. **11:** 26.

Lautea n. gen. with two species, names only. The descriptions appear in **Brown,** 1928 (=*Corokia*).

Brown, F. B. H., and **Brown, E. D. W.**

1926. Lepidium bidentoides, n. sp.; its distribution in Polynesia. Proc. Hawaiian Acad. Sci. Bishop Mus. Spec. Publ. **11:** 26.

Title only, with *Lepidium bidentoides* n. sp., *nomen nudum.* Brown 1935 (bibliography) erroneously gives this title as "Lepidium bidentoides New Species; a Statistical Study of its Distribution in Polynesia." The description appears in **Brown,** 1935.

Brown, F. B. H.

1928. Cornaceae and allies in the Marquesas and neighboring islands. Bishop Mus. Bull. **52:** 1–22. *f. 1–5.*

Description of the new genus *Lautea,* with two new species (=*Corokia*).

1930a. New Polynesian plants. Occ. Pap. Bishop Mus. **9**(4): 1–23. *f. 1–6.*

Chiefly redescriptions of older species with some new species and varieties.

1930b. Notes on the Marquesan Monocotyledons. Proc. Hawaii. Acad. Bishop Mus. Spec. Publ. **16**: 14.

A short note.

1931. Flora of southeastern Polynesia I. Monocotyledons. Bishop Mus. Bull. **84**: i–ii, 1–194. *pl. 1–35. f. 1–18.*

Includes all known species of the Marquesas Islands, with the descriptions of new species, and redescriptions of, and notes on older species.

1932. Notes on the Dicotyledons of Southeastern Polynesia. Bishop Mus. Spec. Publ. **20**: 17.

A brief abstract; see **Brown, F. B. H.,** 1935.

Brown, F. B. H., and **Brown, E. D. W.**

1933. A discussion of representative Pacific genera with evidence bearing on their origin and migration. Bishop Mus. Spec. Publ. **21**: 17.

Abstract only.

Brown, F. B. H.

1935. Flora of southeastern Polynesia. III. Dicotyledons. Bishop Mus. Bull. **130**: 1–386. *pl. 1–9. f. 1–70.*

Includes descriptions of many new species and notes on others. For II see **Brown** and **Brown,** 1931, above.

See also **Brown, E. D. W.,** and **Brown, F. B. H.**

Brown, N. E.

1881. Lycopodium squarrosum, Forst. Ill. Hort. **28**: 121. *pl. 428.*

Native of the Pacific Islands.

1882a. The Tonga plant (Epipremnum mirabile, Schott). Gard. Chron. II. **17**: 180. 259.

Native of Fiji.

1882b. The Tonga plant. Jour. Bot. **20**: 332–337.

Epipremnum mirabile from Fiji.

1882c. Notice sur le Tonga (Epipremnum mirabile Schott). Belg. Hort. **32**: 69–63.

A French translation of **Brown, N. E.,** 1882a.

1883. Panax fruticosum Linn. var. Deleauana N. E. Brown. Ill. Hort. **30**: 109–110. *pl. 492.*

Probably from Polynesia.

1887. Asplenium falcatum Lam. Ill. Hort. **34**: 83. *pl. 30.*

Native of Polynesia.

1888. Ficus Canoni n. sp. Gard. Chron. III **3**: 9–10.

Native of the Society Islands (*Arctocarpus canoni* Bull).

1890. Eranthemum tuberculatum, Hook. Gard. Chron. III **7**: 480.

Native of New Caledonia.

Brown, R.

1810. On the Proteaceae of Jussieu. Trans. Linn. Soc. **10**: 15–226. *pl. 1–3.*

Includes *Stenocarpus forsteri* n. gen. n. sp. and other New Caledonian species.

1811–47. On the Asclepiadeae, a natural order of plants separated from the Apocineae of Jussieu. Mem. Wern. Soc. **1**: 12–78. 1811; republished by Presl as "Asclepiadeae recensitae a Roberto Brown" i–xiv, 1–68. 1819; and by Nees in Robert Brown's "Vermischte botanische Schriften" **2**: 347–414. 1826, as "Über die Asclepiadeen, eine natürliche Pflanzenfamilie, welche

von Jussieu's Apocyneen abgesondert werden muss"; reprinted in Bennett, Miscel. Bot. Works Robert Brown **2:** 193–247. 1847.

Includes *Alstonia costata* from Tahiti.

1869. On the geographical distribution of the Coniferae and Gnetaceae. Trans. Bot. Soc. [Edinb.] **10:** 175–196.

General discussion, including references to Polynesian species.

1872. Die geographische Verbreitung der Coniferen und Gnetaceen. Mitt. Perth. Geogr. Anstalt **18:** 41–48. *pl. 3 (map).*

A German translation of **Brown, R.,** 1869.

1875. Distribution géographique de Conifères et des Gnétacées. Belg. Hort. **25:** 322–345.

A French translation of **Brown, R.,** 1869.

Brückner, V.

1880. Microlepia hirta cristata Moore. Rev. Hort. Belge **6:** 156. *1 pl.*

Illustration of this native of New Hebrides with a brief note.

Bryan, E. H.

1928a. Guide to the plant groups in Hawaii. Jour. Pan-Pacif. Res. Inst. **3:** 3–11.

Not seen.

1928b. The background of Hawaiian botany. Mid-Pacif. Mag. **1928:** 33–40. *5 f.*

A short account of early botanical explorations.

1931. Plant associations of Guam. Bishop Mus. Spec. Publ. **31:** 14–15.

A brief ecological note.

1933. Hawaiian nature notes. [i-ii], 1–285. illus.

Includes data on food plants, fibers, tree ferns, pioneer Hawaiian botanists, etc.

1934. The contribution of [the] Bishop Museum to Polynesian biogeography. [Mém.] Soc. Biogéogr. **4:** 279–288.

Includes statistics in the major groups of flowering plants and ferns in Hawaii.

1936–41. The plants of Guam. Guam Record. **13** (8): 22–23. 1936 to **18** (3): 116–117. 1941.

A series of papers concerning the ferns and flowering plants of Guam with keys and descriptions, apparently completed up to the Sapindaceae. Offprints of pts. 1-26 (Leguminosae, in part) in the form of unpaged proofs in the library of the Arnold Arboretum, a complete set of these up to June 1941 in the library of the Bishop Museum. The original plan was to have these scattered data published in book form when all the groups were covered, but this was never consummated owing to the outbreak of the war in December 1941.

1939. Natural history of the Phoenix Islands. Bishop Mus. Spec. Publ. **34:** 6–7.

An abstract with very brief notes on the vegetation.

1941. American Polynesia. Coral islands of the central Pacific. 1–208. *illus.*

Contains scattered references to plant species. Originally published in a series of 45 weekly installments, in the Honolulu Advertiser, September 11, 1939, to July 15, 1940. For ed. 2 see the next entry.

1942. American Polynesia and the Hawaiian Chain, ed. 2, 1–253, *illus.*

Includes many valuable data on the vegetation of individual islands. Chapter 6 is devoted to plant life on a coral island. For first edition see the preceding entry.

Bryan, L. W.

1932. The Hilo forest reserve. Hawaiian Pl. Rec. **36:** 279–321. *f. 1–44.*

Includes notes and illustrations of various species.

1939. Forestry in Hawaii. In Gilmore's Hawaii sugar manual. 24–27.

Includes a list of introduced trees; not seen.

Bryan, W. A.

1903. A monograph of Marcus Island. Occ. Pap. Bishop Mus. **2:** 77–139. *f. 1–8. 1 map.*

Includes brief botanical data (pp. 122-124).

1915. Natural history of Hawaii, being an account of the Hawaiian people, the geology and geography of the islands, and the native and introduced plants and animals of the group. 1–596. *f. 1–117.*

Includes a general description of the flora, agriculture, and horticulture of the group (pp. 189-287).

1921. Hawaiian fauna and flora. Bishop Mus. Spec. Publ. **7:** 153–158. (Proc. First Pan-Pacific Sci. Conference, Honolulu, 1920).

A general consideration.

Buch, H. See **Thériot, J., Dixon, H. N.,** and **Buch, H.,** 1934.

Buchenau, F.

1906. Juncaceae. Pflanzenr. **25**(IV. 36)**:** 1–284. *f. 1–121.*

Monographic.

Bülow, W. von

1896. Die Samoa-Inseln und ihre einheimischen Nutzpflanzen. Gartenfl. **45:** 412–415, 452–454, 518–520, 543–544, 574–575, 604–605, 628–633.

General notes on economic plants.

Bull, W.

1875. New plants. Gard. Chron. II. **3:** 619; **4:** 192. *1 f.* 224. *1 f.*

Includes brief descriptions of some Polynesian species (in the advertising pages).

Bunge, A.

1880. Pflanzengeographische Betrachtungen über die Familie der Chenopodiaceen. Mém. Acad. St. Pétersb. VII **27**(8)**:** 1–36.

Includes some Polynesian species.

Bureau, E.

1862. Note sur le Bignoniacées de la Nouvelle-Calédonie. Bull. Soc. Bot. France **9:** 162–165.

Tecoma austro-caledonica and *Deplanchea speciosa* n. sp.

1864. Monographie des Bignoniacées ou histoire générale et particulière des plantes qui composent cet ordre naturel. 1–215; Atlas 1–35. *pl. 1–31.*

Monographic.

1869–72. Morées et Artocarpées de la Nouvelle-Calédonie. Ann. Sci. Nat. V. Bot. **11:** 364–382. *pl. 6,* 1869; **14:** 246–278. 1872.

A general consideration of the known species.

1873. Moraceae. DC. Prodr. **17:** 211–279.

Monographic.

1895. État actuel des études sur la végétation des colonies françaises et des pays de protectorat français. Compt. Rend. Acad. Sci. Paris **120:** 245–247.

Includes brief references to French Polynesia.

Burgerstein, A.

1908. Anatomische Untersuchungen Samoanischer Hölzer: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **84:** 456–514. Reprint **2:** 72–130.

Burkill, I. H.

1898. Pittosporum spathaceum, Burkill. Hook. Ic. **26:** *pl. 2561.*

Native of Tonga.

1901. The flora of Vavau, one of the Tonga Islands, with a short account of its vegetation by Charles Steele Crosby, M. A. Jour. Linn. Soc. Bot. **35:** 20–65.

An enumeration with the descriptions of new species.

1923. Tahitian yams. Gard. Bull. Straits Settlem. **3:** 4–5. *pl. 1.*

A discussion of the various forms of *Dioscorea.*

See also **Prain, D.,** and **Burkill, I. H.**

Burret, M.

1926–36. Beiträge zur Kenntnis der Tiliaceen. Notizbl. Bot. Gart. Berlin **9:** 592–880. 1926; (II) 1161–1174. 1927; (V) **13:** 252–255. 1936.

Includes some Polynesian species, including the new genus *Tahitia* from Tahiti.

1928a. Beiträge zur Kenntnis der Palmen von Malesia, Papua und der Südsee. Repert. Sp. Nov. **24:** 253–296.

Includes notes on many Polynesian species, descriptions of new species, synonymy, and new combinations (pp. 273-296).

1928b. Eine neue Art der Palmengattung Pelagodoxa Becc. aus der Südsee. Notizbl. Bot. Gart. Berlin **10:** 286–288. *f. 3.*

P. mesocarpa n. sp. of doubtful origin, specimens labeled as from New Caledonia.

1932. Die Palmengattung Kajewskia Guillaumin und Carpoxylon H. Wendl. et Drude von der Insel Aneityum (Neu-Hebriden). Notizbl. Bot. Gart. Berlin **11:** 578.

Considers *Kajewskia* to be a likely synonym of *Carpoxylon.*

1935a. New palms from Fiji. Occ. Pap. Bishop Mus. **11**(4)**:** 1–14.

Includes the descriptions of nine new species with two new genera, *Goniosperma* and *Taveunia.*

1935b. Palmae gerontogeae IV. Notizbl. Bot. Gart. Berlin **12:** 590–602.

Includes notes on various Polynesian species.

1940. Palmen und Tiliaceen von der Südsee aus der Sammlung des Bernice P. Bishop Museums, Honolulu, Hawaii. Notizbl. Bot. Gart. Mus. Berlin **15:** 85–96.

Includes descriptions of *Goniocladus* n. gen. and several new species and varieties in other genera from Polynesia.

Burrows, E. G.

1938. Topography and culture on two Polynesian islands. Geogr. Rev. **28:** 214–223. *f. 1–8.*

Includes notes on economic plants of Uvea and Futuna Islands.

Burt, E. A.

1923. Higher fungi of the Hawaiian islands. Ann. Missouri Bot. Gard. **10:** 179–189.

A list with notes and the descriptions of a few new species.

Burtt, B. L.

1936a. Melanesian plants II. Kew Bull. **1936:** 459–466.

Includes *Kingiodendron platycarpum* from Fiji.

1936b. Bubbia haplopus B. L. Burtt. Hook. Ic. **34:** *pl. 3315.* 1–3.

Includes the transfer of various species of *Drimys* to *Bubbia,* including several from New Caledonia.

Burvenich, F.

1877. L'Alpinia vittata Hort. Rev. Hort. Belge **3:** 5–6. *f. 1.*

Native of the South Sea Islands (actual place of origin doubtful).

Butteaud, É.

1891. Flore tahitienne. 1–128.

A list with notes and some descriptions.

Butters, F. K.

1903. Observations on Trichogloea lubrica. Minn. Bot. Studies **3:** 11–21. *pl. 5–6.*

Native of Hawaii.

1911. Notes on the species of Liagora and Galaxaura of the central Pacific. Minn. Bot. Studies **4:** 161–184. *pl. 24.*

Considers the Polynesian species.

Buwalda, P.

1936. The Umbelliferae of the Netherlands Indies. Blumea **2:** 119–220. *f. 1–6.*

Credits *Hydrocotyle vulgaris* to the Marshall Islands.

Buyssens, A.

1898. Deux palmiers nouveaux. Rev. Hort. Belge **24:** 152–154. *f. 39–40.*

Includes *Areca ilsemanni* from the South Sea Islands.

C

Cabeza Pereiro, A.

1895–96. Estudios sobre Carolinas. La isla de Ponape; geografia, etnografia, historia. 1–241. *illus. maps.* 1895; ed. 2, 1–259. *illus. maps.* 1896.

Includes notes on the flora with an enumeration of species.

Calder, C. C.

1919. The species of Oxalis now wild in India. Rec. Bot. Surv. India **6:** 325–341. *pl. 1–9.*

Mentions the occurrence of *O. corymbosa* (*O. martiana*) in Hawaii as early as 1867.

Cambessèdes, J.

1829. Mémoire sur la famille des Sapindacées. Mém. Mus. Hist. Nat. [Paris] **18:** 1–50. *pl. 1–3.*

Includes a few Polynesian species.

Campbell, D. H.

1892–93. A vacation in the Hawaiian islands. Bot. Gaz. **17:** 411–416. 1892; **18:** 19–25. 1893.

General.

1916. Some problems of Pacific floras. Proc. Nat. Acad. Sci. (Washington) **2:** 434–437.

A brief discussion.

1918. The origin of the Hawaiian flora. Mem. Torr. Bot. Club **17:** 90–96.

General phytogeographic.

1919. The derivation of the flora of Hawaii. Stanford Univ. Publ., Univ. Ser. 1–34.

General discussion.

1920. Some botanical and environmental aspects of Hawaii. Ecology **1:** 257–269.

General.

1927. Collecting liverworts in Hawaii. Bryologist **30:** 97–101.

General.

1928. The Australian element in the Hawaiian flora. Am. Jour. Bot. **15:** 215–221. 1928; also in Proc. Third Pan-Pacific Sci. Congr. Tokyo **1:** 938–946. 1928.

General for the subject covered.

1932. Some problems of the Hawaiian flora. Science n. ser. **76:** 544.

A brief discussion.

1933. The flora of the Hawaiian islands. Quart. Rev. Biol. **8:** 164–184.

General ecologic and phytogeographic consideration.

1943. Continental drift and plant distribution. 1–43. *1 f.*

Discusses briefly Polynesian and Hawaiian plant distribution, pp. 33-37.

Camus, A.

1922. Notes sur quelques genres des Graminées. Ann. Soc. Linn. Lyon II. **68**: 197–208.

Includes notes on *Eulalia* and allied genera, and lists New Caledonian species.

1923. Note sur les genres "Lepturus" R. Br. et "Pholiurus" Trinius. Ann. Soc. Linn. Lyon II. **69**: 86–90.

Lists the Polynesian species.

1924. Note sur le genre "Schizachyrium" (Graminées). Ann. Soc. Linn. Lyon II. **70**: 87–91.

Lists New Caledonian species.

1928. Sur quelques Graminées de Nouvelle-Calédonie. Bull. Mus. Hist. Nat. (Paris) **34**: 181–182.

Setaria austro-caledonica and *Cymbopogon refractus* n. spp.

See also **Guillaumin, A., Camus, A.,** and **Tardieu-Blot, M. L.**

Camus, E. G.

1913. Les Bambusées. Monographie, biologie, culture, principaux usages. 1–215. *pl. 1–4;* Atlas *pl. 1–100.*

Monographic.

Candolle, A. de

1830 Monographie des Campanulées. i–viii. 1–384. *pl. 1–20.*

Monographic.

1834. A review of the natural order Myrsinaceae. Trans. Linn. Soc. **17**: 95–138. *pl. 4–8.*

Includes a few Polynesian species.

1841. Second mémoire sur la famille des Myrsinéacées. Ann. Sci. Nat. II. Bot. **16**: 65–97. 3 t.

Includes *Maesa gaudichaudii, M. lessertiana,* and *M. sandwicensis* from Hawaii.

1844a. Myrsinaceae. DC. Prodr. **8**: 75–140.

Monographic.

1844b. Sapotaceae. DC. Prodr. **8**: 154–208.

Monographic.

1844c. Ebenaceae. DC. Prodr. **8**: 209–243.

Monographic.

1844d. Apocynaceae. DC. Prodr. **8**: 317–489.

Monographic.

1845. Loganiaceae. DC. Prodr. **9**: 1–37.

Monographic.

1857a. Myristicaceae. DC. Prodr. **14**: 187–208.

Monographic.

1857b. Santalaceae. DC. Prodr. **14**: 619–692.

Monographic.

1868a. Cycadaceae. DC. Prodr. **16**(2): 522–547.

Monographic.

1868b. Gunnereae. DC. Prodr. **16**(2): 596–600.

Monographic.

1868c. Monimiaceae. DC. Prodr. **16**(2): 640–676.

Monographic.

1878. Smilaceae. DC. Monog. Phan. **1**: 1–217.

Monographic.

Candolle, A. de, and Candolle, C. de.

1878–1896. Monographiae phanerogamarum Prodromi nunc continuatio nunc revisio. (Suites au prodromus systematis naturalis regni vegetabilis). **1**(1878)–**9**(1896).

A series of monographs, usually cited as "DC. Monog. Phan." The various groups covered are listed under their respective authors in this bibliography.

Candolle, A. P. de

1818–21. Regni vegetabilis systema naturale, sive ordines, genera et species plantarum secundum methodi naturalis normas digestarum et descriptarum. **1**: 1–564. 1818; **2**: 1–745. 1821.

Includes the Polynesian species.

1824a. Ranunculaceae. DC. Prodr. **1**: 2–66.

Monographic.

1824b. Dilleniaceae. DC. Prodr. **1**: 67–76.

Monographic.

1824c. Anonaceae. DC. Prodr. **1**: 83–94.

Monographic.

1824d. Cruciferae. DC. Prodr. **1**: 131–236.

Monographic.

1824e. Capparideae. DC. Prodr. **1**: 237–254.

Monographic.

1824f. Malvaceae. DC. Prodr. **1**: 429–474.

Monographic.

1824g. Byttneriaceae. DC. Prodr. **1**: 481–502.

Monographic.

1824h. Tiliaceae. DC. Prodr. **1**: 503–518.

Monographic.

1824i. Olacineae. DC. Prodr. **1**: 531–534.

Monographic.

1824j. Aurantiaceae. DC. Prodr. **1**: 535–540.

Monographic.

1824k. Guttiferae. DC. Prodr. **1**: 557–564.

Monographic.

1824l. Sapindaceae. DC. Prodr. **1**: 601–618.

Monographic.

1824m. Meliaceae. DC. Prodr. **1**: 619–626.

Monographic.

1824n. Zygophylleae. DC. Prodr. **1**: 703–708.

Monographic.

1824o. Rutaceae. DC. Prodr. **1**: 709–732.

Monographic.

Candolle, A. P. de, Candolle, A. de, and Candolle, C. de.

1824–74. Prodromus systematis naturalis regni vegetabilis sive enumeratio contracta ordinum generum specierumque plantarum huc usque cognitarum, juxta methodi naturalis normas digesta. **1**(1824)–**17**(1873), with Buek's index. **1**(1842)–**4**(1874).

A series of monographs usually cited as "DC. Prodr." The various groups are indexed here under their respective authors.

Candolle, A. P. de

1825a. Celastrineae. DC. Prodr. **2**: 1–18.
Monographic.

1825b. Rhamneae. DC Prodr. **2**: 19–42.
Monographic.

1825c. Samydeae. DC. Prodr. **2**: 47–52.
Monographic.

1825d. Terebinthaceae. DC. Prodr. **2**: 61–92.
Monographic.

1825e. Leguminosae. DC. Prodr. **2**: 93–524.
Monographic.

1825f. Rosaceae. DC. Prodr. **2**: 525–639.
Monographic.

1828a. Combretaceae. DC. Prodr. **3**: 9–24.
Monographic.

1828b. Lythrarieae. DC. Prodr. **3**: 75–94.
Monographic.

1828c. Melastomaceae. DC. Prodr. **3**: 99–202.
Monographic.

1828d. Myrtaceae. DC. Prodr. **3**: 207–296.
Monographic.

1828e. Portulacaceae. DC. Prodr. **3**: 351–364.
Monographic.

1830a. Saxifragaceae. DC. Prodr. **4**: 1–54.
Monographic.

1830b. Araliaceae. DC. Prodr. **4**: 251–266.
Monographic.

1830c. Loranthaceae. DC. Prodr. **4**: 277–320.
Monographic.

1830d. Rubiaceae. DC. Prodr. **4**: 341–622.
Monographic.

1833. Genres nouveaux appartenant à la famille des Composées ou Synantherées. Arch. Bot. Guillemin **2**: 330–334. Reprint 1–6.
Includes descriptions of the new genera, *Balbisia* and *Robinsonia* from Juan Fernández.

1836–38. Compositae. DC. Prodr. **5**: 1–706. 1836; **6**: 1–687. 1837; **7**: 1–330. 1838.
Monographic.

1839a. Lobeliaceae. DC. Prodr. **7**: 339–413.
Monographic.

1839b. Goodenovieae. DC. Prodr. **7**: 502–520.
Monographic.

1839c. Epacrideae. DC. Prodr. **7**: 735–771.
Monographic.

1839d. Vaccinieae. DC. Prodr. **7**: 552–579.
Monographic.

1841. Mémoire sur la famille des Myrtacées. Mém. Soc. Phys. Hist. Nat. Genève **9**: 301–361. *pl. 1–22.* Reprint 1–61. *pl. 1–22.* 1842.
Includes some data on distribution of the family in Polynesia.

1844. Jasmineae. DC. Prodr. **8**: 300–316.
Monographic.

1845. Cyrtandraceae. DC. Prodr. **9**: 258–286.
Monographic.

1845–46. Borragineae. DC. Prodr. **9**: 466–559. 1845; **10**: 1–178. 1846.
Monographic.

Candolle, C. de.

1866. Piperaceae novae. Jour. Bot. **4**: 132–147, 161–167, 210–219.
Includes a few new species from Polynesia.

1869. Piperaceae. DC. Prodr. **16**(1): 235[65]–471.
Monographic.

1878. Meliaceae. DC. Monog. Phan. **1**: 399–752. *pl. 6–9.*
Monographic.

1898. Piperaceae novae. Ann. Conserv. Jard. Bot. Genève **2**: 252–288.
Includes a few new species from Hawaii and Tahiti.

1903. Meliaceae novae e Nova-Guinea, Samoa et Nova Caledonia. Bull. Herb. Boiss. II. **3**: 161–180.
Includes three new species from Samoa and one from New Caledonia (pp. 178-180).

1906. Meliaceae novae vel iterum lectae et Rutacea nova. Bull. Herb. Boiss. II. **6**: 981–986.
Includes four new Polynesian species.

1908. Trois Peperomia des Nouvelles-Hébrides. Bull. Herb. Boiss. II. **8**: 329–330.
Three new species described.

1910. Piperaceae: in Rechinger, K., Botanische und zoologische Ergebnisse. . . . Denkschr. Akad. Wiss. Wien **85**: 264–269. 1910. Reprint **3**: 90–95. 1910.
Considers some Samoan species.

1912. Piperaceae, Meliaceae: in Hochreutiner, B. P. G., Plantae Hochreutineranae Ann. Conserv. Jard. Bot. Genève **15**: 231–235, 245–247.
Includes two new species of *Peperomia* from Hawaii and *Dysoxylum albiflorum* n. sp. from Samoa.

1913a. The Hawaiian Peperomias. Coll. Hawaii Bull. **2**: 5–38. *pl. 1–8.*
A general taxonomic treatment.

1913b. Piperaceae: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **89**: 527–532. t. 4. Reprint 5: 85–90. *pl. 4.*
Includes some Samoan species.

1916. Piperaceae neo-caledonicae. Viert. Naturf. Ges. Zürich **61**: 632–633. Reprint Mitt. Bot. Mus. Univ. Zürich **76**: 632–633.
Two new species described.

1917. Piperaceae novae. Notizbl. Bot. Gart. Berlin **6**: 482–483.
Peperomia subpallescens n. sp. from New Caledonia.

1920. Piperaceae: in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1**: 131–133.
An enumeration with descriptions of new species.

1921. Piperaceae novae e Micronesia et Polynesia allatae. Bot. Jahrb. **56**: 502–506.
Twelve new species described; *Peperomia nativitatis* was from Christmas Island in the Indian Ocean.

1923. Piperacearum clavis analytica. Candollea **1**: 65–415.
A key with alphabetical list of accepted species, including the Polynesian species.

See also **Candolle, A. de,** and **Candolle, C. de**; and **Candolle, A. P. de, Candolle, A. de,** and **Candolle, C. de.**

Cardot, J.

1897. Répertoire sphagnologique. Catalogue alphabétique de toutes les espèces et variétés du genre Sphagnum avec la synonymie, la bibliographie et le distribution géographique d'après les travaux les plus récents. Soc. Hist. Nat. Autun Bull. **10:** 235–432. Reprint 1–200. 1897.

In all, 228 species recognized.

1908. Notes bryologiques. Bull. Herb. Boiss. II. **8:** 163–174. *f. 2–6.*

Includes a list of 26 species from New Caledonia, several described as new (pp. 166-172).

1912. Musci: in Hochreutiner, B. P. G., Plantae Hochreutineranae. Ann. Conserv. Jard. Bot. Genève **15:** 157–177.

A list of 96 species, including some new ones from Hawaii.

1914. Acrocladiopsis Card. genre nouveau de la tribu des Plagiothéciées. Rev. Bryol. **41:** 9.

Includes three species from Hawaii and four from the southern part of South America.

See also **Renault, F.,** and **Cardot, J.**

Carl, H.

1931. Die Arttypen und die systematische Gliederung der Gattung Plagiochila Dum. Ann. Bryol. Suppl. **2:** i–viii, 1–170. *f. 1–13.*

Monographic.

Carne, J. E.

1885. Report on a geological visit to Norfolk Island. Ann. Rept. Dept. Mines N.S.W. 147.

Includes a list of the flora, furnished by Isaac Robinson, from description by F. von Mueller. Not seen.

Carpenter, C. W.

1919. Banana freckle or black spot disease. Rep. Hawaii Agr. Exp. Sta. **1918:** 36–40.

1920a. Potato diseases in Hawaii and their control. Bull. Exp. Sta. Hawaiian Sugar Planters' Assoc. **45:** 1–42. *pl. 1–15. f. 1–7.*

1920b. Pythium in relation to lahaina disease and pineapple wilt. Hawaiian Pl. Rec. **23:** 142–174. *f. 1-13.*

Includes data on history, experimental work, and control methods.

1921. Morphological studies on the Pythium-like fungi associated with root rot in Hawaii. Bull. Exp. Sta. Hawaiian Sugar Planters' Assoc. Bot. Ser. **3:** 59–65.

Morphologically identical with *Rheosporangium aphanodermatus* and *Pythium butleri.*

1928–34. Notes on Pythium root rot. Hawaiian Pl. Rec. **32:** 107–117, (II) 192–204. *f. 1–3,* (III) 279–288; (IV) 461–474. *f. 1–6.* 1928; (V) **33:** 155–169. *f. 1–10.* 1929; (VI) **34:** 83–98. *f. 1–5.* 1930; (VII) **38:** 279–338. *f. 1–26.* 1934.

1940. A chitrid in relation to chloritic streak disease of sugar cane, Hawaiian Pl. Rec. **44:** 19–33. *f. 1–12.*

The organism is similar to *Physoderma zeaemaydis.* Not seen.

See also **Martin, J. P., Carpenter, C. W.,** and **Weller, D. M.**

Carpentier,—

1872. Iris Robinsoniana. Rev. Hort. **44:** 193–194.

A description of this native of Lord Howe Island.

Carrière, E. A.

1866a. Quelques Eutacta de la Nouvelle-Calédonie. Rev. Hort. **1866:** 392–393.

Horticultural notes on four species.

1866b. Eutacta Rulei polymorpha. Rev. Hort. **1866:** 350. *f. 41.*

Native of New Caledonia.

1874a. Aralia Veitchii. Rev. Hort. **1874:** 215–216. *f. 28.*

Native of New Caledonia.

1874b. Panax sessiliflora. Rev. Hort. **1874:** 248. *f. 32.*

A horticultural note; native of New Caledonia.

1887. Impatiens Hawkeri. Rev. Hort. **1887:** 536–537.

Said to be from the South Sea Islands, but actually a native of New Guinea.

1890. Oxera pulchella. Rev. Hort. **1890:** 274–275. *f. 80.*

Native of New Caledonia.

Carruthers, W.

1869. Filices: in Seemann, B., Flora Vitiensis. 331–378.

A general descriptive consideration of the then-known species.

Carter, N.

1922. Freshwater algae [of New Caledonia]. Jour. Linn. Soc. Bot. **46:** 47–68. *pl. 4. f. 1.*

Includes the descriptions of some new species.

Carter, W.

1939. Geographical distribution of yellow spot of pineapples. Phytopath. **29:** 285–287. *f. 1.*

Concerns its distribution in Polynesia.

Caruel, T.

1881. Philydraceae. DC. Monog. Phan. **3:** 1–6.

Monographic.

Cash, E. K.

1938. New records of Hawaiian Discomycetes. Mycologia **30:** 97–107. *f. 1–6.*

Notes on 35 species, six new in *Schizoxylon, Stictis, Scleroderris, Orbilia, Mollisia,* and *Lachnum.*

See also **Stevenson, J. A.,** and **Cash, E. K.**

Castle, H.

1937–39. A revision of the genus Radula. Introduction and part I. Subgenus Cladoradula. Ann. Bryol. **9:** 13–56. *f. 1–15.* 1937; Part II. Subgenus Acroradula. **12:** 21–47. *f. 1–10.* 1939.

Includes a few Polynesian species.

Castracane degli Antelminelli, F.

1886. Report on the Diatomaceae collected by H. M. S. Challenger during the years 1873–1876. Rep. Voy. H. M. S. Challenger, Botany **2:** i–iii. 1–178. *pl. 1–30.*

Includes the descriptions of many new species from Polynesia.

Caum, E. L.

1918. A new weed. Hawaiian Pl. Rec. **19:** 347–349. *1 f.*

Convolvulus arvensis.

1919. A new cane disease. Hawaiian Pl. Rec. **20:** 275–279. *f. 1–7.*

Phyllosticta hawaiiensis n. sp.

1920. Diseases of the cane plant. Hawaiian Pl. Rec. **22:** 107–118.

General notes on various important diseases of the sugarcane.

1921. A contribution to a check list of sugar cane fungi. Bull. Exp. Sta. Hawaiian Sugar Planters' Assoc. Bot. Ser. **3**: 66–97. *f. 1–4.*

A critical list of the known species.

1930a. Notes on the flora of Molokini. Occ. Pap. Bishop Mus. **9(1)**: 15–18. *pl. 1–3. f. 1.*

A list with notes.

1930b. New Hawaiian plants. Occ. Pap. Bishop Mus. **9(5)**: 1–30. *pl. 1–5. f. 1–2.*

Twelve new species and varieties described, including 5 new species of *Pritchardia.*

1933a. Notes on Pteralyxia. Occ. Pap. Bishop Mus. **10(8)**: 1–24. *pl. 1–14. f. 1–2.*

P. macrocarpa and *P. kauaiensis* n. spp. from Hawaii.

1933b. The bindweed. Hawaiian Pl. Rec. **37**: 19–25. *f. 1–3.*

Convolvulus arvensis.

1936. Notes on the flora and fauna of Lehua and Kaula Islands. Bishop Mus. Occ. Pap. **11(21)**: 1–17. *pl. 1–3. f. 1.*

Lists 35 species of plants, with notes, from these small islands of the Hawaiian group.

Caum, E. L., and **Hosaka, E. Y.**

1936. A new species of Schiedea. Bishop Mus. Occ. Pap. **11(23)**: 1–5. *f. 1.*

S. kealiae n. sp. from Oahu, Hawaiian islands.

Caum, E. L., and **Martin, J. P.**

1936–37. Yams for Hawaiian gardens. Hawaiian Pl. Rec. **40**: 171–182. *f. 1–16.* 1936; (II) **41**: 13–15. *f. 1–5.* 1937.

A consideration of a few exotic cultivated species.

Caum, E. L.

1940. A devastating weed. Hawaiian Pl. Rec. **44**: 243–249. *f. 1–11.*

Mikania micrantha.

See also **Christophersen, E.,** and **Caum, E. L.**

Cavanilles, A. J.

1791–1801. Icones et descriptiones plantarum, quae aut sponte in Hispania crescunt aut in hortis hospitantur. **1**: [1–4] 1–67. *pl. 1–100.* 1791; **2**: [1–4] 1–79. *pl. 101–200.* 1793; **3**: i-x, [1–4], 1–54. *pl. 201–300;* 1794; **4**: 1–82. *pl. 301–400.* 1797; **5**: i–iv, 1–74. *pl. 401–500 bis.* 1799; **6**: 1–97. *pl. 501–600.* 1801.

Includes illustrations and descriptions of a few species from the Marianas Islands.

1801. Del género Ugena. Anal. Cienc. Nat. **4**: 249–256. *pl. 37.*

Includes *U. semihastata* and *U. dichotoma* from Guam.

1801–02. Descripción de las plantas que D. Antonio Josef Cavanilles demostró en las lecciones públicas del año 1801, precedida de los principios elementales de la botánica. i–cxxxvi, 1–625.

Includes descriptions of a few species from the Marianas Islands. Republished in 1827 with same pagination as the original edition. Pp. 1-264 of the original edition published in 1801, the remainder in 1802.

Chamberlain, J. E.

1880. The algae of the Hawaiian islands. Hawaiian Annual (1881) **7**: 32–33.

Lists 112 species.

Chamisso, L. C. A. von

1821. Bemerkungen und Ansichten: in Kotzebue, O. von, Entdeckungs-Reise in die Süd-See und nach der Berings-Strasse zur Erforschung einer nordöstlichen Durchfahrt. Unternommen in den Jahren 1815, 1816,

1817 und 1818 auf Kosten Sr. Erlaucht des Herrn Reichs-Kanzlers Grafen Rumanzoff auf dem Schiffe Rurick. **3:** 1-179.

Includes references to the vegetation of Hawaii, the Caroline, and Marianas Islands. An English edition of Kotzebue's voyage appeared in 1821, in three volumes under the title: "A Voyage of Discovery into the South Seas and Bering's Straits, for the Purpose of Exploring a Northeast Passage, Undertaken in the Years 1815-1818."

Chamisso, L. C. A. von, and **Schlechtendal, D. von**

1826–35. De plantis in expeditione speculatoria Romanzoffiana observatis rationem dicunt. Linnaea **1:** 1–73. *pl. 1–2,* 165–226. *pl. 4,* 333–405. *pl. 5,* 511–570. 1826; **2:** 1–37, 145–233. *pl. 4–6,* 345–379, 541–611. 1827; **3:** 1–63, 115–141, 199–233, 309–377. *pl. 3.* 1828; **4:** 1–42, 129–202, 435–508. *pl. 5,* 1829; **5:** 43–59, 1830; **6:** 76–170. *pl. 1–2,* 209–260, 501–592. *pl. 6–7.* 1831; **7:** 105–128, 207–272. *pl. 5–6,* 364–379, 542–560, 653–726. 1832; **8:** 169–228. *pl. 4.* 1833; **9:** 368–402, 428–460. 1834; **10:** 32–50, 217–218, 582–603. 1835.

Includes the descriptions of various new species from Hawaii and Guam. The title varies.

Chamisso, L. C. A. von

1830. Notices respecting the botany of certain countries visited by the Russian voyage of discovery under the command of Capt. Kotzebue. Bot. Miscel. Hook. **1:** 305–323.

Includes data on Hawaii and the Caroline and Marianas Islands, apparently taken from the English edition of Kotzebue's voyage mentioned above.

1836. Reise um die Welt mit der Romanzoffischen Entdeckungs-Expedition in den Jahren 1815–1818 auf der Brigg Rurik, Kapitain Otto von Kotzebue. (Tagebuch, Bemerkungen, und Ansichten). **1:** 1–436; **2:** 1–396. *illus.*

This forms volumes 1 and 2 of a collected edition of Chamisso's works, volume 2 being mainly a reprint of **Chamisso, L. C. A. von,** 1821.

1862. Remarks and opinions respecting the Sandwich Islands. Friend **19:** 9–11, 14–16.

Extracted from Kotzebue's voyage, including notes on the vegetation; see **Chamisso, L. C. A. von,** 1821.

Chaney, G. L.

1880. "Aló ha!" A Hawaiian salutation. i-ix. 1–299. *pl. 1–3. map.*

Includes scattered notes on Hawaiian ferns and fern collecting.

Chase, A.

1938. The carpet grasses. Jour. Washington Acad. Sci. **28:** 178–182. *f. 1–2.*

Records the North American *Axonopus affinis* n. sp. as an introduced species in Hawaii.

Chase, F. M.

1942. Useful algae. Smithsonian Rep. **1941:** 401–452. *pl. 1–9.*

Includes data on edible algae from Hawaii, pp. 421-423.

Cheel, E.

1906. Bibliography of Australian, New Zealand and South Sea Islands lichens (second paper). Jour. Proc. Roy. Soc. N. S. W. **40:** 141–154.

Includes various titles appertaining to Polynesian lichens.

1912–14. Australian and South Sea Islands Stictaceae. I. Australas. Assoc. Adv. Sci. **13:** 254–270. 1912; (II) **14:** 311–320.

Includes some species from New Caledonia, Samoa, and Lord Howe Islands.

Cheeseman, T. F.

1888. On the flora of the Kermadec Islands. Trans. Proc. New Zeal. Inst. **20:** 151–181.

A critical enumeration with notes.

1903. The flora of Raratonga, the chief island of the Cook group. Trans. Linn. Soc. II. Bot. **6:** 261–313. *pl. 31–35. map.*

An enumeration with the descriptions of new species.

Cheney, R. H.

1925. Coffee, a monograph of the economic species of the genus Coffea L. i-xvii, 1–244. *f. 1–77.*

Monographic.

Chevalier, A.

1931. La culture du caféier en Nouvelle-Calédonie. Rev. Bot. Appl. **11:** 174–176.

Includes notes on the cultivation of various species.

1937. Plantes ichtyotoxiques des genres Tephrosia et Mundulea. Leur dispersion, leur culture et leurs propriétés insecticides. Rev. Bot. Appl. Agr. Trop. **17:** 9–27.

Includes *Tephrosia purpurea* from Polynesia.

1939. Sur quelques types de Gossypium de l'herbier du muséum de Paris. Rev. Bot. Appl. Agr. Trop. **19:** 537–551. *pl. 11–16.*

Includes a photographic reproduction of what is probably a cotype of *G. taitense* from Tahiti.

1940. L'arbre à pain et ses congénères. Leur culture, leur utilisation, leur multiplication dans nos colonies tropicales, leur étude. Rev. Bot. Appl. Agr. Trop. **20:** 25–38.

Artocarpus communis, native of the Pacific Islands.

Child, M.

1932. The genus Daldinia. Ann. Missouri Bot. Gard. **19:** 429–496. *pl. 26–33. f. 1–4.*

Includes Polynesian species.

Ching, R. C.

1933. The studies of Chinese ferns IX. Bull. Fan Mem. Inst. Biol. **4:** 47–113, 115–116 (Chinese résumé).

Contains the new name *Lepisorus elongatus* (p. 89) for the Hawaiian *Pleopeltis elongata.*

1934. A revision of the compound leaved Polysticha and other related species in the continental Asia including Japan and Formosa. Sinensia **5:** 23–91. *pl. 1–18. f. 1–2.*

Includes nomenclatural transfers for a few Polynesian species.

1936. On the genera Stegnogramma Bl. and Leptogramma J. Sm. Sinensia **7:** 89–112. *f. 1–9.*

Includes *L. africana* n. comb., the species extending to Polynesia.

1936–38. A revision of the Chinese and Sikkim-Himalayan Dryopteris with reference to some species from neighbouring regions. Bull. Fan Mem. Inst. Biol. **6:** 237–352. 1936; **8:** 157–268, 275–334. *pl. 6–7,* 363–507. 1938.

Includes some nomenclatural changes for Polynesian species in genera segregated from *Dryopteris.*

1940a. On natural classification of the family "Polypodiaceae." Sunyat. **5:** 201–268. *1 chart.*

Contains many new binomials in such genera as *Goniopteris, Struthiopteris, Ctenitis, Haplodictyum, Lepidogrammatis, Myrmecophila, Selliguea, Colysis,* and *Campyloneurum* some of which appertain to Polynesian species. The "Polypodiaceae" is divided into 33 families, with key.

1940b. On the genus Gleichenia Smith. Sunyat. **5:** 269–288.

Five genera recognized, *Dicranopteris, Gleichenella, Hicriopteris, Sticherus,* and *Calymella,* with many new binomials, some for Polynesian species.

Chiovenda, E.

1923. La culla del Cocco (Contributo alla ricerca della patria originaria della Palma del Cocco). Webbia **5**: 359–449.

A general consideration of the place of origin of *Cocos nucifera*.

Chodat, R.

1890–93. Monographia Polygalacearum. Mém. Soc. Phys. Hist. Nat. Genève Vol. Suppl. **1890**(7): 1-143. *pl. 1–12.* 1891; **31**(2): i-xii, 1–500. *pl. 13–35.* 1893.

Monographic.

Choisy, J. D.

1833. Convolvulaceae orientales nempe Indicae, Napaulenses, Birmannicae, Chinenses, Japonicae nec non et quaedam Australasicae, pleraeque in ditissimis Brittan. societatis Indiae-orientalis herbariis observatae et descriptae; celeberrimi Wallichii catalogo comparatae, et gallica praefatione de generibus intra Convolvulaceas admittendis comitatae. Mém. Soc. Phys. Hist. Nat. Genève **6**: 383–502. *pl. 1–6.* Reprint 1–120, 1–7. *pl. 1–6.* 1834.

Includes data on some Polynesian species; see also next entry.

1837. De Convolvulaceis dissertatio secunda, complectens recensionem generum Batatas, Exogonium, Jacquemontia, Evolvulus, nec non et paucas spectabiles species intra genera Ipomaea, Aniseia et Breweria excerptas. Mém. Soc. Phys. Hist. Nat. Genève **8**: 43–86. *pl. 1–4.* Reprinted as a part of his "Convolvulaceae orientales," pp. 121–164. *pl. 1–4.* 1837.

1841. De Convolvulaceis dissertatio tertia, complectens Cuscutarum hucusque cognitarum methodicam enumerationem et descriptionem, necnon et brevem gallicam de Cuscutis praefationem. Mém Soc. Phys. Hist. Nat. Genève **9**: 261–288. *pl. 1–5.*

Includes *Cuscuta sandwichiana* n. sp. from Hawaii.

1845. Convolvulaceae. DC. Prodr. **9**: 323–462.

Monographic.

1846. Hydroleaceae. DC. Prodr. **10**: 179–185.

Monographic.

1849. Nyctaginaceae. DC. Prodr. **13**(2): 425–458.

Monographic.

1855. Mémoire sur les familles des Ternstroemiacées et Camelliacées. Mém. Soc. Phys. Hist. Nat. Genève **14**: 91–186. t. 1–3. Reprint 1–98. *pl. 1–3.*

Includes some Polynesian species.

Chou, R. C.-Y.

1945. Pacific species of Galaxaura. I. Asexual types. Pap. Mich. Acad. Sci. Pt. I. Bot. & For. **30**: 35–56. *t. 1–11. f. 1–2.* (1944.).

Twelve species considered in detail, several from Polynesia.

Christ, H.

1893. Les différentes formes de Polystichum aculeatum (L. sub. Polypodio,) leur groupement et leur dispersion, y compris les variétés exotiques. Ber. Schweiz. Bot. Ges. **3**: 26–48.

Includes some Polynesian forms.

1897. Die Farnkräuter der Erde. Beschreibende Darstellung der Geschlechter und wichtigeren Arten der Farnpflanzen mit besonderer Berücksichtigung der Exotischen. i-xii, 1–388. *291 f.*

General discussion; mentions many Polynesian species.

1899a. Énumération de quelques fougères de l'herbier Delessert, II. Filices a cl. Germain in Nova Caledonia lectae. Ann. Conserv. Jard. Bot. Genève **3**: 31–32.

Lists 14 species.

1899b. Monographie des genus Elaphoglossum. Neue Denkschr. Schweiz. Ges. Naturwiss. **36**: 1-159. *pl. 1–4. f. 1–79.*

Monographic.

1910. Die Geographie der Farne. 1–357. *1 pl. f. 1–129. maps 1–3.*

General.

1912. Filices: in Hochreutiner, B. P. G., Plantae Hochreutineranae. Ann. Conserv. Jard. Bot. Genève **15**: 178–222.

An enumeration of 224 species, some from Hawaii and Samoa.

Christensen, C.

1905–34. Index Filicum sive enumeratio omnium generum specierumque Filicum et Hydropteridum ab anno 1753 ad finem anni 1905 descriptorum, adjectis synonymis principalibus, area geographica. . . i-lix, 1–744. 1905–06; Supplement 1906–12. 1–131. 1913; Supplement préliminaire pour les années 1913, 1914, 1915, 1916. 1–60. 1917; Supplement tertium. 1–219. 1934.

A comprehensive index to all published binomials; bibliography.

1910a. Ueber einige Farne in O. Swartz' Herbarium. Arkiv Bot. **9**(11): 1–46. *pl. 1–5. 13 f.*

Pp. 37–43, "Von Cavanilles beschriebene Arten," include several Polynesian species.

1910b. On some species of ferns collected by Dr. Carl Skottsberg in temperate South America. Arkiv Bot. **10**(2): 1–32. *pl. 1. f. 1–4.*

Includes five species from Juan Fernández.

1920. Bregner fra Raekke Juan Fernandez, samlet af Prof. Carl Skottsberg. Bot. Tidsskr. **37**: 148–151.

Includes tabulated data on the number of species of pteridophytes and phanerogams occurring in various oceanic islands including Juan Fernández, Tonga, Rarotonga, and Hawaii.

Christensen, C., and Skottsberg, C.

1920a. The Pteridophyta of the Juan Fernandez Islands: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island. **2**: Botany 1–46. *pl. 1–5. f. 1–7.*

A list with notes and the descriptions of new species.

1920b. The ferns of Easter Island: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island. **2**: Botany 47–53. *f. 1–3.*

A list, with notes, including *Doodia paschalis* n. sp.

Christensen, C.

1925a. Revised list of Hawaiian Pteridophyta. Bishop Mus. Bull. **25**: 1–30.

Lists 159 species with critical notes.

1925b. Filices neocaledoniae. Viert. Naturf. Ges. Zürich **70**: 221–224.

Includes descriptions of five new species and one variety.

1929a. On some ferns from New Caledonia: in Däniker, A. U., Ergebnisse der Reise nach Neu-Caledonia. Viert. Naturf. Ges. Zürich **74**: 55–62. Reprint, Mitt. Bot. Mus. Univ. Zürich **130**: 55–62. 1929.

An enumeration, including *Cheilanthes daenikeri* n. sp.

1929b. Taxonomic fern-studies. I. Revision of the polypodioid genera with longitudinal coenosori (Cochlidiinae and "Drymoglossinae"); with a discussion of their phylogeny. Dansk Bot. Arkiv. **6**(3): 1–93. *pl. 1–13. f. 1.*

Includes some Polynesian species.

1930. The genus Cyrtomium. Am. Fern Jour. **20**: 41–52.

Includes the Hawaiian species.

1932. Pteridophyten (Mit Ausnahme der Selaginellen): in Däniker, A. U., Ergebnisse der Reise von Dr. A. U. Däniker nach Neu-Caledonien und den Loyalty-Inseln. 4. Katalog der Pteridophyta und Embryophyta siphonogama. Viert. Naturf. Ges. Zürich **77**: Beibl. **19**: 8–42. Reprint, Mitt. Bot. Mus. Zürich **142**: 1–42.

A critical enumeration with the descriptions of a few new species.

1937a. Taxonomic fern-studies III. Revision of the genera and species of ferns described by A. J. Cavanilles. Dansk Bot. Arkiv **9**(3): 3–32. *pl. 1–4. f. 1.*

Includes critical notes on various Marianas Islands genera and species originally described by Cavanilles.

1937b. Taxonomic fern-studies V. Descriptions of 36 new species of ferns. Dansk Bot. Arkiv **9**(3): 53–73. *pl. 5–6.*

Includes *Adiantum palaoense* n. sp. from the Palau Islands.

1939. Two new ferns from Oceania. Kew Bull. **1939**: 28–29.

Includes *Blechnum* (*Lomaria*) *phanerophlebium* from Fiji.

1941. A brief analysis of the fern flora of Samoa. Proc. Sixth Pacific Sci. Congr. **4**: 655.

A brief summary.

1943. A revision of the Pteridophyta of Samoa. Bishop Mus. Bull. **117**: 1–138. *pl. 1–4.*

In all, 63 genera and 218 species recognized; a few described as new. Includes keys to the species in some genera, synonymy, and critical notes.

Christian, F. W.

1897. Notes from the Caroline Islands. Jour. Polynes. Soc. **6**: 187–200.

Includes a list of vernacular names of Ponape plants and of varieties of breadfruit.

1899. The Caroline Islands. Travel in the sea of little islands. i-xii, 1–412.

A very full account of travels and observations in the Carolines during 1896-1897, during which the author visited and described practically every group in the Archipelago. Appendices include lists of native diseases, plants, fishes, insects, birds, and mammals, with their native names.

Christmann, G. F. See **Panzer, G. W. F.**, 1783.

Christophersen, E.

1927a. Vegetation of Pacific equatorial islands. Bishop Mus. Bull. **44**: 1–79. *pl. 1–7. f. 1–13.*

List with notes and extensive ecological data on the plants of Christmas, Cook, Jarvis, Fanning, Palmyra, Baker, and Howland Islands.

1927b. Dyreliv og planteliv stillehavets koralöer. Naturen **51**: 132–149. *f. 1–10.*

Includes notes on various plants.

1930. A few remarks on Joinvillea. Proc. Hawaii Acad. Sci. Bishop Mus. Spec. Publ. **16**: 14.

Brief notes.

Christophersen, E.

1931a. Wikstroemia sericea sp. nov.: in Wilder, G. P., Flora of Rarotonga. Bishop Mus. Bull. **86**: 78. *pl. 6.*

From Mangatea.

1931b. Notes on Joinvillea. Occ. Pap. Bishop Mus. 9(12): 1–7. *pl. 1.*

A critical consideration of the Hawaiian species, thought to be *J. gaudichaudii* Brongn. & Gris.

1931c. Vascular plants of Johnston and Wake Islands. Occ. Pap. Bishop Mus. 9(13): 1–20. *f. 1–5. maps 1–3.*

General description of vegetation and a critical enumeration of the species.

Christophersen, E., and **Caum, E. L.**

1931. Vascular plants of the Leeward Islands, Hawaii. Bishop Mus. Bull. **81**: 1–41. *pl. 1–6. f. 1–3.*

General description of vegetation; critical enumeration of species; some species and varieties described as new.

Christophersen, E.

1934a. A new Hawaiian Abutilon. Occ. Pap. Bishop Mus. **10(15)**: 1–7. *f. 1.*

A. sandwicense welchii n. var. and *A. eremitopetalum* n. name (*A. cryptopetalum*).

1934b. Botanical exploration of Samoa. Proc. Fifth Pacific Sci. Congr. **4**: 3325–3327.

A summary of accomplishments from 1787 to 1933.

1935–38. Flowering plants of Samoa. Bishop Mus. Bull. **128**: 1–221. *f. 1–32.* 1935; (II) **154**: 1–77. *pl. 1–3. f. 1–21.* 1938.

An extensive enumeration with descriptions of new species, literature citations, notes, native names, and a bibliography.

See also **Setchell, W. A.,** and **Christophersen, E.**

Chung, H. L., and **Ripperton, J. C.**

1929. Utilization and composition of oriental vegetables in Hawaii. Hawaiian Agr. Exp. Sta. Bull. **60**: 1–64. *f. 1–52.*

Discusses various introduced oriental species used for food in Hawaii.

Clark, J. J.

1913. Agathis vitiensis. Bot. Mag. **139**: *pl. 8512.*

Native of Fiji.

Clarke, C. B.

1881. Commelinaceae. DC. Monog. Phan. **3**: 113–324. *pl.* 1–8.

Monographic.

1883a. Cyrtandreae. DC. Monog. Phan. **5**: 1–303. *pl. 1–32.*

Monographic.

1883b. On Hemicarex, Benth., and its allies. Jour. Linn. Soc. Bot. **20**: 374–403. *pl. 30.*

Includes *Uncinia douglassi* from Juan Fernández.

1884. On the Indian species of Cyperus; with remarks on some others that specially illustrate the subdivisions of the genus. Jour. Linn. Soc. Bot. **21**: 1–202. *pl. 1–4.*

Includes some Polynesian species.

1898. On the subareas of British India, illustrated by the detailed distribution of the Cyperaceae in that empire. Jour. Linn. Soc. Bot. **34**: 1–146. *pl. 1.*

Includes the Polynesian range of various species.

1901. Cyperaceae (praeter Caricinas) Chilenses. Bot. Jahrb. **30**: Beibl. **68**: 1–44.

Includes a few Juan Fernández species.

1908. New genera and species of Cyperaceae. Kew. Bull. Add. Ser. **8**: i-iv, 1–196.

Includes some Polynesian species.

1909. Illustrations of Cyperaceae. i–iv, [1–2]. *pl. 1–144.*

Includes some Polynesian species; no descriptions.

Clarke, F. L.

1875. Decadence of Hawaiian forests. Hawaiian Annual **1**: 19–20.

General observations.

Clausen, R. T.

1938a. A monograph of Ophioglossaceae. Mem. Torr. Bot. Club **19**: 1–177. *f. 1–33.*

Monographic, including the few known Polynesian species.

1938b. Ophioglossum petiolatum Hooker. Am. Fern Jour. **28**: 1–11. *pl. 1–3.*

Recorded from Samoa, Fiji, and New Caledonia; full synonymy.

1945. A botanical study of the yam beans (Pachyrrhizus). Cornell Univ. Agr. Exp. Sta. Mem. **264**: 1–38. *f. 1–13.*

Monographic, six species recognized. *P. erosus* recorded from Hawaii and Guam (introduced).

Clements, F. E., and **Shear, C. L.**

1931. The genera of fungi. i-iv. 1–496. *pl. 1–58.*

Primarily a key to the genera of fungi, with a systematic list of recognized genera by natural groups, bibliography, glossary, and index.

Clinton, G. P.

1902. North American Ustilagineae. Jour. Myc. **8**: 128–156.

Includes *Sphacelotheca monilifera* nom. nov., native of Hawaii.

Clos, D.

1855. Monographie de la famille des Flacourtianées. Ann. Sci. Nat. IV. Bot. **4**: 326–387.

Includes the few Polynesian species.

1857. Revision des genres et des espèces appartenant à la famille des Flacourtianées. Ann. Sci. Nat. IV. Bot. **8**: 209–274.

Includes the few Polynesian species.

Cobb, N. A.

1906. Fungus maladies of the sugar cane. Hawaiian Sugar Planters' Exp. Sta. Div. Path. Phys. Bull. **5**: 1–254. *pl. 1–7. f. 1–102.*

Discusses various fungus diseases and their causative agents, including *Ithyphallus coralloides, Microsphaerella striatiformans,* and *Clathrus trilobatus,* spp. nov.

1907. Notes on some diseases of the pineapple. Hawaiian For. Agr. **4**: 123–144. *f. 1–9.*

Discusses various fungi causing diseases of the pineapple.

1909. Fungus maladies of the sugar cane. Hawaiian Sugar Planters' Exp. Sta. Div. Path. Phys. Bull. **6**: 1–110. *pl. 1–7. f. 1–64.*

Discusses fungi causing disease.

Cogniaux, A.

1881. Cucurbitaceae. DC. Monog. Phan. **3**: 325–954.

Monographic.

1891. Melastomaceae. DC. Monog. Phan. **7**: 1–1256.

Monographic.

1908. Deux Cucurbitacées nouvelles des îles Samoa. Repert. Nov. Sp. **5**: 257–258.

Melothria rechingeri and *M. carnosula* n. spp.

1910. Cucurbitaceae: in Rechinger, K., Botanische und zoologische Ergebnisse ... Denkschr. Akad. Wiss. Wien **85**: 379–382. *f. 30.* Reprint **3**: 205–208.

An enumeration.

1916. Cucurbitaceae-Fevilleae et Melothrieae. Pflanzenr. **66**(IV. 275. I): 1-277. *f. 1-65.*

Monographic.

Cogniaux, A., and **Harms, H.**

1924. Cucurbitaceae-Cucurbiteae-Cucumerinae. Pflanzenr. **88**(IV. 275. II): 1–246. *f. 1–26.*

Monographic.

Colby, J. A.

1934. Plant hunting in Polynesia. Gard. Chron. Am. **38**: 328–330. *4 f.*

A very popular account.

Colla, L.

1833–36. Plantae rariores in regionibus Chilensibus a clarissimo M. D. Bertero nuper detectae et ab A. Colla in lucem editae. Mem. Accad. Sci. Torino **37**: 41–85. *pl. 1–20.* 1833; **38**: 1–42, 117–141. *pl. 2147.* 1835; **39**: 1–55. *pl. 48–75.* 1836.

Includes some Juan Fernández species.

1833–37. Herbarium Pedemontanum juxta methodum naturalem dispositum additis nonnullis stirpibus exoticis ad universos ejusdem methodi ordines exhibendos. **1**: i–ix, 1–566. 1833; **2**: 1–557. 1834; **3**: 1–587. 1834; **4**: 1–592. 1835; **5**: 1–571. 1836; **6**: 1–606. 1836; **7**: 672. 1837; **8**: 1–102. *pl. 1–98.* 1837.

Contains a few Juan Fernández species.

Collins, F. S.

1912. The botanical and other papers of the Wilkes Exploring Expedition. Rhodora **14**: 57–68.

Bibliographic.

Collins, T. L.

1937. Wild pineapples in Hawaii. Parad. Pacific. **49**(2): 4, 25. *1 f.*

Ananas microstachys, A. microcephalus, and *A. bracteatus* are recognized, all introduced.

Compton, R. H.

1922. A systematic account of the plants collected in New Caledonia and the Isle of Pines by R. H. Compton, M.A., in 1914. Part II. Gymnosperms and cryptogams [ferns and mosses]. Jour. Linn. Soc. Bot. **45**: 421–466. *pl. 26–27.*

An enumeration with notes and the descriptions of new species, Musci by I. Thériòt. See **Rendle, A. B., Baker, E. G.,** and **Moore, S. le M.,** 1921-22, for part 1.

Cook, M. T.

1935. Host index of virus diseases of plants. Jour. Univ. Puerto Rico **19**: 315–406.

Includes some Polynesian references. Supplemented by "Index to the Vectors of Virus Diseases of Plants" (pp. 407-420).

See also **Otero, J. J.**, and **Cook, M. T.**

Cook, O. F.

1915. Glaucothea, a new genus of palms from Lower California. Jour. Washington Acad. Sci. **5**: 236–241.

Styloma is proposed as a new generic name for *Pritchardia* and 16 Polynesian binomials are transferred (=*Eupritchardia*).

1926. A new genus of palms based on Kentia forsteriana. Jour. Washington Acad. Sci. **16**: 392–397.

Denea forsteriana, native of Lord Howe Island.

1927. Kentia palms in California. South Pacific Islands palms adapted to coast conditions. Jour. Hered. **18:** 397–419. *f. 16–25.*

Includes botanical and historical data on some species of *Howea* and *Denea* natives of Lord Howe Island.

Cooke, J. C. M.

1907. The Hawaiian Hepaticae of the tribe Trigonantheae. Trans. Connect. Acad. **12:** 1–44. *pl. 1–15.*

Includes the descriptions of various new species.

Cooke, M. C.

1878. Enumeration of Polyporus. Trans. Bot. Soc. Edinb. **13:** 131–159.

A list including some Polynesian species.

1885. Some exotic fungi. Grevillea **14:** 11–14.

Includes *Sphaerella trichomanes* n. sp. from Samoa.

1889. Omitted diagnoses [of fungi]. Grevillea **17:** 65–69.

Includes *Goniothecium subglobosum* n. sp. from Rarotonga.

Cooley, M. E.

1940. The exploring expedition in the Pacific. Proc. Am. Philos. Soc. **82:** 707–719. *f. 1–2.*

Refers to the Wilkes Exploring Expedition, giving data regarding the places visited.

Copeland, E. B.

1911. Cyatheae species novae orientales. Philip. Jour. Sci. **6:** Bot. 359–364.

Includes three new species of *Cyathea* from Samoa.

1914. Hawaiian ferns collected by M. l'Abbé U. Faurie. Philip. Jour. Sci. **9:** Bot. 435–441.

Seven new species described.

1916. Hawaiian ferns collected by J. F. Rock. Philip. Jour. Sci. **11:** Bot. 171–173.

Five new species described.

1928. Leptochilus and genera confused with it. Philip. Jour. Sci. **37:** 333–416. *pl. 1–32, f. 1–52.*

Includes various Polynesian species of *Campium,* several described as new.

1929a. Ferns of Fiji. Bishop Mus. Bull. **59:** 1–105. *pl. 1–5.*

A general manual with keys and descriptions; the first part includes descriptions of 23 new species.

1929b. Pteridophyta Novae Caledoniae. Univ. Calif. Publ. Bot. **14:** 353–369.

Includes descriptions of some new species and notes on others.

1929c. The oriental genera of Polypodiaceae. Univ. Calif. Publ. Bot. **16:** 45–128.

A general consideration of the genera and their limits.

1931a. Pteridophytes collected for the Arnold Arboretum on Vanikoro, Santa Cruz Islands, by S. F. Kajewski. Jour. Arnold Arb. **12:** 46–49.

Includes the descriptions of four new species.

1931b. Rarotonga ferns, collected by Harold E. and Susan Thew Parks. Univ. Calif. Publ. Bot. **12:** 375–381.

Includes several new species.

1931c. Miscellaneous oriental pteridophytes. Univ. Calif. Publ. Bot. **12:** 383–418. *pl. 49–54.*

Includes some new species from Polynesia.

1932a. Pteridophytes of the Society Islands. Bishop Mus. Bull. **93:** 1–86. *pl. 1–16. f. 1–3.*

A descriptive account with keys; the first part includes descriptions of 21 new species.

1932b. Pteridophyta: in Guillaumin, A., Contribution to the flora of the New Hebrides. Jour. Arnold Arb. **13**: 118–126.

An enumeration.

1933. Trichomanes. Philip. Jour. Sci. **51**: 119–280. *pl. 1–61.*

A monographic treatment of the Old World species.

1938a. Ferns of southeastern Polynesia. Occ. Pap. Bishop Mus. **14**: 45–101. *pl. 1–25.*

An enumeration with notes and with descriptions of 25 new species.

1938b. Hymenophyllum. Philip. Jour. Sci. **64**: 1–188. *pl. 1–89.* 1937 [1938].

A general revision of the Old World species including those of Polynesia, about 130 species recognized.

1938c. Genera Hymenophyllacearum. Philip. Jour. Sci. **67**: 1–110. *pl. 1–11.*

Thirty-three genera recognized, with many new combinations for Polynesian species.

1939a. New or interesting ferns from Micronesia, Fiji, and Samoa. Occ. Pap. Bishop Mus. **15**: 79–92. *f. 1–9.*

Notes on various species, with new ones in *Cyathea, Athyrium, Tapeinidium, Pteris, Calymmodon, Grammitis,* and *Goniophlebium.*

1939b. Fern evolution in Antarctica. Philip. Jour. Sci. **70**: 157–189. *f. 1–2.*

Includes data on the distribution of ferns in Polynesia.

1940. Three Polynesian ferns. Occ. Pap. Bishop Mus. **16**: 77–79. *f. 1.*

Gonocormus samoensis n. sp. and *Polypodium lepidum* from Samoa and *Selliguea feei* from the Marquesas Islands.

1941a. Antarctica as the source of existing ferns. Proc. Sixth Pacific Sci. Congr. **4**: 625–627.

A brief discussion with some mention of Polynesia.

1941b. Comment on natural classification of the family Polypodiaceae by R. C. Ching. Sunyat. **6**: *159–177.*

A general discussion.

Cordemoy, C. J. de

1862–63 Monographie du groupe des Chloranthacées. Adansonia **3**: 280–288. 1862; 289–310. 1863.

Includes the then-known Polynesian species.

1899. Gommes, résines d'origine exotique et végétaux que les produisent, particulièrement dans les colonies françaises. Ann. Inst. Colon. Marseille **6(2)**: i-ix, 1–312. *f. 1–47.*

Includes various Polynesian species and "Les Dammara de la Nouvelle Calédonie," pp. 135-142.

Cornu, M.

1865. La végétation à la Nouvelle-Calédonie, les plantes étrangères et les plantes indigènes. Rev. Sci. Fr. **3**: 17–18.

Not seen.

Coster, S. E. H.

1938. Notes on taro, sweet potato and banana growing. Agr. Jour. [Fiji] **9(4)**: 24–28.

Chiefly agricultural.

Cotton, A. D.

1914. The genus Atichia. Kew Bull. **1914**: 54–63. *1 f.*

Includes some Polynesian species.

1920. Lichenes (Nachtrag): in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1:** 109.

Four species listed.

See also **Wakefield, E. M., Massee, G.,** and **Cotton, A. D.**

Courtet, H.

1909. La patate douce (Batatas edulis) et les Polynésiens. Bull. Soc. Nat. Acclim. France **56:** 186–191.

Brief historical data and notes on vernacular names.

Cox, L. M.

1926. The Island of Guam. Ed. 4, 1–82, *illus., 1 map.*

Includes a few data on economic plants. First issued in 1904 in the Bull. Am. Geogr. Soc. **36:** 385-395. *5 f. 1 map;* revised editions in 1911, 1916 and 1926, the latter edited by Mrs. Allen H. White. Earlier editions not seen. Issued by the Naval Government of Guam.

Cranwell, L. M.

1933. Flora of Manikiki, Cook Group. Rec. Aukl. Mus. **1:** 169-171.

A short list.

Cranwell, L. M., and others.

1943. Food is where you find it. A guide to emergency foods of the western Pacific. 1–72. *illus.*

Published by the Auckland Institute and Museum; contains many data regarding available food plants of the western Pacific region.

Crawford, D. L.

1937. Hawaii's crop parade. A review of useful products derived from the soil in the Hawaiian Islands, past and present. 1–305.

Includes many data on native and introduced species, especially those of economic importance.

Credner, A. von

1888. Oxera pulchella Labill. Möller's Deutsch. Gärt.-Zeit. **3:** 209–210. *1 f.*

Native of New Caledonia.

Cretzoiu, P.

1934. Miscellanea systematica et phytogeografica, III. Repert. Sp. Nov. **36:** 265–269.

Lists a few species of phanerogams from the New Hebrides, Samoa, and New Caledonia.

1941. Pflanzengeographische und nomenklatorische Mitteilungen über asiatische und australische Pflanzenarten (I). Jour. Jap. Bot. **17:** 406–409. *text maps 1–3.*

Includes *Hybanthus caledonicus* n. comb., native of New Caledonia and Loyalty Islands.

Crié, L.

1874. Coup d'oeil sur la végetation fongine de la Nouvelle-Calédonie. Bull. Soc. Linn. Normandie II **8:** 442–451.

Notes on various species.

1889. Paléontologie des Colonies françaises et des pays de Protectorat (Exposition universelle de Paris, 1889)

Not seen; cited by Guillaumin.

Croizat, L.

1938. Notes on Euphorbiaceae, with a new genus and a new subtribe of the Euphorbieae. Philip. Jour. Sci. **64:** 397–411. *pl. 1. f. 1.*

Includes *Neoguillauminia* n. gen. from New Caledonia, based on *Euphorbia cleopatra.*

1941a. A discussion of new and critical synonymy. Jour. Arnold Arb. **22:** 133–142.

Lobelia gaudichaudii var. *typica* St. John & Hosaka, native of Hawaii, cited as a synonym of *L. gaudichaudii* A. DC.

1941b. The tribe Plukenetiinae of the Euphorbiaceae in eastern tropical Asia. Jour. Arnold Arb. **22:** 417–431.

A critical revision including *Ramelia codonostylis,* native of New Caledonia.

1941c. Notes on the Euphorbiaceae II. Bull. Jard. Bot. Buitenzorg III. **17:** 204–208.

Includes notes on the fruit and the seed of *Neoguillauminia cleopatra,* native of New Caledonia.

1943. Notes on Polynesian Glochidion and Phyllanthus. Occ. Pap. Bishop Mus. **17:** 207–214. *f. 1–2.*

Includes a description of *Glochidion christophersenii* n. sp. from Savaii and notes on other species.

1944. Notes on Fijian Euphorbiaceae. Occ. Pap. Bishop Mus. **18:** 69–71.

Acalypha insulana, Cleidion leptostachyum, and *Stillingia pacifica,* all from Fiji.

1945a. Euphorbiaceae: in **Smith, A. C.,** Studies of Pacific Island plants, IV. Jour. Arnold Arb. **26:** 98–99.

Cleistanthus micranthus and *Croton parhamii* n. spp.

1945b. Securinega samoana Croizat, new species: *in* Yuncker, T. G., Plants of the Mauna Island. 45–46.

Crombie, J. M.

1871. Lichenes: in Seemann, B., Flora Vitensis. 419–421.

Eight species considered.

1877. The lichens of the "Challenger" Expedition (with a revision of those enumerated by Dr. J. Stirton in Linn. Jour. Bot. XIV. pp. 366–375). Jour. Linn. Soc. Bot. **16:** 211–231.

Includes some Polynesian species.

Crosby, C. M.

1903. Observations on Dictyosphaeria. Minn. Bot. Studies **3:** 61–70. *pl. 15.*

Notes on Hawaiian species.

Crosby, C. S. See **Burkill, I. H.,** 1901.

Cummins, G. B.

1935. Notes on some species of the Uredinales. Mycol. **27:** 605–614. *f. 1–5.*

Includes *Puccinia parksiana* n. sp. from Fiji.

1937–43. Descriptions of tropical rusts. Bull. Torr. Bot. Club **64:** 39–44. *f. 1–2.* 1937; (II) **67:** 67–75. *f. 1–10.* 1940; (VI) **70:** 517–530. *f. 1–12.* 1943.

Includes *Puccinia molokaiensis* n. sp. on *Carex* from Hawaii and *Uredo wakensis* n. sp. on *Tournefortia* from Wake Island.

Cunningham, A.

1834. Alyxia daphnoides. Bot. Mag. **61:** *pl. 3313.* 1–4.

Recorded from Norfolk Island.

1835. Synopsis des espèces du genre Alyxia, de la famille des Apocynées. Ann. Sci. Nat. II. Bot. **4:** 302–305.

Includes the Polynesian species.

1842. [Notes on the vegetation of Norfolk and Philip Islands, with a list of species not included by Endlicher.] Lond. Jour. Bot. **1:** 107–128, 263–292.

Cuny, L.

1924. Floriculture. Jour. Soc. Hort. France IV. **25:** 322–328. *f. 23–26.*

Includes a brief discussion of *Pelagodoxa henryana,* native of the Marquesas Islands.

Curtis, M. A. See **Berkeley, M. J., and Curtis, M. A.**

Curtis, M. A., and Berkeley, M. J.

1862. Fungi. United States Exploring Expedition . . . under the command of Charles Wilkes, U. S. N. **17:** 195–203. *1 pl.*

Includes some Polynesian species.

Cuzent, G.

1857. Études sur quelques végétaux de Tahiti. 1–134.

Not seen. Reprinted from "Le Messager," a Tahitian periodical.

1860. Îles de la Société. Tahiti: Considerations géologiques, métérologiques, et botaniques sur l'île. 1–275. *pl. 1–3.*

General.

1861a. Tahiti. Recherches sur les principales productions végétales de l'ile. 1–275. *2 maps.*

General; reprinted from the preceding item.

1861b. Du Tacca pinnatifida, Pia de Taite. . . .

Not seen. Probably an extract from "Le Messager," a Tahitian periodical.

D

D., A.

1873. Palmiers nouveaux: Kentia Canterburyana et Kentia Forsteriana. Rev. Hort. **45:** 218–219. *f. 24.*

Natives of Lord Howe Island.

D'Ancona, C. See **Ancona, C. d'**

Däniker, A. U.

1929. Neu-Caledonien, Land und Vegetation. Viert. Naturf. Ges. Zürich **74:** 170–197. *f. 1–4.* Reprinted in Mitt. Bot. Mus. Univ. Zürich **131:** 170–197.

General.

1931. Ergebnisse der Reise von Dr. A. U. Däniker nach Neu-Caledonien und den Loyaltäts-Inseln (1924/25); 2. Neue Phanerogamen von Neu-Caledonien und den Loyaltäts-Inseln. Viert. Naturf. Ges. Zürich **76:** 160–170. 1931; 3. Die Loyaltäts-Inseln und ihre Vegetation. 170–213. f. 1–4. 1931. Reprinted in Mitt. Bot. Univ. Zürich **137:** 160–213.

1932–33. Ergebnisse der Reise von Dr. A. U. Däniker nach Neu-Caledonien und den Loyaltäts-Inseln. 4. Katalog der Pteridophyta und Embryophyta siphonogama. Viert. Naturf. Ges. Zürich **77:** Beibl. **19:** 1–235. 1932; **78:** Beibl. **19:** 237–395. 1933. Reprinted in Mitt. Bot. Mus. Univ. Zürich **142:** 1–395. 1932–33.

A critical enumeration with the descriptions of many new species, the assisting specialists separately entered in this bibliography.

1939. Neu-Caledonien. Vegetationsbilder **25**(6): 1–9. *pl. 31–36. 2 f.*

Photographs of various types of vegetation.

Daenzer, F. G.

1834. Des Euphorbiacées, et en particulier de celles usitées en médecine, dans l'économie domestique et dans les arts. 1–82.

A doctorate dissertation, University of Strassburg, with data on a few Polynesian species.

Dakui, M. See **Parham, W. L.,** and **Dakui, M.**

Dalla Torre, C. G. de, and **Harms, H.**

1900–07. Genera Siphonogamarum ad systema Englerianum conscripta. i-vii, 1–921.

A systematic arrangement of the families and genera of flowering plants and generic synonymy.

Dandy, J. E.

1934. Some additions to the genus Bubbia (Winteraceae). Jour. Bot. **72:** 40–41.

Transfers four New Caledonian species from *Drimys* to *Bubbia*.

Danser, B. H.

1927. Die Polygonaceen Niederlaendisch-Ostindiens. Bull. Jard. Bot. Buitenzorg III **8:** 117–261. *f. 1–17. charts 1–3.*

Includes a few Polynesian species.

1928. The Nepenthaceae of the Netherlands Indies. Bull. Jard. Bot. Buitenzorg III. **9:** 249–438. *f. 1–36.*

Includes *Nepenthes vieillardii* from New Caledonia.

1929. On the taxonomy and the nomenclature of the Loranthaceae of Asia and Australia. Bull. Jard. Bot. Buitenzorg III. **10:** 291–373.

Includes nomenclatural changes for various Polynesian species.

1931. The Loranthaceae of the Netherlands Indies. Bull. Jard. Bot. Buitenzorg III. **11:** 233–519. *f. 1–30.*

Includes *Amyema bamleri* from the Caroline Islands.

1933. A new system for the genera of Loranthaceae-Loranthoideae, with a nomenclator for the Old World species of this subfamily. Verh. Kon. Akad. Wetenschap. Amsterdam Afd. Natuurk. II. **29**(6): 1–128.

Includes many nomenclatural adjustments for Polynesian species in genera segregated from *Loranthus*.

1934. Miscellaneous notes on Loranthaceae 1–6. Rec. Trav. Bot. Néerl. **31:** 223–236. *f. 1–2.*

Includes an amplified description of *Amyema samoensis* and redescriptions of some New Hebrides species.

1936. The Loranthaceae-Loranthoideae of the tropical archipelagos east of the Philippines, New Guinea, and Australia. Bull. Jard. Bot. Buitenzorg III. **14:** 73–98.

Includes some new species and many transfers to generic segregates from *Loranthus*.

1937. A revision of the genus Korthalsella. Bull. Jard. Bot. Buitenzorg III. **14:** 115–159. *pl. 3. f. 1–13.*

Monographic.

1940. A supplement to the revision of the genus Korthalsella (Lor.). Bull. Jard. Bot. Buitenzorg III. **16:** 329–342. *pl. 4.*

Includes seven Polynesian species.

Darwin, C.

1839. Narrative of the surveying voyages of His Majesty's ships *Adventure* and *Beagle* between the years 1826 and 1836, describing their examination of the southern shores of South America and the Beagle's circumnavigation of the globe. (Journal and Remarks) i-xiv, 1–615.

Includes observations on the vegetation of several Polynesian islands.

1860. Journal of researches into the natural history and geology of the countries visited during the voyage of H.M.S. *Beagle* round the world under the command of Capt. Fitz Roy R. A. i-xi. 1–519.

Includes observations on the vegetation of Tahiti.

Dass, C. M.

1937. Fiji hybrid cotton—no. 172. Agr. Jour. [Fiji] 8(3): 18–19.

A hybrid of *Gossypium peruvianum* and *G. barbadense.*

Davillé, E.

1895. La colonisation française aux Nouvelles Hébrides. 1–176. [1–5]. *12 pl. 2 maps.*

Includes some observations on the vegetation and a chapter on "Produits vegetaux," pp. 40-52.

Davis, W. C., and **Allen, O. N.**

1932. Observations on the Myxomycete flora of Oahu. Bishop Mus. Spec. Publ. **20:** 8.

Not seen; apparently a brief note.

Davis, W. C. See also **Ripperton, J. C., Goff, R. A., Edwards, D. W., and Davis, W. C.**

Decaisne, J.

1833. Note sur un nouveau genre de Chicoriacées, recueilli par M. Bertero dans l'île Juan Fernandez. Arch. Bot. Guillaumin **1:** 509–520. *pl. 9–10.*

The new genus *Rea* with six species from Juan Fernández.

1834. Monographie des genres Balbisia et Robinsonia, de la famille Composées. Ann. Sci. Nat. II. Bot. **1:** 16–29. *pl. 1.* Reprint, 1–15. *pl. 1.* 1834.

Natives of Juan Fernández.

1842 Mémoire sur les Corallines ou Polypiers calcifères. Ann. Sci. Nat. II. Bot. **18:** 96–128.

Includes a few references to Hawaiian species of algae.

1844. Asclepiadeae. DC. Prodr. **8:** 490–665.

Monographic.

1846–64. Voyage autour du monde sur la frégate La Venus commandée par Abel du Petit-Thouars. Botanique. 1–34, i-ii. 1864; Atlas [1–2]. *pl. 1–28.* 1846.

Includes the descriptions of a few Polynesian species.

1849. Description d'un nouveau genre appartenant à la famille des Apocynées, Ann. Sci. Nat. III. Bot. **12:** 193–196. *pl. 9.*

Lepinia taitensis n. gen. n. sp. from Tahiti.

1852a. Plantaginaceae. DC. Prodr. **13**(1): 693–737.

Monographic.

1852b. Lepinia taitensis, Decne. Fl. Serr. Jard. Eur. **7:** 225–227. *1 f.*

Native of Tahiti.

Decaisne, J., and Planchon, J. E.

1854. Esquisse d'une monographie des Araliacées. Rev. Hort. IV. **3:** 104–109.

Lists various Polynesian species with *Panax forsteri,* a new name for *Polyscias pinnata* Forst.

Decaisne, J.

1855. Voyage au pole sud et dans l'Océanie sur les corvettes l'Astrolabe et la Zélée . . . sous le commandement de M. J. Dumont d'Urville . . . Botanique. Plantes vasculaires. **2:** 1–96. *pl. 1–31.*

Includes *Pernettya rigida* from Juan Fernández.

Deflandre, G.

1926–27. Monographie du genre Trachelomonas Ehr. Rev. Gén. Bot. **38:** 358–380. *f. 1–8,* 449–469. *f. A–G.* 518–528, 580–592, 646–658, 687–706. *pl. 15–29.* 1926; **39:** 26–51, 73–98. 1927.

Monographic.

Degener, O.

1926. Preliminary pages to a Flora Hawaiiensis or illustrated flora of the Hawaiian Islands. [1–102.]

Mimeographed descriptive data on selected genera and species.

1929. The genus Bidens (Campylotheca) in Hawaii. Bishop Mus. Spec. Publ. **15**: 6–7.

A short note.

1930a. Flora Hawaiiensis or new illustrated flora of the Hawaiian islands [Prospectus] ——.

Printed unbound sheets with illustrations, no pagination, repeated in **Degener, 1932-40.**

1930b. Illustrated guide to the more common or noteworthy ferns and flowering plants of Hawaii National Park with descriptions of ancient Hawaiian customs and an introduction to the geologic history of the islands. i–xv, 312. *frontisp. pl. 1–95. f. 1–45.*

General. Reissued in 1945 under the title: Plants of Hawaii National Park illustrative of plants and customs of the South Seas (first photo-lithoprint edition of "Ferns and Flowering Plants of Hawaii National Park, with Descriptions of Ancient Hawaiian Customs . . .").

1932a. The flora Hawaiiensis, or new illustrated flora of the Hawaiian islands. Jour. Pan-Pacific Research Inst. **7**(4): 2–16. *4 pl.*

An explanation of the plan and scope of the project with illustrative pages and plates.

1932b. A new illustrated flora of the Hawaiian islands. Bishop Mus. Spec. Publ. **20**: 9–10.

Not seen; apparently an announcement or a brief abstract.

1932c. Kokoolau, the Hawaiian tea, with a key to all species of Bidens known from the Hawaiian islands and description of a few representative kinds. Jour. Pan-Pacif. Res. Inst. **7** (2): 2–16. *6 pl.*

Contains redescriptions of five of Sherff's recently described species with illustrations.

1932–40. Flora Hawaiiensis, or the new illustrated flora of the Hawaiian islands.

Printed, unbound sheets with illustrations and descriptions, no pagination, plates not numbered, each sheet dated. About 400 sheets have been issued, forming four "books." Contributions by others than Degener not separately entered into this bibliography.

1937. Pages from a new illustrated flora of the Hawaiian Islands. Bishop Mus. Spec. Publ. **30**: 26.

Brief general notes.

Degener, O., and Skottsberg, C.

1937. A new Hawaiian species of Rutaceae. Brittonia **2**: 362.

Fagara waianensis n. sp. from Oahu.

Degener, O., and Hosaka, E. Y.

1940. Straussia sessilis, a new species from Hawaii. Bull. Torr. Bot. Club **67**: 301.

Type from Oahu.

Degener, O.

1943a. Stenogyne Sherffii Degener, a new mint from Hawaii. Brittonia **5**: 58. *f. 1.*

Type from Oahu.

1943b. The last cruise of the "Cheng-Ho". Jour. N. Y. Bot. Gard. **44**: 197–213, 221–232. *illus.*

A narrative of a botanical collecting trip to the Fiji Islands with observations on the vegetation.

1945a. Tropical plants the world around. I. Jour. N. Y. Bot. Gard. **46**: 76–91, (II), 110–125, (III), 132–143, (IV), 158–167. *illus.* Reprinted without change of pagination.

All or most of the species illustrated and described occur in Polynesia, some introduced and cultivated or naturalized.

1945b. A botanist leaves Hawaii. Torreya **45**: 72–78.

A personal narrative, covering the events following the Japanese attack on Pearl Harbor.

1945c. Plants of Hawaii National Park illustrative of plants and customs of the South Seas. i–xv, 1–314. *pl. 1–95. f. 1–45.*

See explanation of **Degener, O.,** 1930b.

See also **Hosaka, E. Y.,** and **Degener, O.**

Delaire, L.

1872. Dracaena porphyrophylla, Veitch. Ill. Hort. **19**: 277. *1 f.*

Introduced into cultivation from the South Sea Islands.

Delchevalerie, G.

1868. Les fougères arborescentes. Rev. Hort. **40**: 448–450. *f. 49.*

Includes an illustration of *Alsophila excelsa,* native of Norfolk Island, and references to some other Polynesian species.

Delessert, B.

1820–46. Icones selectae plantarum, quas in systemate universali ex herbariis Parisiensibus, praesertim ex Lessertiano descripsit Aug. Pyr. DeCandolle, ex archetypis speciminibus a P. J. F. Turpin, (Riocreux, Heyland, Decaisne) delineatae. **1**: i–vi, 1–26. *pl. 1–100* 1820; **2**: i–iv, 1–28. *pl. 1–100.* 1823; **3**: i–viii, 1–70. *pl. 1–100.* 1837; **4**: i–iii, 1–52. *pl. 1–100.* 1839; **5**: i–iv, 1–53. *pl. 1–100.* 1846.

Includes some Polynesian species.

1848. Voyage dans les deux océans, Atlantique et Pacifique, 1844 à 1847. Brésil, Etats-Unis, Cap de Bonne-Espérance, Nouvelle Hollande, Nouvelle Zélande, Taiti, Philippines, Chine, Java, Indies Orientales, Egypte. 1–326. *illus.*

A narrative with some notes on the vegetation.

Deplanche, E. See **Vieillard, E.,** and **Deplanche, E.**

Derby, C.

1875. List of Hawaiian ferns. Hawaiian Annual **1**: 16–18.

Derr, N. See **Lewton-Brain, L.,** and **Derr, N.**

Desvaux, A. N.

1826. Mémoire sur la tribu des Coronillées, huitième section des légumineuses. Mém. Soc. Linn. Paris **4**: 295–330.

Includes various species of the Pacific region, particularly *Desmodium.*

1827. Prodrome de la famille des fougères. Mém. Soc. Linn. Paris **6**: 171–337. *pl. 7–11.*

Includes various Polynesian species.

Devansaye, A. de la

1876. Palmiers nouveaux: Brahea, Pritchardia, Sabal, Teysmannia. Rev. Hort. **48**: 372–375. *f. 80, 81.* Reprinted in Belg. Hort. **27**: 80–84. 1877.

Includes *Pritchardia grandis,* native of Polynesia.

Dickie, G.

1875. Notes on algae from the island of Mangaia, South Pacific. Jour. Linn. Soc. Bot. **15:** 30–33.

A short list of species.

1876a. Contributions to the botany of the expedition of H.M.S. "Challenger".—Algae, chiefly Polynesian. Jour. Linn. Soc. Bot. **15:** 235–246.

A list.

1876b. Notes on algae collected by H. N. Moseley, M. A., of H.M.S. "Challenger," chiefly obtained in Torres Straits, coasts of Japan, and Juan Fernandez. Jour. Linn. Soc. Bot. **15:** 446–455.

An enumeration, including descriptions of three new species from Hawaii.

1877. Supplemental notes on algae collected by H. N. Moseley, M.A., of H.M.S. "Challenger" from various localities. Jour. Linn. Soc. Bot. **15:** 486–489.

Includes *Lithothamnion imbricatum* n. sp. from Tahiti and *L. mamillare* from Tongatabu.

Diels, L.

1905. Die primitivste Form von Lygodium. Hedwigia **44:** 133–136. *1 f.*

L. hians, a native of New Caledonia.

1906. Droseraceae. Pflanzenr. **26**(IV. 112): 1–136. *f. 1–40. map.*

Monographic.

1910. Menispermaceae. Pflanzenr. **46**(IV. 94): 1–345. *f. 1–93.*

Monographic.

1913. Menispermaceae: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **89:** 552–554. *f. 21.* Reprint **5:** 110–112. *f. 21.*

Includes some Samoan species.

1920. Menispermaceae: in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1:** 143–144.

Hypserpa neo-caledonica and *Pachygone loyaltiensis.*

1921a. Eine neue Menispermacee der Palau-Inseln. Bot. Jahrb. **56:** 507.

Pachygone ledermannii n. sp.

1921b. Die Theaceen Mikronesiens. Bot. Jahrb. **56:** 526.

Eurya japonica and *E. japonica* var. *nitida* from the Caroline Islands.

1921c. Die Myrtaceen Mikronesiens. Bot. Jahrb. **56:** 529–534.

An enumeration with a few new species.

1921d. Eine Scaevola von Mikronesien. Bot. Jahrb. **56:** 561.

S. frutescens from the Caroline and Marshall Islands.

1921–30. Beiträge zur Flora von Mikronesien und Polynesien. (II) Bot. Jahrb. **56:** 429–577. 4 f. 1921; (III) **59:** 1–29. *f. 1.* 1924; (IV) **63:** 271–323. 1930.

Lists with the descriptions of new species. See **Volkens** 1914 for part I.

1922. Die Myrtaceen von Papuasiens. Bot. Jahrb. **57:** 356–426. *f. 1.*

Includes *Xanthomyrtus pergracilis* n. sp. from New Caledonia.

Diels, L., and **Mansfeld, R.**

1932. Die Orchideen-Gattung Chiloschista Lindl. Notizbl. Bot. Gart. Berlin **11:** 491–498.

Includes one species from Fiji and one from the Caroline Islands.

Diels, L.

1938. Die Moraceen von Mikronesien. Bot. Jahrb. **69:** 397–400.

Includes 10 species in four genera, mostly from the Marianas and Caroline Islands, with a key to six species of *Ficus.*

See also **Engler, A.,** 1892–1936.

Dietrich, A.

1831–33. Caroli a Linné species plantarum exhibentes plantas rite cognitas ad genera relatas cum differentiis specificis, nominibus trivialibus, synonymis selectis, locis natalibus secundum systema sexuale digestas olim curante Carolo Ludovico Willdenow. Editio sexta. **1:** i–x, 1–735, [1–4]. 1831; **2:** 1–747. 1833.

This is ed. 6 of Linnaeus's "Species Plantarum." Includes the Polynesian species.

Dietrich, D. N. F.

1839–52. Synopsis plantarum seu enumeratio systematica plantarum plerumque adhuc cognitarum cum differentiis specificis et synonymis selectis ad modum Persoonii elaborata. **1:** i–xx, 1–879. 1839; **2:** i–iv, 881–1647. 1840; **3:** i–x, 1–730. 1843; **4:** i–ii, 731–1694. 1847; **5:** i–ii, 1–587. 1852.

Includes the then-known Polynesian species.

Dingler, H.

1887. Ueber eine von den Carolinen stammende Coelococcus-Frucht. Bot. Centralbl. **32:** 347–351. *1 pl.*

Coelococcus carolinensis n. sp.

Dixon, H. N.

1922. Miscellanea Bryologica 8. Jour. Bot. **60:** 281–291.

Includes *Thysanomitrium umbellatum* from Hawaii.

1927. Gilbert Islands mosses. Jour. Bot. **65:** 254–257.

Discusses seven species including *Hyophila beruensis* n. sp.

1928. Splachnobryum pacificum Dixon sp. nov. Rev. Bryol. II. **1:** 12.

Native of the Gilbert Islands.

1929. Critical mosses. Rev. Bryol. II. **2:** 21–29.

Refers to Naveau's paper, indicating the proper disposition of some of the binomials he listed under "Mousses critiques." See **Naveau, R.,** 1928.

Dixon, H. N., and **Greenwood, W.**

1930. The mosses of Fiji. Proc. Linn. Soc. N. S. W. **55:** 261–302. *pl. 8–9.*

An enumeration of about 205 species with the descriptions of various new ones.

Dixon, H. N.

1937. Notulae Bryologicae. I. Jour. Bot. **75:** 121–129.

Includes a note on *Pterobryopsis urvilleanum* Broth., type from Fiji.

1938. On a small collection of mosses from New Guinea, with a revision of the genus Spiridens by W. R. Sherrin. Ann. Bryol. Lichénol. II. **10:** 16–19.

Includes the Polynesian species of *Spiridens.*

1943. War Zone mosses. Bryol. **46:** 14–22.

Includes records of 12 species from the Marianas and Caroline Islands; two described as new.

See also **Theriot, J., Dixon, H. N.,** and **Buch, H.**

Dixon, R. B.

1932. The problems of the sweet potato in Polynesia. Am. Anthropol. **34:** 40–66.

A general discussion.

Docters van Leeuwen, W. M.

1922. A mite-gall on Broussaisia arguta Gaud. occurring in the Sandwich Islands. Marcellia **19:** 58–62. *f. 1–6.*

Cecidological.

Dodge, C. W.

1929. A synopsis of Stereocaulon with notes on some exotic species. Ann. Crypt. Exot. **2:** 93–153.

Includes some Polynesian species.

Dodge, E. S.

1943. Gourd growers of the South Seas. An introduction to the study of the Lagenaria gourd in the culture of the Polynesians. i–xiii. 1–119. *pl. 1–33.*

Concerns *Lagenaria siceraria;* biliography pp. 107-114. Published by the Peabody Museum, Salem, Mass.

Doerr, J. E., Jr. See **Lamb, S. H.**, 1936.

Dombrain, H. H.

1864. Eranthemum tuberculatum. Floral Mag. **3:** *pl. 182.*

Native of New Caledonia.

1867a. Coleus Gibsonii. Floral Mag. **6:** *pl. 338.*

Native of New Caledonia.

1867b. Coleus Veitchii. Floral Mag. **6:** *pl. 345.*

Native of New Caledonia.

1868. Croton maximus. Floral Mag. **7:** *pl. 382.*

Native of the South Sea Islands.

1872a. Dracaena excelsa (or elegans). Floral Mag. **1872:** *pl. 16.*

Native of the South Sea Islands.

1872b. Dracaena metallica. Floral Mag. **1872:** *pl. 24.*

Native of Samoa.

1873a. Dracaena splendens. Floral Mag. **1873:** *pl. 74.*

Native of the South Sea Islands.

1873b. Erythrina Parcelsii. Floral Mag. **1873:** *pl. 95.*

Native of the South Sea Islands.

Domin, K.

1908. Monographische Übersicht der Gattung Centella L. Bot. Jahrb. **41:** 148–169.

C. asiatica from Polynesia.

1930. The species of the genus Cyathea J. E. Sm. Act. Bot. Bohem. **9:** 85–174.

A compiled list with some transfers, including the Polynesian species.

Domke, W.

1934. Untersuchungen über die systematische und geographische Gliederung der Thymelaeaceen nebst einer Neubeschreibung ihrer Gattungen. Bibl. Bot. **27** (111) : 1–151. *pl. 1–7. maps 1–5. 1–f.*

Mentions various Polynesian species.

Don, D.

1830. A monograph of the family of plants called Cunoniaceae. Edinb. New Philos. Jour. **1830:** 84–96.

Includes a few New Caledonian species.

1832. Descriptive catalogue of the Compositae contained in the herbarium of Dr. Gillis; with some additions from other sources. Philos. Mag. II. **11:** 387–392.

Includes *Dendroseris macrophylla* n. sp. from Juan Fernández.

1841. Descriptions of the two new genera of the natural family of plants called Coniferae. Trans. Linn. Soc. **18:** 163–179. *pl. 13–14.*

Includes references to some Polynesian species of *Araucaria,* p. 164.

Don, G.

1831–38. A general history of the dichlamydeous plants comprising complete descriptions of the different orders; together with the characters of the genera and species, and an enumeration of the cultivated varieties. . . . **1:** i-xxvii, 1–818. *f. 1–126.* 1831; **2:** i–viii, 1–875. *f. 1–128.* 1832; **3:** *i–viii,* 1–867.

Includes descriptions, in English, of many Polynesian species. Issued also with the following title page: "A General System of Gardening and Botany; Containing a Complete Enumeration and Description of all Plants Hitherto Known . . ." The volumes, contents, and dates of issue are the same in both. The dates of issue of the various parts are given in Kew Bull. **1925:** 311-315. 1925.

Doty, R. E.

1920. A yellow strip disease survey. Circ. Exp. Sta. Hawaiian Sugar Planters' Assoc. **35:** 1–71.

Not seen.

Douglas, D.

1914. Journal kept by David Douglas during his travels in North America 1823–1827 together with a particular description of thirty-three species of American oaks and eighteen species of Pinus with appendices containing list of plants introduced by Douglas and an account of his death in 1834. [1–3] 1–364. *portr.*

Includes a list of 78 species collected in Juan Fernández, and notes on the vegetation of Hawaii.

Downing, C. T.

1862. On Norfolk Island, its character and productions. Edinb. New Philos. Jour. II. **16:** 322–328.

Includes notes on various economic plants.

Drake del Castillo, E.

1886–92. Illustrationes florae insularum maris Pacifici. 1–458. *pl. 1–50.*

Consists of illustrations, 50 plates, descriptions of selected species, and an enumeration (pp. 103-408) of Polynesian plants. Pp. 1-48 (1886); 49-60 (1887); 65-80 (1888); 81-104 (1889); 105-216 (1890); 217-458 (1892). Pp. 61-64 lacking. For further critical notes on dates of issue see **Stearn, W. T.,** in Jour. Soc. Bibl. Nat. Hist. **1:** 202. 1939.

1887a. Sur la géographie botanique des Îles de la Société. Bull. Soc. Philom. Paris VII **11:** 146–155.

Phytogeographical.

1887b. Note sur deux genres intéressants de la famille des Composées; Fitchia Hook. f. et Remya Hillebr. Centenaire Soc. Philom. Paris 229–234. *pl. 20–21.*

Natives of Tahiti and Hawaii; not seen.

1891. Remarques sur la flore de la Polynésie et sur ses rapports avec celle des terres voisines. 1–52. *pl. 1–7.*

General. Abstract in Bot. Centralbl. **46:** 278-281.

1893. Flore de la Polynésie française. Description des plantes vasculaires qui croissent spontanément ou qui sont généralement cultivées aux Îles de la Société, Marquise, Pomotou, Gambier et Wallis. i-xxiv. 1–352. map.

A general flora with keys and descriptions.

1898. De la véritable place du genre Fitchia parmi les Composées. Jour. Bot. Morot **12:** 175–177. *pl. 3–4.*

A general discussion of *F. tahitensis.*

Drouet, F.

1939. Francis Wolle's filamentous Myxophyceae. Field Mus. Nat. His Bot. Ser. **20:** 17–64. *f.1.*

Includes a few Hawaiian species.

Druce, G. C.

1914. Notes on nomenclature. Bot. Exch. Club Brit. Isles Rep. **3:** 405–426.

Includes a few new binomials appertaining to Polynesian species.

1917. Nomenclature notes: chiefly African and Australian. Bot. Exch. Club Brit. Isles Rep. **4:** 601–653.

Similar to the preceding item.

Drude, O.

1878. Ueber die Verwandschaft und systematische Bedeutung von Ceroxylon andicola. Götting. Nachtr. **1878:** 33–42.

Includes a description of *Juania* n. gen., native of Juan Fernández.

1884. Die Florenreiche der Erde. Darstellung der gegenwärtigen Verbreitungsverhältnisse der Pflanzen. Ein Beitrag zur vergleichenden Erdkunde. Mitt. Perth. Geogr. Anstalt Ergänzungsh. **74:** 1–74. *pl. 1–3.*

Descriptive, including "Florenreich von Indien und Nordaustralien mit Polynesien," pp. 61-63.

1887. Pritchardia Thurstoni F. v. M. et Dr. (n. sp.) (Palmae, Coryphinae). Gartenflora **36:** 486–490. *f. 123–124.*

Native of Fiji.

1890. Handbuch der Pflanzengeographie. 1–582. *3 f. 4 maps.*

Includes general discussion of the flora of Pacific Islands, pp. 486-492.

1897. Manuel de géographic botanique, traduit par Georges Poirault et revu et augmenté par l'auteur. i–xxiii, 1–552. *3 f. maps, 1–4.*

A French translation of the preceding entry.

See also **Wendland, H.,** and **Drude, O.**

Dubard, M.

1906a. Népenthacées de Madagascar et de la Nouvelle-Calédonie. Bull. Mus. Hist. Nat. [Paris] **12:** 62-67. *f. 1–3.*

Includes *N. montrouzieri* n. sp. from New Caledonia. For republication of original descriptions see **Fedde, F.,** 1908–12.

1906b. Révision du genre Oxera (Verbénacées). Bull. Soc. Bot. France **53:** 705–717.

Includes *O. neriifolia* var. *artensis* from New Caledonia and a key to the accepted species.

1907. Recherches sur le genre Oxera (Verbénacées). Bull. Mus. Nat. [Paris] **13:** 76–78.

Includes the New Caledonian species.

1909. Recherches sur le genre Palaquium. Bull. Soc. Bot. France **56:** Mém. **16:** 1–24.

Includes *D. fidjiense* Pierre from Fiji.

1911a. Sur un Pittosporum nouveau de Nouvelle-Calédonie. Ann. Mus. Colon. Marseille II. **9:** 51–54. *f. 1.*

P. heckeli n. sp.

1911b. Description de quelques espèces de Planchonella (sections Burckiiplanchonella et Egassia), d'aprés les documents de L. Pierre. Not. Syst. **2:** 81–84.

Includes *P. novo-caledonica* n. sp. from New Caledonia.

1912. Les Sapotacées du groupe des Sideroxylinées. Ann. Mus. Colon. Marseille II. **10:** 1–90.

Includes the Polynesian species.

1915. Les Sapotacées du groupe des Sideroxylinées-Mimusopées. Ann. Mus. Colon. Marseille III. **3:** 1–62. *f. 1–27.*

Includes the few Polynesian species.

Duby, J. E.

1844. Primulaceae. DC. Prodr. **8:** 33–74.

Monographic.

1873. Nouveau genre des mousses pleurocarpés propre à la Nouvelle-Calédonie. Bull. Soc. Bot. France **20:** 130–131. *pl. 1.*

Bescherellia elegantissima n. sp.

1875. Choix de mousses exotiques nouvelles ou mal connues. Mém. Soc. Phys. Hist. Nat. Genève **24:** 361–374. *pl. 1.*

Includes some Polynesian species.

Duchartre, P.

1864. Aristolochiaceae. DC. Prodr. **15**(1) : 421–498.

Monographic.

Duchesne, E. A.

1836–46. Répertoire de plantes utiles et des plantes vénéneuses du globe, contenant la synonymie latine et française des plantes, leurs noms vulgaires français et l'indication de leurs usages en médicine humaine. . i-xlviii, 1–572. *6 f.* 836; nouvelle édition, i-xlv, 1–505; Atlas 1–20. *pl. 1–128.* 1846.

Includes a few Polynesian species.

Dümmer, R. A.

1914. Three conifers. Jour. Bot. **52:** 236–241.

Includes *Callitris neo-caledonica* n. sp. from New Caledonia.

Dugas, M.

1929. Contribution a l'étude du genre "Plagiochila" Dum. Ann. Sci. Nat. X. Bot. **11:** 1–99. *f. 1–179.*

Includes the Polynesian species.

Dunal, F.

1852. Solanaceae. DC. Prodr. **13:** 1–690.

Monographic.

Dunn, S. T. See **Piper, C. V.,** and **Dunn, S. T.**

Duperrey, L. I. See **Brongniart, A. T.,** 1829–34.

Duren, E. de

1876. L'Aralia elegantissima. Rev. Hort. Belge **2:** 157–158. *f. 31.*

Native of New Caledonia.

Durand, T. See **Jackson, B. D.,** 1893–1938.

E

E., M.

1938. One hundred and fiftieth anniversary of the "Bounty" expedition. Gard. Chron. III. **104:** 305–306.

Includes some botanical data appertaining to Polynesia and to Pitcairn Island.

Eames, A. J., and St. John, H.

1943. The botanical identity of the Hawaiian Ipu Nui or large gourd. Am. Jour. Bot. **30:** 255–259. *f. 1–3.*

Lagenaria siceraria (Molina) Standley, not *Cucurbita maxima Linn.*

Eaton, A. A.

1908. Nomenclatorial studies in three orchid genera. Proc. Biol. Soc. Washington **21:** 63–67.

New combinations in *Epipactis, Serapias,* and *Serapiastrum.*

Eaton, D. C.

1879a. A new Hawaiian fern, Hymenophyllum (Cyrtomium) Baldwinii. Bull. Torr. Bot. Club **6:** 293.

Native of Oahu.

1879b. A new Hawaiian fern, Aspidium Boydiae. Bull. Torr. Bot. Club **6:** 361–362.

Native of Oahu.

Edgerton, C. W.

1913. The stem rot or Hawaiian "iliau" disease of sugar cane. Phytopath. **3:** 93–98. *pl. 8.*

Gnomonia iliau.

Edmondson, C. H.

1941. Viability of coconut seeds after floating in sea. Occ. Pap. Bishop Mus. **16:** 293–304. *f. 1–3.*

Viability retained up to 110 days. Estimated distance of possible float in this time period about 3,000 miles if in a favorable current.

Edwards, D. W. See **Ripperton, J. C., Goff, R. A., Edwards, D. W., and Davis, W. C.**

Edwart, A.

1872. Kentia Forsteriana. Ill. Hort. **19:** 230–231. *1 f.*

An illustration of this native of Lord Howe Island with a brief note.

Eepoel, A. van

1895. Kentia (Cyphokentia) Lindeni. Rev. Hort. Belge **21:** 6.

A general note on this native of New Caledonia.

Egler, F. E.

1937. A new species of Hawaiian Portulaca. Occ. Pap. Bishop Mus. **13:** 167–170. *f. 1–2.*

Portulaca cyanosperma n. sp.

1938. Reduction of Portulaca Caumii F. Brown to P. villosa Chamisso. Repert. Sp. Nov. **44:** 264–265.

The type of Brown's species was from Nihoa, Hawaii.

1939a. Vegetation zones of Oahu, Hawaii. Empire Forestry Jour. **18:** 44–57. *pl. 1–9.* Reprint 1–14.

Ecological.

1939b. Santalum ellipticum, a restatement of Gaudichaud's species. Occ. Pap. Bishop Mus. **14:** 349–357.

A critical consideration of this Hawaiian species with synonymy.

1942. Indigene versus alien in the development of arid Hawaiian vegetation. Ecology **23:** 14–23. *f. 1–4.*

A general discussion.

Ehrenberg, C. G.

1820. Fungos a viro clarissimo Adalberto de Chamisso, sub auspiciis Romanzoffianis in itinere circa terrarum globum collectos, enumeravit: in Nees ab Esenbeck, Horae Phys. Berol. *77–104. pl. 17–20.*

Includes some Polynesian species.

Ehrhorn, E. M.

1921. What horticultural plant quarantine has done and can do for Hawaii. Bishop Mus. Spec. Pub. **7:** 180-182. (Proc. First Pan-Pacific Sci. Conference).

General for the subject indicated.

Eichler, A. W.

1873. Balanophoraceae. DC. Prodr. **17:** 117–150.

Monographic.

Eifrig, H.

1937. Monographische Studien über die indomalayischen Arten von Taxilejeunea. Ann. Bryol. **9:** 73–114. *f. 1–15.*

Includes a few Polynesian species.

Ellis, J. B., and Everhart, B. M.

1895. New species of fungi. I. Sandwich Island fungi. Bull. Torr. Bot. Club **22:** 434–440.

Includes eight Hawaiian species.

1897. New species of fungi from various localities. Bull. Torr. Bot. Club **24:** 125–137.

Includes *Asterina sphaerelloides* n. sp. from Hawaii.

Ellis, W.

1829–31. Polynesian researches during a residence of nearly eight years in the Society and Sandwich Islands. 2 vols., 1829; ed. 2, 4 vols., 1831.

General, descriptive and narrative.

Emerson, J. S. See **MacCaughey, V., and Emerson, J. S.,** 1913–14.

Emerson, R.

1941. An experimental study of the life cycles and taxonomy of Allomyces. Lloydia **4:** *77–144. f. 1–16.*

Records *A. arbusculus* and *A. javanicus* from Fiji.

Endlicher, S. L.

1833a. Atakta botanika. Nova genera et species plantarum descripta et iconibus illustrata. **1–26.** ***pl. 1–40.***

Includes *Schiedea ligustrina* from Hawaii.

1833b. Prodromus florae Norfolkicae, sive Catalogus stirpium quae in Insula Norfolk annis 1804 et 1805 a Ferdinando Bauer collectae et depictae, nunc in Musaeo Caesareo-Palatino rerum naturalium Vindobonae servantur. **i-viii, 1–100.**

The first published flora of Norfolk Island; summarized in Ann. Sci. Nat. II. Bot. **3:** 50–56. 1835. For supplement see **Heward, R.,** 1842.

1836–50. Genera plantarum secundum ordines naturales disposita. [Accedit supplementum primum] i-lx, 1–1483. 1836–41; Mantissa botanica sistens generum plantarum supplementum secundum [i], 1–114. 1842; Mantissa botanica altera, sistens generum plantarum supplementum tertium [i-ii], 1–110. 1843; Generum plantarum supplementum quartum. 1–104. 1847; Generum plantarum supplementum quintum. 1–104. 1850.

Descriptions of all then-known genera.

1837. Bemerkungen über die Flora der Südseeinseln. Ann. Wien. Mus. Naturgesch. **1**: 129–190. *pl. 13–16.*

A list of 1672 Polynesian species.

1847. Synopsis Coniferarum (Pinaceae) i-iv, 1–368.

Includes some Polynesian species.

Engard, C. J.

1945. Habit of growth of Rubus rosaefolius Smith in Hawaii. Am. Jour. Bot. **32**: 536–538. *f. 1–3.*

A general consideration.

Engelmann, G.

1859. Systematic arrangement of the species of the genus Cuscuta, with critical remarks on old species and descriptions of new ones. Trans. Acad. Sci. St. Louis **1**: 453–532. Reprint 1–73.

Monographic; includes *Cuscuta sandwiciana* from Hawaii. Republished in **W. Trelease** and **A. Gray,** "The Botanical Works of the Late George Engelmann," 71-104. 1887.

1860. Generis Cuscutae species secundum ordinem systematicum dispositae adjectis in prius jam notas observationibus criticis nec non novarum descriptionibus. i-vi, 1–88.

A Latin translation by P. Ascherson of the preceding item, introduction by A. Braun.

Engler, A.

1870. Monographische Uebersicht der Gattungen Escallonia Mutis, Belangera Camb. und Weinmannia L. nebst Beiträgen zur geographischen Verbreitung der Escallonieen und Cunoniaceen. Linnaea **36**: 527–650.

Includes some Polynesian species.

1879. Araceae. DC. Monog. Phan. **2**: 1–681.

Monographic.

1881. Ueber die morphologischen Verhältnisse und die geographische Verbreitung der Gattung Rhus, wie der mit ihr verwandten, lebenden und ausgestorbenen Anacardiaceae. Bot. Jahrb. **1**: 365–426. *pl. 4.*

General.

1882. Versuch einer Entwickelungsgeschichte der Pflanzenwelt, insbesondere der Florengebiete seit der Tertiärperiode. **2**: Die extratropischen Florengebiete der südlichen Hemisphäre und der tropischen Gebiete. 1–386. *map.*

Includes a comprehensive analysis of the Polynesian flora as then known from the standpoint of plant distribution.

1883a. Anacardiaceae. DC. Monog. Phan. **4**: 171–500. *pl. 4–15.*

Monographic.

1883b. Burseraceae. DC. Monog. Phan. **4**: 1–169. *pl. 1–3.*

Monographic.

1886. Die auf der Expedition S. M. S. "Gazelle" von Dr. Naumann im malayischen Gebiet gesammelten Siphonogamen (Phanerogamen) mit Ausnahme der schon publicirten Gramineae, Cyperaceae, Orchidaceae. Bot. Jahrb. **7**: 444–480.

Includes some Polynesian species.

Engler, A., and **Prantl, K.**

1887–1908. Die natürlichen Pflanzenfamilien nebst ihren Gattungen und wichtigeren Arten insbesondere den Nutzpflanzen, unter Mitwirkung zahlreicher hervorragender Fachgelehrten. Teil **1–4** 1887–1908. Nachträge **1,** 1897; **2,** 1900; **3,** 1908; **4,** 1915, Gesamtregister. 1899.

A treatment of the families and genera of flowering plants, copiously illustrated. A fundamental work prepared with the assistance of numerous specialists, not separately listed in this bibliography. See **Engler, A.,** and **Prantl, K.,** 1924-40.

Engler, A.

1889a. Vorwort-Uebersicht über die botanischen Ergebnisse der Expedition: in Die Forschungsreise S. M. S. "Gazelle." . . . **4** (1): Botanik i-xvi.

Includes references to some Polynesian species.

1889b. Siphonogamen (Phanerogamen) : in Die Forschungsreise S. M. S. "Gazelle" . . . **4** (7): Botanik 1–58. *pl. 1–15.*

Includes references to some Fijian species.

1892–1936. Syllabus der Vorlesungen über specielle und medicinisch-pharmeceutische Botanik. Eine Uebersicht über das gesammte Pflanzensystem mit Berücksichtigung der Medicinal-und Nutzpflanzen. i-xxiii, 1–184. 1892; ed. 2 et seq. (as "Syllabus der Pflanzenfamilien.") i-xii, 1–214. 1898; ed. 3, i-xxvi, 1–233. 1903; ed. 4, i-xxviii, 1–237. 1904; ed. 5, i-xxviii, 1–247. 1907; ed. 6, i-xxviii, 1–254. 1909; ed. 7, i-xxxii, 1–387. *illus.* 1912; ed. 8, i-xxxv, 1–395. *f. 1–457.* 1919; ed. 9–10, i-xlii, 1–420. *f. 1–462.* 1924; ed. 11, i-xlii, 1–419. *f. 1–476.* 1936.

Ed. 1-6 by A. Engler, ed. 7-10 by A. Engler and E. Gilg, ed. 11 by A. Engler and L. Diels. The main title beginning with ed. 2 (1898) became "Syllabus der Pflanzenfamilien." The subtitle varies.

1898–1936. Syllabus der Pflanzenfamilien.

See the preceding entry, ed. 2.

1897. Notizen über die Flora der Marshallinseln. Notizbl. Bot. Gart. Berlin **1**: 222–226.

A list of 39 species, none new.

1900. Das Pflanzenreich. Regni vegetabilis conspectus. **1** (1900) →

A series of monographs, entered separately in this bibliography under their respective authors.

1905. Araceae-Pothoideae. Pflanzenr. **21** (IV. 23B): 1–330. *f. 1–88.*

Monographic.

Engler, A., and **Krause, K.**

1908. Araceae-Monsteroideae. Pflanzenr. **37** (IV. 23. Ba): 1–139. *f. 1–56.*

Monographic.

Engler, A.

1911. Araceae-Lasioideae. Pflanzenr. **48** (IV. 23C): 1–130. *f. 1–44.*

Monographic.

Engler, A. and **Krause, K.**

1912–13. Araceae-Philodendroideae-Philodendreae. Pflanzenr. **55** (IV. 23. Da): 1–134. *f. 1–77.* 1912; **60** (IV. 23. Db) : 1–143. *f. 1–45.* 1913.

Monographic.

1921. Eine Aracee von Mikronesien. Bot. Jahrb. **56**: 433.

Raphidophora palauensis n. sp. from the Palau Islands.

Engler, A. and **Prantl, K.**

1924–40. Die natürlichen Pflanzenfamilien . . . begründet von A. Engler und K. Prantl. Zweite stark vermehrte und verbesserte Auflage herausgegeben von A. Engler.

Commenced publication in 1924; originally planned to be completed in 27 volumes, but as publication progressed the number of these was expanded. At least 18 partial or complete volumes have been published to date, the last ones seen issued in 1940. For first edition see **Engler, A.,** and **Prantl, K.,** 1887-1908. For corrections in Musci see **Thériot, J.,** 1932.

Epling, C.

1935–37. Synopsis of the South American Labiatae. Repert. Sp. Nov. Beih. **85**: 1–341.

Includes the new generic name *Skottsbergiella* with *S. fernandezia* Epling (*Cuminia*, Colla) from Juan Fernández.

1936. Note on the distribution of Hyptis in the Old World. Kew Bull. **1936**: 278–280.

Admits *H. mariannarum* from Guam.

1941. The distribution of American Labiatae. Proc. Sixth Pacif. Sci. Congr. **4**: 571–575. *f. 1.*

Contains brief data appertaining to Juan Fernández and Hawaii, with *Lepechinia hastata* in Hawaii.

Erichsen, C. F. E.

1936. Beiträge zur Kenntnis der Flechtengattung Pertusaria. Repert. Sp. Nov. **41**: 77–101.

Includes *P. havaiiensis* n. sp. from Hawaii.

Esmarch, F.

1910–11. Beitrag zur Cyanophyceenflora unserer Kolonien. Jahrb. Hamb. Wiss. Anstalt **28**: Beih. **3**: 63–82. 1910. Reprinted in Mitt. Bot. Staatsinst. Hamb. with the same pagination, 1911.

Lists three species from Samoa.

Espinosa, M. R.

1934. Un nuevo helecho de Pascua. Revis. Chil. Hist. Nat. **38**: 153–158. *f. 38–39.*

Polystichum fuentesii n. sp. from Easter Island.

Ettingshausen, C. von

1854. Über die Nervation der Blätter der Papilionaceen. Sitzber. Math.-Nat. Kl. Akad. Wiss. Wien **12**: 600–666. *pl. 1–22.* Reprinted 1–66. *pl. 1–22.*

Includes *Pterocarpus australis* from Norfolk Island.

1857. Über die Nervation der Blätter bei den Celastrineen. Denkschr. Math.-Nat. Kl. Akad. Wiss. Wien **13**: 44–83. *pl. 1–10. f. 1–34.* Reprint 1–41. *pl. 1–10. f. 1–34.*

Includes *Elaeodendron curtipendulum* from Norfolk Island.

1861. Die Blatt-Skelete der Dikotyledonen mit besonderer Rücksicht auf die Untersuchung and Bestimmung der fossilen Pflanzenreste. i–xlvi, 1–308. *pl. 1–95. f. 1–276.*

Includes at least one species from Norfolk Island.

1864. Die Farnkräuter der Jetzwelt zur Untersuchung und Bestimmung der in den Formationen der Erdrinde eingeschlossenen Überreste von vorweltlichen Arten dieser Ordnung nach dem Flächenskelet bearbeitet. i–xvi, 1–298. *pl. 1–180. f. 1–91.*

Includes some Polynesian species.

Evans, A. W.

1891. A provisional list of the Hepaticae of the Hawaiian islands. Trans. Connect. Acad. **8**: 253–261. *pl. 22–23.* Reprint 1–9. *pl. 22–23.*

An enumeration of the known species.

1899–1900. The Hawaiian Hepaticae of the tribe Jubuloideae. Trans. Connect. Acad. **10**: 387–462. *pl. 44–59.*

Includes the descriptions of various new species.

1900. A new genus of Hepaticae from the Hawaiian islands. Bull. Torr. Bot. Club **27:** 97–104. *pl. 1. 1 f.*

Acromastigum integrifolium.

1919. A taxonomic study of Dumortiera. Bull. Torr. Bot. Club **46:** 167–182.

Includes *D. hirsuta* Nees, and *D. nepalensis* Nees from Polynesia.

1925. A taxonomic study of Hymenophytum. Bull. Torr. Bot. Club **52:** 491–506. *f. 1–19.*

Includes the Polynesian species.

1930. The thallose Hepaticae of the Juan Fernandez Islands: in Skottsberg, C. Natural History of Juan Fernandez and Easter Island Bot. **2:** 551–586. *f. 1–6.*

A critical list with extensive notes and with the descriptions of a few new species.

1934. A revision of the genus Acromastigum. Ann. Bryol. Suppl. **3:** i–viii, 1–178. *f. 1–40.*

Monographic; 28 species recognized, including the Polynesian forms.

Everhart, B. M. See **Ellis, J. B.,** and **Everhart, B. M.**

Exell, A. W.

1925. Passiflora samoensis, Exell, sp. nov. Jour. Bot. **63:** 203–204.

Native of Samoa.

1936. Two new species of Terminalia from the Austral Islands and Mangareva. Bishop Mus. Occ. Pap. 11(20): 104.

Terminalia haroldii and *T. koariki* n. spp.

F

Fagerlund, G. O., and Mitchell, A. L.

1944. A checklist of the plants, Hawaii National Park, Kilauea-Mauna Loa section; with a discussion of the vegetation. Hawaii Nat. Park Nat. Hist. Bull. **9:** 1–76.

Mimeographed data. Includes native names and a bibliography.

Falkoner, W.

1873a. Croton Hookeri. Garden **3:** 45–46. *1 f.*

Introduced from the South Sea Islands.

1873b. Croton undulatum. Garden **3:** 118. *1 f.*

Native of the South Sea Islands.

Farlow, W. G.

1916. Marine algae of the Pacific. Proc. Nat. Acad. Sci. (Washington) **2:** 424–427.

Chiefly a plea for exploration indicating regions where field work is desirable.

Farquhar, J. K. M. L.

1900. Gardens, fields, and wilds of the Hawaiian islands. Trans. Mass. Hort. Soc. **1900:** 51–57.

General notes.

Farwell, O. A.

1917–19. Botanical nomenclature of the N[ational] F[ormulary]. IV. Drugg. Circ. **61:** 229–232. 1917; **63:** 49, 50. 1919.

Includes *Piper esculentum* and *Methysticum methysticum,* new names for two Polynesian species. First part reprinted, [1-4].

1931. Fern notes II. Ferns in the herbarium of Parke, Davis & Co. Am. Midl. Nat. **12**: 233–311.

Includes numerous new names, some of Polynesian species, but few are valid under any accepted rules.

Faujas-de-Saint-Fond, B.

1812. Mémoire sur le Phormium tenax, improprement appelé lin de la Nouvelle-Zélande. Ann. Mus. Hist. Nat. [Paris] **19**: 401–430. *pl. 20.* Reprint 1–30. *1 pl.* 1813.

Includes botanical and historical data on this native of Norfolk Island.

Faull, J. H.

1938. Taxonomy and geographical distribution of the genus Uredinopsis. Contr. Arnold Arb. **11**: 1–120. *pl. 1–6.*

Includes *U. aspera* n. sp. from Hawaii.

Fawcett, W.

1886. On new species of Balanophora and Thonningia, with a note on Brugmansia Lowi, Becc. Trans. Linn. Soc. II Bot. **2**: 233–247. *pl. 33–36.*

Includes a description of *Balanophora hillebrandtii* Rchb. f. from Tahiti and Comoro, with extensive notes (*Acroblastum pallens* Solander).

Fedde, F.

1908a. W. Botting Hemsley, Triuridaceae novae (Ex: Ann. of Bot., xxi[1907], pp. 71–77, *pl. ix, x*). Repert. Nov. Sp. **6**: 16–17.

Includes republication of Hemsley's original description of *Sciaphila aneitensis* from the New Hebrides Islands (**Hemsley, W. B.,** 1907a).

1908b. Species novae ex "Hookers Icones Plantarum." Repert. Nov. Sp. **5**: 260–271.

Includes reprinted descriptions of some Polynesian species.

1908c. Verzeichnis der neuen Namen und Beschreibung der neuen Gattungen aus: René Viguier, Recherches anatomiques sur la classification des Araliacées (Ex. Ann. Sci. nat. Paris, Bot., 9 sér., iv [1906], pp. 1–210.). Repert. Nov. Sp. **6**: 45–48.

Republication of selected data from **Viguier, R.,** 1906 regarding certain New Caledonian species.

1908–12. Vermischte neue Diagnosen. Repert. Nov. Sp. **5**: 29–32. 1908; Repert. Sp. Nov. **9**: 571–576. 1911; **10**: 313–316. 1912.

Contains republications of original descriptions, new combinations, etc., of numerous species from **Forbes, C. N.,** 1909, **Dubard, M.,** 1906a, and **Rock, J. F.,** 1911a.

1909a. Papaveraceae-Hypecoideae et Papaveraceae-Papaveroideae. Pflanzenr. **49**: (IV). (104) : 1–430. *f. 1–43.*

Monographic.

1909b. Balanophoraceae novae vel generice a Ph. van Tieghem commutatae (Ex: Ann. Sci. Nat. Paris, Bot., sér. 9, t. vi. [1907], pp. 141–213). Repert. Nov. Sp. **7**: 265–272.

Republication of selected data from **Tieghem, P. van,** 1907, concerning various New Caledonian species.

See also **Mueller, F. von,** 1938.

Feé, A. L. A.

1844–66. Mémoires sur la famille des fougères. **1**: 1–14. *pl. 1–2.* 1844; **2**: 1–114. *pl. 1–64.* 1845; **3–4**: 1–54. *pl. 1–5.* 1851–52; **5**: 1–387. *pl. 1–30.* 1850–52; **6–7–8**: i–vi. 1–138. *pl. 1–27.* 1854–57; **9**: 1–38. (ed. alt. 1–48). 1857; **10**: 1–50. *pl. 28–44.* 1865; **11**: i–xvi, 1–34. 1866.

Some parts include many Polynesian species; other parts do not apply to the region.

Feldman, J., and **Hamel, G.**

1934. Observations sur quelques Gélidiacées. Rev. Gén. Bot. **46:** 528–549. *f. 1–11.*

Ten species of *Gelidiella* recognized, including *G. acerosa* occurring in the Pacific.

Fenzl, E.

1836. Monographie der Mollugineen und Steudelieen zweier Unterabtheilungen der Familie der Portulaceen (nebst einem Zusatze zur Abhandlung über Acanthophyllum). Ann. Wien. Mus. Naturgesch. **1:** 337–386.

Includes at least one species credited to Guam.

1839. Monographie der Mollugineen (Zweiter Artikel). Ann. Wien. Mus. Naturgesch. **2:** 243–310.

Includes *Schiedea ligustrina* from Hawaii.

1843. [Über die bisher ihrer Stellung im natürlichen Systeme nach zweifelhafte Gattung Oxera Labillardier's.] Amtl. Ber. Deutsch. Naturf. Aerzte **21:** 148–155. *pl. 2–3.* Reprinted as "Ueber die Stellung der Gattung Oxera im natürlichen Sytseme [Systeme]" 1–8. *pl. 2–3.* 1843.

A New Caledonian genus. The title of this article is taken from the table of contents of the volume, as the article was published without one: "Dr. Fenzl hielt einen freien Vortrag über . . . Oxera."

1867–70. Reise der österreichischen Fregatte Novara um die Erde in den Jahren 1857, 1858, 1859, unter den Befehlen des Commodore B. von Wüllerstorf-Urbair, Botanischer Theil. 1–261. *pl. 1–36.*

Papers by Krempelhuber, Milde, Grünow, Reichardt, and Mettenius indexed separately.

Fernald, M. L.

1923. Nomenclatorial transfers in Mariscus. Rhodora **25:** 49–54.

Includes some Polynesian species.

Field, B. L.

1938. Potentiality of the cashew nut industry in Fiji. Agr. Jour. [Fiji] **9**(3): 13–15.

Economic notes on *Anacardium occidentale.*

Finet, E. A.

1899. Sur quelques espèces nouvelles du genre Calanthe. Bull. Soc. Bot. France **46:** 434–437. *pl. 10.*

Includes *C. balansae* n. sp. from New Caledonia.

1903a. Enumération des espèces due genre Dendrobium (Orchidées) formant la collection du Muséum de Paris. Bull. Mus. Hist. Nat. [Paris] **9:** 295–303.

Includes a few Polynesian species.

1903b. Dendrobium nouveaux de l'herbier du Muséum. Bull .Soc. Bot. France **50:** 372–383. *pl. 11–14.*

Includes seven new species of *Dendrobium* from New Caledonia.

1908. Orchidées nouvelles ou peu connues. II. Bull. Soc. Bot. France **55:** 333–343. t. 1. f. 1–2.

Includes *Liparis chalandei* n. sp. from New Caledonia.

1909. Pelma, Orchidacearum genus novum. Not. Syst. **1:** 112–114. *f. 6.*

P. neo-caledonicum n. sp.

Finsch, O.

1887. Die Naturprodukte der westlichen Südsee, besonders der deutschen Schutzgebiete. Deutsch. Kolon. Zeit. **4:** 519–530, 543–551, 593–596. Reprint 1–23.

Not seen.

1893. Ethnologische Erfahrungen und Belegstücke aus der Südsee. Dritte Abtheilung: Mikronesien (West-Oceanien). Ann. Naturhist. Hofmus. Wien **8:** 1–107, 119–437. *pl. 1–7. f. 1–65.*

Includes some notes on economic plants. The earlier parts of this paper appertain to New Guinea and the Bismarck Archipelago.

Fischer, E.

1914. Fungi (Gen. Dictyophora Desvaux): in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1:** 1–4.

D. indusiata.

Fischer, F. E. L. See **Langsdorff, G. H. von,** and **Fischer, F. E. L.**

Fitzpatrick, H. M. See **Mehrlich, F. P.,** and **Fitzpatrick, H. M.**

Fleischer, M.

1905. Neue Familien, Gattungen, und Arten der Laubmoose. Hedwigia **45:** 53–87. *f. 1–4.*

Includes some Polynesian species.

1914–22. Kritische Revision von Carl Müllerschen Laubmoos-Gattungen. I. Hedwigia **55:** 280–285. 1914; (II) **59:** 212–219. 1917; (III) **61:** 402–408. 1920; (IV) **63:** 209–216. 1922.

Includes reductions of some Polynesian species.

Fleischmann, H., and **Rechinger, K.**

1910. Orchidaceae: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **85:** 250–263. *pl. 1–2. f. 10–11.* Reprint **3:** 76–89. *pl. 1–2. f. 10–11.*

Includes some Samoan species.

Florin, R.

1940. Die heutige und frühere Verbreitung der Koniferengattung Acmopyle Pilger. Svensk Bot. Tidskr. **34:** 117–140. *f. 1–4.*

Concerns certain New Caledonian species, but the paper chiefly palaeobotanical.

Flotow, J. See **Meyen, J.,** and **Flotow, J.**; and **Mueller, J.** (Muell.-Arg.), 1883b.

Flügge, J.

1810. Graminum monographiae. Pars. I. Paspalus, Reimaria. 1–224.

Includes some Polynesian species.

Focke, W. O.

1872. Rubi Australienses. Die australischen und polynesischen Arten der Gattung Rubus. Abh. Naturw. Ver. Bremen **4:** 168–171.

Includes a key to the Australian and Polynesian species of *Rubus.*

1880. Ueber die natürliche Gleiderung und die geographische Verbreitung der Gattung Rubus. Bot. Jahrb. **1:** 87–103.

Mentions Polynesian distribution of the genus.

1910–14. Species Ruborum. Monographiae generis Rubi Prodromus. Pars. I. Bibl. Bot. **17**(72[1]): 1–120. *f. 1–53,* 1910; Pars. II. (72[2]): 121–223. *f. 54–87.* 1911; Pars. III. **19**(83): 1–274. *f. 88–155.* 1914.

Includes a few Polynesian species.

Forbes, C. N.

1909–20. New Hawaiian plants. Occ. Pap. Bishop Mus. **4:** 213–223. *5 f.* 1909; (II) 296. *1 pl. f. 1–3.* 1910; (III) **5:** 3–12. *5 f.* 1912; (IV) **6:** 39. 1914; (V) 173–191. *9 f.* 1916; (VI) 243–246. *f. 9–10.* 1917; (VII) **7:** 33–39. *pl. 3–11.* 1920.

Descriptions of various new species. For republication of original descriptions see Fedde, F., 1908-12.

1911a. Notes on the naturalized flora of the Hawaiian islands. Occ. Pap. Bishop Mus. **4:** 323–334.

A list with notes.

1911b. Preliminary observations concerning the plant invasion on some of the lava flows of Mauna Loa, Hawaii. Occ. Pap. Bishop Mus. **5:** 15–23.

Ecological.

1913a. Notes on the flora of Kahoolawe and Molokini. Occ. Pap. Bishop Mus. **5:** 85–97. *f. 1–7.*

A list with notes.

1913b. An enumeration of Niihau plants. Occ. Pap. Bishop Mus. **5:** 99–113. *f. 1–4.*

Includes *Euphorbia stokesii* n. sp.

1913c. Report to W. T. Brigham (included in Director's report for 1912). Occ. Pap. Bishop Mus. **5:** 123–127.

An account of botanical collecting in Hawaii in previous years.

1914. Plant invasion on lava. Mid-Pacific Mag. **7:** 360–365.

Not seen; appertains to Hawaii.

1918. The genus Lagenophora in the Hawaiian islands with descriptions of new species. Occ. Pap. Bishop Mus. **6:** 301–309. *f. 1–4.*

A synopsis; three species recognized, two new.

Forbes, C. N., and **Munro, G. C.**

1920. A new Cyanea from Lanai, Hawaii. Occ. Pap. Bishop Mus. **7:** 43. *pl. 12.*

C. baldwinii **n. sp.**

Forbes, C. N.

1920. Notes on Marsilea villosa Kaulf. Occ. Pap. Bishop Mus. **7:** 47–49. *pl. 13–14.*

From Oahu, Hawaii.

1921. Salient features of Hawaiian botany. Bishop Mus. Spec. Publ. **7:** 125–130. (Proc. First Pan-Pacific Sci. Conference, Honolulu, 1920.)

Largely ecological.

Forster, G.

1780. Decas plantarum novarum, ex insulis maris australis. Nov. Acta Soc. Sci. Upsal. II. **3:** 171–186.

Includes the descriptions of various new species.

1784a. Geschichte und Beschreibung des Brodbaums. Hess. Beitr. **1:** 208–232, 384–400. *pl. 1–2.* Reprint, 1–47. *pl. 1–2.*

Based on Polynesian material; *Artocarpus incisa.*

1784b. Vom Brodbaum. [1–2]. 1–47. *pl. 1–2.*

A republication of the preceding entry with a new title.

1786a. Dissertatio inauguralis botanico-medica, de plantis esculentis insularum oceani australis. 1–80.

Based on Polynesian material.

1786b. Florulae insularum australium prodromus. 1–103.

The first published flora of Polynesia, listing 594 species, many described as new.

1797. Herbarium australe seu Catalogus plantarum exsiccatarum quas in florulae insularum australium prodromo in commentatione de plantis esculentis insularum oceani australis, in fasciculo plantarum Magellanicarum, descripsit et delineavit; nec non earum quas ex insulis Madeira, St. Jacobi, Adscensionis, St. Helenae et Fayal reportavit. 1–24.

Lists Forster's Polynesian species.

See also **Herder, F. von,** 1885; and the next entry.

Forster, J. R., and **Forster, G.**

1776. Characteres generum plantarium, quas in itinere ad insulas maris australis collegerunt, descripserunt, delinearunt, annis 1772–1775. i-viii, i-x, 1–150. *pl. 1–75.*

Includes original descriptions of numerous Polynesian genera and species.

1779. Beschreibungen der Gattungen von Pflanzen, auf einer Reise nach den Inseln der Südsee gesammelt, beschrieben und abgezeichnet, während den Jahren 1772 bis 1775. Aus dem Lateinischen übersetzt, und von 75 bis auf 17 Kupferplatten eingeschränkt, durch Johann Simon Kerner. [i-xxii], 1–160, [1–14]. *pl. 1–18.*

A German translation of the preceding entry. See **Herder, F. von,** 1885, for data on G. Forster's unpublished drawings of Polynesian plants, now at the botanic garden, Leningrad.

Fosberg, F. R.

1934. A key to the families of Monocotyledons in the Hawaiian islands. **Univ.** Hawaii Occ. Pap. **18:** 1–8.

A brief summary of the characters of 25 families with a dichotomous key.

1936a. The Hawaiian geraniums. Occ. Pap. Bishop Mus. **12**(16): 1–19. *pl. 1–5.*

Four species and numerous varieties of *Geranium* recognized.

1936b. Vegetation of Vostok Island, Central Pacific. Bishop Mus. Spec. **Publ. 30:** 19.

A brief abstract.

1936c. Plant collecting on Lanai, 1935. Mid-Pacific Mag. **49:** 119–123. *6 f.*

A popular account.

1936d. A study of the Hawaiian genus Gouldia. Bishop Mus. Spec. **Publ. 30:** 20.

A brief abstract; see **Fosberg** 1937c.

1936–42. Miscellaneous Hawaiian plant notes—I. Occ. Pap. Bishop Mus. **12**(15): 1–11. *pl. 1.* 1936; (II) **16:** 337–347. 1942.

New combinations, critical notes, and descriptions of a few new varieties.

1937a. Some Rubiaceae of southeastern Polynesia. Occ. Pap. Bishop Mus. **13:** 245–293. *f. 1–15.*

An enumeration with notes and with descriptions of some new species and varieties.

1937b. Immigrant plants in the Hawaiian Islands. I. Univ. Hawaii Occ. Pap. **32:** 1–11. *1 f.*

Notes on various introduced and naturalized species.

1937c. The genus Gouldia (Rubiaceae). Bishop Mus. Bull. **147:** [1]. 1–82. *pl. 1–3. f. 1.*

A taxonomic revision; three species, one new, and nearly 100 varieties and forms with Latin names and many "polynomial" hybrids recognized in Hawaii.

1937d. An aggressive Lantana mutation. Bishop Mus. Spec. Publ. **31:** 18.

A brief note concerning an aggressive form of *L. camara.*

Fosberg, F. R., and **Hosaka, E. Y.**

1938. An open bog on Oahu. Descriptions of two new varieties of Styphelia and Lobelia. Occ. Pap. Bishop Mus. **14:** 1–6. *f. 1–2.*

Ecological, with descriptions of *Styphelia tameiameiae* var. *hexamera* and *Lobelia gaudichaudii* var. *koolauensis.*

Fosberg, F. R.

1938–43. Notes on plants of the Pacific Islands. I. Bull. Torr. Bot. Club **65:** 607–614. 1938; (II) **67:** 417–425. 1940; (III) **70:** 386–397. 1943.

Includes notes on various Polynesian species, with some new species in *Gouania, Phaleria, Psychotria, Anectochilus,* and *Dubautia.*

1939a. Psychotria (Rubiaceae) in the Marquesas Islands. Not. Syst. **8**: 161–173.

Descriptions of nine species, with key, including four new ones.

1939b. Notes on Polynesian grasses. Occ. Pap. Bishop Mus. **15**: 37–48. *f. 1–3.*

Notes on various species of Gramineae with new species and varieties in *Eragrostis.*

1939c. Taxonomy of the Hawaiian genus Broussaisia (Saxifragaceae). Occ. Pap. Bishop Mus. **15**: 49–60. *f. 1.*

B. arguta, with numerous forms recognized.

1939d. Diospyros ferrea (Ebenaceae) in Hawaii. Occ. Pap. Bishop Mus. **15**: 119–131.

Many subspecies, varieties, and forms recognized.

1939e Nomenclature proposals for the 1940 botanical congress. Am. Jour. Bot. **26**: 229–231.

Conservation of two Polynesian generic names proposed, *Artocarpus* Forst. and *Inocarpus* Forst., 1776, against *Sitodium* Parkins. and *Aniotum* Parkins. of 1773, respectively.

1940a. Melanesian vascular plants. Lloydia **3**: 109–124. *pl. 1. f. 1.*

An enumeration with description of new species, including some from Santa Cruz Islands. Piperaceae, by T. G. Yunker and W. Trelease; Moraceae, by V. S. Summerhayes; Orchidaceae, by L. O. Williams.

1940b. Notes on Micronesian Rubiaceae. Occ. Pap. Bishop Mus. **15**: 213–226.

An enumeration with descriptions of some new varieties and some new combinations.

1941. Names in Amaranthus, Artocarpus and Inocarpus. Jour. Washington Acad. Sci. **31**: 93–96.

Accepts *Amaranthus tricolor* Linn. and publishes *Artocarpus altilis* (Parkins.) Fosb. and *Inocarpus fagiferus* (Parkins.) Fosb., these replacing *Artocarpus communis* Forst. (*A. incisa* Linn. f.) and *Inocarpus edulis* Forst., both based on Polynesian material.

1942. Uses of Hawaiian ferns. Am. Fern Jour. **32**: 15–23.

Concerns various species.

1943. The Polynesian species of Hedyotis (Rubiaceae). Bishop Mus. Bull. **174**: i. 1–102. *pl. 1–4. f. 1–9.*

In all, 129 entities recognized, largely trinomials as varieties and forms.

See also **St. John, H.,** and **Fosberg, F. R.**

Foslie, M.

1900a. Calcareous Algae from Funafuti. Norske Vid. Selsk. Skrifter **1900(1)**: 1–12.

A list with critical notes and descriptions.

1900b. New Melobesieae. Norske Vid. Selsk. Skrifter, **1900(6)**: 1–24.

Includes *Lithophyllum subreduncum* and *L. dentatum* var. *sandwicensis* n. var. from Hawaii.

1900c. Revised systematical survey of the Melobesieae. Norske Vid. Selsk. Skrifter **1900(5)**: 1–22.

A list of the known species.

1907a. Corallinaceae: in Rechinger, K., Botanische und zoologische Ergebnisse. . . Denkschr. Akad. Wiss. Wien **81**: 209–210. Reprint **1**: 13–14.

Includes some Samoan species.

1907b. Algologiske Notiser III. Norske Vid. Selsk. Skrifter **1906(8)**: 1–34.

Includes some new Polynesian species.

See also **Weber van Bosse, A.,** and **Foslie, M.**

Fournier, E.

1860–61. Notes sur le genre Albizzia Durazz. Ann. Sci. Nat. IV Bot. **14**: 368–381. *pl. 14.* 1860; **15**: 161–178. 1861.

Includes the New Caledonian species, some new.

1865. Notes supplémentaires sur le genre Albizzia. Bull. Soc. Bot. France **12**: 398–401.

Three new species from New Caledonia described.

1869. Sur les fougères de la Nouvelle-Calédonie. Bull. Soc. Bot. France **16**: 389–394, 422–425.

An enumeration with descriptions of new species.

1873a. Filices Novae-Caledoniae enumeratio monographica. Ann. Sci. Nat. V. Bot. **18**: 253–360.

An enumeration with keys; includes numerous new species.

1873b. Sur les fougères de la Nouvelle-Calédonie. Bull. Soc. Bot. France **20**: Session Extr. Belg. xx–xxii.

General discussion.

1874. Sur la dispersion géographique des fougères de la Nouvelle-Calédonie. Ann. Sci. Nat. V. Bot. **19**: 287–299.

Phytogeographic.

1876a. Aralia (Pseudopanax) elegantissima. Ill. Hort. **23**: 9–10. *pl. 229.*

Native of New Caledonia.

1876b. Lomaria gigantea Kaulf. Ill. Hort. **23**: 56. *pl. 237.*

Native of Tahiti and New Caledonia.

1876c. Aralia filicifolia Ch. Moore. Ill. Hort. **23**: *72. pl. 240.*

Native of the Pacific Islands.

1876d. Cyathea nigra Lind. Ill. Hort. **23**: *73. pl. 242.*

Native of New Caledonia.

1876e. Kentia gracilis Ad. Br. & A. Gris. Ill. Hort. **23**: 98. *pl. 245.*

Native of New Caledonia.

1876f. Fougères nouvelles introduites par M. J. Linden. Ill. Hort. **23**: 99–101.

Includes description of *Fourniera funebris* Fourn. and notes on *Balantium thyrsopteroides* and some *Lomaria* species from New Caledonia.

1876g. Marattia attenuata, La Bill. Ill. Hort. **23**: 112. *pl. 246.*

Native of New Caledonia.

1876h. Aralia Veitchii var. gracillima. Ill. Hort. **23**: 113. *pl. 247.*

Native of New Caledonia.

1876i. Lomaria neo-caledonica Lind. & Fourn. Ill. Hort. **23**: 132. *pl. 251.*

Native of New Caledonia.

1876j. Lomaria ciliata Moore. Ill. Hort. **23**: 144. *pl. 252.*

Native of New Caledonia.

Fournier, P.

1932. Contribution à l'histoire des sciences naturelles. Voyages et découvertes scientifiques des missionaires naturalistes français, à travers le monde pendant cinq siècles XV^{e} a XX^{e} siècles. 1–369. *30 portraits.*

Fowler, R. L.

1940a. Key to the ferns, Kilauea-Manua Loa Section. Hawaii Nat. Park Nat. Hist. Bull. **4**: 1–14.

Mimeographed data.

1940b. Annotated list of ferns of the Kilauea-Mauna Loa section of Hawaii National Park. Am. Fern Jour. **30**: 9–18.

Mimeographed data; a systematic annotated enumeration.

Francey, P.

1935–36. Monographie du genre Cestrum L. Candollea **6**: 46–398. 1935; **7**: 1–132. *pl. 1–3.* 1936.

Monographic, a very few introduced species listed for Polynesia.

Frauenfeld, G. von

1867. Zur flora und fauna von Neu Caledonien. Verh. Zool. Bot. Ges. Wien **17**: 464–493.

Lists many species of plants, some with notes.

Frear, M. D.

1929. Our familiar island trees. i–xiv, 1–161. *frontisp. 45 f.*

A popular account of the commonly cultivated ornamental trees of Hawaii.

1938. Flowers of Hawaii. [1–42]. *pl. 1–30.*

Text by M. D. Frear, colored plates by O. G. McLean; a popular work, the species illustrated all exotics or hybrids.

Frémy, P.

1941. Revision du genre Skujaella J. de Toni (=Trichodesmium Ehr. et Auct.) Botaniste **31**: 3–19.

All species discussed and united in one single one, *Skujaella erythraea,* with three forms; occurs in New Caledonia.

Friedel, J.

1933. Sur l'anatomie de l'Oceanopapaver neo-caledonicum Guillaumin. Importance de cette espèce au point de vue systématique. Bull. Soc. Bot. France **80**: 33–35.

Native of New Caledonia.

1934. A propos de deux Papavéracées aberrantes: L'Oceanopapaver neocaledonicum Guillaumin et le Meconopsis chelidonifolia Bur. et Franch. Application de l'anatomie à l'étude de la filiation; esquisse d' une méthode, Rev. Gén. Bot. 46: 321–331. *f. 1–4.*

Concerns in part a New Caledonian species.

Friederici, G.

1936. Die Süsskartoffel in der Südsee. Mitteilungsbl. Ges. Volkerk. [Leipzig] **1936** (7): 2–7. Reprint 1–6.

Opposes the theory of prehistoric Polynesian introduction of this tropical American species; see **Dixon, R. B.,** 1932.

Fries, E.

1851. Novae symbolae Mycologicae, in peregrinis terris a botanicis Danicis collectae. Nova Acta Soc. Sci. Upsal. III. **1**: 15–136.

Includes a few species of fungi from Tahiti and Hawaii, some new.

Fries, R. E.

1920. Die Myxomyceten der Juan Fernandez-Inseln: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island. **2**: Botany 55–58.

A list with notes.

Fries, T. C. E.

1922. Die Gasteromyceten der Juan Fernandez und Osterinseln: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island. **2**: Botany 59–60.

A list with notes.

Fries, T. M.

1857. De Stereocaulis et Pilophoris commentatio. 1–42.

Includes *S. rocelloides* n. sp. from Hawaii.

1858. Monographia Stereocaulorum et Pilophororum. Nova Acta Soc. Sci. Upsal. III **2**: 307–380. *pl. 7–10.* Reprint, 1–76. *pl. 7–10.* 1858.

Includes some Polynesian species.

Fuentes, F.

1913. Reseña botánica sobre la Isla de Pascua. Publ. Inst. Centr. Meteor. Chile **4**: 1–9; Bol. Mus. Nac. Chile **5**: 320–337.

A list of 124 species from Easter Island.

Fukuyama, N.

1937a. Studia Orchidacearum. IX. Orchidaceae novae Micronesianae a T. Hosokawa collectae. Bot. Mag. Tokyo **51**: 900–906. *f. 1–6.* Reprinted as Contr. Herb. Taihoku Univ., No. 53, without change of pagination.

Five new species described in *Dendrobium, Microtatorchis,* and *Taeniophyllum.* The previous parts contain no Polynesian species.

1937b. Eine neue Orchidee der Palau-Inseln. Trans. Nat. Hist. Soc. Formosa **27**: 279–280.

Nervilia oxyglossa n. sp.

1937c. Dipodium freycinetioides Fukuyama, eine neue stammepiphytische Orchidee aus Micronesien. Trans. Nat. Hist. Soc. Formosa **27**: 265–267.

Native of the Palau Islands.

1938. Einige neue Orchideen von Mikronesien, mit besonderer Berücksichtigung der von Palau-Inseln. Trans. Nat. Hist. Soc. Formosa **28**: 1–7.

Six new species described in *Phreatia, Oxyanthera, Acriopsis, Microstylis,* and *Liparis.*

1939. Diagnoses Orchidaceearum novarum vel minus cognitarum anno 1938 ab T. Hosokawa in insula Kusaie [Caroline Isl.] collectarum. Trans. Nat. Hist. Soc. Formosa **29**: 97–102.

Eleven species and varieties enumerated, with notes, several described as new.

1940. Species novae generis Nervilia Comm. Trans. Nat. Hist. Soc. Formosa **30**: 428–429.

Nervilia umenei and *N. trichophylla* n. spp. from Palau Island. See **Yamamoto, Y., Mori, K.,** and **Fukuyama, N.,** 1939.

G

G.

1872. Screw pines. Garden **2**: 501–502. *1 f.*

An enumeration including *Pandanus veitchii* from the South Sea Islands and *P. decorus* from New Caledonia.

1904. The cooler filmy ferns. Flora & Sylva **2**: 333–338. *3 f.*, 362–367. *3 f.*

Includes a few Polynesian species.

Gagnepain, F.

1909. Le Commersonia echinata Forster et ses formes. Not. Syst. **1**: 96–97.

A critical note.

1913. Zingiberaceae: in Rechinger, K., Botanische und zoologische Ergebnisse. . . Denkschr. Akad. Wiss. Wien **89**: 516–522. *f. 13–17.* Reprint **5**: 74–80. *f. 13–17.*

Includes some Samoan species.

Gaillard, A.

1892. Le genre Meliola, anatomie, morphologie, systématique. 1–164. *pl. 1–24.*

Includes the Polynesian species. Briefly summarized in Bull. Soc. Bot. France **39**: Rev. Bibl. 76-78. 1892. Bull. Soc. Myc. France **8**: 33-38.

Gandoger, M.

1918–19. Sertum plantarum novarum. Pars prima. Bull. Soc. Bot. France **65:** 24–69. 1918; Pars secunda. **66:** 216–233, 286–287. 1919.

Includes some new Polynesian species.

1924. Le genre Sida (Malvacées). Bull. Soc. Bot. France **71:** 627–633.

A key to the known species.

Garabedian, S.

1924. A revision of Emilia. Kew Bull. **1924:** 137–144.

Twenty-three species recognized, with key, including the Polynesian species.

Gardner, C. A., and **Hubbard, C. E.**

1938. Brachiaria occidentalis C. A. Gardner et C. E. Hubbard. Hook. Ic. **34:** *pl. 3363.* 1–5.

Records *Brachiaria reptans* (Linn.) Gardn. & Hubb. (*Panicum reptans* Linn.) from Polynesia.

Gardner, N. L.

1927. A new species of Entophysalis from China, and notes on other species of the genus. Univ. Calif. Publ. Bot. **13:** 369–372. *pl. 72.*

Includes *E. samoensis.*

Gaudichaud, C.

1824. Description de quelques nouveaux genres de plantes recueillies dans le voyage autour du monde, sous les ordres du Capitaine Freycinet. Ann. Sci. Nat. **3:** 507–510.

Includes the descriptions of several new species from Hawaii and the Marianas Islands.

1826–30. Voyage autour du monde entrepris par ordre du Roi . . . sur les corvettes l'*Uranie* et la *Physicienne* pendant les années 1817, 1818, 1819 et 1820 . . . par M. Louis de Freycinet. Botanique. i–vii, 1–522; Atlas 1–22. *pl. 1–120.*

Includes descriptions of various Polynesian species. See Jour. Bot. **39:** 206. 1901, and Ann. Mag. Nat. Hist. vii **7:** 392. 1901, for dates of issue, pp. 1-88. 1826; 89-216. 1827; 217-360. 1828; 361-464. 1829; 465-522. 1830. Algae by Agardh; Fungi by Persoon.

1846–66. Voyage autour du monde exécuté pendant les années 1836 et 1837 sur la corvette la Bonite commandée par M. Vaillant . . . Botanique, cryptogames cellulaires et vasculaires **1:** i–xi. 1–355. 1846; Introduction **1:** 1–354, **2:** 1–444. 1851; Atlas t. 1–150. 1846–49(?). Explication et description des planches de l'atlas par C. d'Alleizette. 1–186. 1866.

Includes some Polynesian species. See Jour. Bot. **39:** 206. 1901, and Ann. Mag. Nat. Hist. VII **7:** 391. 1901, for dates of issue; for a more complete consideration see I. M. Johnston, Jour. Arnold Arb. **25:** 481-487. 1944. Fungi by Léveillé; Algae, Lichens, Musci, and Hepaticae by Montagne; Lycopodiaceae by Spring. The actual descriptions of the phanerogams illustrated in the atlas were not published.

Gay, C.

1833. Aperçu sur les recherches d'histoire naturelles faites dans l'Amérique du sud, et principalement dans le Chile pendant les années 1830 et 1831. Ann. Sci. Nat. **28:** 369–393.

Includes notes on the flora of Juan Fernández.

1845–54. Historia física y politica de Chile segun documentos adquiridos en esta republica durante doce años de residencia en ella y publicada bajo los auspicios del supremo gobierno. Botanica. **1:** 1–496. 1845; **2:** 1–534. 1846; **3:** 1–484. 1847; **4:** 1–516. 1849; **5:** 1–479. 1849; **6:** 1–551. 1853 [1854]; **7:** 1–515. 1850–54; **8:** 1–448. 1852 [1854]; Atlas *pl. 1–135.*

A general descriptive flora including the Juan Fernández species. For dates of issue see **I. M. Johnston,** Darwiniana **5:** 154-164. 1941.

Gay, J.

1823. Fragment d'une monographie des vraies Buttnériacées. Mém. Mus. Hist. Nat. [Paris] **10**: 199–220. *pl. 12–15.* Reprint 1–24. *pl. 12–15.*

Includes *Commersonia echinata* from the Society and Friendly Islands.

"Gazelle" Expedition.

1889. Die Forschungsreise S. M. S. "Gazelle" in den Jahren 1874 bis 1876 unter Kommando des Kapitän zur See Freiherrn von Schleinitz. Theil 4. Botanik.

Prepared by various authors. See: **Askenasy, E., Engler, A., Kuhn, M., Mueller, K., Schiffner, V.,** and **Thuemen, F. V.,** listed separately in this bibliography.

[Geel, P. C. van]

1828–32. Sertum botanicum; collection de plantes remarquables par leur utilité, leur élégance, leur éclat ou leur nouveauté. 4 vols. *600 pl.*

The colored folio plates are not numbered, nor is the accompanying text paged; includes a few Polynesian species.

Geert, A. van

1879. Sadleria cyathioides. Rev. Hort. Belge **5**: 109. *1 f.*

A general note on this native of Hawaii.

1887. Les Kentias australiens. Rev. Hort. Belge **13**: 105.

Includes the species of Lord Howe Island.

Geiseler, E. F.

1807. Crotonis monographiam, speciminis loco inauguralis, ut doctoris medici gradum in alma Friedericiana adipiscatur, ad diem 20. martii 1807, exhibit. i–x, 1–83.

Includes some Polynesian species.

Geitler, L.

1925. Neue oder wenig bekannte Protisten XVI. Neue oder wenig bekannte Cyanophyceen II. Arch. Protistenk. **51**: 361–433. *f. 1–39.*

Includes *Mastigocoleus obtusus* and *Rosaria ramosa* from New Caledonia.

Gepp, A., and **Gepp, E. S.**

1911a. The Codiaceae of the Siboga Expedition including a monograph of the Flabellarieae and Udoteae. Siboga Exped. **62**: 1–145. *pl. 1–22.*

Includes some Polynesian species.

1911b. Marine algae from the Kermadecs. Jour. Bot. **49**: 17–23.

An enumeration.

Gepp, A.

1922. Marine algae [of New Caledonia]. Jour. Linn. Soc. Bot. **46**: 45–46.

An enumeration.

Gepp, E. S. See **Gepp, A.,** and **Gepp, E. S.**

Gibbs, L. S.

1909. A contribution to the montane flora of Fiji (including cryptogams), with ecological notes. Jour. Linn. Soc. Bot. **39**: 130–212 *pl. 11–16. f. 1–2. 1 map.*

An enumeration with description of new species.

Giesen, H.

1938. Triuridaceae. Pflanzenr. **104**: (IV. 18) : 1–84. *pl. 1–3. f. 1–18.*

Monographic.

Giesenhagen, K.

1901. Die Farngattung Niphobolus. Eine Monographie. i–v, [1–5], 1–223. *f. 1–20.*

Includes the Polynesian species.

Giffard, W. M.

1918. Some observations on Hawaiian forests and forest cover in their relation to water supply. Rep. Com. Agr. For. Hawaii **6:** 515–538. *7 f.*

A general discussion.

Gilg, E., and **Benedict, C.**

1921. Die bis jetzt aus Mikronesien und Polynesien bekannt gewordenen Loganiaceen. Bot. Jahrb. **56:** 540–557. *f. 1–3.*

Several species described as new.

Gilg, E.

1934. Eine neue Geniostoma-Art der Marianen. Notizbl. Bot. Gart. Berlin **12:** 221–222.

Includes *G. longistylum* n. sp. and *G. hoeferi* var. *glabra* n. var.

See also **Perkins, J.,** and **Gilg, E.**; and **Engler, A.,** 1892–1936.

Gill, W. W.

1889. Botanische Miszellen aus der Südsee. Mitt. Geogr. Ges. Jena **7:** 83–105.

Not seen.

Gillespie, J. W.

1930–32. New plants from Fiji. (I) Bishop Mus. Bull. **74:** 1–99. *1 pl. f. 1–57.* 1930; (II) **83:** i–ii, 1–72. *1 pl. f. 1–40.* 1931: (III) **91:** 1–81. *f. 1–43.* 1932.

Includes the descriptions of numerous new species and redescriptions of and notes on previously described ones.

1933. Dorisia rarissima. Hook. Ic. **32:** *t. 3190.*

Native of Fiji; a new genus and species of the Rubiaceae.

Gilmore, A. B.

1939. The Hawaiian sugar manual. 1–242. *illustr.*

Sugarcane varieties in Hawaii, by A. J. Mangelsdorf, pp. 19-20, and forestry in Hawaii, by L. W. Bryan, pp. 24-27; not seen.

Gingins [Lassaraz, F. C. J.] de

1826. Description de quelques espèces nouvelles de Violacées reçues de Mr. Adelbert de Chamisso examinée en 1825 par Mr. de Gingins. Linnaea **1:** 406–413.

Includes descriptions of *Viola chamissoniana* and *V. tracheliifolia* native of Hawaii.

Gmelin, J. F.

1791. Caroli a Linné Systema naturae per regna tria naturae secundum classes ordines, genera, species cum characteribus, differentiis, synonymis, locis. Editio decima tertia, aucta reformata. **2:** Regnum vegetabile, i–xl, 1–1661.

Ed. 13 of Linnaeus's "Systema Naturae." The volumes on animals and minerals are not included here.

Goddijn, W. A.

1913–19. Synopsis Hymenophyllacearum, monographie hujus ordines prodromus, auctore R. B. van den Bosch, M. D., mit zahlreichen Zusätzen und Abbildungen aus dem Nachlass des Verfassers neu herausgegeben. Med. Rijks Herb. Leiden **17:** 1–36. *f. 1–23.* 1913; (II) **38:** 1–41. *f. 24–45.* 1919.

Includes some Polynesian species. See **Bosch, R. B. van den,** 1859.

Goeze, E.

1886. Podocarpus vitiensis. Hamburg. Gart. Blumenzeit. **42:** 266–267.

A general note on this native of Fiji.

Goff, R. A. See **Ripperton, J. C., Goff, R. A., Edwards, D. W., and Davis, W. C.**

Goldmann, I.

1843. Filices: in Meyen, F. J. F., Beiträge zur Botanik. Nova Acta Acad. Leop.-Carol. Nat. Cur. **19:** *Suppl.* **1:** 451–469.

Includes some Hawaiian species.

Gomont, M.

1892. Monographie des Oscillariées (Nostocacées homocystées). Ann. Sci. Nat. VII. Bot. **15:** 263–368. *pl. 6–14;* (II) **16:** 91–264. *pl. 1–7.*

Includes some Polynesian species.

Goodser, W. E.

1937. Fiji kauri. Random notes on trees of Fiji. Agr. Jour. [Fiji] **8:** 19–21.

Notes on *Agathis vitiensis* and allied species.

Goodspeed, T. H. (Editor).

1936. Essays on geobotany in honor of William Albert Setchell. i–xxv, 1–319. *illus.*

The two papers appertaining to Polynesia are listed under their respective authors, E. D. Merrill and C. Skottsberg.

1941. Plant hunters in the Andes. i–xvi, 1–429. *illus.*

Chapter 10, pp. 273-309, pertains to Juan Fernández with some observations on the vegetation and special species.

Gordon, G.

1858. The pinetum: being a synopsis of all the coniferous plants at present known, with descriptions, history and synonymes and comprising nearly one hundred new kinds. i-xxii, 1–353. 1858; Supplement i–vii, 1–119. 1862; ed. 2, i–xxiv, 1–484. 1875; ed. 3, i–xxiv, 1–484. 1880.

Includes various Polynesian species. Ed. 2 and 3 are enlarged and include the data from the supplement to the first edition.

Gottsche, K. M.

1857. Pugillus novarum Hepaticarum e recensione herbarii musei Parisiensis. Ann. Sci. Nat. IV. Bot. **8:** 318–348. *pl. 9–16.*

Includes a few Polynesian species.

See also **Lindenberg, J. B. W.,** 1844–47; and **Lindenberg, J. B. W., and Gottsche, K. M.**

Gouas, L.

1857. Les Freycinetia. Rev. Hort. **1857:** 350–353. *f. 119.*

Includes references to some Polynesian species.

Gower, W. H.

1887a. Short notes—ferns. Garden **31:** 101.

Includes *Davallia foeniculacea* from Fiji.

1887b. The todeas. Garden **31:** 263–264. *1 f.*

Includes *Todea wilkesiana,* native of Fiji.

1887c. Nothochlaena distans. Garden **32:** 496. *1 f.*

Native of New Caledonia.

1888. Ornamental nephrodiums. Garden **33:** 618–619. *1 f.*

Includes notes on and illustrations of *Nephrodium rodigasianum* from Samoa and *N. cyatheoides* from Hawaii.

1893. Nothoclaenas. Garden **43:** 509. *3 f.*

An enumeration including *Nothoclaena distans* from New Caledonia.

Graebner, P.

1900. Typhaceae. **Pflanzenr. 2**(IV. 8): 1–18. *f. 1–4.*

Monographic.

See also **Ascherson, P.,** and **Graebner, P.**

Graeffe, E.

1869. Die Kolonisirung der Viti-Inseln und Dr. Eduard Graeffe's Reise im Innern von Viti-Levu. Mitt. Perth Geogr. Anstalt **15**: 59–69. *pl. 4.*

General narrative of exploration.

Graff, P. W.

1917. Fungi and lichens from the island of Guam. Mycologia **9**: 4–22.

A list.

Grassl, C. O.

1946. Saccharum robustum and other wild relatives of "noble" sugar canes. Jour. Arnold Arb. **27**: 234–252. *pl. 1–3.*

Saccharum robustum Brandes & Jeswiet n. sp. recorded from the New Hebrides and *Erianthus maximus* from various Pacific Islands and New Caledonia.

Gray, A.

1849. On some plants of the order Compositae from the Sandwich Islands. Proc. Am. Assoc. Adv. Sci. **2**: 397–398.

Mentions several new species, including *Argyroxiphium macrocephalum* and *Wilkesia gymnoxiphium.*

1852a. Account of Argyroxiphium, a remarkable genus of Compositae, belonging to the mountains of the Sandwich Islands. Proc. Am. Acad. Arts. Sci. **2**: 159–160.

Includes also *Wilkesia gymnoxiphium* n. sp.

1852b. Characters of three new genera of plants of the orders Violaceae and Anonaceae, discovered by the naturalists of the United States Exploring Expedition (Agatea, Isodendron, Richella). Proc. Am. Acad. Arts Sci. **2**: 323–325.

Includes four new species from Hawaii and Fiji.

1854–57. United States Exploring Expedition during the years 1838, 1839, 1840, 1841, 1842, under the command of Charles Wilkes, U. S. N., Botany, Phanerogamia **1**: 1–777. 1854; Atlas 1–4. *pl. 1–100.* 1857.

Includes many Polynesian species, chiefly from Hawaii and Fiji. The unpublished MS. of vol. 2 is at the Gray Herbarium.

1855a. Description de cinq nouveau genres de plantes de la Polynésie recueillies dans le voyage d'exploration du Capitaine Wilkes. Ann. Sci. Nat. IV. Bot. **4**: 176–178.

Description of the new genera *Acicalyptus, Spiraeanthemum, Reynoldsia, Tetraplasandra,* and *Plerandra,* all published one year earlier in the Wilkes Expedition report.

1855b. On the affinities of the genus Vavaea Benth.; also of Rhytidandra Gray. Mem. Am. Acad. Arts Sci. **5**: 329–336.

Discusses *Vavaea amicorum* from Tonga and Fiji, and *Rhytidandra* from Fiji.

1857. Characters of some new genera of plants, mostly from Polynesia, in the collection of the United States Exploring Expedition under Captain Wilkes. Proc. Am. Acad. Arts Sci. **3**: 48–54, 127–129.

Includes many new species from Hawaii and Fiji and 17 new genera.

1860a. Notes upon some Rubiaceae collected in the United States South Sea Exploring Expedition under Captain Wilkes, with characters of new species, &c. Proc. Am. Acad. Arts. Sci. **4**: 33–50, 306–318.

Includes various Polynesian species.

1860b. Notes upon some Polynesian plants of the order Loganiaceae. Proc. Am. Acad. Arts. Sci. **4**: 319–324.

Includes *Couthovia corynocarpa* n. sp. from Fiji.

1860c. Diagnoses of the species of sandalwood (Santalum) of the Sandwich Islands. Proc. Am. Acad. Arts Sci. **4**: 326–327.

Four species recognized.

1861a. Characters of some Compositae in the collection of the United States South Pacific Exploring Expedition under Captain Wilkes, with observations, &c. Proc. Am. Acad. Arts Sci. **5**: 115–146.

Includes the descriptions of various new species from Polynesia.

1861b. Notes on the Lobeliaceae, Goodeniaceae, &c. of the collection of the U. S. South Pacific Exploring Expedition. Proc. Am. Acad. Arts Sci. **5**: 146–152.

Includes various Polynesian species.

1861c. Notes upon a portion of Dr. Seeman's recent collection of dried plants gathered in the Feejee Islands. Proc. Am. Acad. Arts Sci. **5**: 314–352.

A list of species, several new.

1861–62. Characters of some new or obscure species of plants, of monopetalous orders, in the collection of the United States South Pacific Exploring Expedition under Captain Charles Wilkes, U. S. N. With various notes and remarks, &c. Proc. Am. Acad. Arts Sci. **5**: 321–352. 1861; **6**: 37–55. 1862.

Includes descriptions of many Polynesian species.

1862a. Plantae Vitienses Seemannianae. Remarks on the plants collected in the Vitian or Fijian Islands by Dr. Berthold Seemann. Bonplandia **10**: 34–37.

A list with notes.

1862b. Additional note on the genus Rhytidandra. Proc. Am. Acad. Arts Sci. **6**: 55–56.

A description of its fruit.

1865. New or little-known Polynesian Thymeleae. Jour. Bot. **3**: 302–306.

Ten species considered, seven described as new.

1866. A new Fijian Hedycaria. Jour. Bot. **4**: 83–84.

H. dorsteniodes n. sp.

1870. Miscellaneous botanical notes and characters. Proc. Am. Acad. Arts. Sci. **8**: 282–296.

Includes a description of *Nama sandwicensis* Gray from Hawaii.

1871. Characters of a new genus consisting of two species of parasitic Gentianeae. Jour. Linn. Soc. Bot. **11**: 22–23.

Eophylon tenellum is described from "Mangs or Mangsi Islands, north of the Ladrones." It is Mangsi Island, near Balabac Strait, Sulu Sea, Philippine Islands. The species is hence to be excluded from Polynesia.

1877. Plants of the Pacific islands: in Streets, T. H., Contributions to the natural history of the Hawaiian and Fanning islands and Lower California made in connection with the United States North Pacific Surveying Expedition. 1873–75. Bull. U. S. Nat. Mus. **7**: 142–143. Reprinted in Smithsonian Misc. Coll. **13**: 142–143.

A list.

Gray, J. E.

1866a. On Anadyomene and Microdictyon, with the description of three new allied genera discovered by Menzies in the Gulf of Mexico. Jour. Bot. **4**: 41–51, 65–72. *pl. 44.*

Includes *Microdictyon velleyanum* from Hawaii and *M. montagnei* from the Friendly Islands.

1866b. Additional notes on Anadyomene and Microdictyon, with indications of a new genus Macrodictyon (*conf. Journ. of Bot. 1866, pp. 41, 65*). Jour. Bot. **4:** 291–293.

Includes the description of *Macrodictyon clathratum* from Sumatra and Hawaii.

Gray, W. D. See **Yuncker, T. G.**, and **Gray, W. D.**

Greenwood, W.

1929. Sterculia from Fiji. Kew Bull. **1929:** 240.

A new name, *Sterculia guppyi*, proposed for *S.* (*Firmiana*) *diversifolia.*

1943. The adventive and weed flora of the leeward coasts of Fiji. Proc. Linn. Soc. **154**(2)**:** 92–106.

A discussion of introduced and naturalized species with an enumeration of the species.

1944. Supplementary notes on the adventive and weed flora of the leeward coasts of Fiji. Jour. Arnold Arb. **25:** 397–405.

Lists about 80 species, with notes, some not previously recorded from Fiji.

See also **Dixon, H. N.**, and **Greenwood, W.**

Greville, R. K., and **Hooker, W. J.**

1831–33. Enumeratio Filicum. Bot. Miscel. Hook. **2:** 360–403. 1831; **3:** 216–232. 1833.

Includes some Polynesian species.

1832. Additions and corrections to the Enumeratio Filicum, Part I. Lycopodineae. Bot. Miscel. Hook. **3:** 104–109.

Supplementary to the preceding item.

Greville, R. K.

1848. Notice of two new species of ferns belonging to the genera Oleandra and Polypodium. Am. Mag. Nat. Hist. II. **1:** 326–328. *pl. 18.*

Includes *Oleandra sibbaldii* n. sp. from Tahiti.

1850a. Notice of a new species of Spiridens. Trans. Bot. Soc. [Edinb.]. **3:** 47–48. t. 3.

S. balfouriana n. sp. from Tahiti.

1850b. Notice of a new species of Antrophyum. Trans. Bot. Soc. [Edinb.]. **3:** 63–64. *pl. 5.*

A. grevillii n. sp. from Tahiti.

1863. Descriptions of new and rare diatoms. Series 8. Trans. Microsc. Soc. London II. **11:** 13–21.

Includes *Campylodiscus wallichianus* n. sp. from New Caledonia.

1863–66. Descriptions of new genera and species of diatoms from the South Pacific. Trans. Bot. Soc. [Edinb.]. **7:** 534–543. *pl. 13.* 1863; (II) 574–580. *pl. 15;* (III) **8:** 233–238. *pl. 3.* 1866.

Includes some Polynesian species.

1866. Descriptions of new and rare diatoms from the tropics and Southern Hemisphere. Trans. Bot. Soc. [Edinb.]. **8:** 436–441. *pl. 6.*

Includes some Polynesian species.

See also **Hooker, W. J.**, and **Greville, R. K.**

Grilli, M.

1886. Piante raccommandabili. Bull. Soc. Tosc. Ort. **11:** 235–237. *f. 26–27.*

Includes notes on and illustration of *Aralia reginae* Hort. Linden, introduced from New Caledonia.

Gris, A. See **Brongniart, A.**, and **Gris, A.**

Grisebach, A. H. R.

1838. Genera et species Gentianearum adjectis observationibus quibusdam phytogeographicis. i-viii, 1–364.

Includes some Polynesian species.

1845. Gentianaceae. DC. Prodr. **9:** 38–141.

Monographic.

1853. Schenkia, novum genus Gentianearum. Bonplandia **1:** 226.

Native of Hawaii.

1872. Die vegetation der Erde nach ihrer klimatischen Anordnung; ein Abriss der vergleichenden Geographie der Pflanzen. Ed. 2 revised and enlarged. **1:** i–xv, 1–567. *map;* **2:** i–xi, 1–693. 1884.

Ed. 1 not seen; ed. 2 contains some data on the vegetation of Polynesia (**2:** 499-505).

1877–78. La végétation du globe d'après sa disposition suivant les climats; esquisse d'une géographie comparée des plantes . . . traduit de l'allemand par P. de Tchihatcheff. **1:** i–xvi, 1–765. *map.* 1877; **2:** i–vi, 1–905. 1878.

A French translation of Grisebach, 1872, with a geological sketch and other additions by translator.

1880. Gesammelte Abhandlungen und kleinere Schriften zur Pflanzengeographie. i–vii, 1–628. *portr.*

Includes some data on Polynesia, pp. 401-402, 485-487, 553-554.

Groves, J.

1921. Charophyta from Annam and Guam. Philip. Jour. Sci. **19:** 663–664.

Lists *Chara flaccida* from Guam.

1922. Charophyta [of New Caledonia]. Jour. Linn. Soc. Bot. **46:** 69–70. *pl. 5.*

Includes *Nitella comptonii* n. sp.

Grunow, A.

1867. Algae: in Fenzl, E., Reise der Oesterreichischen Fregatte Novara um die Erde . . . Botanischer Theil **1:** 1–104. *pl. 1–11.*

Includes some Polynesian species.

1872. Novara diatoms. Descriptions of new genera and species of diatoms obtained by the Austrian imperial frigate Novara, during her voyage round the world. Grevillea **1:** 30–32. *pl. 2,* 41–43, 76–80. *pl. 5,* 91–94. *pl. 6.*

Includes some Polynesian species.

1873. Algen der Fidschi-, Tonga-, und Samoa-Inseln gesammelt von Dr. E. Graeffe. Erste Folge: Phaeosporeae, Fucoideae und Florideae. Jour. Mus. Godeffroy **3**(6): 23–50.

A list with critical notes and descriptions.

1915–16. Additamenta ad cognitionem Sargassorum. Verh. Zool. Bot. Ges. Wien **65:** 329–448. 1915; **66:** 1–48, 136–185. 1916.

Two hundred and twenty species considered, including some from Polynesia.

Gugerli, K.

1939. Purpureostemon gen. nov. Mitteilungen aus dem Botanischen Museum der Universität Zürich. CLIX. Repert. Sp. Nov. **46:** 228–230. *f. 1–2.*

Native of New Caledonia, based on *Leptospermum ciliatum* Forst.

Guilfoyle, W. R.

1869. A botanical tour among the South Sea Islands. Jour. Bot. **7:** 117–136.

Guilfoyle's narrative as supplied to F. von Mueller; general observations on Samoa, Friendly Islands, Fiji, New Hebrides, and New Caledonia.

Guillaumin, A.

1909–13. Remarques sur la synonymie de quelques plantes néo-calédoniennes. (I). Not. Syst. **1:** 108–112. *f. 5,* (II) 328–331. 1909–11; (III) **2:** 37–41, (IV) 91–99, (V) 105–109, (VI) 129–132, (VI bis [VII]) 194–200 (VIII) 229–235, (IX) 372–377. *1 f.* 1911–13.

Critical notes on various species.

1911–1944. Contribution à la flore de la Nouvelle-Calédonie. (I) Contribution à la flore de Bourail (Nouvelle Calédonie). Plantes des environs de Bourail recueillies par M. Pennel. Ann. Mus. Colon. Marseille II. **9:** 55–73, (II) Plantes recueillies à l'ile des Pins par Jeanneney. 74–75. 1911; (III) Plantes recueillies par Mlle. Kiener. Not. Syst. **2:** 41–42, (IV) Plantes recueillies par M. le Dr. Gervais. 42–44, (V) Plantes recueillies par M. Savès. 44–46, (VI) Plantes recueillies par M. Fetscherin. 99–105. 1911; (VII) Plantes recueillies par M. et Mme. Le Rat, de 1900 à 1910. Bull. Mus. Hist. Nat. [Paris] **17:** 349–357, (VIII) 453–459, (IX) 558–566. 1911; (X) **18:** 39–46, (XI) 91–101, (XII) Plantes recueillies par Cribs et conservées au Muséum de Paris. 166–176, (XIII) 324–331, (XIV) 373–384. 1912; (XV) Nouvelle contribution à la flore de Bourail. Ann. Mus. Colon. Marseille II. **10:** 157–172, (XV [XVI]) Plantes recueillies par M. Bougier. 466–468. 1912; (XVI [XVII]) Plantes de l'herbier dendrologique de l'exposition de 1889. Bull. Mus. Hist. Nat. [Paris] **19:** 376–379, (XVII [XVIII]) Plantes recueillies par M. et Mme. Le Rat de 1900 à 1910 (1er supplément). 379–383, (XIX) Plantes de collecteurs divers. 509–519, (XX) Plantes recueillies par M. Franc. 519–524. 1913; (XXI) Liste des noms vulgaires donnés par les Français. **20:** 93–96. 1914; (XXII) Plantes recueillies par M. Franc. **25:** 213–217, (XXIII) 288–295, (XXIV) 372–376, (XXV) Plantes recueillies par M. E. Lequerré. 376–378, (XXVI) Plantes recueillies par M. et Mme. Le Rat de 1900 à 1910 (2^{e} supplément). 499–500, (XXVII) Plantes de collecteurs divers. 501–505, (XXVIII) 645–652. 1919; (XXIX) **26:** 77–84, (XXX) Plantes recueillies par M. et Mme. Le Rat, de 1900 à 1910 (3^{e} supplément). 174–179, (XXXI) Plantes recueillies par M. Franc. 254–261, (XXXII) Plantes de collecteurs divers. 361–368, (XXXIII) 434–435. 1920; (XXXIV) Plantes recueillies par M. Franc. **27:** 119–125, (XXXV) Graines de la collection du laboratoire de culture. 257–259, (XXXVI) Plantes recueillies par M. Franc. 558–562. 1921; (XXXVII) **28:** 103–108, (XXXVIII) 196–199, (XXXIX), (2^{e} supplément) 545–546. 1922; (XL) Plantes recueillies par M. et Mme. Le Rat de 1900 à 1910 (4^{e} supplément). **29:** 112–113, (XLI) Plantes de collecteurs divers. 114–118. 1923; (XLII) **31:** 100–103, (XLIII) 209–212, (XLIV) Plantes recueillies par M. Franc (3^{e} supplément). 480–481, (XLV) Plantes de collecteurs divers. 482–484. 1925; (XLVI) Plantes ligneuses recoltées en 1924 par M. K. Mezger. Ann. Mus. Colon. Marseille IV. **3**(3): 39–44. 1926; (XLVII) Plantes recueillies par M. et Mme Le Rat de 1900 à 1910 (5^{e} supplément). Bull. Mus. Hist. Nat. [Paris] **32:** 229–230, (XLVIII) Plantes recueillies par M. Franc. (4^{e} supplément). 231–232. 1926; (XLIX) Plantes de collecteurs divers. **33:** 110–114, (L) Plantes recueillies par M. Franc (5^{e} supplément). 272–276. 1927; (LI) Plantes recueillies par M. et Mme. Le Rat de 1900 à 1910. (6^{e} supplément). Bull. Mus. Hist. Nat. [Paris] II **1:** 117–121, (LII) Plantes recueillies par M. Franc (6^{e} supplément). 121–123, (LIII) Plantes de collecteurs divers. 216–218. 1929; (LIV) Plantes recueillies par M. Ch. Bergent. Candollea **5:** 148–152. 1932;

(LV) Plantes recueillies par M. Franc (7e supplément). Bull. Mus. Hist. Nat. [Paris] II. **2:** 165–171. 1930; (LVI) (8e supplément). **4:** 688–694, (LVII) Plantes recueillies par M. et Mme. Le Rat de 1900 à 1910 (7e supplément). 694–697, (LVIII) Plantes recueillies par Godefroy. 697–702, (LIX) Plantes de collecteurs divers. 702–704. 1932; (LX) Plantes recueillies par M. Franc (9e supplément). **5:** 242–249, (LXI) Plantes recueillies par M. Franc de 1905 à 1930 (10e supplément). 322–327, (LXII) Plantes de collecteurs divers. **6:** 198–203, (LXIII) Plantes recueillies par M. et Mme. Le Rat de 1900 à 1910 (8e supplément). 302–309, (LXIV) (9e supplément). 456–463. 1934; (LXV) Plantes recueillies par I. Franc de 1905 à 1930 (11e supplément). Not. Syst. **5:** 13–16. 1935; (LXVI) Plantes de collecteurs divers. **5:** 131–134. 1936; (LXVII) Plantes récoltées par M. et Mme Le Rat de 1900 à 1910. (10e supplément). Bull. Mus. Hist. Nat. [Paris] II. **10:** 433–434, (LXVIII) Plantes des collecteurs divers. 518–521, (LXIX) Plantes recueillies par I. Franc de 1905 à 1930 (12e supplément). 623–627. 1938; (LXX) Prémisses des récoltes de M. R. Virot. II. **11:** 412–416. 1939; (LXXI) Plantes de collecteurs divers. II. **12:** 355–358, (LXXII) Plantes recueillies par I. Franc de 1905 à 1930 (13e supplément). 359–360. 1940; (LXXIII, LXXIV) Plantes récoltées par Mme. et M. Leenhardt. II. **13:** 126–129, (LXXV) Plantes de collecteurs divers. 320–325, (LXXVI) 475–478. 1941; (LXXVII) II. **14:** 144–150, (LXXVIII) 286–290, (LXXIX) 352–356, (LXXX) 451–456. 1942; (LXXXI) II.**15:** 218–225, (LXXXII) Plantes récoltées par Godefroy (suite et fin). 337–342, (LXXXIII) Plantes de collecteurs divers. 449–454. 1943; (LXXXIV) (suite) **16:** 78–85, (LXXXV) (fin.) 346–352. 1944.

Lists with the descriptions of new species.

1911a. Catalogue des plantes Phanérogames de la Nouvelle-Calédonie et dépendences (Îles des Pins et Loyalty). Ann. Mus. Colon. Marseille II. **9:** 77–290. *map.*

Lists all then-known species.

1911b. Les Citrus de Nouvelle-Calédonie. Not. Syst. **2:** 128–129.

A note including reductions of certain species.

1912. Les Araliacées de serre chaude originaires de la Nouvelle-Calédonie. Rev. Hort. **1912:** 491–493.

Notes on various species.

Guillaumin, A., and **Beauvisage, G.**

1913. Species Montrouzieranae, seu, Enumeratio plantarum in Nova Caledonia terrisque adjacentibus a R. P. Montrouzier lectarum. Ann. Soc. Bot. Lyon **38:** 75–125. *f. 1–3.*

A list with descriptions of new species.

Guillaumin, A.

1914–45. Matériaux pour la flore de la Nouvelle-Calédonie (I) Révision des Rhizophoracées. Not. Syst. **3:** 55–59, (II) Révision des Goodéniacées. 59–61, (III) Révision du genre Jasminum. 61–65. 1914*; (VI) Révision

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* No. IV of the series is apparently Guillaumin's paper on *Oldenlandia* (1915a), and No. V his "Révision des Eugenia cauliflores de Nouvelle-Calédonie," (1916), but they bear no "Matériaux" title and no numbers; they are entered separately in this bibliography.

† No. VII does not appear to have been published.

des Bixacées. Bull. Soc. France **66:** 310–313. 1920†; (VIII) Révision des Elaeocarpus à grandes fleurs. **67:** 27–29, (IX) Révision des Dilleniacées. 47–54, (X) Révision du genre Myrtopsis. 64–66, (XI) Révision et critique des Sterculia. 121–124. 1920; (XII) Licania nouveaux. **68:** 345–347. 1921; (XIII) Observations sur le genre Maba. **69:** 31–34, (XIV) Révision du genre Diospyros. 65–69. 1922; (XV) Révision du genre Acianthus. **69:** 507–509. 1923; (XVI) Révision des Symplocos. **71:** 939–946, (XVII) Révision des Lauracées. 1101–1112. 1925; (XVIII) Révision des Santalacées. **72:** 89–92. 1925; (XIX) Révision des Hippocratéacées. **73:** 102–104, (XX) Révision des Rhamnacées. 104–107, (XXI) Révision de Célastracées. 429–433, (XXII) Révision des Malvacées. 437–441. 1926; (XXIII) Révision des Monimiacées, Arch. Bot. (Caen) **1:** 73–77. 1927; (XXIV) Révision des Asclépiadacées. Bull. Soc. Bot. France. **74:** 924–930. 1927; (XXV) Révision des Loganiacées. **75:** 288–294. 1928; (XXVI) Révision des Euphorbiacées de la Nouvelle Calédonie. Arch. Bot. (Caen) II. Mém. **3:** 1–48. 1929; (XXVII) Révision des Rubiacées de la Nouvelle Calédonie. III. Mém. **5:** 1–48. 1930; (XXVIII) Papavéracées. Bull. Soc. Bot. France **79:** 225–226, (XXIX) Révision des Sapindacées. 335–341, (XXX) Révision de Malpighiacées, 515–516, (XXXI) Révision des Anonacées. 689–691. 1932; (XXXII) Révision des Linacées. **80:** 35–38, (XXXII [XXXIII]) Révision des Verbénacées. 476–480. 1933; (XXXIV) Révision des Myrtacées à fruit sec, suivie de quelques notes sur les Myrtacées à fruit charnu. **81:** 3–17, (XXXV) Révision des Meliacées. 242–246, (XXXVI). A propros des Ternstroemiacées. 283–285, (XXXVII) Révision des Scrophulariacées. 454–455. 1934; (XXXVIII) Bignoniacées. **82:** 47–48, (XXXIX) Révision des Proteacées. 272–283. 1935; (XL) Révision des Légumineuses. **83:** 294–315, (XLI) Revision des Elaeocarpacées. 485–488. 1936; (XLII) Revision des Capparidacées. **83:** 577–578. 1937; (XLIII) Revision des Composées. **84:** 54–61, (XLIV) Revision des Cucurbitacées. 98–100, (XLV) Revision des Aracées. 159–161, (XLVI) Revision des Fluviales. 255–257. 1937; (XLVII) Revision des Polygonacées. **84:** 462–463. 1938; (XLVIII) Revision des Simaroubacées. **85:** 19–20, (XLIX) Clef de détermination des Burséracées. 21, (L) Revision des Cypéracées. 37–47, (LI) Revision des Ilicacées. 202–203, (LII) Revision des Rutacées. 294–305. 1938; (LIII) Revision des Myrtacées à fruit charnu précédée de quelques notes supplémentaires sur les Myrtacées à fruit sec. **85:** 626–653. 1939; (LIV) Observations sur les Lecythidacées. **86:** 174, (LV) Revision des Saxifragacées. 275–278. 1939; (LVI). Révision des Cunoniacées. **87:** 242–256. 1940; (LVII) La présence d'une Myricacée [Canacomyrica n. gen.]. Bull. Soc. Bot. France **87:** 299–300, (LVIII Révision des Pittosporacées. 333–339. 1940; (LIX) Révision des Apocynacées. **88:** 358–380, (LX) Révision des Myrsinacées. 395–401, (LXI) Révision des Labiées. 428–430, (LXII) Remarques sur les Myporacées. 446–448, (LXIII) Observations sur les Solanacées. 464–469, (LXIV) Révision des Convolvulacées. 485–488. 1941; (LXV) Clefs de détermination des Orchidacées. Not. Syst. **10:** 57–89. 1941; (LXVI) Révision des Flacourtiacées (sensu lato). Bull. Soc. Bot. France **88:** 642–646, (LXVII) Révision des Epacridacées. 656–660, (LXVIII) Révision des Graminées. 786–804. 1941; (LXIX) Notes sur les Magnoliacées. **89:** 1–3, (LXX) Remarque sur les Violacées. 19–22, (LXXI) Revue et critique des Sapotacées. 222–224. (LXXII) Osmanthus ou Notelaea? 231–232. 1942; (LXXIII) Remarques sur les

Nepenthacées. **90:** 19, (LXXIV) A propos du Phyllanthus. 19–20, (LXXV) Notes sur les Moracées. 33–35, (LXXVI) Notes sur les Urticacées (sensu stricto) 35, (LXXVII) Notes sur les Casuarinacées. 36–36. 1943; (LXXVII) [Error for LXXVIII] Simple notes sur diverses Monocotélydones. Boissiera **7:** 86–90. 1943; (LXXIX) Essai d'identification des plantes signalées en Nouvelle-Calédonie par Jeanneney. Not. Syst. **11:** 46–62. 1943; (LXXX) La présence d'un Vaccinium. Bull. Soc. Bot. France **90:** 160–161; (LXXXI) Encore des espèces et localités nouvelles de Rubiacées. **91:** 12–14, 42–47, (LXXXII) Sapotacées nouvelles. 68–72. 1944; (LXXXIII) Apocynacées nouvelles. Not. Syst. **12:** 79–85. 1945.

Lists with descriptions of many new species. Usually each group is provided with keys to the genera and species. For a list of the titles I to LXXXV with references to the places of publication see **Guillaumin, A.,** 1946.

1915a. Oldenlandia nouveaux ou critiques. Not. Syst. **3:** 160–162.

O. crataeogonum and *O. imberbis* n. spp. from Fiji and New Caledonia.

1915b. Le genre Chomelia en Nouvelle-Calédonie. Not. Syst. **3:** 162–165.

Four new species described.

1916. Révision des Eugenia cauliflores de Nouvelle-Calédonie. Not. Syst. **3:** 260–263.

A key to nine species including *E. quaternifolia* n. sp.

1919. Notes paléobotanique Néo-Calédonienne. Rev. Gén. Bot. **31:** 273–276. *pl. 8.*

A brief summary of the published data.

1919–29. Contributions à la flore des Nouvelles-Hébrides. (I) Prémisses de la flore d'Efate (Récoltes de M. Levat). Bull. Soc. Bot. France **66:** 267–277. 1919; (II) Liste des plantes connues. **74:** 693–712. 1927; (III) Supplément aux plantes recueillies par M. Levat. **76:** 298–303. 1929.

Enumerations with descriptions of new species.

1921a. Essai de géographie botanique de la Nouvelle-Calédonie: in Sarasin F., & Roux, J., Nova Caledonia Bot. **1:** 256–293.

Phytogeographic.

1921b. Plantes ornamentales de Nouvelle-Calédonie. Rev. Hist. Nat. Appl. **2:** 56–60, 82–94, 119–128, 152–160. Reprint 1–32.

1921c. Nouvelles formes de jeunesse de plantes de Nouvelle-Calédonie. Bull. Soc. Bot. France **68:** 230–231.

Includes *Vesselowskya serratifolia* n. sp.

1923. Les cultures en Océanie française. Rev. Bot. Appl. Agr. Colon. **3:** 322–327.

Notes on species of economic importance.

1928. Les régions floristiques du Pacific d'après leur endémisme et la répartition de quelques plantes phanérogames. Proc. Third Pan-Pacific Sci. Congr. Tokyo **1:** 920–938.

1929a. Quelques remarques sur la flore des Nouvelles-Hébrides. Compt. Rend. Soc. Biogéogr. **6:** 26–28.

Phytogeographic.

1929b. Les relations biogéographiques de la région Neo-Zelandaise d'après Oliver. Compt. Rend. Soc. Biogéogr. **6:** 99–102.

On the relationships of the New Zealand-New Caledonian floras.

1931–33. Contribution to the flora of the New Hebrides. Plants collected by S. F. Kajewski in 1928 and 1929. Jour. Arnold Arb. **12:** 221–264. *f. 1–3.* 1931; **13:** 1–29. *f. 4;* 81–126. *pl. 43. f. 1–2.* 1932; (Supplement) **14:** 53–61. 1933.

A systematic enumeration with the descriptions of many new species. Prepared with the assistance of specialists, including Ames, Hitchcock, Copeland, Summerhayes, and Martelli.

1934a. Les affinitiés de la flore des Nouvelles-Hébrides. [Mém.] Soc. Biogéogr. **4:** 249–253.
Phytogeographic.

1934b. Les régions florales du Pacifique. [Mém.] Soc. Biogeogr. **4:** 255–270. *map.*
Phytogeographic.

1935. Contributions à la flore des Nouvelles-Hébrides. Plantes recueillies par M. et Mme. Aubert de la Rue en 1934 (Phanérogames). Bull. Soc. Bot. France **82:** 316–354. *map.*
An enumeration with the descriptions of new species.

Guillaumin, A., Camus, A., and **Tardieu-Blot, M. L.**

1936. Plantes vasculares récoltées a l'Ile de Paques par la mission Franco-Belge. Bull. Mus. Hist. Nat. [Paris]. II. **8:** 552–556.
A list of about 70 species from Easter Island, many with local names.

Guillaumin, A.

1937. Contribution à la flore des Nouvelles-Hébrides. Plantes recueillies par M. et M^me. Aubert de la Rűe dans leur deuxième voyage (1935–36). (Phanérogames). Bull. Mus. Hist. Nat. [Paris] II. **9:** 283–306. *1 f.*
Includes the description of 15 new species; prepared with the assistance of eight collaborators, A. Camus, Ames, Benoist, Danser, Kükenthal, Léandri, Schweinfurth, and Summerhayes.

1938. A florula of the island of Espiritu Santo, one of the New Hebrides; with a prefatory note by the leader of the Oxford University expedition to the New Hebrides, 1933–34—John R. Baker. Jour. Linn. Soc. Bot. **51:** 547–566.
A list with notes and with the descriptions of some new species.

1942. Les plantes introduites en Nouvelle-Calédonie. Rev. Bot. Appl. Agr. Trop. **22:** 13–47.
A list with notes, in many cases indicating the approximate or exact date of introduction.

1943a. Arbres d'ombrage, plantes de couverture et tuteurs vivants en Nouvelle-Calédonie. Rev. Bot. Appl. Agr. Trop. **23:** 26–31.
Notes on various species.

1943b. Introduction à la flore de la Nouvelle-Calédonie. Clef Analytique pour la détermination des Familles de Plantes vasculaires avec description sommaire de ces familles et list des genres. Ann. Mus. Colon. Marseille IV. **1:** 5–85.
A dichotomous key to the families with brief characterizations of the latter.

1946. Matériaux pour la flore de la Nouvelle-Calédonie. Table dès articles. Bull. Soc. Bot. France **92:** 76–77. 1945 [1946].
A list of all the titles I to LXXXV in Guillaumin, A., 1914-45, with references to the places of publication.

See also **Viguier, R.,** and **Guillaumin, A.**; and **White, C. T., Wilson, E. H.,** and **Guillaumin, A.**

Guillemard, F. H. H.

1894. Malaysia and the Pacific archipelagoes, ed. and greatly extended from Dr. A. R. Wallace's "Australasia" . . . i–xvi, 1–574. *37 f. 13 maps.*
Includes data on the vegetation.

Guillemin, J. B. A.

1836–37. Zephyritis Taitensis. Enumération des plantes découvertes par les voyageurs, dans les Îles de la Société, principalement dans cette de Taiti. Ann. Sci. Nat. II. Bot. **6:** 297–320. 1836; **7:** 177–192, 241–255, 349–370. 1857.
An enumeration with the descriptions of new species; see **Jardin, E.,** 1857, for supplement.

Guilmot, G.

1880. Lastraea Richardsii multifida, Hort. Veitch. Fl. Serr. Jard. Eur. **23:** 81–82. *pl. 2401–2402.*

Probably from Polynesia.

Gulick, A.

1932. Biological peculiarities of oceanic islands. Quart. Rev. Biol. **7:** 405–427.

A general discussion.

Gulick, L. H.

1858a. The climate and productions of Ponape or Ascension Island, one of the Carolines, in the Pacific Ocean. Am. Jour. Sci. **76:** 34–49. *1 f.*

Includes a discussion of the vegetation and various economic plants (pp. 42-47).

1858b. The flora of Ponape, or Ascension Islands. Friend **15:** 26–27.

A brief sketch.

Guppy, H. B.

1897. The Polynesians and their plant-names. Jour. Trans. Victoria Inst. London **29:** 135–170.

Includes a tabulated list of names with seven regional divisions.

1903–06. Observations of a naturalist in the Pacific between 1896 and 1899.—Vanua Levu, Fiji, a description of its leading physical and geological characters. **1:** i–xix, 1–392. *10 pl. 20 f.* 1903; **2:** (Plant dispersal) i–xxviii, 1–627. 1906.

Includes numerous observations on the vegetation.

Gyelnik, V.

1931a. Nephromae novae et criticae. Ann. Crypt. Exot. **4:** 121–149.

Includes *Nephroma homanii* n. sp. from Juan Fernández.

1931b. Lichenes extraeuropaei novi criticique. Repert. Sp. Nov. **29:** 1–10.

Includes *Cyanisticta sandwicensis* n. sp. from Hawaii.

1935. Revisio typorum [lichenum] ab auctoribus variis descriptorum. I. Ann. Hist.-Nat. Mus. Nat. Hungar. **29:** 1–54.

Appertains to certain genera of lichens, with some Polynesian references.

1938. Additamenta ad cognitionem Parmeliarum. VIII. Ann. Myc. **36:** 267–294.

Includes two new forms from Hawaii.

H

H., E.

1886. Impatiens Hookeri. Möller's Deutsch. Gärt. Zeit. **1:** 259–260. *f. 60.*

Said to be from the South Sea Islands; the specific name *hookeri* is an error for *hawkeri.* Native of New Guinea.

Hackel, E.

1885. Andropogoneae novae. Flora **68:** 115–128, 131–143.

Includes *A. obliquiberbis* n. sp. from New Caledonia.

1889a. Andropogoneae. DC. Monog. Phan. **6:** 1–716. *pl. 1–2.*

Monographic.

1889b. Isachne comata, Munro. Hook. Ic. **19:** *pl. 1866.*

Native of the New Hebrides.

1901. Neue Gräser. Oesterr. Bot. Zeitschr. **51:** 290–295.

Proposes *Digitaria* as a subgenus of *Panicum* and *Solitaria* as a group of *Digitaria* including, among others, *P. stenotaphroides* and *P. gaudichaudii* of the Pacific Islands.

1907. Gramineae: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **81**: 300–305. Reprint, **1**: 104–109.

Includes some Samoan species.

1911–12. Gramineae novae VIII. Repert. Sp. Nov. **10**: 165–174. 1911; (IX) **11**: 18–30. 1912.

Includes *Agrostis rockii* and *Poa siphonoglossa* n. spp. from Hawaii.

1913. Gramineae: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **89**: 491–497. Reprint, **5**: 49–55.

Includes some Samoan species.

Hackel, E., and **Schinz, H.**

1914. Gramineae von Neu-Caledonien und den Loyalty-Inseln: in Sarasin, F. and Roux, J., Nova Caledonia Bot. **1**: 67–74, *f. 1.*

An enumeration with the description of new species and varieties.

Hager, C.

1885. Die Marschall-Inseln in Erd- und Völkerkunde, Handel und Mission. Mit einem Anhang. Die Gilbert-Inseln. 1–157. 1885; ed. 2, i–iv, 1–157. 1889.

Includes general notes on the vegetation; first edition not seen.

Hall, W. L.

1904. The forests of the Hawaiian islands. U. S. Dept. Agr. Bur. Forestry Bull. **48**: 1–29. *pl. 1–8.*

General.

1916. The forests of the Hawaiian islands. Mid-Pacific Mag. **12**: 457–463. *7 f.*

A general sketch with notes on various species.

Hallberg, S.

1940. Bibliographia Skottsbergiana forteckning over Professor Carl Skottsberg untile den 1 December 1940 av trycket utgivna skrifter. Acta Horti Gotob. **14**: 239–258.

A critical bibliography, including about 60 items concerning Polynesia.

Hallier, H.

1897–99. Bausteine zu einer Monographie der Convolvulaceen. Bull. Herb. Boiss. **5**: 366–387. 736–754. 804–820. *pl. 15 f. 1–3,* 1021–1052. 1897; **6**: 714–724. *pl. 19.* 1898; **7**: 408–418. 1899.

Includes some Polynesian species.

1912. Über frühere Landbrücken, Pflanzen und Völkerwanderungen zwischen Australasien und Amerika. Med. Rijks Herb. Leiden **12**: 1–32. *f. 1–2.*

A general discussion with mention of various Polynesian species.

Hambruch, P.

1932. Ponape: in G. Thilenius Ergebnisse der Südsee Expedition 1908–1910. II.B. **7**: i–xii, 1–376 *illus.*

Pp. 349-356 include a limited amount of data regarding plants, chiefly in relation to local names.

Hamel, G. See **Feldmann, J.,** and **Hamel, G.**

Hamet, R.

1906. Sur une nouvelle espèce de Drosera. Bull. Soc. Bot. France **53**: 151–152.

D. neocaledonica n. sp. from New Caledonia.

1907. Observations sur le genre Drosera. Bull. Soc. Bot. France **54**: 26–38. 52–76. *pl. 2.*

Includes some Polynesian species.

Hampe, E.

1869–74. Species muscorum novas ex Herbario Melbourneano Australiae exposuit. Linnaea **36:** 513–526. 1869; **38:** 661–672. 1874.

Mostly Australian species, with some from Lord Howe Island and the New Hebrides.

Handa, T.

1940. Anomalous secondary growth in the axis of Lophopyxis pentaptera (K. Schum.) Engl. Bot. Mag. (Tokyo) **54:** 41–47. *f. 1–6.*

Material studied from Palau.

Handy, E. S. C., Pukui, M. K., and **Livermore, K.**

1935. Outline of Hawaiian physical therapeutics. Bishop Mus. Bull. **126:** 1–51.

Includes a list of medicinal plants compiled by Marie C. Neal.

Handy, E. S. C.

1940. The Hawaiian planter—Volume 1. His plants, methods and areas of cultivation. Bishop Mus. Bull. **161:** i–iii, 1–227. *pl. 1–8. f. 1–21.*

Concerns various cultivated plants.

Haneda, Y.

1942. [On the luminous fungi from the South Sea.] Kagaku Nanyō **4:** 225–239. *f. 1–9. table 1–3.*

In Japanese. Includes Micronesian species.

Hariot, P.

1892. Un nouveau Champignon lumineux de Tahiti. Jour. Bot. Morot **6:** 411–412.

Pleurotus lux **n. sp.**

See also **Patouillard, N.,** and **Hariot, P.,** 1906, 1912.

Hariot, P., and **Patouillard, N.**

1903. Quelques champignons de la Nouvelle-Calédonie, de la collection du Muséum. Jour. Bot. Morot **17:** 6–15.

An enumeration with the descriptions of new species.

Harmand, J.

1911–12. Lichens recueillis dans la Nouvelle-Calédonie ou en Australie par le R. P. Pionnier, missionaire. Bull. Soc. Sci. Nancy III. **12:** 124–144. *pl. 1.* 1911; **13:** 37–64. *pl. 2.* 1912.

A systematic enumeration of 79 species, including descriptions of several new species.

1914. Lichenes de la Nouvelle-Calédonie et des Îles Loyalty: in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1:** 5–15.

An enumeration with some descriptions.

Harms, H.

1902. Einige neue Arten der Gattungen Cynometra und Maniltoa. Notizbl. Bot. Gart. Berlin **3:** 186–191.

Includes *Maniltoa grandiflora* from Fiji.

1908. Beschreibung einer neuen, von Oberstabsartz Dr. Kraemer auf den Karolinen gefundenen Araliacee. Notizbl. Bot. Gart. Berlin **5:** 73–74.

Schefflera kraemeri **n. sp.**

1911. Einige neue Leguminosen aus Neu-Caledonien. Repert. Sp. Nov. **10:** 127–133.

Six new species described. For correction see "Berichtigun" op. cit. 176.

1913a. Araliaceae: in Rechinger, K., Botanische und zoologische Ergebnisse. . . Denkschr. Akad. Wiss. Wien **89:** 586–588. *f. 26.* Reprint **5:** 144–146. *f. 26.*

Includes some Samoan species.

1913b. Über einige zu Niederhaltung des Unkrauts und als Gründüngung in tropischen Kulturen geeignete Desmodium-Arten. Mit Verwertung brieflicher Mitteilungen von A. Stolz. Notizbl. Bot. Gart. Berlin **5:** 308–318. *1 pl.*

Records *D. polycarpum* from the Caroline Islands.

1920–21. Die Araliaceae Papuasiens. Bot. Jahrb. **56:** 374–414. *f. 1–4.*

Includes some Polynesian species.

1936. Zur Kenntnis von Meryta sonchifolia Linden et André und einigen anderen Arten der Gattung. Notizbl. Bot. Gart. Berlin **14:** 315–321.

Includes two new species from southeastern Polynesia.

See also **Cogniaux, A.** and **Harms, H.;** and **Dalla Torre, C. G. de,** and **Harms, H.**

Harris, J. A.

1934. The physico-chemical properties of plant saps in relation to phytogeography. Data of native vegetation in its natural environment. 1–339.

Pages 129-134 include a list of Hawaiian plants.

Harting, P. See **Vriese, W. H. de,** and **Harting, P.**

Hartt, C. H., and **Neal, M. C.**

1940. The plant ecology of Mauna Kea, Hawaii. Ecology **21:** 237–266. *f. 1–22.*

An ecological and floristic sketch of the vegetation, including a list of plants.

Harvey, C.

1941a. Pasture experiment, Tailevu. Agr. Jour. [Fiji] **12:** 53–55.

Lists some grasses and weeds.

1941b. Plant and seed introductions, 1939–40. Agr. Jour. [Fiji] **12:** 114–115.

Includes references to various species.

Harvey, W. H.

1847–49. Nereis Australis, or Algae of the Southern Ocean, being figures and descriptions of marine plants, collected on the shores of the Cape of Good Hope, the extra tropical Australian colonies, Tasmania, New Zealand and the Antarctic regions, deposited in the herbarium of the Dublin University. i–viii, 1–64. *pl. 1–25.* 1847; 65–124. *pl. 26–50.* 1849.

Includes *Corallina chinensis* from Norfolk Island.

Harvey, W. H., and **Bailey, J. W.**

1853–55. New species of Diatomaceae, collected by the United States Exploring Expedition under the command of Captain Wilkes, U. S. N. Proc. Acad. Nat. Sci. Philadelphia **6:** 430–432. 1853. Reprinted in Quart. Jour. Microsc. Sci. **3:** 93–94. 1855.

Includes some Polynesian species.

See also **Bailey, W. J.** and **Harvey, W. H.**

Harvey, W. H.

1857. The Fejee Islands and their inhabitants. Nat. Hist. Rev. **4:** 5–11.

Includes general notes on the vegetation and on economic plants.

1860. Characters of new algae, chiefly from Japan and adjacent regions, collected by Charles Wright in the North Pacific Exploring Expedition under Captain John Rodgers. Proc. Am. Acad. Arts Sci. **4:** 327–335.

Fifty-four species, many described as new; a few from Polynesia.

Harwood, L. W.

1938. Native food crops of Fiji. Agr. Jour. (Fiji) **9(3):** 8–11; **9(4):** 6–7.

Includes popular notes on *Colocasia esculenta, Artocarpus incisa, Ipomoea batatas,* and *Dioscorea* and *Manihot* species.

Haskell, D. C.

1942. The United States Exploring Expedition, 1838–1842 and its publications 1844–1874 with an introductory note by Harry Miller Lydenberg. i–xii, 1–18. *4 pl.*

Includes some data on Polynesia botany and full bibliographic data regarding various publications appertaining to the Wilkes Expedition.

Hatusima, S.

1936. Materials for a flora of Micronesia. Trans. Nat. Hist. Soc. Formosa **26:** 217–236. *f. 1–3.*

Considers 23 species of *Leptopetalum, Oldenlandia,* and *Hedyotis,* with keys.

1939. Araceae novae Micronesicae. Jour. Jap. Bot. **15:** 19–21. *f. 1.*

Two new species described, with notes and synonymy on three others.

See also **Kanehira, R.,** and **Hatusima, S.**

Hauck, F.

1882. Eine neue Floridee. Hedwigia **21:** 140–141.

Includes *Marchesettia spongioides* n. sp. from New Caledonia.

Haviland, G. D.

1897. A revision of the tribe Naucleeae (Nat. Ord. Rubiaceae). Jour. Linn. Soc. Bot. **33:** 1–94. *pl. 1–4.*

Includes the known Polynesian species.

Hayata, B.

1926. General aspect of the flora of Japan including southern Saghalien, the Kuriles, Korea, Formosa, the Loochoos, the Bonins and the Micronesias under the Japanese mandatory rule. 1–28. *map.*

General.

Hayek, A.

1926. Allgemeine Pflanzengeographie. i–viii, 1–409. *f. 1–5. 2 maps.*

Includes brief data on Polynesia.

Heckel, E.

1872. Sur le Fontainea Pancheri originaire de la Nouvelle-Calédonie. Jour. Pharm. Chim. IV. **16:** 44–48.

Not seen.

1885. Sur le Barringtonia intermedia Miers. Bull. Soc. Bot. France **32:** 180–182.

A critical discussion of this New Caledonian species.

1892. Coup-d'oeil sur la flore générale de la baie du Prony (Nouvelle-Calédonie, sud-ouest) et sur sa distribution en zones. Étude de quelques plantes nouvelles et utiles de grande exploitation et de leurs produits noveaux. Ann. Fac. Sci. Marseille **2:** 101–163. *3 f. 1 map.*

General for the subjects covered.

1901. Sur l'Araucaria Rulei F. v. Mueller de la Nouvelle-Calédonie et sur la composition de sa gomme résiné. Rev. Gén. Bot. **13:** 241–247. *f. 44–49.*

1911a. Sur l'envahissement des forêts de la Nouvelle-Calédonie par le Lantana Camara L. et les dangers que cette plante fait courir à l'économie agricole et sylvicole de cette île. Bull. Soc. Nat. Acclim. France **58:** 511–514.

A general discussion.

1191b. Sur le genre Spermolepis de la Nouvelle-Calédonie et ses rapports avec le genre Schizocalyx. Compt. Rend. Acad. Sci. Paris **153:** 321–325.

Critical notes.

1912. Nouvelles observation sur les plantes de Nouvelle-Calédonie. Ann. Mus. Colon. Marseille II **10**: 205–285. *pl. 1–38. f. 1–6.*

Amplified descriptions with many illustrations of various species.

1913. Les plantes utiles de Nouvelle-Calédonie. Nouvelles observations sur ces plantes avec planches en noir et en couleur hors texte et dans le texte. 1–93. *pl. 1–38. f. 1–6.*

Full descriptions of selected species with extensive notes.

Hedley, C.

1896–1900. The Atoll of Funafuti, Ellice Group; its zoology, botany, ethnology, and general structure based on collections made by Mr. Charles Hedley, of the Australian Museum, Sydney, N. S. W. Austral. Mus. Mem. **3**: i–ix [1–3], 1–609.

A composite work by several authors containing some botanical notes.

Hedrick, U. P. See **Sturtevant, E. L.**, 1919.

Hedwig, J.

1799–1803. Filicum genera et species recentiori methodo accommodatae analytice descriptae. [1–69.] *24 pl.*

Includes some Polynesian species.

1801–42. Species muscorum frondosorum descriptae et tabulis aeneis coloratis illustratae. Opus posthumum, editum a Friedrich Schwaegrichen. i-vi, 1–352. *pl. 1–77.* 1801; Suppl. **1**(1): i-xvi, 1–196. *pl. 1–49.* 1811; **1**(2): i-vii, 1–374. *pl. 50–100.* 1816; **2**(1): i-vi, 1–86. *pl. 100–125.* 1823; **2**(2): 87–179. *pl. 126–150.* 1824; **2**(2–1): 1–79. *pl. 151–175.* 1826; **2**(2–2): 81–210. *pl. 176–200.* 1827; **3**(1): (no pagination) *pl. 201–225.* 1827; **3**(2): (no pagination) *pl. 226–250.* 1828; **3**(2–1): (no pagination) *pl. 251–275.* 1829; **4**(1): (no pagination) *pl. 276–300.* 1830; **4**(2): (no pagination) *pl. 301–325.* 1842.

Includes some Polynesian species.

Hegelmaier, F.

1868. Die Lemnaceen. Eine Monographische untersuchungen. i-vi, 1–169. *pl. 1–16.*

Includes a few Polynesian references.

Heimerl, A.

1913a. Über die Nyctaginaceen-Gattung Calpidia. Oesterr. Bot. Zeitschr. **63**: 19–21.

Accepts *Calpidia* Thouars (1804) in place of *Ceodes* Forst. (1776) without valid reasons for doing so.

1913b. Die Nyctaginaceen-Gattungen Calpidia und Rockia. Österr. Bot. Zeitschr. **63**: 279–290.

Eighteen species of *Calipidia* recognized, including several new ones, and *Rockia sandwicensis* from Hawaii.

1913c. Nyctaginaceae: in Rechinger, K., Botanische und zoologische Ergebnisse. Denkschr. Akad. Wiss. Wien **89**: 551. Reprint **5**: 109.

List including some Samoan species.

1937. Nyctaginaceae of southeastern Polynesia and other Pacific Islands. Occ. Pap. Bishop Mus. **13**: *27–47. pl. 1–3. f. 1–8.*

Includes *Ceodes siphonocarpa* n. sp. from the Society Islands and various new varieties in *Boerhaavia* and *Ceodes.*

Heller, A. A.

1897. Observations on the ferns and flowering plants of the Hawaiian islands. Minn. Bot. Studies **1**: 760–922. *pl. 42–69.*

An enumeration with notes and the descriptions of new species.

Hemsley, W. B.

1878. The geographical distribution of garden plants. Garden **13:** 75–78. *3 f.*

Includes some Polynesian species.

1879a. La distribution géographique des plantes cultivées. Belg. Hort. **29:** 79–98.

A French translation of the preceding entry.

1879b. A miniature tree fern (Athyrium scandicinum). Garden **15:** 17. *1 f.*

Native of Hawaii; general note.

1884. Report on the botany of Juan Fernandez, the south-eastern Moluccas, and the Admiralty Islands. Rep. Voy. H. M. S. *Challenger,* Bot. **1(3): 1–275.**

Includes (p. 116) lists of plants from Rarotonga and various small islands, principally Fanning Island.

1885a. The insular distribution of orchids. Gard. Chron. **23:** 739.

Includes brief notes on Polynesian orchids.

1885b. Report on present state of knowledge of various insular floras, being an introduction to the first three parts of the botany of the Challenger Expedition. Rep. Voy. H. M. S. *Challenger,* Bot. **1(1): 1–75.**

Gives data on the floras of various insular groups in Polynesia, including Hawaii, the Marianas Islands, Marshalls, Malden, Carolines, Pitcairn, and Easter Island.

1885c. On the dispersal of plants by oceanic currents and birds. Rep. Voy. H. M. S. Challenger, Bot. **1(3) :** 277–313.

General, with references to Polynesia.

1892a. Trematocarpus. Ann. Bot. **6:** 154.

A criticism of this Hawaiian genus.

1892b. Chelonespermum and Cassidispermum, proposed new genera of Sapotaceae. Ann. Bot. **6:** 203–210. *pl. 11–14.*

Chelonespermum fijiense n. sp. from Fiji.

1894 The flora of the Tonga or Friendly Islands, with descriptions of, and notes on, some new or remarkable plants, partly from the Solomon Islands. Jour. Linn. Soc. Bot. **30:** 158–217. *pl. 9–11.*

A general discussion of the flora, with an enumeration of the known species, and descriptions of new ones.

1896. The flora of Lord Howe Island. Ann. Bot. **10:** 221–284.

A general enumeration.

1898. Bassia Thurstonii, Hemsl. Hook. Ic. **26:** *pl. 2569.*

Native of Fiji.

1903a. On the genus Corynocarpus, Forst., with descriptions of two new species. Ann. Bot. **17:** 743–760. *pl. 36. f. 27–28.*

Includes *C. similis* and *C. dissimilis* from the New Hebrides and New Caledonia.

1903b. Meryta Denhami. Bot. Mag. **129:** *pl. 7927.*

Native of Isle of Pines, New Caledonia.

1906. Nepenthes Phyllamphora. Bot. Mag. **132:** *pl. 8067.*

Here recorded from the Palau Islands.

1907a. Two new Triuridaceae, with some remarks on the genus Sciaphila Blume. Ann. Bot. **21:** 71–77. *pl. 9–10.*

Sciaphila aneitensis n. sp. from the New Hebrides. Republished in Fedde, F., 1908a.

1907b. Dysoxylum pachyphyllum, Hemsl. Hook. Ic. **29:** *pl. 2827.*

Native of Lord Howe Island.

1913. On the genera Radamaea, Bentham, and Nesogenes, A. de Candolle. Jour. Linn. Soc. Bot. **41:** 311–316. *pl. 14.*

Includes *N. euphrasioides* from the Tuamotus and other islands.

Hennings, P.

1894. Neue und interessante Pilze aus dem Königl. botanischen Museum in Berlin II. Hedwigia **33:** 229–233.

Includes *Dimerosporium samoense* n. sp. from Samoa.

1897. Einige Pilzarten von den Marshallinseln. Notizbl. Bot. Gart. Berlin **1:** 226–229.

A list of 11 species, several described as new.

1901. Pilze: in Volkens, G., Die Vegetation der Karolinen. Bot. Jahrb. **31:** 449–450.

An enumeration.

1902. Fungi nonnulli novi ex regionibus variis. Hedwigia **41:** Beibl. 61–66.

Includes *Dothidella yapensis* n. sp. from the Caroline Islands.

1903. Squamotubera P. Henn. n. gen. Xylariacearum. Hedwigia **42:** Beibl. 308–309.

S. leratii n. gen. n. sp. from New Caledonia.

Henrard, J. T.

1926–33. A critical revision of the genus Aristida, being a preliminary study and an introduction to the monograph. Med. Rijks Herb. Leiden **54:** i–viii, 1–747. *illus.*

Monographic; illustrated by 372 text figures. *A. pilosa* occurs in New Caledonia.

1929–33. A monograph of the genus Aristida. Med. Rijks Herb. Leiden **58:** 1–325, i–xii. *pl. 1–159.*

Monographic.

1930. New or insufficiently known species and new binomials in the genus Digitaria. Med. Rijks Herb. Leiden **61:** 1–21. *4 f.*

Records various species from Polynesia.

1934. Notes on the genus Digitaria with descriptions of new species. Blumea **1:** 90–114.

Includes *D. latronum* nom. nov. (*D. mariannensis* Mez, non Merr.) and *D. caledonica* n. sp. from the Marianas Islands and New Caledonia.

1940–41. Notes on the nomenclature of some grasses. Blumea **3:** 411–480. 1940; (II) **4:** 496–538. 1941.

Contains various new names for Polynesian species.

Henry, C.

1918. Les Îles Marquises—flore et cultures. Bull. Soc. Nat. Acclim. France **65:** 315–320.

General notes.

1922. Notes sur quelques végétaux interéssants des Îles Marquises et leur produits alimentaires ou industriels. Océanie Française 10–13.

Not seen.

Henry, T.

1928. Ancient Tahiti. Bishop Mus. Bull. **48:** i–viii, 1–651.

Includes "Flora of the Society and Tuamotu Islands," pp. 33-68.

Herbert, W.

1837. Amaryllidaceae; preceded by an attempt to arrange the monocotyledonous orders, and followed by a treatise on cross-breed vegetables and supplement. i–vi, 1–428. *pl. 1–48.*

Includes a few Polynesian species.

Herder, F. von

1885. Verzeichniss von G. Forster's Icones Plantarum in itinere ad insulas maris australis collectarum; nach dem in der Bibliotek des Kaiserlichen botanischen Gartens zu St. Petersburg befindlichen einzigen Exemplar zusammengestellt und erläutert. Acta Horti Petrop. **9:** 485–510. Reprint 1–26.

A list of 131 plates, many of the species illustrated being from Polynesia.

Herter, W.

1908. Lycopodium Haeckelii. Repert. Nov. Sp. **5:** *22.*

Native of Tahiti.

1909. Beiträge zur Kenntnis der Gattung Lycopodium. Studien über die Untergattung Urostachys. Bot. Jahrb. **43:** Beibl. **98:** 1–56. *f. 1–4. 4 charts.*

Includes some Polynesian species.

1912. Lycopodiaceae: in Hochreutiner, B. P. G., Plantae Hochreutineranae. Ann. Conserv. Jard. Genève **15:** 225–227.

A list, including a few Polynesian species.

Herzog, T.

1926. Geographie der Moose. i–xi, 1–439, [1]. *pl. 1–8.*

A general consideration; bibliography p. 401.

1936. Sapindaceae. Pflanzenar. **4:** 35–42. *maps 31–37b.*

Includes data on the distribution of some Polynesian species.

1938. Beiträge zur Kenntnis der Gattung Plagiochila. II. Palaeotropische Arten. Hedwigia **78:** 222–244. *f. 1–15.*

Includes *P. heterospina* and *P. seemanni perspinosa* n. var. from Fiji.

1939. Studien über Drepanolejeunea, IV. Ann. Bryol. **12:** 98–122. *f. 1–17.*

Includes a few Polynesian records.

1942. Die foliosen Lebermoose der Juan Fernandez-Inseln und der Osterinsel: in Skottsberg, C., Natural history of Juan Fernandez and Easter Island, Bot. **2:** 697–752. *f. 1–14.*

A critical list of 86 species with extensive notes and some new species; bibliography.

Heurck, H. van, and **Mueller, J.** (Muell.-Agr.)

1871. Apocynaceae novae: in H. Van Huerck, Observationes botanicae et descriptions plantarum novarum herbarii Van Huerkiani. 138–207.

Includes descriptions of many new species from New Caledonia.

Heuzé, G.

1899. Les plantes alimentaires des pays chauds et des colonies. ed. 2. i–xii, 1–381. *f. 1–59.*

Contains references to and descriptions of cultivated plants of Polynesia.

Heward, R.

1842. Biographical sketch of the late Allan Cunningham, Esq. Lond. Jour. Bot. **1:** 107–128, 263–292.

Contains data on the vegetation of Norfolk Island and a list of plants supplementary to **Endlicher, S. L.,** 1833b.

Heydrich, F.

1901. Die Lithothamnien des Muséum d'histoire naturelle in Paris. Bot. Jahrb. **28:** 529–545. *pl. 11.*

Includes *Melobesia pacifica* native of Hawaii.

Hicken, C. M.

1913. Contribucion al estudio de las Pteridófitas de la Isla de Pascua y descripcion de dos nuevas especies. Bol. Mus. Nac. Chile **5:** 131–137. *f. 21–27*; Revis. Chil. Hist. Nat. **17:** 89–97. *f. 8–9.*

Notes on six species including *Polypodium fuentesi* and *Dryopteris espinosai* n. spp.

Hiern, W. P.

1873. A monograph of the Ebenaceae. Trans. Cambr. Philos. Soc. **12:** *27*–300. *pl. 1–11.*

Monographic.

1877. Third notes on Ebenaceae; with description of a new species. Jour. Bot. **15:** 97–101. *pl. 186.*

Includes *Maba samoensis* n. sp. from Samoa.

Hieronymus, G.

1900. Compositae: in Sodiro, A. Plantae ecuadorenses. II. Bot. Jahrb. **29:** 1–85.

In a footnote, p. 20, the new binomial *Aster sandwicensis* Hieron. appears, based on *A. divaricatus* var. *sandwicensis* A. Gray.

1902. Selaginellarum species novae vel non satis cognitae. II. Selaginellae e subgenere (vel sectione) Heterophyllo. Hedwigia **41:** 170–202.

Includes some Polynesian species.

1905. Polypodiorum species novae et non satis notae. Beschreibungen von neuen Arten und Bemerkungen zu älteren Arten der Gattung Polypodium. Hedwigia **44:** 78–105.

Includes some Polynesian species.

1912. Selaginellaceae: in Hochreutiner, B. P. G., Plantae Hochreutineranae. Ann. Conserv. Jard. Bot. Genéve **15:** 228–230.

Includes *S. hochreutineri* n. sp. from Samoa.

1913. Selaginellaceae: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **89:** 483–487. *pl. 7.* Reprint **5:** 41–45. *pl. 7.*

Includes some Samoan species.

1914a. Selaginellaceae von Neu-Caledonien: in Sarasin, F. and Roux, J., Nova Caledonia Bot. **1:** 61–65.

Three species considered.

1914b. Eine neue Selaginella. Bot. Jahrb. **52:** 1–3.

S. volkensii n. sp. from the Caroline Islands.

1914c. Beiträge zur Kenntnis der Gattung Pteris I. Über Pteris longifolia L. und verwandte Arten. Hedwigia **54:** 283–294.

Includes *P. vittata* from Polynesia.

1914d. Beiträge zur Kenntnis der Gattung Pteris II. Über Pteris quadriaurita Retz. und einige asiatische, malesische, und polynesische Pteris-Arten aus der Gruppe und Verwandtschaft dieser Art. Hedwigia **55:** 325–375.

Includes some Polynesian species.

1916a. Neue Arten von Vittarieen aus den Gattungen Vittaria Sm. und Antrophyum Kaulf. Hedwigia **57:** 200–214.

Includes *Antrophyum novaecaledoniae* n. sp. from New Caledonia.

1916b. Ueber die Gattung Conigramme Fée und ihre Arten. Hedwigia **57:** 266–328.

Includes *C. pilosa* (Brack.) Hieron. from Hawaii.

1918–19. Kleine Mittheilungen über Pteridophyten. I. Hedwigia **59:** 319–339; (II) **61:** 4–39. 1919.

Critical notes on 67 species including a few from Polynesia.

1919a. Aspleniorum species novae et non satis notae. Beschreibungen von neuen Arten und Bemerkungen zu älteren Arten der Gattung Asplenium. Hedwigia **60:** 210–266.

Includes several new forms from Polynesia.

1919b. Bemerkungen zur Kenntnis der Gattung Angiopteris Hoffm., nebst Beschreibungen neuer Arten und Varietäten derselben. Hedwigia **61:** 242–285.

Includes some Polynesian species.

Hill, A. F.

1939a. The correct names of certain economic plants. Bot. Mus. Leafl. Harvard Univ. **7:** 89–111.

Includes a few species that extend to Polynesia; no new names are published for these.

1939b. The nomenclature of the taro and its varieties. Bot. Mus. Leafl. Harvard Univ. **7:** 113–118.

Concerns *Colocasia esculenta,* with some new varietal combinations.

1942. Recent changes in the names of economic plants. Bot. Mus. Leafl. Harvard Univ. **10:** 141–172.

Includes a few Polynesian names.

Hill, A. W.

1911. Strychnos Ignatii and other East Indian and Phillippine species of Strychnos. Kew Bull. **1911:** 281–302, *2 pl. 5 f.*

Includes *S. vitiensis* n. sp. from Fiji.

1917. The genus Strychnos in India and the East. Kew Bull. **1917:** 121–210. *20 f.*

Includes the Polynesian species.

1929. Antarctica and problems in geographical distribution. Proc. Internat. Congr. Plant Sci. Ithaca **2:** 1477–1486.

See also **Jackson, B. D.,** 1893–1938.

Hillebrand, W.

1888a. Flora of the Hawaiian islands. A description of their phanerogams and vascular cryptogams. i–xcvi, 1–673. *frontispiece. 4 maps.*

A general descriptive flora.

1888b. Die Vegetationsformationen der Sandwich-Inseln. Bot. Jahrb. **9:** 305–314.

General.

Hillmann, J.

1939. Bemerkungen über einigen Arten der Flechtengattung Parmelia I. Hedwigia **78:** 249–267.

Includes *P. reticulata,* occurring in Fiji.

1940. Neue oder bekannte Flechten aus aller Welt (II). Repert. Sp. Nov. **48:** 5–11. 1940; (III) **49:** 34–40. 1940.

Includes *Parmelia tinctorum* var. *inactiva* and *P. nigrociliata* n. sp. from Samoa.

Hilpert, F.

1933. Studien zur Systematik der Trichostomaceen. Beih. Bot. Centralbl. **50**(2): 585–706. *f. 1–15.*

Includes some Polynesian species.

Hinds, R. B.

1842. Remarks on the vegetation of the Feejee Islands, Tanna, New Ireland, and New Guinea. With an enumeration of plants there collected; determined and described by George Bentham. Lond. Jour. Bot. **1:** 669–676.

General notes on the vegetation. The list of plants appears under **Bentham,** 1843.

Hitchcock, A. S.

1917a. A botanical trip to the Hawaiian islands. Sci. Monthly **5:** 323–349. *f. 1–30;* (II) 419–432. *f. 31–43.*

A general narrative.

1917b. Botanical explorations in the Hawaiian islands. Smithsonian Misc. Coll. **66**: 59–73. *f. 61–77.*

A general narrative.

1919. Floral aspects of the Hawaiian islands. Smithsonian Rep. 1917. 449–462. *pl. 1–25.*

General.

1922. The grasses of Hawaii. Mem. Bishop Mus. **8**: 101–230. *pl. 31–35. f. 1–110.*

A general revision, with many species described as new.

1932. Gramineae: in Guillaumin, Contribution to the flora of the New Hebrides. Jour. Arnold Arb. **13**: 116–117.

An enumeration.

1933. Remarks on type-specimens, and on a new species of grass from Hawaii. Jour. Bot. **71**: 3–7.

Includes *Panicum ramosius* n. sp. from Hawaii.

Hitchcock, C. L.

1932. A monographic study of the genus Lycium of the Western Hemisphere. Ann. Missouri Bot. Gard. **19**: 179–374. *pl. 12–24. f. 1.*

Includes a new variety from Hawaii.

Hobbs, W. H.

1945. The fortress islands of the Pacific. i–xiii, 1–186. *f. 1–107.*

Nonbotanical, but listed because of its classification of islands and island groups and its geologic data of vital importance to those who are interested in the phytogeography of the region; bibliography, pp. 164-176.

Hochreutiner, B. P. G.

1900. Révision du genre Hibiscus. Ann. Conserv. Jard. Bot. Genève **4**: 23–191. *9 f.*

Includes the Polynesian species.

1902. Malvaceae novae vel minus cognitae. Ann. Conserv. Jard. Bot. Genève **6**: 10–59. *pl. 1.*

Includes a few Polynesian species.

1909. Monographia generis Arthroclianthi Baill. Ann. Conserv. Jard. Bot. Genève **13**: 30–46.

Includes the New Caledonian species.

1910. Critical notes on new or little known species in the herbarium of the New York Botanical Garden. Bull. New York Bot. Gard. **6**: 262–299.

Includes some New Caledonian species.

1912–43. Plantae Hochreutineranae. Étude systématique et biologique des collections faites par l'auteur au cours de son voyage aux Indes neérlandaises et autour du monde pendant les années 1903 à 1905. Ann. Conserv. Jard. Bot. Genève **15**: 145–247. 1912; (II) Candollea **2**: 317–513. *f. 1–2.* 1925; (III) **5**: 175–341. 1934; (IV) **6**: 397–488. 1936; (V) **8**: 47–60. 1940; (VI) **9**: 380–493. 1943.

Includes species from Samoa and Hawaii.

1920. Notes sur quelques Sterculiacées. Ann. Conserv. Jard. Bot. Genève **21**: 429–435.

Includes *Melochia compacta* n. sp. from the Marianas Islands.

1928. Quelques observations sur la géographie botanique du Pacific. Act. Soc. Helv. Sci. Nat. **109**: 193–194.

Not seen.

Höhnel, F. von

1907. Fungi: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **81:** 211–221. *pl. 1.* Reprint **1:** 15–25. *pl. 1.*

Includes some Samoan species.

Hölscher, J.

1898. Zwei Farnkräuter von den Südsee-Inseln. Gartenwelt **2:** 399–400.

Aspidium (*Pleocnemia*) *leuzeanum* **from Samoa and Fiji and** *Hemitelia samoensis* **from Samoa.**

Hoffman, G. F.

1796. Descriptiones et icones plantarum. Comment. Soc. Reg. Sci. Gotting. Cl. Phys. **12:** 22–37. *pl. 1–5.*

Includes *Angiopteris evecta* **from Polynesia.**

Hoffmann, E. G.

1931. The flowers and trees of Hawaii. Mid-Pacif. Mag. **42:** 472–477. *illus.*

A popular account.

Hoffmann, K. See **Pax, F.,** and **Hoffmann, K.**

Hoffmeister, J. E. See **Setchell, W. A., Hoffmeister, J. E., and Ostergaard, J. M.**

Holt, V. S. See **Wilcox, E. V., and Holt, V. S.**

Holttum, R. E.

1932. On Stenochlaena, Lomariopsis and Teratophyllum in the Malayan region. Gard. Bull. Straits Settlem. **5:** 245–313. *pl. 1–12. f. 1–49.*

Includes four species of *Lomariopsis* **from New Caledonia, Fiji, and Samoa.**

1937a. Further notes on Stenochlaena, Lomariopsis, and Teratophyllum. Gard. Bull. Straits Settlem. **9:** 139–144.

Includes a note on *Lomariopsis brackenridgei* **from Fiji.**

1937b. The genus Lomagramma. Gard. Bull. Straits Settlem. **9:** 190–221. *pl. 8–16.*

Monographic; includes the Polynesian species.

1938. A redefinition of the genus Teratophyllum. Gard. Bull. Straits Settlem. **9:** 355–362. *pl. 28–30.*

Includes *T. wilkesianum* **n. comb. (***Polybotrya wilkesiana* **Brack.) from Tahiti, New Caledonia, and Samoa.**

Hombron, J. B., and Jacquinot, C. H.

1845–55. Voyage au Pole Sud . . . sur l' Astrolabe et la Zélée . . . Botanique.

See Decaisne, J., 1855, and Montagne, C., 1846.

Home, E.

1847. On the native cloth and on the kava of the South Sea Islanders. Comp. Bot. Mag. **73:** 37–41.

General observations.

Hooker, J. D.

1845. On Fitchia, a new genus of arborescent Compositae (Trib. Cichoraceae) from Elizabeth Island (lat. 26°, long. 125° W.) in the South Pacific. Lond. Jour. Bot. **4:** 640–643. *pl. 23–24.*

F. nutans.

1855. On Chortodes, a subgenus of Flagellaria from the Isle of Pines (New Caledonia). Hook. Jour. Bot. Kew Gard. Miscel. **7:** 198–200. *pl. 8.*

***Flagellaria plicata* n. sp.**

1856. On the structure and affinities of Balanophorae. Trans. Linn. Soc. Bot. **22:** 1–68. *pl. 1–16.*

Includes some Polynesian species.

1857. On the botany of Raoul Island, one of the Kermadec group in the South Pacific Ocean. Jour. Linn. Soc. Bot. **1**: 125–129.

Includes descriptions of four new species.

1860. On the species of Cordyline now in cultivation from New Zealand and Australia. Gard. Chron. **1860**: 791–792.

Includes *C. baueri* native of Norfolk Island and *C. terminalis* from the South Sea Islands.

1865. Railliardia ciliolata. Bot. Mag. **91**: t. 5517.

Native of Hawaii.

1866. Considérations sur les flores insulaires. Ann. Sci. Nat. V. Bot. **6**: 267–299.

See next entry.

1867. Insular floras. Gard. Chron. **1867**: 6–7, *27*, 50–51, *75–76*, 152.

Discusses the general phytogeographic problems of oceanic islands. See **Hooker, J. D.,** 1896b, and **Murray, A.,** 1867. See also preceding entry.

1868. Areca Baueri. Bot. Mag. **94**: *pl. 5735.*

Native of Norfolk Island.

1870a. Hernandia Moerenhoutiana. Bot. Mag. **96**: *pl. 5839.*

Native of the Pacific islands.

1870b. Obbea timonioides, Hook. f. Hook. Ic. **11**: 56, *pl. 1070.*

Native of Hawaii.

1870c. Rytidotus sandvicensis Hook. Hook Ic. **11**: 56–57. *pl. 1071.*

Native of Hawaii.

1871. Meryta latifolia. Bot. Mag. **97**: *pl. 5932.*

Native of Norfolk Island.

1872. Normandia neo-caledonica Hook. f. Hook. Ic. **12**: 20. *1121.*

Native of New Caledonia.

1873a. Hibbertia Baudouinii. Bot. Mag. **99**: *pl. 6053.*

Occurs in New Caledonia.

1873b. Nepenthaceae. DC. Prodr. **17**: 90–105.

Monographic.

1873c. Cytinaceae. DC. Prodr. **17**: 106–116.

Monographic.

1873d. Cyclophyllum Deplanchei Hook. f. Hook. Ic. **12**: 52. *pl. 1158.*

Native of New Caledonia.

1873e. Philydrum glaberrimum. Bot. Mag. **99**: *pl. 6056.*

"Native of the Pacific Islands?"

1875. Wahlenbergia tuberosa. Bot. Mag. **101**: *pl. 6155.*

Native of Juan Fernández.

1877a. Hypolytrum latifolium. Bot. Mag. **103**: *pl. 6282.*

Recorded from Fiji.

1877b. Stenogyne rotundifolia A. Gray. Hook. Ic. **13**: 37–38. *pl. 1248.*

Native of Hawaii.

1878a. Jasminum didymum. Bot. Mag. **104**: *pl. 6349.*

Recorded from Lord Howe Island, New Caledonia, and Fiji.

1878b. Dendroseris macrophylla. Bot. Mag. **104**: *pl. 6353.*

Native of Juan Fernández.

1878c. Spathoglottis Petri. Bot. Mag. **104**: *pl. 6354.*

Described from New Caledonia and Fiji.

1883a. Flagellaria gigantea Hook. f. Hook. Ic. **15:** *23–24. pl. 1429.*

Native of Fiji and Samoa.

1883b. Cyclocampe arundinacea, Benth. Hook. Ic. **15:** *27–28. pl. 1434.*

Native of New Caledonia.

1884. List of palms cultivated in the Royal Gardens, Kew. Rep. Kew Gard. **1882:** 53–73.

A systematic enumeration including various Polynesian species.

1885. Panax Murrayi. Bot. Mag. **111:** *pl. 6798.*

"From the South Sea Islands (though the exact locality appears to be unknown)."

1886. Ixora macrothyrsa. Bot. Mag. **112:** *pl. 6853.*

Malayan, but the specimen illustrated supposedly came from Ualan or Strong Island, in the Carolines.

1887a. Oxera pulchella. Bot. Mag. **113:** *pl. 6938.*

Here described from New Caledonia.

1887b. Hillebrandia sandwicensis. Bot. Mag. **113:** *pl. 6953.*

Native of Hawaii.

1888a. Spathoglottis Vieillardii. Bot. Mag. **114:** *pl. 7013.*

Native of New Caledonia.

1888b. Howea Belmoreana. Bot. Mag. **114:** *pl. 7018.*

Native of Lord Howe Island.

1891. Hibiscus venustus. Bot. Mag. **117:** *pl. 7183.*

"Native of Tahiti?"

1892a. Moraea Robinsoniana. Bot. Mag. **118:** *pl. 7212.*

Native of Lord Howe Island.

1892b. Cirrhopetalum Thouarsii. Bot. Mag. **118:** *pl. 7214.*

Recorded from Fiji and the Society Islands.

1893. Tacca pinnatifida. Bot. Mag. **119:** *pl. 7299, 7300.*

Native of Polynesia.

1894a. Barringtonia samoensis, Hook. Bot. Mag. **120:** *pl. 7337.*

Native of the New Hebrides and the Marianas Islands.

1894b. Hydnophytum longiflorum. Bot. Mag. **120:** *pl. 7343.*

Native of Fiji.

1894c. Osteomeles anthyllidifolia. Bot. Mag. **120:** *pl. 7354.*

Recorded from Hawaii, Pitcairn, and Mangaia.

1894d. Colocasia antiquorum. Bot. Mag. **120:** *pl. 7364.*

Native of the Pacific islands.

1894e. Sterculia austro-caledonica. Bot. Mag. **120:** *pl. 7382.*

Native of New Caledonia.

1896a. Eranthemum reticulatum. Bot. Mag. **122** *pl. 7480.*

Native of Melanesia.

1896b. Lecture on insular floras delivered before the British Association for the Advancement of Science at Nottingham, August 27, 1866. 1–36.

A reprint of Hooker, J. D., 1867.

1899. Acalypha hispida. Bot. Mag. **125:** *pl. 7632.*

Native of Fiji.

1901a. Exorrhiza Wendlandiana. Bot. Mag. **127:** *pl. 7797.*

Native of Fiji.

1901b. Musa oleracea. Bot. Mag. **127:** *pl. 7802.*

Native of New Caledonia.

1902. Podocarpus pectinata. Bot. Mag. **128:** *pl. 7854.*

Here described from New Caledonia.

See also **Bentham, G., and Hooker, J. D.**

Hooker, W. J.

1818–20. Musci exotici; containing figures and descriptions of new or little known foreign mosses and other cryptogamic subjects. 1: i-viii, *pl. 1–96.* 1818; **2:** *pl. 97–176;* Appendix, 1–31. 1820.

Includes a few Polynesian species. Each plate is accompanied by unpaged letterpress.

1828a. Artocarpus incisa. Bot. Mag. **55:** *pl. 2869–2871.*

Recorded from the Marianas Islands.

1828b. Dracaena australis. Bot. Mag. **55:** *pl. 2835.*

Native of Norfolk Island.

Hooker, W. J., and Greville, R. K.

1829–31. Icones Filicum; ad eas potissimum species illustrandas destinatae, quae hactenus, vel in herbariis delituerunt prorsus incognitae, vel saltem nondum per icones botanicis innotuerunt. (Figures and descriptions of ferns . . .) 1: t. 1–120, descriptive text, 1829; **2:** 1–9. *pl. 121–240.* 1831.

Includes some Polynesian species.

Hooker, W. J., and Walker-Arnott, G. A.

1830–41. The botany of Captain Beechey's voyage comprising an account of the plants collected by Messrs. Lay and Collie, and other officers of the expedition during the voyage to the Pacific and Bering's Straits, performed in His Majesty's ship, *Blossom,* under the command of Captain F. W. Beechey . . . in the years 1825, 26, 27, and 28. i-ii, 1–485. *pl. 1–99.*

Includes an enumeration with numerous new species from the Society Islands and Hawaii (pp. 59-110). Pp. 1-48 were issued in 1830; 49-144, in 1832. The decriptions, pp. 1-96, were reprinted in Presl, Rep. Bot. 1-38. For data on the dates of issue see **Jackson, B. D.,** Jour. Bot. **31:** 297-299. 1893.

Hooker, W. J.

1831. Asplenium nidus. Bot. Mag. **58:** *pl. 3101.*

Recorded from the Marianas islands and Hawaii.

1832a. Mimusops dissecta. Bot. Mag. **59:** *pl. 3157.*

Native of the Tonga Islands.

1832b. Phormium tenax. Bot. Mag. **59:** *pl. 3199.*

Native of Norfolk Island.

Hooker, W. J., and Walker-Arnott, G. A.

1832–41. Contributions towards a flora of South America and the islands of the Pacific. Bot. Miscel. Hook. **3:** 129–211, 302–367. 1832–33; Hook. Jour. Bot. **1:** 276–296. 1834; Comp. Bot. Mag. **1:** 29–38, 103–111, 234–244. 1835; **2:** 41–52, 250–254, 1836; Hook. Jour. Bot. **3:** 19–47, 310–348. 1841.

Mostly appertains to extra-tropical South America; includes Juan Fernández species.

Hooker, W. J.

1833. Santalum album. Bot. Mag. **60:** *pl. 3235.*

Recorded from Polynesia.

1835. List of ferns in the botanical collection made by Mr. Nightingale in the Pacific Isles: in Nightingale, T., Oceanic sketches. 127–132.

An enumeration of 29 species, 5 described as new.

1836. A brief memoir of the life of Mr. David Douglas, with extracts from his letters. Comp. Bot. Mag. **2**: 79–182. *portrait.*

Contains numerous observations on the flora of Hawaii, an account of Douglas's ascent of Mauna Loa, and of his death in Hawaii (pp. 161-182).

1836–1943+. Icones plantarum, or figures with descriptive characters and remarks, of new and rare plants selected from the Kew Herbarium. **1** (1836) to **35** (1943) +.

Continued by J. D. Hooker, Oliver, Dyer, Prain, and Hill. Descriptions and illustrations of plants from various parts of the world, including many from Polynesia entered in this bibliography under the individual authors.

1837a. Argyroxiphium sandwicense. Hook. Ic. **1**: *pl. 75.*

Native of Hawaii.

1837b. Polypodium myriocarpum. Hook. Ic. **1**: *pl. 84.*

Native of Hawaii.

1837c. Vaccinium cereum. Hook. Ic. **1**: *pl. 87.*

Native of the Society Islands.

1837d. Peperomia margaritifera Bert. Hook. Ic. **1**: *pl. 91.*

Native of Juan Fernández.

1837e. Marchantia trichocephala. Hook. Ic. **2**: *pl. 158.*

Native of Hawaii.

1837f. Geranium cuneatum, Hook. Hook. Ic. **2**: *pl. 198.*

Native of Hawaii.

1837g. Blechnum pubescens. Hook. Ic. **1**: *pl. 97.*

Native of Juan Fernández.

1838–42. Genera filicum; or illustrations of the ferns, and other allied genera; from the original coloured drawings of the late Francis Bauer, Esq., botanic painter to Her Majesty; with additions and descriptive letterpress by William Jackson Hooker . . . i–vi, [1–120, 1–8]. *pl. 1–120.*

Includes some Polynesian species; the first title page is dated 1838, the second, 1842.

1839. Cymbidium triste. Bot. Mag. **65**: *pl. 3648.*

Here described from New Caledonia and the Marianas Islands.

1844. Schiedea Nuttallii. Hook. Ic. **7**: *pl. 649–650.*

Native of Hawaii.

1844–64. Species filicum; being descriptions of the known ferns, particularly of such as exist in the author's herbarium or are with sufficient accuracy described in works to which he has had access; accompanied with numerous figures. **1**: i–xv, 1–245. *pl. 1–70.* 1844–46; **2**: 1–250. *pl. 71–140.* 1851–58; **3**: 1–291. *pl. 141–210.* 1860; **4**: 1–292. *pl. 211–280.* 1862; **5**: 1–314. *pl. 281–304.* 1863–64.

Includes the Polynesian species.

1845a. Disemma aurantia. Bot. Mag. **71**: *pl. 4140.*

Native of New Caledonia.

1845b. Trichomanes polyanthos Hook. Hook. Ic. **8**: *pl. 703.*

Native of Polynesia.

1846. Cirrhopetalum Thouarsii. Bot. Mag. **72**: *pl. 4237.*

Native of Society Islands; plate and synonymy by Lindley, English description by Hooker.

1850. Oberonia iridifolia. Bot. Mag. **76**: *pl. 4517.*

Credited to Tahiti.

1852a. Araucaria columnaris. Bot. Mag. **78**: *pl. 4635.*

Native of New Caledonia.

1852b. Notice of a new species of Deparia, discovered by Mr. Charles Moore in New Caledonia. Hook. Jour. Bot. Kew Gard. Miscel. **4**: 54–56. *pl. 3.*

D. moorii **n. sp.**

1852c. Notice of a new species of Dammara, detected by Mr. Charles Moore in La Peyrouse's Island. Hook. Jour. Bot. Kew Gard. Miscel. **4**: 115–116. *pl. 4.*

D. macrophylla **from Vanikoro Island.**

1852d. Deparia Moorii, Hook. Fl. Serr. Jard. Eur. **7**: 206–208. *1 f.*

A French translation of Hooker, W. J. 1852b.

1854a. A century of ferns; being figures with brief descriptions of 100 new or rare or imperfectly known species of ferns, from various parts of the world. A selection from the author's "Icones plantarum" i–vii, *pl. 1–100.*

Includes some Polynesian species.

1854b. Asplenium novae-caledoniae. Hook. Ic. **10**: *pl. 911.*

Native of New Caledonia.

1854c. Polypodium (Ctenopteris) pellucidum Kaulf. Hook. Ic. **10**: *pl. 944–945.*

Native of Hawaii.

1854d. Cystopteris Douglasii, Hook. Hook. Ic. **10**: *pl. 955.*

Native of Hawaii.

1854e. Nothochlaena distans, Br. Hook. Ic. **10**: *pl. 980.*

Native of New Caledonia.

1854f. Asplenium (Darea) obtusilobum, Hook. Hook. Ic. **10**: *pl. 1000.*

Native of the New Hebrides.

1854g. Pteris (Litobrachia) Endlicheriana, Ag. Hook. Ic. **10**: *pl. 973.*

Native of Norfolk Island.

1855a. Nicotiana fragrans. Bot. Mag. **81**: *pl. 4865.*

Native of New Caledonia.

1855b. Grevillea Gil[l]ivrayi, Hook. & Lomatia Milnei, Hook. Hook. Jour. Bot. Kew Gard. Miscel. **7**: *pl. 1–2.*

Plates only; for descriptions of these new species, native of New Caledonia, see Macgillivray, J., 1854.

1856. Melastoma denticulatum. Bot. Mag. **82**: *pl. 4957.*

Here described from New Caledonia.

1859. Filices exoticae, or coloured figures and descriptions of exotic ferns, chiefly of such as are cultivated in the Royal Gardens at Kew. *pl. 1–100;* plates accompanied by unpaged descriptive text.

Includes some Polynesian species.

1860a. Pteris quadriaurita. Bot. Mag. **86**: *pl. 5183.*

Here described from the Pacific islands.

1860b. Pteris cretica L. Bot. Mag. **86**: *pl. 5194.*

Recorded from Hawaii and Fiji.

1860–61. A second century of ferns; being figures with brief descriptions of 100 new, or rare, or imperfectly known species of ferns, from various parts of the world. i–xii. *pl. 1–100.*

Includes some Polynesian species.

1861. Dendrobium linguaeforme. Bot. Mag. **87**: *pl. 5249.*

Native of the Pacific islands.

1861–62. Garden ferns or coloured figures and descriptions with the needful analyses of the fruitification and venation of a selection of exotic ferns adapted for cultivation in the garden, hothouse, and conservatory. i–v. *pl. 1–64.*

Includes some Polynesian species. Plates 1–48 were issued in 1861; 49–64, in 1862, accompanied by descriptive text.

1862a. Grammitis (Selliguea) caudiformis. Bot. Mag. **88:** t. 5328.

Here recorded from Tahiti and Fiji.

1862b. Botrychium daucifolium. Bot. Mag. **88:** *pl. 5340.*

Recorded from the Society Islands.

1863. Eranthemum tuberculatum. Bot. Mag. **89:** *pl. 5405.*

Here described from the Loyalty Islands.

1864a. Solanum anthropophagorum. Bot. Mag. **90:** *pl. 5424.*

Native of Fiji.

1864b. Eranthemum Cooperi. Bot. Mag. **90:** *pl. 5467.*

Here described from New Caledonia.

See also **Greville, R. K.,** and **Hooker, W. J.**

Hooker, W. J., and **Baker, J. G.**

1865–74. Synopsis Filicum, or a synopsis of all known ferns including the Osmundaceae, Schizaeaceae, Marattiaceae, and Ophioglossaceae (chiefly derived from the Kew Herbarium). Accompanied by figures representing the essential characters of each genus. 1–482. *pl. 1–9.* 1865–68. Ed. 2, i–xiv, 1–559. *pl. 1–9.* 1874.

Includes the Polynesian species. Dates of publication of ed. 1 are given on p. 482 of ed. 1 and on p. 559 of ed. 2.

Horaninow, P.

1862. Prodromus Monographiae Scitaminearum, additis nonnullis de phytographia, de Monocotyleis et Orchideis. 1–45. *pl. 1–4.*

Includes a few Polynesian species.

Horikawa, Y.

1934–35. Symbolae florae Bryophytae Orientali-Asiae III. Bot. Mag. (Tokyo) **48:** 708–719. *f. 1–4.* 1934; (VII) **49:** 671–678. *f. 26–31.* 1935.

An enumeration with the descriptions of new species, including a few from Polynesia.

1936. Symbolae florae Bryophytae Orientali-Asiae et Micronesiae. IX. Bot Mag. (Tokyo) **50:** 380–385. *f. 33–35.*

Contains *Microlejeunea ponapensis* n. sp. from Micronesia and lists a very few previously described species. A continuation of the preceding entry under a new title. Other parts contain no Micronesian references.

1944. Notulae Hepaticologicae. Act. Phytotax. Geobot. **13:** 212–214.

Inclues some new combinations for Polynesian species.

Horne, J.

1881. A year in Fiji, or an inquiry into the botanical, agricultural, and economical resources of the colony. i–iv, 1–297. *map.*

List of plants under binomial names (pp. 270-286), many new binomials proposed, all *nomina nuda;* for reductions of some and original descriptions of others see **Baker, J. G.,** 1884a.

Hornell, J.

1946. How did the sweet potato reach Oceania? Jour. Linn. Soc. Bot. **53:** 41–62. *f. 1–2, 1 map.*

A critical consideration.

Hornemann, J. W.

1813–19 Hortus regius botanicus Hafniensis, in usum tyronum et botanophilorum. **1:** 1–436. 1813; **2:** i–xiv, 437–995. 1815; Supplement, 1–172. 1819.

Includes a few species from Polynesia.

Hosaka, E. Y.

1936. A troublesome introduced grass. Mid.-Pacif. Mag. **49:** 126. *illus.*

Chloris divaricata. Not seen.

1937a. Floristic and ecological studies in Kipapa Gulch, Oahu. Bishop Mus. Spec. Publ. **30:** 6–7.

A brief abstract; see next entry.

1937b. Ecological and floristic studies in Kipapa Gulch, Oahu. Occ. Pap. Bishop Mus. **13:** 175–232. *f. 1–18.*

Ecological, with a tabulated list of species; bibliography.

1937c. Phytogeography and ecology of Oahu. Bishop Mus. Spec. Publ. **30:** 7–8.

A brief abstract.

Hosaka, E. Y., and **Degener, O.**

1938. A new species of Phyllostegia and two new varieties of Cyanea of the Hawaiian Islands. Occ. Pap. Bishop Mus. **14:** 27–30. *f. 1–2.*

P. yamaguchii n. sp. from Oahu.

Hosaka, E. Y.

1939. Life-forms of the flowering plants of Kipapa Gulch, Oahu. Bishop Mus. Spec. Publ. **33:** 12–13.

A brief abstract.

Hosaka, E. Y., and **Ripperton, J. C.**

1939. Grasses of Hawaiian ranges. Bishop Mus. Spec. Publ. **33:** 22–23.

A brief abstract; see **Whitney, L. D., Hosaka, E. Y.,** and **Ripperton, J. C.,** 1939, for the entire work.

Hosaka, E. Y.

1940. A revision of the Hawaiian species of Myrsine (Suttonia, Rapanea), (Myrsinaceae). Occ. Pap. Bishop Mus. **16:** 25–76. *f. 1–21.*

A critical revision recognizing 21 species and 4 varieties. For brief abstract see Occ. Pap. Bishop Mus. **16:** 25-76. 1940.

1942. A new Hawaiian Panicum (Gramineae). Occ. Pap. Bishop Mus. **17:** 67–69. *f. 1.*

Panicum carteri n. sp.

Hosaka, E. Y., and **Ripperton, J. C.**

1944. Legumes of the Hawaiian ranges. Hawaii Agr. Exp. Sta. Bull. **93:** 1–80. *f. 1–48, 24 f.*

About 50 species illustrated and described; all introductions from various parts of the world.

Hosaka, E. Y. See also **Cuam, E. L.,** and **Hosaka, E. Y.; Degener, O.,** and **Hosaka, E. Y.; Fosberg, F. R.,** and **Hosaka, E. Y.; St. John, H.,** and **Hosaka, E. Y.; Ripperton, J. C.,** and **Hosaka, E. Y.;** and **Whitney, L. D.,** and **Hosaka, E. Y.,** 1936; and **Whitney, L. D., Hosaka, E. Y.,** and **Ripperton, J. C.,** 1939.

Hosmer, R. S.

1912. The choice of street trees for planting in Honolulu. Hawaiian Annual 1913 (39) : 75–81.

Notes on various trees and shrubs.

Hosokawa, T.

1934a. Conspectus of the genus Lepinia. Bot. Mag. (Tokyo) **48:** 528–530. *1 f.*

Three species recognized, including *L. ponapensis* n. sp. from Micronesia.

1934b. Preliminary account of the vegetation of the Marianne Islands group. Bull. Biogeogr. Soc. Japan **5:** 124–172. *pl. 10–14. f. 1–9.*

Japanese text, English summary; historical and phytogeographic, with a list of species.

1934c. Phytogeographical relationship between the Bonin and the Marianne Islands laying stress upon the distributions of the families, genera and special species of their vernacular [indigenous] plants. Jour. Soc. Trop. Agr. **6:** 201–209. *1 map,* 657–670.

Phytogeographic.

1934d. Balanophoraceae Micronesiae. Jour. Soc. Trop. Agr. **6:** 572. Reprinted in Contr. Herb. Taihoku Univ. **40:** 572.

Three species listed, including *Balanophora mariannae* n. sp.

1934e. [On Casuarina equisetifolia in the Marianne Islands.] Kudoa **2:** 107–113.

A general note; Japanese text and title.

1934–44. Materials of the botanical research towards the flora of Micronesia Trans. Nat. Hist. Soc. Formosa **24:** 197–205. *f. 1–4,* (II) 414–415. 1934; (III) **25:** 17–39. *f. 1,* (IV) 261–269, (V) 242–247, (VI) 261–269, (VII) 434–443. 1935; (VIII) **26:** 44–51. 1936; (IX) Jour. Soc. Trop. Agr. **7:** 305–325. 1935; (X) Trans. Nat. Hist. Soc. Formosa **26:** 67–79, (XI) 115–126, (XII) 227–235, (XIII) 244–248. 1936; (XIV) Jour. Jap. Bot. **13:** 191–203. *f. 1–9. text map,* (XV) 274–284. *f. 10–14,* (XVI) 603–617. *f. 15–21.* 1937; (XVII) Trans. Nat. Hist. Soc. Formosa **28:** 61–67, (XVIII) 145–157. 1938; (XIX) Jour. Jap. Bot. **16:** 535–545. 1940; (XX) Trans. Nat. Hist. Soc. Formosa **31:** 39–46, (XXI) 286–291. *f. A–B,* (XXII) 468–477. 1941; (XXIII) **32:** 5–20. *f. 1,* (XXIV) 101–105. *f. 1,* (XXV) 283–288. 1942; (XXVI) Act. Phytotax. Geobot. **13:** 163–171. *f. 1–4.* 1944.

Includes the descriptions of many new species, new names, adjustments of synonymy, and critical notes. Parts 17 and 18 reprinted, without change in pagination, in Contr. Herb. Taihoku Univ. Nos. 55 and 58.

1935a. On the generic distribution of Cyrtandra (Gesneriaceae), with the description of a new species from Botel Tobago. Trans. Nat. Hist. Soc. Formosa **25:** 410–413. *1 f.*

Generic distribution in Polynesia; Japanese text.

1935b. [Phytogeographical considerations on the Marianne Islands]. Nippon Gakujit. Kyokai Hokoku [Proc. Japan. Assoc. Adv. Sci.] **10:** 146–151.

A general discussion; Japanese text and title.

1935c. An enumeration of Gramineae hitherto known from Micronesia under the Japanese mandate. Jour. Soc. Trop. Agr. **7:** 305–325. Reprint Contr. Herb. Taihoku Univ. no. 42, same pagination.

An enumeration of the known species, including *Sporobolus farinosus* n. sp. The subtitle is "Materials of the Botanical Research towards the Flora of Micronesia IX," **Hosokawa, T.,** 1934-41, pt. IX.

1935d. [Materials for a flora of Ponape in the South Sea Islands.] Kudoa **3:** 162–166. *1 f.*

A short list with notes; Japanese title and text.

1935–36. Enumeratio Pteridophytae notae adhuc e Micronesia.

This is the subtitle to numbers VII-VIII and IX-XIII of **Hosokawa, T.,** 1934-41.

1937a. An enumeration of the plants collected from Ponape. Kudoa **5:** 41–55, (II) 79–96.

An enumeration of the author's own collections; English text.

1937b. [A preliminary account of the phytogeographical study on Truk, Caroline.] Bull. Biogeogr. Soc. Japan **7:** 171–255. *f. 1–51.*

Includes a systematic enumeration of the plants collected including *Smilax trukensis* n. sp., *Pandanus fatyanion,* and *Fagraea sair pogas* n. var. (*F. trukensis* Kaneh.). Reviewed in Japanese in Bot. Mag. (Tokyo) **51:** 945. 1937.

1943a. Studies in the life-forms of vascular epiphytes and the epiphyte flora of Ponape, Micronesia. (I) Trans. Nat. Hist. Soc. Formosa **33:** 35–55. *f. 1–18;* (II) 71–89. *f. 19–30. table 1–2;* (III) 113–141. *pl. 5–9. f. 31–33. table 3–8.*

Part III includes a list of 80 epiphytes in Ponape and a brief summary in Japanese.

1943b. [A general consideration of the vegetation of the Asiatic tropics]. i–xi, 1–264. index 1–34. *4 pl. f. 1–69. 1 map.*

A general treatise, including Micronesia and Polynesia: Japanese text.

Houard, C.

1916–25. Les collections cécidologiques du Laboratoire d'Entomologie du Muséum d'Histoire Naturelle de Paris: Galles de Nouvelle-Calédonie (Premier Mémoire). Marcellia **14:** 143–182. *f. 1–142.* 1916; (Deuxième Mémoire) **16:** 3–66. *f. 143–377.* 1917; (Troisième Mémoire) **21:** 59–93. *f. 1–63.* 1925.

Appertains to cecidology.

1921. Cécides de la Nouvelle-Calédonie: in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1:** 248–255. *2 f.*

Descriptions of galls affecting various species.

1922–23. Les Zoocécidies des plantes d'Afrique, d'Asie, et d'Oceanie **1:** 1–496. *illus.* 1922; **2:** 497–1056. *illus.* 1923.

Discusses plant galls of the regions indicated.

Houllet, R.

1865. Fremya aurantiaca. Rev. Hort. **1865:** 310–311. *1 pl.*

Native of New Caledonia.

Houlston, J., and Moore, T.

1851. The genera and species of cultivated ferns. Gard. Mag. Bot. **3:** 17–22. *1 pl. f. 1–8,* 57–63. *1 pl. f. 9–14,* 90–95. *1 pl. f. 14b–22,* 129–135. *1 pl. f. 23–31,* 161–166. *1 pl. f. 32–35,* 195–199. *1 pl. f. 36–41,* 226–231. *1 pl. f. 42–47,* 257–265. *1 pl. f. 48–52,* 289–294. *1 pl. f. 53–59,* 314–332. *2 pl. f. 60–81.*

Includes some Polynesian species.

House, H. D.

1904. The nomenclature of Calonyction bona-nox. Bull. Torr. Bot. Club **31:** 589–592.

Concerns the nomenclature of two species that extend to Polynesia.

1907. Note upon a Guam species of Ipomoea. Torreya **7:** 37–38.

I. gracilis.

Houtte, L. van

1867. Oplismenus imbecillis fol. var. Fl. Serr. Jard. Eur. **17:** *pl. 1715.*

Native of New Caledonia.

1873a. Croton (Codiaeum) variegatum lacteum. Fl. Serr. Jard. Eur. **19:** 7–8. *1 f.*

A garden variety of this native of the South Sea Islands.

1873b. Croton (Codiaeum) variegatum Johannis. Fl. Serr. Jard. Eur. **19:** 12. *1 f.*

Native of the South Sea Islands.

1873c. Veitchia (Kentia) canterburyana. Fl. Serr. Jard. Eur. **19:** 17. *1 f.*

A brief note with an illustration of this native of Lord Howe Island.

1875. Artocarpus Cannonii, Hort. Bull. Fl. Serr. Jard. Eur. **21:** 131. *pl. 2231–32.*

Native of Polynesia.

Howard, R. A.

1940–43. Studies of the Icacinaceae, I. Preliminary taxonomic notes. Jour. Arnold Arb. **21:** 461–489. *pl. 1–4.* 1940; (V.) A revision of the genus Citronella D. Don. Contr. Gray Herb. **142:** 60–89. *pl. 4–6.* 1943; (VII.) A revision of the genus *Medusanthera* Seemann. Lloydia **6:** 133–143. *pl. 1.* 1943.

Includes critical and new species from Polynesia, the Caroline Islands, Fiji, and New Caledonia.

Howe, M. A.

1907. Phycological studies III. Further notes on Halimeda and Avrainvillea. Bull. Torr. Bot. Club **34:** 491–516. *pl. 25–30.*

Includes *H. discoidea* from Hawaii.

1912. The building of "coral" reefs. Science II. **35:** 837–842.

Concerns in part the Ellice and Fiji Islands, and the role of the coralline algae in reef building.

1932. Marine algae from the islands of Panay and Negros (Philippines) and Niuafoou (between Samoa and Fiji). Jour. Washington Acad. Sci. **22:** 167–170. *1 f.*

Lists 12 species from Niuafoou.

1934. Hawaiian algae collected by Paul C. [=S.] Galtsoff. Jour. Washington Acad. Sci. **24:** 32–42. *f. 1–5.*

A list with descriptions of new species.

Howe, S. E.

1943. L'élément humain dans les dénominations en géographie et en botanique. Boissiera **7:** 133–154. *2 f.*

Includes a few data on Polynesian exploration.

Howes, F. N. See **Tattersfield, F., Martin, J. P.,** and **Howes, F. N.**

Hubbard, C. E.

1936. Thaumastochloa rariflora (F. M. Bailey) C. E. Hubbard. Thaumastochloa Brassii C. E. Hubbard. Hook. Ic. **34:** *pl. 3313, 3314.* 1–6.

A new genus, segregated from *Ophiuros* (usually spelled *Ophiurus*), including *T. cochinchinensis* (Lour.) Hubb. (*O. monostachyus* Presl), which extends to the Marianas and Caroline Islands.

1938. Sorghum leiocladum (Hack.) C. E. Hubbard. Hook. Ic. **34:** *pl. 3364.* 1–6.

Certain species of *Sorghum* considered that extend to Polynesia.

See also **Gardner, C. A.,** and **Hubbard, C. E.;** and **Summerhayes, V. S.,** and **Hubbard, C. E.**

Hubert, P.

1912. Fruits des pays chauds. Étude générale des fruits. i–x, 1–728. *f. 1–227.*

Contains many references to and descriptions of cultivated plants of Polynesia.

Hue, A. M.

1890–92. Lichenes exoticos a professore W. Nylander descriptos vel recognitos. Nouv. Arch. Mus. Nat. Paris III **2:** 209–322. 1890; **3:** 33–192. 1891; **4:** 103–210. 1892. Reprint 1–378. 1892.

Includes some Polynesian species.

1898–1901. Lichenes extra-europaei e pluribus collectoribus ad Museum Parisiense missi et ab A. M. Hue elaborati. Nouv. Arch. Mus. Nat. Hist. Paris III. 10: 213–280. 1898; IV. 1: 27–220. *pl. 1–6.* 1899; 2: 49–122. *pl. 1–6.* 1900; 3: 21–126. *pl. 1–6.* 1901.

Includes some Polynesian species.

1899. D^r^ Joannis Müller (Müller Argoviensis) lichenologische Beiträge in Flora annis 1874–1891 editi. Index alphabeticus. Bull. Herb. Boiss. 7: App. 3: 1–52.

A list of 1,669 names; an index to the species in **Mueller, J.,** 1874–91.

1906–12. Lichenes morphologice et anatomice disposuit. Nouv. Arch. Mus. Hist. Nat. Paris IV. 8: 237–272. *f. 1–16.* 1906; 10: 169–224. *f. 17–30.* 1908; V. 1: 111–166. *f. 31–38.* 1909; 2: 1–120. *f. 39–51.* 1910; 3: 133–198. *f. 52–59.* 1911; 4: 1–52. *f. 60–64.* 1912.

Includes some Polynesian species.

1924. Monographia Crocyniarum. Bull. Soc. Bot. France 71: 311–402.

Includes descriptions of four species from New Caledonia.

Hustedt, F.

1942. Süsswasser-Diatomeen des indomalayischen Archipels und der Hawaii-Inseln. Internat. Rev. Hydrobiol. Hydrogr. 42: 1–252. *f. 1–443.*

The collections are mostly planktonic; many new forms are described; not seen.

Hutchinson, J.

1917. Crusoe's Island: Juan Fernandez. Gard. Chron. III. 61: 199–200. *f. 72–74,* 209–211. *f. 76–78,* 220–221, 230–231. *f. 88,* 240–241. *f. 91–92.*

Includes data on the vegetation.

1921. The family Winteraceae. Kew Bull. 1921: 185–191. *2 f.*

Includes the New Caledonian genera.

1942. Macrozanonia Cogn. and Alsomitra Roem. Ann. Bot. II. 6: 95–102.

Credits *Neoalsomitra integrifoliola* (*Alsomitra integrifoliola*) to Fiji, formerly Formosa-Philippines.

Hyde, C. M.

1885. Helps to the study of Hawaiian botany. Hawaiian Annual (1886) 12: 39–42.

Lists various publications and also some plants under their Latin names.

I

Imai, S., and **Aizawa, T.**

1942. [A cultivated fungus in the tropics, Volvaria Bresadolae Trott.]. Kagaku Nanyō 5: 55–61. *f. 1–2.*

In Japanese. A critical note on the fungus which occurs in Micronesia.

Imazeki, R.

1941. Materials of the Micronesian higher fungi. Jour. Jap. Bot. 17: 175–184. *f. 1–7.*

An enumeration of 35 species in various genera, with descriptions of *Fomes mangrovicus* and *Lentinus palauensis* n. spp.

Im Thurn, E.

1912. Plant life in a tropical island. Jour. Roy. Hort. Soc. 38: 1–9.

General notes on the flora of Fiji.

Indô, K.

1941. [On some aquatic fungi from the South Sea.] Hakubut. Zassi 38: 86–91.

Japanese text.

Inn, H.

1944. Tropical blooms. A portfolio of 40 flowerprints from photographs by Henry Inn . . . with a presentation by Mary Dillingham Frear. 1–8. *pl. 1–40.*

Based on Hawaiian material; not seen.

Inumaru, S.

1939. Lichen novus Hawaiensis Faurieanus. Act. Phytotax. Geobot. **8:** 227–228. *f. 1–7.*

Nephroma tomentellum n. sp. from Hawaii.

Ito, H.

1938. Nuntia de filicibus Japonensibus X. Jour. Jap. Bot. **14:** 731–733. *f. 1.*

Lists 14 pteridophytes from the Caroline Islands; the previous parts contain no Micronesian references.

1941. Humata trukensis H. Ito. Nakai. Icon. Pl. As. Orient. **4:** 373–377. *pl. 121.*

Native of Truk, Caroline Islands. Includes the enumeration of Micronesian species of *Humata* both in Latin and in Japanese.

J

Jablonszky, E.

1915. Euphorbiaceae-Phyllanthoideae-Bridelieae. Pflanzenr. **65** (IV. 147[8]): 1–98. *f. 1–15.*

Monographic.

Jack, H. W.

1935. The mahogany tree. Agr. Jour. [Fiji] **8**(1): 23–25.

Concerns its introduction and potentialities in Fiji (*Swietenia*).

1936. Areca nuts. Agr. Jour. [Fiji] **8**(2): 31–35.

Areca catechu.

Jack, J. B.

1886. Monographie der Lebermoosgattung Physiotium. Hedwigia **25:** 49–87. *pl. 1–10.*

Includes some Polynesian species.

Jack, J. B., and **Stephani, F.**

1894. Hepaticae in insulis Vitiensibus et Samoanis a D[re] Ed. Graeffe anno 1864 lectae. Bot. Centralb. **60:** 97–109. *pl. 1–2.*

An enumeration with 15 species described as new.

Jackson, B. D.

1881. Guide to the literature of botany; being a classified selection of botanical works including nearly 6000 titles not given in Pritzel's "Thesaurus". i–xl, 1–626.

Bibliographic; chiefly supplementary to Pritzel's Thesaurus.

1882. Vegetable technology: A contribution towards a bibliography of economic botany, with a comprehensive subject-index. i–xii, 1–355.

An extensive bibliography of economic botany, with some references to Polynesian papers.

1893–1938. Index Kewensis. Plantarum Phanerogamarum nomina et synonyma omnium generum et specierum a Linnaeo usque ad annum MDCCCL-XXXV complectens nomine recepto auctore patria unicuique plantae subjectis. Sumptibus beati Caroli Roberti Darwin ductu et consilio Joseph D. Hooker confecit B. Daydon Jackson. **1:** i–xiv, 1–1268. 1893; **2:** 1–1299. 1895; Suppl. **1**(1886–95): 1–519. 1901–06; **2**(1896–1900): 1–204. 1904.

3(1901–05): 1–193. 1908; **4**(1906–10): 1–251. 1913; **5**(1911–13): 1–277. 1921; **6**(1916–20): 1–222. 1926; **7**(1921–25): 1–260. 1929; **8**(1926–30): 1–256. 1933; **9**(1931–35): [1]–305. 1938.

Contains citations to the original descriptions of all species of phanerogams. Commenced under the editorship of B. D. Jackson, supplements by B. D. Jackson and T. Durand, W. T. Thiselton-Dyer, D. Prain, and A. W. Hill.

J[ackson], J. R.

1882. The tonga plant (Epipremnum mirabile). Garden **21**: 316. *1 f.*

Native of Fiji; a general note.

Jacques, C.

1939. Les Paspalum de la Nouvelle-Calédonie. Rev. Agr. Nouv.-Caléd. **1939**: 3641–3653. *illus.*

Not seen.

1940a. Le problème fourrager en Nouvelle-Calédonie. Rev. Agr. Nouv.-Caléd. **1940**: 3929–3936.

Not seen.

1940b. Le Tournefortia argentea. L'arbre qui guérit l'urticaire du poisson. Rev. Agr. Nouv.-Caléd. **1940**: 3969–3970.

Not seen.

Jacquinot, C. H. See **Hombron, J. B.**, and **Jacquinot, C. H.**

Jaeger, A.

1869. Enumeratio generum et specierum Fissidentacearum adjectis nonnullis adnotionibus de earum litteratura et distributione geographica. 1–36.

Includes a few Polynesian species.

Jaeger, A., and **Sauerbeck, F.**

1870–80. Genera et species muscorum systematice disposita seu Adumbratio florae muscorum totius orbis terrarum. Ber. St. Gall. Naturw. Ges. 245–299. 1870; 357–451. 1872; 309–490. 1873; 61–236. 1874; 53–278. 1875; 85–188. 1876; 201–371. 1877; 211–454. 1878; 257–514. 1879; 213–252. 1880. Reprint **1**: i-xl, 1–740. 1870–75; **2**: i-iv, 1–778. 1876–80.

The authorship of vol. 2 is attributed to A. Jaeger and F. Sauerbeck. Includes the then-known Polynesian mosses.

See also **Auld, W.**, and **Jaeger, A.**

Jan, S. R.

1937. Cultivation of betel leaf in Fiji. Agr. Jour. [Fiji] **8**(4): 49. *Piper betle* and *Areca catechu.*

1938. Turmeric (Curcuma longa L.). Jour. Agr. [Fiji] **9**(4): 28–29.

A short note.

Jardin, É.

1857. Essai sur l'histoire naturelle de l'archipel de Mendana ou des Marquises. 2e partie. Botanique. Mém. Soc. Nat. Cherbourg **5**: 289–331. 1857.

Includes an enumeration of species with extensive notes on a selected list.

1858. Essai d'une flore de l'archipel des Marquises. [1–2], 1–43. 1858.

A reprint of the preceding paper with two introductory pages.

1860. Supplement au Zephyritis Taitensis de M. Guillemin. Mém. Soc. Sci. Nat. Cherbourg **7**: 239–244.

Additional records of Tahitian plants; see **Guillemin, J. B. A.,** 1836-37.

1862. Essai sur l'histoire naturelle de l'archipel des Marquises, comprenant la géologie et la minéralogie, la botanique, et la zoologie. [1–2], 1–100. *map.*

Reprinted from Mém. Soc. Nat. Cherbourg **5.** Pp. 17–59 consist of a republication of **Jardin, E.,** 1857, 1858.

1875. Énumération de nouvelles plantes phanérogames et cryptogames découvertes dans l'ancien et le nouveau continent et recueillies par Édélestan Jardin. Bull. Soc. Linn. Normandie II. **9**: 247–339. Reprint 1–95.

Lists various species from Polynesia.

Jarry-Desloges, R.

1940. Oxera pulchella. Rev. Hort. **112**: 116–117. *f. 68.*

Native of New Caledonia.

Jatta, A.

1903–05. Licheni esotici dell' Erbario Levier raccolti nell' Asia Meridionale e nell' Oceania. Malpighia **17**: 3–15. 1903; **19**: 163–186. 1905.

An enumeration, including some species from Rarotonga, Ponape, and Samoa.

Jeanneney, A.

1894. La Nouvelle-Calédonie agricole. Nature minéralogique et géologique du sol. Reseignements pratiques pour les émigrants. i-vii, 1–344.

Pp. 53-131 concern the general characters of the flora.

Jeanpert, E.

1911. Fougères recueillies en Nouvelle-Calédonie par M. et Mme. Le Rat et aux Nouvelles-Hébrides par Mme. Le Rat. Bull. Mus. Hist. Nat. [Paris] **17**: 571–580.

A list with localities, including a few new names.

1912. Fougères de Nouvelle-Calédonie, récoltées par M. Cribs. Bull. Mus. Hist. Nat. [Paris] **18**: 102–107.

A list with localities.

Jedwabnick, E.

1924. Eragrostidis specierum imprimis ad herb. Berol., Hamburg., Monac, Regimont. digestarum conspectus. Bot. Arch. Mez **5**: 177–216.

An enumeration of 256 species, some described as new, a few from Polynesia.

Jennings, W. C. See **Lee, H. A.,** and **Jennings, W. C.**

Johnston, I. M.

1923. Diagnoses and notes relating to the Spermatophytes, chiefly of North America. Contr. Gray Herb. **68**: 80–104.

Considers that *Euphorbia deppeana,* currently credited to California, is probably Hawaiian.

1935. Studies in the Boraginaceae, XI. Jour. Arnold Arb. **16**: 145–205.

Includes *Messerschmidia argentea* from Polynesia.

1937. Studies in the Boraginaceae, XII. Jour. Arnold Arb. **18**: 1–25.

The second part of this paper, "Novelties and Critical Notes," includes *Heliotropium anomalum* var. *mediale* n. var. from Christmas and Fanning Islands.

Johow, F. R. A.

1893a. Los helechos de Juan Fernández. Anal. Univ. Chile **82**: 741–757. 977–1004. *1 pl.* Reprint 1–46. *1 pl.* 1893.

A list of 45 species, with extensive notes. Reviewed in Bot. Jahresber. **21**: 284. 1896.

1893b. Las plantas de cultivo en Juan Fernández. Anal. Univ. Chile **84**: 939–970.

A general discussion.

1896. Estudios sobre la flora de las islas de Juan Fernández. i-xi, 1–289. *pl. 1–18.* 8 f. 3 maps.

A systematic discussion of all then-known species, with a sketch of the botanical history, a consideration of the phytogeography, and a comprehensive bibliography.

Jones, W. W., and others

1941. Papaya production in the Hawaiian Islands. Hawaii Agr. Exp. Sta. Bull. **87:** 1–64. *f. 1–24.*

Includes "Botany of the Papaya" by **W. B. Storey** and articles on cultivation, diseases, and uses of papaya by various authors.

Jonker, F. P.

1938. A monograph of the Burmanniaceae. Med. Bot. Mus. Rijksuniv. Utrecht **51:** [1–3]. 1–279. *f. 1–20.*

Monographic; includes two species from the Palau Islands, one new.

Joret, H.

1888. Les Musacées ornamentales et économiques. Rev. Hort. **60:** 68–71. *f. 15.*

Includes a few species from New Caledonia.

Jouan, H.

1865. Recherches sur l'origine et la provenance de certains végétaux phanérogames observés dans les îles du Grand-Océan. Mém. Soc. Sci. Nat. Cherbourg **11:** 81–178. Reprint 1–98.

Deals largely with plants of economic importance and their origin as far as concerns Polynesia.

1873. Notes sur l'archipel Hawaiien (Îles Sandwich). Mém. Soc. Sci. Nat. Cherbourg **17:** 5–104.

Pages 49-73 concern plant life with notes on important species.

1874. Notes sur quelques animaux et quelques végétaux rencontrées dans les mers australes et dans les iles du Grand-Océan, considérés au point de vue de leur classification et de leurs rapports avec l'industrie. Mém. Soc. Sci. Nat. Cherbourg **18:** 129–264.

Pages 248-264 deal with the vegetable products of Polynesia.

1875. Les plantes alimentaires de l'Océanie. Mém. Soc. Sci. Nat. Cherbourg **19:** 33–83.

General notes on important species.

1876. Les plantes industrielles de l'Océanie. Mém. Soc. Sci. Nat. Cherbourg **20:** 145–240.

Extensive notes on Polynesian economic plants.

1882. Quelques mots sur le peuplement végétal des îles de l'Océanie. Bull. Soc. Linn. Normandie III. **6:** 175–198. Reprint 1–26. 1883.

Observations on the places of origin of selected species.

1884. A propos du peuplement de la Polynésie. Mém. Soc. Sci. Nat. Cherbourg **24:** 117–192.

Includes some data on plants.

1896. A propos de la flore de la Polynésie française de M. E. Drake del Castillo. Bull. Soc. Linn. Normandie IV. **10:** 61–68.

Observations on Drake's work.

Judd, A. F.

1933. Trees and plants: in **E. S. C. Handy,** and others, Ancient Hawaiian Civilization. 273–281.

Includes tabulated data on various species, with botanical and native names, and notes on uses.

Judd, C. S.

1916. The first algaroba and royal palms in Hawaii. Hawaiian For. Agr. **13:** 330–335. *2 f.*

Historical data on the introduction of these two species.

1918. The Hawaiian sumach. Hawaiian For. Agr. **15:** 441–442.
Rhus semialata var. *sandwicensis.*

1919a. The kukui or candlenut tree. Hawaiian For. Agr. **16:** 222–223. *1 pl.*
Aleurites moluccana.

1919b. Forestry in Hawaii. Hawaiian For. Agr. **16:** 271–297.
Considers the native forest types.

1920a. The koa tree. Hawaiian For. Agr. **17:** 30–53. *3 pl.*
Acacia koa.

1920b. The wiliwili tree. Hawaiian For. Agr. **17:** 95–97. *2 pl.*
Erythrina monosperma.

1921a. The alahee tree. Hawaiian For. Agr. **18:** 133–137. *3 pl.*
Plectronia odorata = *Canthium odoratum.*

1921b. Kilauea National Park trees. Hawaiian For. Agr. **18:** 255–260. *4 pl.*
A list with binomial and local names.

1923. Twenty familiar trees of Honolulu. Hawaiian For. Agr. **20:** 50–52.
A list with notes; largely exotic species.

1927a. The natural resources of the Hawaiian forest regions and their conservation. Hawaiian For. Agr. **24:** 40–47. *2 f.*
Miscellaneous notes. Abstract in Bishop Mus. Spec. Publ. **12:** 9. 1927.

1927b. Factors deleterious to the Hawaiian forest. Hawaiian For. Agr. **24:** 47–53. *2 f.*; abstract in Bishop Mus. Spec. Publ. **12:** 11–12.
A general discussion.

1929a. Map of Oahu cover classification. Hawaiian For. Agr. **26:** 19.
A map only.

1929b. The forests of the Hawaiian Islands. Mid.-Pacif. Mag. **38:** 333–336. *3 f.*
A general note.

1931a. Botanical bonanzas. Bishop Mus. Spec. Publ. **19:** 17.
A brief abstract of the next entry.

1931b. Botanical bonanzas. Hawaiian Annual (1932) **58:** 61–69.
Notes on the endemic flora, and the survival or rarity of various species.

1932a. The parasitic habit of the Sandalwood tree. Bishop Mus. Spec. Publ. **20:** 5–6.
A short note.

1932b. Botanical discoveries. Hawaiian For. Agr. **29:** 15–16.
Concerns the discovery of localities in Oahu for *Neowawraea phyllanthoides* and *Cassia gaudichaudii.*

1936. Seed dispersal in Hawaii. Mid.-Pacif. Mag. **49:** 111–118.
Not seen.

1937. Staghorn fern invasion. Bishop Mus. Spec. Publ. **31:** 8–9.
A brief abstract, *Gleichenia linearis.*

1941. Forest resources of the Territory of Hawaii, U. S. A. Proc. Sixth Pacific Sci. Congr. **4:** 797–800.
A general summary.

See also **Law, J. S.,** and **Judd, C. S.**

Jumelle, H.

1897. L'Erouma de Nouvelle Calédonie et son produit résineux. Ann. Inst. Colon. Marseille. **4:** 239–247. *f. 1.*
Includes botanical notes on *Macaranga vedeliana* Müll.-Arg. (*Acalypha vedeliana* Baillon), native of New Caledonia.

1898. Les plantes à caoutchouc et à gutta dans les colonies françaises. Ann. Inst. Colon. Marseille. **5:** 1–182. *f. 1–15.*

Includes description of *Ficus prolixa,* native of New Caledonia and Tahiti.

1901. Les cultures coloniales, plantes industrielles & médicinales, i–vii, 1–357. *f. 1–101.*

Includes a few references to and descriptions of cultivated plants of Polynesia.

1910. Les plantes à tubercules alimentaires des climats tempérés & des pays chauds. i-xiii, 1–372. *f. 1–35.*

Includes notes on *Tacca pinnatifida, Dioscorea alata,* and some other species from Polynesia.

Junell, S.

1934. Zur Gynäceummorphologie und Systematik der Verbenaceen und Labiaten nebst Bemerkungen über ihre Samenentwicklung. Symb. Bot. Upsal. **4:** 1–219. *pl. 1–8. f. 1–257.*

Largely morphological; includes some Polynesian species.

Jussieu, A. de

1824. De Euphorbiacearum generibus, medicisque earumdem viribus tentamen. 1–118. *pl. 1–18.*

Includes some Polynesian species.

Jussieu, A. L. de

1804. Mémoire sur le Grewia, genre de plants de la famille des Tiliacées. Ann. Mus. Hist. Nat. [Paris] **4:** 82–93. *pl. 47–51.*

Includes *G. malococca* from Tongatabu.

1830. Mémoire sur la famille des Méliacées. Mém. Mus. Hist. Nat. [Paris] **19:** 153–304. *pl. 12–23.*

Includes a few Polynesian species.

1833. Rapport sur la partie botanique du voyage de M. Gay au Chili, fait à l'Académie des Sciences de l'Institut, le 1er juillet 1883. Arch. Bot. Guillemin **2:** 176–177.

Includes data on the flora of Juan Fernández.

K

Kaaiakamanu, D. M., and **Akina, J. K.**

1922. Hawaiian herbs of medicinal value, found among the mountains and elsewhere in the Hawaiian islands, and known to the Hawaiians to possess curative and palliative properties most effective in removing physical ailments. 1–74.

Translated from the Hawaiian by A. Akina. Published by the Hawaiian Territorial Board of Health. Plant classification by H. F. Bergman. Not seen.

Kajewski, S. F.

1930. A plant collector's notes on the New Hebrides and Santa Cruz Islands. Jour. Arnold Arb. **11:** 172–180.

A narrative with observations on the vegetation.

Kanda, C.

1942. [Marine algae from the Gerhergail Channel.] Kagaku Nanyô **5:** 144–150. *f. 1–4.*

General notes in Japanese on algae from Koror, Palau Islands, Carolines.

1944. Ecological studies on marine algae from Kororu and adjacent islands in the South Sea Islands. Palao Trop. Biol. Stat. Studies **2:** 733–800. *f. 1–29. 1 map.*

Includes a list of species and tabulated data. This island is in the Palau group. Carolines.

Kanehira, R.

1915. [Forests in the Micronesian Islands occupied by Japan]. Formosan Agr. Rev. **9:** 713–717.

Japanese text; not seen.

1916. [Three new species collected in the "southern islands".] Trans. Nat. Hist. Soc. Formosa **6:** [43].

Includes short notes on *Elaeocarpus kanehirae* and *Eugenia ponapensis* from Ponape and *Psychotria kanehirae* from Palau.

1931a. An enumeration of woody plants collected in Micronesia, Japanese Mandate (in 1929 and 1930). Bot. Mag. (Tokyo) **45:** 271–296. *1 map,* 327–352. Reprint, with index, 1–59. 1931.

Includes the descriptions of many new species.

1931b. On the ligneous flora of Micronesia, Japanese mandate. Jour. Japan Forest. Soc. **13:** 755–787.

Japanese text; not seen.

1932. The forest trees of Micronesia, Japanese mandate. Trop. Woods **29:** 1–6.

Ecological notes and lists of species occurring on the principal islands.

1932–38. New or noteworthy trees from Micronesia. (1) Bot. Mag. (Tokyo) **46:** 447–457, (II) 485–495, (III) 669–674. 1932; (IV) **47:** 669–680. 1933; (V) **48:** 116–130. *f. 1–8,* (VI) 400–405. *f. 1–2,* (VII) 730–736. *f. 1–5,* (VIII) 919–927. *f. 6–11.* 1934; (IX) **49:** 60–68. *f. 1–7,* (X) 103–114. *f. 8–16,* (XI) 185–195. *f. 17–24,* (XII) 271–279. *f. 25–28.* 1935; (XIII) 352–358. *f. 29–31,* (XIV) 425–431. *f. 32–36,* (XV) 525–532. *f. 37–42.* 1935. Reprinted with the original paginations of the several parts, also repaged, and with an index. [1], 1–148, [1–3]. 1935; (XIV) **50:** 520—525. *f. 43–50,* (XVII) 541-549. *f. 51–57,* (XVIII) 599–607. *f. 53–60.* 1936; (XIX) **51:** 906–913. *f. 61–68.* 1937; (XX) **52:** 235–241. *f. 69–72.* 1938.

Includes the descriptions of numerous new species in various plant families from all parts of Micronesia. No. V on Pandanaceae is by Martelli. For continuation see **Kanehira, R.,** and **Hatusima, S.,** 1939-40.

1933. Flora Micronesica. 1–3, 1–8, 1–468, 1–37. *pl. 1–21. f. 1–211.*

Japanese text. Includes a general sketch of the flora of Micronesia, a detailed consideration of 347 species of woody plants, and a list of the species of ferns and flowering plants known from Micronesia. Published by the South Sea Bureau, Japanese Mandate.

1934. [A botanical excursion to the northern Marianas Islands]. Dubutu Syokubutu [Bot. & Zool.]. **2:** 913–922. *f. 1–11.*

A narrative with notes on various species; Japanese text and title.

1935a. Plantae novae Micronesicae. Trans. Nat. Hist. Soc. Formosa **25:** 1–10. *pl. 1–3.*

Descriptions of 19 species, mostly from the Palau Islands.

1935b. Plants of the Southern Sea Islands. Nat. Sci. & Mus. **6**(5): 15–16. *1 f.*

Japanese text with a list of Latin and Japanese names.

1935c. An enumeration of Micronesian plants. Jour. Dept. Agr. Kyushu Univ. **4:** 237–464. *pl. 2.*

An enumeration of all known species of pteridophytes and spermatophytes from Micronesia.

1935d. On the flora of Micronesia. Bull. Biogeogr. Soc. Japan **5:** 233–262. *pl. 16–20. f. 1–2.*

Japanese text, English summary. Phytogeographic.

1935e. On the distribution of Pandanus and the geographic relationships of the Micronesian species. Bull. Biogeogr. Soc. Japan **6:** 11–18. *pl. 3–7.*

General considerations, largely phytogeographic.

1936a. On the Micronesian Pandanus I. Jour. Jap. Bot. **12:** 495–501. *f. 1–5,* (II) 545–554. *f. 6–21.*

Japanese text; includes portraits of O. Beccari and U. Martelli. The Micronesian species are listed.

1936b. Palmae Micronesicae I. Jour. Jap. Bot. **12:** 634–640. *f. 1–3,* (II) 729–734, *f. 4–6.*

Japanese text, 12 species listed, five described and illustrated, including *Pinanga micronesica* n. sp.

1936c. [On the flora of Rota Island]. Dubutu Syokubutu [Bot. & Zool.] **4:** 63–70. *f. 1–12.*

General notes; Japanese text.

1936–38. Icones Pandanorum Micronesicorum. I. Jour. Jap. Bot. **12:** 783–792. *f. 1–6.* 1936; (II) **13:** 322–331. *f. 7–14.* 1937; (III) **14:** 170–177. *f. 1–9.* 1938.

Japanese and English text, Latin diagnoses.

1938a. On the genus Sonneratia in Japan. Jour. Jap. Bot. **14:** 421–424. *f. 1–3.*

Sonneratia alba from Ponape, Truk, and the Riukiu Islands.

1938b. On the Micronesian species of Cycas. Jour. Jap. Bot. **14:** 579–588. *f. 1–7.*

Japanese text with English summary, two species considered.

Kanehira, R., and **Hatusima, S.**

1939–40. New or noteworthy trees from Micronesia XXI. Bot. Mag. (Tokyo) **53:** 151–157. *f. 73–77,* (XXII) 189–193. *f. 78–79,* (XXIII) **54:** 433–437. *f. 80–84.* 1940.

A continuation of **Kanehira, R.,** 1932-38.

Kanehira, R.

1940. On "Ais," Parinarium glaberrimum Hassk. Jour. Jap. Bot. **16:** 471–475. *f. 1–4.*

Parinarium hahlii Warb., type from Ponape, is reduced to *P. glaberrimum* Hassk. *Fig. 4* represents *P. palauense;* Japanese text.

1941. On the phytogeography of Micronesia. Proc. Sixth Pacific Sci. Congr. **4:** 595–611.

A general discussion.

Kariyone, T.

1927. The mangroves of the South-Sea Islands. Jour. Jap. Bot. **4:** (116)–(120). *2 f.*

Concerns *Rhizophora, Sonneratia,* etc.; Japanese text.

Kaulfuss, G. F.

1824. Enumeratio Filicum, quas in itinere circa terram legit clar. Adalbertus de Chamisso adjectis in omnia harum plantarum genera permultasque species non satis cognitas vel novas animadversionibus. i-vi, 1–300. *pl. 1–2.*

Includes many Polynesian species.

Kawagoe, S.

1919. [Observations on the flora of the South Sea Islands I]. Bull. Kagoshima Col. Agr. For. **3**: 117–190.

A systematic annotated list of the author's collections, Japanese text.

Kayser, P. A.

1934. Das Pandanus auf Naauru. Anthropos **29**: 775–791. *f. 1–7.*

Appertains largely to uses of the plant.

Keck, D. D.

1936a. The Hawaiian silverswords. Systematics, affinities, and phytogeographic problems of the genus Argyroxiphium. Bishop. Mus. Occ. Pap. **11**(9): 1–38. *pl. 1–9.*

Five species of *Argyroxiphium* recognized and numerous species and varieties of *Railliardia* transferred to *Dubautia.*

1936b. The silverswords of Hawaii. Carnegie Inst. Washington News Serv. Bull. **4**: 75–78. *5 f.*

A popular account of *Argyroxiphium,* including phytogeographic data.

Keissler, K. von

1909. Neue Pilze von den Samoa und Salomonsinseln. Ann. Myc. **7**: 290–293.

Six new species described.

1910. Micromycetes von den Salomonsinseln samt Nachträgen von den Samoainseln, Neuguinea, Ceylon und den Sandwichinseln: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **85**: 182–192. f. 1–2. Reprint **3**: 8–18. f. 1, 2.

Includes some Samoan and Hawaiian species.

1920–27. Systematische Untersuchungen über Flechtenparasiten und lichenoide Pilze (I). Beih. Bot. Centralbl. **37**(2): 263–278. *pl. 12.* 1920; (V). Ann. Naturhist. Hofmus. Wien **41**: 157–169. *f. 1–2.* 1927.

Includes a few new species and varieties from Hawaii and the Marianas Islands.

1922. Mycologische Mitteilungen I. Ann. Naturhist. Hofmus. Wien **35**: 1–35.

Includes *Thyrsidium botryosporum* f. *verrucosa* from Hawaii.

1923. Schedae ad Kryptogamas exsiccatae editae a Museo historiae naturalis Vindobonensi (olim Museum Palatinum). Centuria XXVII. Ann. Naturhist. Hofmus. Wien **36**: 74–89.

Includes *Madotheca rockii* from Hawaii; see **Zahlbruckner,** 1905.

1928a. Ascomyceten, Fungi imperfecti und Uredineen von Juan Fernandez: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island **2**: Botany 473–486.

A list with descriptions of new species.

1928b. Nachtrag zur Pilzflora von Juan-Fernandez: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island **2**: Botany 549–550. *1 f.*

A list, including *Corticium subsphaerosporum* n. sp.

1933. Zusammenstellung einiger interessanter Flechtenparasiten. Beih. Bot. Centralbl. **50**(2): 380–394.

Includes *Lichenoconium lichenicolum* var. *buelliae* from New Caledonia.

Ker, J. B. (Ker-Gawler)

1817. Passiflora adiantifolia. Bot. Reg. **3**: *pl. 233.*

Native of Norfolk Island.

1822. Jasminum gracile. Bot. Reg. **8**: *pl. 606.*

Native of Norfolk Island.

1823. Edwardsia chrysophylla. Bot. Reg. **9**: *pl. 738.*
Native of Hawaii. Now considered *Sophora chrysophylla.*

1824. A review of the genus Jasminum. Bot. Reg. **9**: Appendix, [1–7].
Includes *J. simplicifolium,* native of the Friendly Islands.

Kerchove de Denterghem, O. de

1877. Les Araucaria. Rev. Hort. Belge **3**: 55–57. *f. 6.*
Includes notes on some natives of New Caledonia, with a key to the species.

1878. Les Palmiers; histoire iconographique; géographie, paléontologie, botanique, description, culture, emploi, etc., avec index général des noms et synonymes des espèces connues. i–viii, 1–348. *pl. 1–40. f. 1–226.*
Includes some Polynesian species.

Kerchove de Denterghem, O. de, and **Pynaert, E.**

1885. Les Kentia. Rev. Hort. Belge **11**: 54–58. *f. 2–9.*
Includes references to some Polynesian species.

Kermack, J.

1928. Action taken in regard to control of noxious weeds. Agr. Jour. [Fiji] **1**(2): 9–10.
Clidemia hirta, Solanum torvum, and *Lantana camara.*

Keyserling, A.

1873. Polypodiacea et Cyatheacea herbarii Bungeani. i–viii, 1–74.
An enumeration, including some Polynesian species.

1875. Gen. Adiantum L. Mém. Acad. Sci. St. Pétersb. VII **22**(2): 1–44. *1 pl. 1 f.*
Sixty-seven species described, including *A. novae-caledoniae* n. sp.

Khanna, L. P.

1944. On two new species of Megaceros with notes on M. arachnoideus, M. denticulatus, M. giganteus, and M. grandis. Farlowia **1**: 515–523. *f. 1–29.*
Cites Polynesian localities for various species in the list of species, p. 519.

Kikuta, K., Whitney, L. D., and **Parris, G. K.**

1938. Seeds and seedlings of the taro, Colocasia esculenta. Am. Jour. Bot. **25**: 186–188. *f. 1–2.*
A general consideration.

Kindberg, N. C.

1888–91. Enumeratio Bryinearum exoticarum quam alphabetice disposuit. 1–83. 1888; suppl. primum 85–96 [no date]; suppl. secundum 97–108. 1891.
An alphabetical list of Latin names of mosses.

1901. Grundzüge einer Monographie über die Laubmoos-Familie Hypopterygiaceae. Hedwigia **40**: 275–303.
Includes some Polynesian species.

1902. Grundzüge einer Monographie der Laubmoos-Gattung Thamnium. Hedwigia **41**: 203–268.
Includes some Polynesian species.

Kitamura, S.

1941. Compositae of Micronesia. Acta Phytotax. Geobot. **10**: 70–74.
An enumeration of 15 species.

Kittlitz, F. H. von

1844–45. Vierundzwanzig Vegetations-Ansichten von Küstenländern und Inseln des Stillen Oceans aufgenommen in den Jahren 1827–29 auf der Entdeckungsreise des Russischen Corvette Senjawin unter Capt. Lütke. 1–68. *pl. 1–24.*

Includes some Polynesian data; see next entry.

1861. Twenty-four views of the vegetation of the coasts and islands of the Pacific, with explanatory descriptions, taken during the exploring voyage of the Russian Corvette "Senjawin" under the command of Capt. Lütke in the years 1827, 28, and 29. Translated from the German by B. Seemann. i–x. 1–68. *pl. 1–24.*

Kitton, F.

1888. New species of Biddulphia from Fiji. Jour. Roy. Micr. Soc. **1888:** 466.

B. echinata n. sp.

Klett, W.

1924. Umfang und Inhalt der Familie der Loganiaceen. Bot. Arch. Mez **5:** 312–338.

Chiefly concerns the genera.

Kloos, A. W., Jr.

1940. Aanwinsten van de Nederlandse flora in 1939. Nederl. Kruidk. Arch. **50:** 123–145.

Includes description of *Senecio lautus,* native of Kermadec Islands.

Klotzsch, J. F.

1843. Fungi: in Meyen, F. J. F., Observationes botanicas . . . Nova Acta Acad. Leop.-Carol. Nat. Cur. **19:** Suppl. **1:** 233–246. *pl. 5–6.*

Includes a few Polynesian species.

1851. Studien über die natürliche Klasse Bicornes L. Linnaea **24: 1–88.**

Includes two new species of *Vaccinium* from Hawaii.

1860. Linné's natürliche Pflanzenklasse Tricoccae des Berliner Herbarium's im Allgemeinen und die natürliche Ordnung Euphorbiaceae insbesondere. Abh. Akad. Wiss. Berlin 1–108. 1859.

Includes some Polynesian species.

Knoblauch, E.

1936. Vermichte Diagnosen. Repert. Sp. Nov. **41:** 150–152.

Includes two new species of *Jasminum* from New Caledonia and six transfers from *Notelaea* to *Osmanthus.*

Knoche, W.

1919. Ueber die Kulturpflanzen der Osterinseln. Zeitschr. Deutsch. Wiss. Ver. Landeskunde Argentiniens. **5:** 161.

A brief note.

Knowlton, F. H.

1888. Lichens from the Easter Island. Bot. Gaz. **13:** 94–95.

Three species listed, including one moss, *Hypnum* sp.

Knuth, P.

1898–1905. Handbuch der Blüthenbiologie. **1:** i–xix, 1–400. *f. 1–81.* 1898; **2**(1): 1–697. *f. 1–210.* 1898; **2**(2): 1–705. *f. 1–420.* 1899; **3**(1): i–vi, 1–570. *f. 1–141.* 1904; 3(2): i–v, 1–601. *f. 1–197.* 1905.

Includes some new names for Polynesian species, e. g., *Phaleria acuminata.*

Knuth, R.

1912. Geraniaceae. Pflanzenr. **53**(IV. 129) : 1–640. *f. 1–80.*

Monographic.

1919. Oxalidaceae Americanae novae. Notizbl. Bot. Gart. Berlin **7:** 289–318.

Includes *O. novae caledoniae* n. sp. from New Caledonia.

1924. Dioscoreaceae. Pflanzenr. **87**(IV. 43) : 1–387. *f. 1–69.*

Monographic.

1930. Oxalidaceae. Pflanzenr. **95**(IV. 130) : 1–481. *f. 1–28.*

Monographic.

1936. Dioscoreae novae. IX. Repert. Sp. Nov. **40:** 220–224.

Includes *D. hebridensis* n. sp. from the New Hebrides.

1939. Barringtoniaceae. Pflanzenr. **105**(IV. 219) : 1–82. *f. 1–16.*

Monographic, the family segregated from the Lecythidaceae, the latter confined to tropical America.

1940. Elaeocarpaceae novae. Decades 5–6. Repert. Sp. Nov. **49:** 66–73.

Includes *Elaeocarpus francii* and *E. ngoyensis* n. spp. from New Caledonia.

See also **Pax, F.**, and **Knuth, R.**

Kny, L.

1867. Ueber die Flora oceanischer Inseln. Zeitschr. Ges. Erdk. Berlin **2:** 208–227.

Not seen.

Kobayasi, Y.

1937a. Pacific regions as the center of distribution of Gasteromycetes. Jour. Jap. Bot. **13:** 804–808.

In Japanese; includes data on distribution in Polynesia.

1937b. On the genus Holtermannia of [the] Tremellaceae. Sci. Rep. Tokyo Bunrika Daigaku. B. **3:** 75–81. *pl. 11. f. 1–2.*

Includes *H. pulchella* n. comb. from New Caledonia (*Clavariopsis pulchella* Pat. & Har.).

1937c. History of the investigations on the fungous flora of Micronesia and the Bonin Island. Jour. Jap. Bot. **13:** 95–104.

Japanese text; a general summary with a bibliography of 14 titles.

1937–39. Fungi Austro-Japoniae et Micronesiae I. Bot. Mag. (Tokyo) **51:** 749–758. *pl. 16. f. 1–5,* (Japanese summary) 776–778, (II) 797-804. *pl. 17. f. 1–3.* 1937; (III) **53:** 158–162. *pl. 2. f. 1–7.* 1939.

An enumeration with descriptions of new species and varieties, a few from Micronesia.

1939a. On the Dacrymyces-group. (Fungorum ordinis Tremellarium studia monographica III.). Sci. Rep. Tokyo Bunrika Daigaku B. **4**(70–71)**:** 105–128. *pl. 9–11. f. 1–4.*

Monographic.

1939b. On the genera Femsjonia, Guepinia and Calocera from Japan (Fungorum ordinis Tremellarium studia monographica IV). Sci. Rep. Tokyo Bunrika Daigaku B. **5**(74)**:** 215–228. *pl. 18–19. f. 1–6.*

Includes data on distribution in Polynesia.

1941. The genus Cordyceps and its allies. Sci. Rep. Tokyo Bunrika Daigaku B. **5**(84) : 53–260. *53 t. f. 1–4.*

Monographic.

Kobuski, C. E.

1935. Studies in Theaceae, I. Eurya subgen. Ternstroemiopsis. Jour. Arnold Arb. **16:** 347–352. t. 153.

Monographic. Two new species and two new forms described from Hawaii.

1938. Studies in Theaceae. III. Eurya, subgenera Euryodes and Penteurya. Ann. Missouri Bot. Gard. **25:** 299–359.

Includes the Polynesian species. A continuation of **Kobuski, C. E.,** 1935.

Koch, K.

1867. Zusammenstellung der beschriebenen und in den Gärten befindlichen Dracäneen. Wochenschr. Gartn. Pflanzenk. **10:** 193–197, 203–205, 235–240.

A revision including some Polynesian species of *Dracaena.*

1870. Mittheilungen über neuere und neueste Pflanzen. Wochenschr. Gartn. Pflanzenk. **13:** 110–112, 166–168.

Includes *Asplenium fernandezium* from Juan Fernández Island and *Pandanus decorus* from New Caledonia.

Koenig, C. See **Swartz, O.,** 1805a.

Körnicke, F. A.

1862. Monographiae Marantearum prodromus. Pars altera. Bull. Soc. Nat. Mosc. **35**(1): 1–147. *f. 1–2.*

Records *Phrynium dichotomum* from the New Hebrides.

Köfaragó-Gyelnik, V. See **Gyelnik, V.**

Köhler, E.

1920. Farnstudien I. Über Aspidium Moorei (Hk.) Diels und einige andere verwandte Formen. Flora **113:** 311–319. *f. 1–5.*

Largely morphological.

Koehne, E.

1880–85. Lythraceae monographice describuntur. Bot. Jahrb. **1:** 141–178, 240–266, 305–335, 436–458. 1880–81; **2:** 136–176, 395–429. 1881–82; **3:** 129–155, 319–352. 1882; **4:** 12–37, 386–431. 1883; **5:** 95–132, 1884; **6:** 1–48. 1884; **7:** 1–61. *map.* 1885.

Includes the Polynesian species.

1903. Lythraceae. Pflanzenr. **17**(IV. 216): 1–326. *f. 1–59.*

Monographic.

Koidzumi, G.

1915. The vegetation of Jaluit Island. Bot. Mag. (Tokyo) **29:** 242–257. *3 f.*

An enumeration of 59 species, none new.

1916–17. Plantae novae Micronesiae. Bot. Mag. (Tokyo) **30:** 400–403. 1916; **31:** 232–233. 1917.

Nine new species described.

1923. Contributiones ad cognitionem florae Asiae Orientalis. Bot. Mag. (Tokyo) **37:** 37–50.

Includes some Polynesian species of *Bleekeria* (*Ochrosia*).

Kotzebue, O. von. See **Chamisso, L. C. A.,** 1821

Kraebel, C. J.

1922. Mauna Kea plant list. Hawaiian Agr. For. **19:** 2–4. *2 pl.*

A list with binomial, English, and Hawaiian names.

Krämer, A.

1929. Palau: in G. Thilenius, Ergebnisse des Südsee Expedition 1908–1910. II B. **3**(4): i–xvi, 1–376, *illus.*

The "Botanischer Index," pp. 304-320, consists of a list of local plant names with many Latin equivalents.

Krämer, A. F.

1902–03. Die Samoa-Inseln. Entwurf einer Monographie mit besonderer Berücksichtigung Deutsch-Samoas. **1:** i–xii, 1–509. *pl. 1–3. f. 1–44. 4 maps.* 1902; **2:** i–x, 1–445. *pl. 1–2. f. 1–147.* 1903.

General; the flora is discussed in **2:** 359-388.

Kränzlin, F.

1886. Die auf der Expedition S. M. S. "Gazelle" von Dr. Naumann gesammelten Orchidaceen. Bot. Jahrb. **7:** 435–443.

Includes some Polynesian species.

1893. Beiträge zu einer Orchideenflora der asiatischen Inseln. Bot. Jahrb. **17:** 482–488.

Includes a few Polynesian species.

1894–95. Orchidaceae Papuanae. Oesterr. Bot. Zeitschr. **44:** 208–212, 418–421. 1894; **45:** 177–181. 1895.

Includes *Acianthus cymbalariaefolius* and *Cirrhopetalum layardi* from New Caledonia, *Dendrobium mooreanum* from New Hebrides, and *Coelogyne lycastoides* from Samoa.

1901–04. Orchidacearum genera et species. **1:** i–viii, 1–986. 1901; **2**(1): 1–143. *pl. 1–16.* 1903–04.

Monographic; never completed.

1903. Deux Orchidées nouvelles. Jour. Bot. Morot **17:** 422–424.

Includes *Agrostophyllum drakeanum* n. sp. from New Caledonia.

1909. Orchidaceae novae samoenses. Notizbl. Bot. Gart. Berlin **5:** 109–111.

Four new species described.

1910. Drei neue Myoporinen des Herbarium Vindobonense. Ann. Naturhist. Hofmus. Wien **24:** 193–194.

Includes *M. cuneifolium* and *M. tubiflorum* from New Caledonia.

1910–11. Orchidaceae-Monandrae-Dendrobiinae. Pflanzenr. **45**(IV. 50II B^{21}): 1–382. *f. 1–35.* 1910; (II) **50**(50II B^{21}): 1–182. *f. 1–35.* 1911.

Monographic.

1911. Orchidaceae-Monandrae-Thelasinae. Pflanzenr. **50**(IV. 50II B^{23}): 1–46. *f. 1–5.*

Monographic.

1912. Cannaceae. Pflanzenr. **56**(IV. 47): 1–77. *f. 1–16.*

Monographic.

1914. Orchidaceae von Neu-Caledonien und den Loyalty-Inseln: in Sarasin, F. and Roux, J., Nova Caledonia Bot. **1:** 75–85. 1914.

Includes the descriptions of various new species.

1922. Über einige Orchideen. Mitt Inst. Bot. Hamburg **5:** 236–240.

Includes *Odontochilus upoluensis* n. sp. from Samoa and *Dendrobium vitiense* n. sp. from Fiji with a note on *Microstylis platychila.*

1928a. Notes on New Caledonian orchids. Kew Bull. **1928:** 34–35.

Includes *Aeranthus sphenochilus* n. sp.

1928b. Quelques Orchidées nouvelles de la Nouvelle-Calédonie. Not. Syst. **4:** 132–144.

Fifteen new species described.

1928c. Cyrtandreae quaedam novae. Repert. Sp. Nov. **24:** 214–223.

Includes *Cyrtandra futunae* n. sp. from Hoorn [Horne] Islands and Samoa.

1929a. Beiträge zur Kenntnis der Familie der Myporinae R. Br. mit besonderer Berücksichtigung der Myporinous Plants of Australia. Tome II—Lithograms. Repert. Sp. Nov. Beih. **54:** 1–129.

Includes references to Polynesian species.

1929b. Neu-Caledonische Orchidaceen: in Däniker, A. U., Ergebnisse der Reise nach Neu-Caledonien. Viert. Naturf. Ges. Zürich **74**: 62–98. Reprinted in Mitt. Bot. Mus. Univ. Zürich **130**: 62–98.

Many new species described.

1932. Orchidaceae: in Däniker, A. U., Ergebnisse der Reise von Dr. A. U. Däniker nach Neu-Caledonien und den Loyalitätinseln. Viert. Naturf. Ges. Zürich **77**: Beibl. **19**: 102–114. Reprinted in Mitt. Bot. Mus. Zürich **142**: 102–114.

An enumeration of the species, none new.

See also **Pfitzer, E.,** and **Kränzlin, F.**; and **Reichenbach, H. G.** (filius), and **Kränzlin, F.,** 1858–1900.

Krajina, V.

1930a. Generis Gunnerae species hawaiienses. Acta Bot. Bohem. **9**: 49–52. *1 pl. 1 f.*

Includes *G. dominii* n. sp., *G. petaloidea kaalensis,* and *G. petaloidea mauiensis* n. vars.

1930b. New Hawaiian species of Pipturus. Occ. Pap. Bishop Mus. **9**(3): 1–6. *pl. 1–2.*

P. skottsbergii and *P. forbesii* n. spp.

1931. Generis Cheirodendrum species hawaiienses ex affinitate Cheirodendron platyphylli. Preslia **10**: 91–100. *pl. 1–5.*

Includes the descriptions of several new species and varieties from Hawaii.

1938a. Seven new Polynesian species of Elaphoglossum from the group E. conforme (Swartz) Schott. Stud. Bot. Čechoslovaca **1**: 61–70. *pl. 2–3.*

Mostly from Fiji.

1938b. Generis Cibotii species nova Hawaiiensis. Stud. Bot. Čechoslovaca **1**: 94–96.

Cibotium st.-johnii n. sp. with two new varieties.

Krasser, F.

1898. Zur Kenntnis des Lycopodium cernuum Aut. Verh. Zool.-Bot. Ges. Wien **48**: 688–693.

Includes *L. capillaceum* from the Marianas Islands.

Krause, K.

1912. Goodeniaceae. Pflanzenr. **54**(IV. 277): 1–207. *f. 1–34.*

Monographic.

See also **Engler, A.,** and **Krause, K.,** 1908 and 1912–13.

Krempelhuber, A. von

1867–72. Geschichte und Literatur der Lichenologie von den ältesten Zeiten bis zum Schlusse des Jahres 1865. **1**: i–xi, 1–616. 1867; **2**: i–vi, 1–776. 1869; **3**: i–xiii, 1–260. 1872.

Vol. 1 deals with history and literature; vols. 2 and 3 with classification and species.

1870. Lichenes: in Fenzl, E., Reise der Österreichischen Fregatte Novara um die Erde . . . Botanischer Theil **1**: 107–129. *pl. 12–19.*

Includes some Polynesian species.

1873. Beitrag zur Kenntniss der Lichenen Flora der Südsee-Inseln. Jour. Mus. Godeffroy **1**(4): 93–110. *pl. 14.*

An enumeration of 81 species, some described as new.

1877. Aufzählung und Beschreibung der Flechtenarten, welche Dr. Heinrich Wawra Ritter von Fernsee von zwei Reisen um die Erde mitbrachte. Verh. Zool.-Bot. Ges. Wien **26**: 433–445.

An enumeration of 39 Hawaiian species, some described as new.

Krukoff, B. A.

1939. Preliminary notes on Asiatic-Polynesian species of Erythrina. Jour. Arnold Arb. **20**: 225–233.

Mentions some Polynesian species.

Kubart, B.

1922. Ein Beitrag zur systematischen Stellung von Acmopyle Pancheri (Brongn. et Gris) Pilger. Oesterr. Bot. Zeitschr. **71**: 83–87. *f. 1–2.*

Native of New Caledonia.

Kuck, L. E., and **Tongg, B. C.**

1943. Hawaiian flowers. 1–109. *pl. 1–16.*

A popular treatment of the commoner species, with colored illustrations.

Kükenthal, G.

1909. Cyperaceae-Caricoideae. Pflanzenr. **38**(IV. 20): 1–824. *f. 1–128.*

Monographic.

1920. Cyperaceae novae, V. Repert. Sp. Nov. **16**: 430–435.

Includes several new species from Hawaii.

1924. Beiträge zur Cyperaceenflora von Mikronesien. Bot. Jahrb. **59**: 2–10.

A list of 48 species, including *Fimbristylis urakasiana* n. sp. from the Marianas Islands.

1935–36. Cyperaceae-Scirpoideae-Cypereae. Pflanzenr. **101**(IV. 20): 1–671. *f. 1–65.*

Monographic.

1938–40. Vorarbeiten zu einer Monographie der Rhynchosporoideae. Repert. Sp. Nov. **44**: 1–32, (II) 65–101, (III) 161–195. 1938; (IV) **46**: 13–32, (V) 65–76. 1939; (VI) **47**: 101–119, (VII) 209–216. 1939; (VIII) **48**: 49–72, (IX) 195–250. 1940.

Includes a few New Caledonian and Micronesian species.

Kützing, F. T.

1843. Phycologia generalis oder Anatomie, Physiologie, und Systemkunde der Tange, i-xxxii, 1–458. *f. 1–80.*

Includes the Polynesian species.

1845–71. Tabulae phycologicae oder Abbildungen der Tange. **1–19**: *f. 1–1900.* 1845–69; Index, 1–57. 1871.

Includes some Polynesian species.

1847. Diagnosen einiger neuen ausländischen Algenspecies, welche sich in der Sammlung des Herrn Kammerdirectors Klenze in Laubach befinden. Flora **30**: 773–776.

Includes *Hydracanthus fistulosus* n. gen., n. sp. from the Marianas Islands.

1849. Species algarum. i-vi, 1–922.

Includes the Polynesian species.

Kuhn, M.

1868–69. Reliquiae Mettenianae s. Filices quaedam novae ex variis orbis terrarum partibus collectae post mortem auctoris a Maximiliano Kuhn editae. Linnaea **35**: 385–394. 1868; **36**: 41–169. 1869.

Includes many references to Polynesian species.

1869a. Filices: in Miquel, Ann. Mus. Bot. Lugd.-Bat. **4**: 276–300.

Includes a few Polynesian species.

1869b. Filices Novarum Hebridarum. Verh. Zool.-Bot. Ges. Wien **19**: 569–586.

A systematic enumeration of 132 species.

1882a. Uebersicht über die Arten der Gattung Adiantum. Jahrb. Bot. Gart. Berlin **1**: 337–352.

Includes a few Polynesian species.

1882b. Die Gruppe der Chaetopterides unter den Polypodiaceen: in Festschrift zum 50 jährigen Jubiläum der Königstadtischen Realschule zu Berlin. 321–348. *pl. 1–2.* Reprint 1–28. *pl. 1–2.*

Includes *Aspleniopsis decipiens* and several species of *Trichogramme* from New Caledonia and Fiji.

1889. Farne (Filicinae) und bärlappartige Gewächse (Lycopodinae): in Die Forschungsreise S. M. S. "Gazelle" in den Jahren 1874 bis 1876. **4**(6): Botanik 1–20. *f. 1–3.*

Includes some Polynesian species.

Kunkel, L. O.

1921. A possible causative agent for the mosaic disease of corn. Bull. Exp. Sta. Hawaiian Sugar Planters' Assoc. Bot. Ser. **3**: 44–58. *pl. 1–15. f. 1–2.*

Possibly protozoan.

1922. Mosaic disease on a new grass host. Hawaiian Pl. Rec. **26**: 163. *f. 1.*

Includes a brief description of *Chaetochloa* (*Setaria*) *verticillata.*

1924a. Histological and cytological studies on the Fiji disease of sugar cane. Bull. Exp. Sta. Hawaiian Sugar Planters' Assoc. Bot. Ser. **3**: 99–107. pl. *24–30. f. 1.*

1924b. Further studies on the intracellular bodies associated with certain mosaic diseases. Bull. Exp. Sta. Hawaiian Sugar Planters' Assoc. Bot. Ser. **3**: 108–114. *f. 1–2.*

1924c. Studies on the mosaic of sugar cane. Bull. Exp. Sta. Hawaiian Sugar Planters' Assoc. Bot. Ser. **3**: 115–167. *f. 1–19.*

Kunth, K. S.

1829–35. Révision des graminées publiées dans les Nova genera et species plantarum de Humboldt et Bonpland; précedée d'un travail général sur la famille des Graminées. 1–666. *pl. 1–220.* 1829–1835; Suppl. I-XLV. 1829.

Includes some Polynesian species. Also issued under title: "Distribution Methodique." This forms section of pt. VI, "Botanique," of Humboldt, F. H. A., and Bonpland, A. J. A., "Voyage fait aux Régions Equinoxiales du Nouveau Continent, fait en 1799-1804", etc. For dates of issue see C. D. Sherborn, and B. B. Woodward in Jour. Bot. 39: 205. 1901.

1833–50. Enumeratio plantarum omnium hucusque cognitarum, secundum familias naturales disposita, adjectis characteribus, differentiis et synonymis. **1**: 1–606. *pl. 1–40.* 1833; Suppl. 1–436. 1845; **2**: 1–592. 1837; **3**: 1–644. 1841; **4**: 1–752. 1843; **5**: 1–908. 1850.

Includes the then-known Polynesian species.

1839. Bemerkungen über die Familie der Piperaceen. Linnaea **13**: 561–726. Reprint 1–166. 1840.

Includes some Polynesian species.

1840. Observations sur la famille des Piperacées. Ann. Sci. Nat. II. Bot. **14**: 173–220.

Includes *P. latifolium* from the Marianas Islands.

Kuntze, O.

1880. Revision von Sargassum und das sogenannte Sargasso-Meer. Bot. Jahrb. **1:** 191–239. *1 pl. 1 map.*

Lists various Polynesian species.

1885. Monographie der Gattung Clematis. Verh. Bot. Ver. Prov. Brandenb. **26:** 83–202.

Includes a few Polynesian species.

1891–98. Revisio generum plantarum vascularium omnium atque cellularium multarum secundum leges nomenclaturae internationales cum enumeratione plantarum exoticarum in itinere mundi collectarum. **1:** i-clv, 1–374. 1891; **2:** 375-1011. 1891; **3**(1): clvii-cccxx. 1893; **3**(2): v-vi, 1–201, 1–576. 1898.

Largely nomenclatorial with many names changed; various Polynesian species listed, including the author's Hawaiian plants.

Kunze, G.

1834. Thrysopteris, eine neue Farrngattung. Linnaea **9:** 506–508.

***Thrysopteris elegans* from Juan Fernández.**

1837. Analecta pteridographica, sive descriptio et illustratio Filicum aut novarum aut minus cognitarum. i–viii, 1–50. *pl. 1–30.*

Includes some Polynesian species.

1840–51. Die Farrnkräuter in koloriten Abbildungen naturgetreu erläutert und beschreiben von Gustav Kunze in Schkuhr's Farrnkräuter, Supplement. **1:** i-vi, 1–252. *pl. 1–100.* 1840–47; **2:** 1–98. *pl. 101–140.* 1848–51.

Includes some Polynesian species.

1851. Oleandrae Cav. species in herbario suo servatas sciagraphice disposuit. Bot. Zeit. **9:** 345–349.

Includes *O. sibbaldii* from Tahiti.

Kurz, S.

1869a. On Pandanophyllum and allied genera, especially those occurring in the Indian Archipelago. Jour. As. Soc. Bengal **38**(2): 70–85.

See next entry.

1869b. Ueber Pandanophyllum und verwandte Gattungen, insbesondere solche, welche im indischen Archipel vorkommen. Flora **52:** 433–441.

Includes a few Polynesian species.

1874. Note on the Indian species of Crataeva. Jour. Bot. **12:** 193–196. *pl. 147–148.*

***C. religiosa* listed from the Society Islands.**

L

L.

1817. Review of "A Narrative of the Briton's Voyage to Pitcairn's Island." Am. Monthly Mag. **2:** 14–23.

Includes references to plants from Marquesas Islands by common names. See Shillibeer, J., 1817.

Labillardière, J. J. H. de

1824–25. Sertum Austro-Caledonicum. [1–4] 1–83. *pl. 1–80.*

Includes descriptions of many new species.

Laing, R. M.

1901. A list of the seaweeds of Norfolk Island. Trans. Proc. New Zeal. Inst. **33:** 299–301.

An enumeration.

1906. Appendix to list of seaweeds of Norfolk Island. Trans. Proc. New Zeal. Inst. **38: 424.**

A supplementary list.

1915. A revised list of the Norfolk Island flora, with some notes on the species. Trans. Proc. New Zeal. Inst. **47: 1–39.**

A list of 175 species with notes.

1916. The Norfolk Island species of Pteris. Trans. Proc. New Zeal. Inst. **48:** *229–237. f. 1–5.*

Critical notes on several species.

Lam, H. J.

1919. The Verbenaceae of the Malayan Archipelago, together with those from the Malay Peninsula, the Philippines, the Bismarck Archipelago and the Palau, Marianne and Caroline Islands. 1–370. *pl. 1–3.*

A critical consideration with keys, synonymy, etc.

Lam, H. J., and **Bakhuizen van den Brink, R. C.**

1921. Revision of the Verbenaceae of the Dutch East Indies and surrounding countries. Bull. Jard. Bot. Buitenzorg III. **3:** 1–116, i-iii.

Includes some Polynesian species.

Lam, H. J.

1922. Notiz über Vitex. Bull. Jard. Bot. Buitenzorg III. **5:** 175–178.

Discusses *V. hawaiiensis* Lam. as perhaps synonymous with *V. mollis* Kunth.

1924. Die Verbenaceae von Mikronesien. Bot. Jahrb. **59:** *24–29.*

Nineteen species listed, none new.

1925. The Sapotaceae, Sarcospermaceae and Boerlagellaceae of the Dutch East Indies and surrounding countries (Malay Peninsula and Philippine Islands). Bull. Jard. Bot. Buitenzorg III. **7:** 1–289. *f. 1–65.*

Includes some Polynesian species.

1927. Further studies on Malayan Sapotaceae. I. Bull. Jard. Bot. Buitenzorg III. **8:** 381–493. *f. 1–29. 1 fold. table.*

Includes a few Polynesian species.

1932a. Beiträge zur Morphologie der Burseraceae insbesondere der Canarieae. II. Ann. Jard. Bot. Buitenzorg **42:** *97–226. pl. 11–16.* (*f. 54–134*), *f. 47–53, 135–138.*

Contains "Ubersicht über die Burseraceen von Süd-Ost-Asien," pp. 200-220, including some data on Polynesian species.

1932b. The Burseraceae of the Malay Archipelago and Peninsula, with annotations concerning extra-Malayan species, especially of Dacryodes, Santiria and Canarium. Bull. Jard. Bot. Buitenzorg III. **12:** 281–561. *f. 1–95.*

Credits *Canarium commune* to the Caroline Islands (there introduced).

1934. Materials towards a study of the flora of the Island of New Guinea. Blumea **1:** 115–159. *3 maps.*

General discussion with special bibliography covering the important botanical papers appertaining to New Guinea. Included here because the New Guinea flora is related to that of western Polynesia.

Lam, H. J., and **Meeuse, B. J. D.**

1938. Monograph of the genus Nesoluma (Sapotaceae) a primitive Polynesian endemic of supposed Antarctic origin. Occ. Pap. Bishop Mus. **14:** 127–165. *pl. 1–5.*

Includes *N. polynesicum, N. st.-johnianum,* and *N. nadeaudi* spp. nov., with many varieties.

Lam, H. J.

1939. On the system of the Sapotaceae, with some remarks on taxonomical methods. Rec. Trav. Bot. Néerl. **36:** 509–525. Reprinted in Med. Bot. Mus. Herb. Univ. Utrecht **65:** 509–525.

Discusses Baehni's classification and mentions various Polynesian genera; see **Baehni, C.** 1937.

1941a. Note on the Sapotaceae-Mimusopoideae in general and on the far-eastern Manilkara-alles in particular. Blumea **4:** 328–358. *f. 1–10.*

Includes the Pacific species of *Manilkara* and *Northiopsis.*

1941b. Some notes on the distribution of the Sapotaceae of the Pacific region Proc. Sixth Pacific Sci. Congr. **4:** 673–683. *f. 1–4.*

A general discussion, the appendix consisting of an enumeration of the Pacific Basin species.

1942. A tentative list of wild Pacific Sapotaceae except those from New Caledonia. Blumea **5:** 1–46. *f. 1–9.*

A systematic treatment.

Lamarck, J. B. A. P. M. de

1783–1817. Encyclopédie méthodique. Botanique. **1:** i–xiii, 1–752. 1783–85; **2:** 1–774. 1786–88; **3:** i–viii, 1–759. 1789–91; **4:** i–vii, 1–764. 1797–98; **5:** i–viii, 1–748. 1804; **6:** 1–786, 1804; **7:** 1–731. 1806; **8:** 1–879. 1808; Supplément **1:** i–xviii, 1–761. 1810; **2:** 1–876. 1811; **3:** 1–780. 1813; **4:** 1–731. 1816; **5:** i–viii, 1–780. 1817.

Includes various Polynesian species. For dates of issue see Jour. Bot. **44:** 319. 1906. Lamarck is the author of vols. 1 to 4, J. L. M. Poiret of the remainder.

1791–1823. Tableau encyclopédique et méthodique des trois règnes de la nature. Botanique. **1:** i–xvii, 1–496. 1791–97; **2:** 1–551. 1793–1818; **3:** (incl. Suppl.) 1–728. 1823. *pl. 1–1000.*

The four volumes of plates 1 to 1,000 bear the title pages "Recueil de Planches de Botanique de la Encyclopédie" and are all dated 1823. The plates were issued in parts between 1791 and 1823 and were subsequently made up into four volumes of 250 plates each. For dates of issue see **O. Kuntze,** in Rev. Gen. Pl. **1:** cxxxiii. 1891; Jour. Bot. **44:** 319. 1906. Lamarck is the author of vols. 1 and 2, J. L. M. Poiret of the remainder.

Lamb, S. H.

1936. The trees of the Kilauea-Mauna Loa section, Hawaii National Park. Nat. Hist. Bull. Hawaii Nat. Park **2:** [1–5], 1–32.

Mimeographed popular data, introduction by **J. E. Doerr, Jr.**

1938. Wildlife problems in the Hawaiian National Park. Trans. Third N. Am. Wildlife Conf. 597–602.

Not seen.

See also **Robyns, W.,** and **Lamb, S. H.**

Lambert, A. B.

1797. A description of the genus Cinchona, comprehending the various species of vegetables from which the Peruvian and other barks of a similar quality are taken. Illustrated by figures of all the species hitherto discovered, to which is prefixed Professor Vahl's dissertation on this genus . . . i–ix, 1–54, [1]. *pl. 1–13.*

Includes *C. corymbifera,* native of Tongatabu.

1803–24. A description of the genus Pinus, illustrated with figures, directions relative to the cultivation, and remarks on the uses of the several species. **1:** [i–iv], 1–98, [1–5]. *pl. 1–43.* 1803; **2:** i–vi, 1–42, [1–3]. *pl. 1–12.* 1824; another edition, 1–183, index [1–4]. *pl. 1–81.* 1832.

Includes a description of *Araucaria excelsa,* native of Norfolk Island. This work was published in many variable editions; for a discussion of these see Jour. Linn. Soc. Bot. **48:** 439-466. 1930; The Bradley bibliography **2:** 12. 1912; and Catalogue of the library of the Arnold Arboretum **1:** 408-409. 1914.

Lamson-Scribner, F. See **Scribner, F. L.**

Lanessan, J. L. de

1886. Les plantes utiles des colonies Françaises, ouvrage publié sous la direction de J. L. de Lanessan. Annexé aux notices coloniales publiées à l'occasion de l'exposition universelle d'Anvers en 1885. i–iv, 1–990.

Lists and describes numerous native and cultivated Polynesian plants.

Lang, M.

1925. La Nouvelle Calédonie, son climat, sa faune, sa flore, ses ressources naturelles et ses possibilités agricoles. i–xviii, 1–113. *illus.*

Includes notes on various plants (pp. 10-16).

Langeron, M.

1902. Le genre Aleurites (Euphorbiacées), systématique, anatomie, pharmacologie. 1–160. *f. 1–52.*

Includes a detailed consideration of *A. moluccana* and its forms, some Polynesian.

Langkavel, B.

1894. Flora und Fauna der Hawaiischen Inseln. Natur. **43:** 294–296.

General notes.

Langsdorff, G. H. von, and Fischer, F. E. L.

1810–18. Plantes recueillies pendant le voyage des Russes autor du monde, expédition dirigée par M. de Krusenstern. Icones filicum. 1–26. *pl. 1–30.*

Includes some Polynesian species.

Larsen, L. D.

1910a. Thielaviopsis and pineapples. Hawaiian Pl. Rec. **2:** 120–127. *f. 1–2.*

Description of two pineapple diseases caused by *Thielaviopsis.*

1910b. Pathological inspection on Hawaii. Hawaiian Pl. Rec. **2:** 265–266.

Notes on various sugarcane diseases.

1910c. Diseases of the pineapple. Hawaiian Sugar Planters' Exp. Sta. Path. Phys. Ser. Bull. **10:** 1–70, [1–2]. *f. 1–36.*

Discusses the fungi concerned.

1911a. Further studies in pineapple disease. Hawaiian Pl. Rec. **3:** 244–263. *f. 1–11.*

Description of various diseases of the pineapple.

1911b. A fungus parasite of the cane mealy bug. Hawaiian Pl. Rec. **4:** 249–252. *f. 1–2.*

Includes a description of a species of *Aspergillus,* parasitic on *Pseudococcus calceolariae.*

1912a. The eye spot disease. Hawaiian Pl. Rec. **7:** 18–30. *f. 1–5.*

Cercospora sacchari on sugarcane.

1912b. A minor cane disease. Hawaiian Pl. Rec. **7:** 163–166. *f. 1–2.*

Cercospora vaginae on sugarcane.

1913a. A disease of potatoes in Hawaii. Hawaiian Pl. Rec. **9:** 400–409. *f. 1–3.*

A description of the disease caused by *Sclerotia rolfsi.*

1913b. Ring spot. Hawaiian Pl. Rec. **9:** 641–648. *f. 1–5.*

Includes descriptions of *Leptosphaeria sacchari* and *Acrothecium lunatum* on sugarcane.

Lauterbach, K.

1908. Beiträge zur Flora der Samoa-Inseln. Bot. Jahrb. **41:** 215–238.

An enumeration with descriptions of new species.

1909. Die botanische Erforschung von Samoa in letzten Jahrzehnt. Jahresb. Schles. Ges. Vaterl. Cult. **86**(2b) : 17–26.

A general summary.

1913. Die Ulmaceen Papuasiens nebst einer Revision der Trema-Arten des Monsun-Gebietes. Bot. Jahrb. **50:** 308–327. *f. 1–2. 1 chart.*

Includes some Polynesian species.

1921a. Die Rutaceen Mikronesiens. Bot. Jahrb. **56:** 508–512.

Five new species described.

1921b. Die Simarubaceen Mikronesiens. Bot. Jahrb. **56:** 513–514.

Considers the few known species.

1921c. Die Burseraceen Mikronesiens. Bot. Jahrb. **56:** 515.

An enumeration including *Canarium palawense* n. sp.

1921d. Die Anacardiaceen Mikronesiens. Bot. Jahrb. **56:** 516–521. *f. 1.*

Includes *Buchanania palawensis* n. sp. from Palau Islands.

1921e. Die Rhamnaceen Mikronesiens. Bot. Jahrb. **56:** 524–525.

Considers the few known species.

1921f. Die Lecythidaceen Mikronesiens. Bot. Jahrb. **56:** 527–528.

Two species of *Barringtonia* considered.

1924. Die Guttiferen Mikronesiens. Bot. Jahrb. **59:** 18–23. *f. 1.*

Includes four new species from the Caroline Islands.

1930. Die Vitaceen Mikronesiens. Bot. Jahrb. **63:** 277.

Cissus trifolia and *Leea brunoniana* recorded from Yap.

See also **Schumann, K.,** and **Lauterbach, K.**

Law, J. S., and Judd, C. S.

1927. Hawaiian forest areas. Univ. Hawaii Agr. Studies. **1:** 1–8. *maps.*

Not seen.

Lawrance, M.

1799–1800. Collection of passion flowers, drawn and coloured from nature. *15 col. pls.*

Includes *Passiflora adiantifolia* native of Norfolk Island.

Lechevalier, D. See **Naumov, N. A.,** 1939.

Lecomte, H.

1913. Eriocaulon nouveau de la Nouvelle-Calédonie. Not. Syst. **2:** 380.

E. longipedunculatum **n. sp.**

1916. Le genre Korthalsella et la tribu des Bifariées de van Tieghem. Bull. Mus. Hist. Nat. [Paris] **22:** 260–267.

Includes the Hawaiian species.

Lee, H. A., and Jennings, W. C.

1924. Bacterial red stripe disease of tip canes. Circ. Exp. Sta. Hawaiian Sugar Planters' Assoc. **42:** 1–4. *pl. 1–3.*

A general consideration of the disease.

Lee, H. A., Martin, J. P., Purdy, H. A., Barnum, C. C., Weller, D. M., and Jennings, W. C.

1925. Red-stripe disease studies. 1–99. *f. 1–21.*

A detailed consideration of this sugarcane disease. Published by the Experiment Station of the Planters' Association.

Lehmann, J. G. C.

1834–39. Muscorum hepaticorum nova genera et species novae. Ind. Schol. Gymn. Hamb. **1834:** 15–64. 1834; **1838–39:** 1–41. 1838 [1839].

Includes *Jungermannia australis* n. sp. from Hawaii and *J. subcomplicata* and *J. diversifolia* from the Marianas Islands.

Lemaire, C.

1848. Barringtonia speciosa. Fl. Serr. Jard. Eur. **4:** 409–410. *pl. 409.*

Native of Polynesia.

1852a. Catalogue de conifères connus jusqu'a ce jour. Jard. Fleur. **2:** Misc. 25–52.

A list only; includes a few species from Polynesia.

1852b. Araucaria Cookii, R. Br. Jard. Fleur. **2:** Misc. 72–74. *1 f.*

Native of New Caledonia.

1852c. Nouvelles espèces de Dammara. Jard. Fleur. **2:** Misc. 111–113. *1 f.*

Includes *Dammara obtusa* from New Hebrides, *D. moorei* from New Caledonia, and *D. macrophylla* from Vanikoro Island.

1853. Araucaria columnaris (ou Cookii). Jard. Fleur. **4:** *pl. 393–94.*

Native of New Caledonia.

1855. Nicotiana fragrans W. Hook. Ill. Hort. **2:** Misc. 86.

Native of New Caledonia.

1856. Areca Catechu L. Ill. Hort. **3:** Misc. 1–4. *1 pl. 1 f.*

Range given as extending to the Caroline Islands.

1860. L'Arec sapide. Rev. Hort. **1960:** 167–168.

The so-called *Areca sapida* of Norfolk Island said to be *A. baueri.*

1864. Espèces du genre Cycas. Ill. Hort. **11:** sub. *pl. 405. 1 f.*

Includes a description and illustration of *C. circinalis* the range given as extending to Polynesia.

1866. Phormium tenax foliis variegatis. Ill. Hort. **13:** *pl. 481. 1 f.*

Native of Norfolk Island.

1868. Areca Baueri. Ill. Hort. **15:** *pl. 575.*

Native of Norfolk Island.

Lemée, A.

1929–43. Dictionnaire descriptif et synonymique des genres de plantes phanérogames. **1:** i–xxi, 1–896. 1929; **2:** i–xxvii, 1–998. 1930; **3:** i–xxxx, 1–1084. 1931; **4:** i–xxxii, 1–1071. 1932; **5:** i–xxxii, 1–1152. 1934; **6:** i–xxxxvii, 1–1286. 1935; **7:** i–viii, 1–489. 1939; Suppl. 1–204. 1939; **8a:** 1–273. 1941; **8b:** vii–xii, 1–1105. 1943.

Descriptions of all accepted genera in alphabetic sequence.

Lemmermann, E.

1899. Planktonalgen. Ergebnisse einer Reise nach dem Pacific (H. Schauinsland, 1896–97). Abh. Nat. Ver. Bremen **16:** 313–398. *pl. 1–3.*

Extensive notes with a summary of the known species of plankton algae.

1901. Silicoflagellatae. Ergebnisse einer Reise nach dem Pacific. (H. Schauinsland, 1896–97). Ber. Deutsch. Bot. Ges. **19:** 247–271. *pl. 10–11.*

Includes some Polynesian species.

1903. Das Phytoplankton des Meeres. II Beitrag. Abh. Nat. Ver. Bremen **17:** 341–418.

A list of 580 species, with a bibliography.

1905. Die Algenflora der Sandwich-Inseln. Ergebnisse einer Reise nach dem Pacific. (H. Schauinsland, 1896–97). Bot. Jahrb. **34:** 607–663. *pl. 7–8.*

An enumeration with descriptions of new species.

Lépine, J.

1857. Recherches sur quelques plantes alimentaires de Tahiti (Iles de la Société). Bull. Soc. Bot. France **4:** 1001–1006, 1012–1017.

General, with chemical analyses.

Lessing, C.

1831. Synantherae: in Chamisso & Schlechtendal, De plantis expeditione speculatoria Romanzoffiana observatis. Linnaea **6:** 83–170. *pl. 1–2,* 209–260. *pl. 6,* 501–528.

Includes some Hawaiian and Guam species.

Lettau, G.

1932. Monographische Bearbeitung einiger Flechtenfamilien. Repert. Sp. Nov. Beih. **59:** 1–96. *pl. 1–3.*

Includes some Polynesian species.

Léveillé, H.

1911. Plantae novae sandwicenses. Repert. Sp. Nov. **10:** 120–124, 149–157.

Seventy-nine new species proposed. Most of these had been previously described; see Rock, 1914.

1912–13a. Decades plantarum novarum LXXV–LXXIX. Repert. Sp. Nov. **10:** 369–378, (LXXX–LXXXVI). 431–444, (LXXXVII–LXXXVIII). 473–476. 1912; (LXXXIX). **11:** 31–33, (XC–XCII). 63–67. 1912; (CXXVI). **12:** 505–507. 1913.

Chiefly on China, but these parts contain new names for or descriptions of Hawaiian species.

1912–13b. Quelques plantes introduites aux îles Sandwich. Bull. Géogr. Bot. **22:** 22–24. 1912; **23:** 56. 1913.

A list of 21 species.

1914. Revisio plantarum Hawaiensium. Repert. Sp. Nov. **13:** 422.

A brief response to Rock's criticism of his papers. See Rock, J. F., 1914.

Léveillé, J. H.

1845. Champignons exotiques. Ann. Sci. Nat. III. Bot. **3**: 38–60.

Includes *Depazea celastrina* n. sp. from New Caledonia and *Lembosia tenella* n. sp. from Tahiti.

1846. Description des Champignons de l'herbier du Muséum de Paris. Ann. Sci. Nat. III. Bot. **5**: 249–304.

Includes *Meliola moerenhoutiania* from Tahiti.

1846–49. Champignons: in Gaudichaud, C., Voyage autour du monde . . . sur le corvette la Bonite . . . **3**: 164–204, 1846; Atlas, *pl. 136–140*. 1849.

Includes a few fungi from Hawaii.

Lever, R. J. A. W.

1931. Notes on coconut pests and noxious weeds in Fiji. Agr. Jour. [Fiji] **4**: 77–80.

Includes notes on *Clidemia hirta, Lantana camara, L. crocea,* and other weeds.

1938a. Some insect pests on the Tahitian chestnut. Agr. Jour. [Fiji] **9**(1): 22–23.

Inocarpus edulis mentioned as the host.

1938b. Derris in Melanesia. Agr. Jour. [Fiji] **9**(2): 25.

A general note.

1944. Recent revision of scientific names of some local insects and plants. Agr. Jour. (Fiji) **15**: 78.

A brief note on *Stachytarpheta urticaefolia, Lantana camara* var. *aculeata, Mikania micrantha,* and *Xanthium italicum.*

1946. The distribution, status and control of noxious weeds in Fiji. Agr. Jour. (Fiji) **17**: 18–19.

A review of "Council Paper Number 35 for 1945" (not seen).

Levier, E.

1904. Contributo alla Briologia delle isole Hawaii (o Sandwich). Bull. Soc. Bot. Ital. **1904**: 7–25.

Contains "Musci Hawaiici, Quos Legit D. D. Baldwin et Determinavit V. F. Brotherus," 14-25, a list of 163 species.

Levring, T.

1941. Die Meeresalen der Juan Fernandez-Inseln: in Skottsberg, C. Natural history of Juan Fernandez and Easter Island Bot. **2**: 601–670. *pl. 49–53. f. 1–30.*

Includes the descriptions of about 20 new species, critical notes on others, and the new genera *Chondriella* and *Fernandosiphonia;* bibliography.

1943a. Die Corallinaceen der Juan Fernandez-Inseln: in Skottsberg, C. Natural history of Juan Fernandez and Easter Island Bot. **2**: 753–757. *f. 1–2.*

Critical notes on seven species, none new.

1943b. Einige Corallinaceen von der Öster-Inseln: in Skottsberg, C. Natural history of Juan Fernandez and Easter Island Bot. **2**: 759–760.

Critical notes on three species, none new.

Lewton, F. L.

1912. Kokia: A new genus of Hawaiian trees. Smithsonian Misc. Coll. **50**(5): 1–4. *pl. 1–5.*

Two new species described.

Lewton-Brain, L.

1907. A lecture on rind disease of the sugar-cane. Hawaiian Sugar Pl. Exp. Sta. Div. Path. Phys. Bull. **7**: 1–38, [1–6]. *f. 1–16.*

Considers *Melanconium sacchari* and other fungi.

1908. Red rot of the sugar-cane stem. Hawaiian Sugar Pl. Exp. Sta. Div. Path. Phys. Bull. **8:** 1–44, [1–2]. *f. 1–15.*

Considers the fungi concerned.

1909a. Plantation inspection on Hawaii. Hawaiian Pl. Rec. **1:** 11–14. *f. 1.*

Includes notes on various diseases affecting sugarcane.

1909b. The Maui forest troubles. Hawaiian Pl. Rec. **1:** 92–95. *f. 1–2.*

A brief general note.

Lewton-Brain L., and **Derr, N.**

1909. The bacterial flora of Hawaiian sugars. Hawaiian Sugar Pl. Exp. Sta. Div. Path. Phys. Bull. **9:** 1–36. *f. 1–21.*

Li, H. L.

1944. On Flemingia Roxburgh (1812), non Roxburgh (1803), versus Moghania J. St. Hilaire (1813). Am. Jour. Bot. **31:** 224–228.

St. Hilaire's name is accepted and numerous species transferred; *Moghania strobilifera* (Linn.) St. Hilaire (*Flemingia strobilifera* R. Br.), introduced and naturalized in various parts of Micronesia and Polynesia.

Limpricht, W.

1928. Taccaceae. Pflanzenr. **92**(IV. 42) : 1–31. *f. 1–5.*

Monographic.

Lindau, G.

1915. Acanthaceae asiaticae. Repert. Sp. Nov. **13:** 550–554.

Includes *Pseuderanthemum jaluitense* n. sp. from the Marianas Islands.

Lindberg, S. O.

1864. Upställning af familjen Funariaceae. Öfvers. Vet. Akad. Förh. (Stockholm) **21:** 589–608.

Includes a few species from Polynesia.

Linden, J.

1881a. Kentiopsis divaricata, Brongn. Ill. Hort. **28:** 10–11. *pl. 409.*

Native of New Caledonia.

1881b. Plantes introduites et mises pour la première fois dans le commerce par l'établissement J. Linden. Ill. Hort. **28:** 15–16, 31–32, 63–64, 95–96.

A list giving data on introduction of various species, including some from Polynesia.

1883. Aralia Gemma Lind. Ill. Hort. **30:** 27. *pl. 477.*

Native of New Caledonia.

Lindenberg, J. B. W., and **Gottsche, K. M.**

1840–51. Species Hepaticarum. [**1:**] i-vi. i-xxix, 1–164. *pl. 1–33.* 1840–44; [**2:**] 1–78. *pl. 1–12.* 1846; [**3:**] i-xii, 1–118. *pl. 1–22.* 1851.

Contains some Polynesian species. Published in 11 fascicles forming 3 volumes.

Lindenberg, J. B. W.

1844–47. Synopsis Hepaticarum. Conjunctis studiis scripserunt et edi curaverunt. C. M. Gottsche, J. B. G. Lindenberg et C. G. Nees von Esenbeck. i–xxvi. 1–834.

Includes some Polynesian species.

Lindley, J.

1821. Observations on the natural group of plants called Pomaceae. Trans. Linn. Soc. **13:** 88–106. *pl. 8–11.*

Includes *Osteomeles anthyllidifolia* from Hawaii.

1821–24. Collectanea botanica; or figures and botanical illustrations of rare and curious exotic plants. *pl. 1–41B*. appendix [1–4].

Includes *Securinega nitida* native of Tahiti, *Nelitris jambosella* from Society Islands, and *Murucuja baueri* n. sp. from Norfolk Island.

1824. A sketch of the principal tropical fruits which are likely to be worth cultivating in England for the dessert. Trans. Hort. Soc. Lond. **5:** 79–126.

Includes notes on *Spondias cytherea,* native of the Society Islands.

1830–40. The genera and species of orchidaceous plants. i–xvii, 1–553. *pl. 1–40.*

Includes some Polynesian species.

1835a. Dracaena terminalis. Bot. Reg. **21:** *pl. 1749.*

Native of Hawaii.

1835b. Dendrobium biflorum. Bot. Reg. **21:** sub *pl. 1756.*

Native of Tahiti.

1838a. Cirrhopetalum Thouarsii. Bot. Reg. **24:** *pl. 11.*

Recorded as extending to the Society Islands.

1838b. Ipomoea pendula. Bot. Reg. **26:** Misc. 84–85.

Notes on this native of Norfolk Island.

1838c. Flora medica; a botanical account of all the more important plants used in medicine in different parts of the world. i–xiii, 1–656.

Includes some Polynesian species.

1841. Clianthus carneus. Bot. Reg. **27:** *pl. 51;* Misc. 2–3.

Native of Norfolk Island.

1843a. Dendrobium macranthum. Bot. Reg. **29:** sub *pl. 28.*

Native of "Vanikoso" (Vanikoro) Island.

1843b. Cirrhopetalum Thouarsii. Bot. Reg. **29:** sub *pl. 49.*

Recorded as occurring in Tahiti.

1844. Dendrobium. Bot. Reg. **30:** Misc. 46–65.

A systematic enumeration, including many new species, some from Polynesia.

1849. Medical and economical botany. i–iv, 1–274. *f. 1–363.*

Includes a few Polynesian species.

Lindley, J., and Paxton, J.

1850–84. Paxton's flower garden. **1:** i–iv, 1–194. *pl. 1–36. f. 1–120.* 1850–51; **2:** 1–186. *pl. 37–72. f. 121–232.* 1851–52; **3:** 1–178. *pl. 73–108. f. 233–314.* 1852–53; revised ed. by Thomas Baines. **1:** i–iv, 1–195. *pl. 1–36. f. 1–111.* 1882; **2:** 1–183. *pl. 37–72. f. 112–195.* 1883; **3:** 1–179. *pl. 73–108. f. 196–265.* 1884.

Includes some Polynesian species. This was apparently republished in 1853 without change.

Lindley, J.

1851. Notices of certain ornamental plants lately introduced into England. Jour. Hort. Soc. **6:** 258–273. f. A–D.

Includes some new species from New Caledonia.

1852. Dammara obtusa, Lindl. Fl. Serr. Jard. Eur. **7:** 274.

Introduced from New Hebrides; an abstract in French from **Lindley, J.,** 1851.

1852–59. Folia Orchidacea. An enumeration of the known species of orchids. [1–396]. *1 pl. 1 f.*

Includes some Polynesian species. The treatment of each genus forms a separately paged section, issued in nine parts. The dates of printing of each part are given in the table of contents.

1857–58. Contributions to the orchidology of India. No. 1. Jour. Linn. Soc. Bot. **1**: 170–190. 1857; (No. 2) **3**: 1–63. 1858.

Includes *Notiophrys commelynae, Phreatia tahitensis, Dendrobium involutum,* and *D. prasinum* n. spp. from Polynesia.

Linford, M. B.

1937. Capture and destruction of nematodes by Hawaiian field and garden fungi. Bishop Mus. Spec. Publ. **30**: 22–23.

A brief abstract.

1939. Potential agents of biological control of plant-parasitic nematodes. Bishop Mus. Spec. Publ. **33**: 23–24.

Several genera of fungi listed.

Lingelsheim, A. von

1930. Eine Oleacee Mikronesiens. Bot. Jahrb. **63**: 279.

Linociera sessiliflora from Palau Island.

See also **Pax, F.,** and **Lingelsheim, A. von,** 1906.

Link, H. F.

1821–22. Enumeratio plantarum horti regii botanici Berolinensis altera. **1**: 1–458. 1821; **2**: i–iv, 1–478. 1822.

Includes some Polynesian species.

1841a. Filicum species in horto regio botanico Berolinensi cultae. [1–2], 1–179.

Includes a few Polynesian species.

1841b. Abietinae horti regii botanici Berolinensis cultae. Linnaea **15**: 481–545. 1841. Reprint 1–65.

Includes *Eutacta* n. gen. from New Caledonia.

Linnaeus, C.

1753. Species plantarum, exhibentes plantas rite cognitas, ad genera relatas, cum differentiis specificis, nominibus trivialibus, synonymis selectis, locis natalibus secundum systema sexuale digestas. [1–10], 1–1200, [1–32]. 1753; ed. 2, [1–14], 1–1684, [1–64]. 1762–63; ed. 3, [1–12], 1–1682. 1764.

Descriptions of all then-known species. Ed. 3 is practically a reprint of ed. 2. An anastatic reprint of ed. 1 was issued by Junk in 1907, and a much better offset process reprint was issued in Tokyo in 1934, with supplementary pp. 1-20 in Japanese. Later editions are entered under their authors, Willdenow and Dietrich.

1754. Genera plantarum, eorumque characteres naturales secundum numerum, figuram, situm, et proportionem omnium fructificationis partium. ed. 5, i–xxxii, 1–500, [1–22].

Includes descriptions of all then-known genera; for earlier and later editions see **Pritzel, Thesaurus,** No. 5411.

1758–59. Systema naturae, per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus differentiis synonymis, locis. Editio decima, reformata **1**: 1–824. 1758; **2**: 825–1384. 1759.

The botanical part appears in vol. 2, under the title "Regnum Vegetabile"; also in ed. 11 (by J. J. Lange) **2**: 826-1380, 1760; and in ed. 12, **2**: 1-736 [1-16]. 1767. The 13th edition was by J. F. Gmelin. For data on earlier editions see E. Pritzel Thesaurus No. 5404.

See also **Richter, H. E.,** 1835–40.

Linnaeus, C. (filius)

1781. Supplementum plantarum systematis vegetabilium editionis xiii, Generum plantarum editionis vi, et Specierum plantarum editionis i–xiv, 1–467.

Includes some Polynesian species. An offset facsimile reprint was issued in Japan in 1936, with six supplementary pages of Japanese text.

Linsley, L. N.

1935. Curious things about Guam; some useful trees, plants, and shrubs. Guam Record. **12:** 39–41, 96.

Popular information regarding various species; not seen.

Linton, A. M.

1933. Notes on the vegetation of Penrhyn and Manihiki Islands. Jour. Polynes. Soc. **42:** 300–307. *illus.*

General notes.

Lister, A.

1894-1925. A monograph of the Mycetozoa, being a descriptive catalogue of the species in the herbarium of the British Museum. 1–224. *pl. 1–78. f. 1–51.* 1894; ed. 2, revised by G. Lister, 1–302. *pl. 1–200. f. 1–56.* 1911; ed. 3, i–xxxii, 1–296. *pl. 1–222. f. 1–60.* 1925.

Includes the Polynesian species.

Lister, G.

1922. Mycetozoa [of New Caledonia]. Jour. Linn. Soc. Bot. **46:** 94–96.

Ten species listed.

Livermore, K. See **Handy, E. S. C., Pukui, M. K.,** and **Livermore, K.**

Lloyd, C. G.

1902. The Geastrae. Ind. Mycol. Writ. Lloyd **1:** 1–43. *f. 1–80.*

Includes *Geaster velutinus* from Samoa.

1905. The Lycoperdaceae of Australia, New Zealand and neighboring islands. Ind. Mycol. Writ. Lloyd **1:** 1–42. *pl. 1–15. f. 1–49.*

Includes various New Caledonian species.

1906a. The Nidulariaceae or "bird's nest fungi." Ind. Mycol. Writ. Lloyd **2:** 1–32. *pl. 102–111. f. 1–201*

Includes a few Polynesian species.

1906b. The Tylostomeae. Ind. Mycol. Writ. Lloyd **2:** 1–28, *pl. 74–85. f. 1–6.*

Records *Tylostoma leveilleanum* from Hawaii.

1906–07. Concerning the phalloids. Ind. Mycol. Writ. Lloyd **2:** 293–301. *pl. 91–93. f. 131–135.* 1906; 325–337. *pl. 112–121. f. 160–163,* 349–372. *f. 167–192.* 1907.

Records a few Hawaiian species.

1909. Synopsis of the known phalloids. Ind. Mycol. Writ. Lloyd **3:** 1–91. *f. 1–107.*

Includes a few Polynesian species. A separately paged pamphlet issued as a part of the above volume of the "Mycological Writings."

1910a. Synopsis of the genus Hexagona. Ind. Mycol. Writ. Lloyd **3:** 1–46. *f. 276–330.*

Records a few Polynesian species.

1910b. Synopsis of the sections Microporus, Tabacinus and Funales of the genus Polystictus. Ind. Mycol. Writ. Lloyd **3:** 49–70. *f. 336–356.*

Includes a few Polynesian species.

1912. Synopsis of the stipitate polyporoids. Ind. Mycol. Writ. Lloyd **3:** 95–208. *f. 395–500.*

Includes some Polynesian species.

1912–15. Letter no. 39. 1–8. 1912; (no. 46.) 1–8. 1913; (no. 58.) 1–8. 1915.

Includes some references to Polynesian species of fungi. Issued as separately paged part of vol. 4 of "Mycological Writings."

1913. Synopsis of the stipitate stereums. Ind. Mycol. Writ. Lloyd **4:** 15–44. *f. 531–564.*

Includes a few Polynesian species.

1915a. Synopsis of the section Apus of the genus Polyporus. Ind. Mycol. Writ. Lloyd **4:** 291–392. *f. 631–706.*

Includes some Polynesian species.

1915b. Synopsis of the genus Fomes. Ind. Mycol. Writ. Lloyd **4:** 211–288. *f. 570–610.*

Includes some Polynesian species.

1919. Tremellaceous plants. Ind. Mycol. Writ. Lloyd **5:** 871–876. *f. 1486–1496.*

Includes *T. samoensis* from Samoa.

1924a. Notes on Hypocrea. Ind. Mycol. Writ. Lloyd **7:** 1256–1258. *f. 2722–2738.*

Includes *Hypocrea peltata* from Samoa.

1924b. Interesting fungi received from correspondents. Ind. Mycol. Writ. Lloyd **7:** 1269–1286. *f. 3070–3132.*

Includes some Polynesian species.

1925. Noteworthy specimens received from correspondents. Ind. Mycol. Writ. Lloyd **7:** 1334–1341. *f. 3070–3132.*

Includes a few fungi from Tahiti.

Lloyd, C. G., and **Aiken, W. H.**

1934. Flora of Samoa. Bull. Lloyd Libr. **33:** Bot. Ser. **4:** (1–6), 1–113, (1–3). *illus.*

General descriptions of common species; photographic illustrations based on Lloyd's 1904-05 Samoan collections.

Loddiges, C.

1822. Tacca pinnatifida. Lodd. Bot. Cab. **7:** *pl. 692.*

Native of the Society Islands.

Loesener, T.

1897. Über die geographische Verbreitung einiger Celastraceen. Bot. Jahrb. **24:** 197–201.

General in nature; records *Perrottetia sandwicensis* from Hawaii.

1901–08. Monographia Aquifoliacearum. Nova Acta Acad. Leop.-Carol. Nat. Cur. **78:** i–viii, 1–598. *pl. 1–15.* 1901; (II) **89:** 1–314. *f. 1–11. maps 1–3.* 1908.

Monographic.

1911. Eine neue Gymnosporia aus Samoa. Notizbl. Bot. Gart. Berlin **5:** 232–233.

G. samoensis n. sp.

1921. Eine Aquifoliacee Mikronesiens. Bot. Jahrb. **56:** 522–523.

Ilex mertensii var. *volkensiana* n. var. from Ponape (Caroline Islands).

1930a. Die Celastraceen Mikronesiens. Bot. Jahrb. **63:** 272–273.

Includes *Gymnosporia palauica* n. sp. from Palau.

1930b. Die Hippocrateaceen Mikronesiens. Bot. Jahrb. **63:** 274–276.

Includes *Salicicratea kraemeri* n. sp. from Palau.

Looser, G.

1927a. La zarzamora (Rubus ulmifolius Schott) en Juan Fernandez. Revis. Chil. Hist. Nat. **31:** 84–85.

A general note.

1927b. Excursiones a Juan Fernandez. Revis. Universit. Univ. Catól. Chile **12:** 377–398.

Not seen.

1932. Vegetación de la isla de Pascua. Revis. Chil. Hist. Geogr. **73:** 157–160.

A general discussion.

1933. Sobre las Ciateáceas chilenas y en especial sobre Lophosoria quadripinnata. Ostenia **1933:** 141–151. *1 pl. f. 1–4.*

Three Juan Fernández ferns in *Lophosoria, Dicksonia,* and *Thrysopteris.*

1935. Botánica miscelánea IV. Revis. Universit. Univ. Catól. Chile **20:** 561–574. *f. 1–3.*

Includes extensive notes on *Yunquea tenzii* and data on a few other Juan Fernández species.

1936. Los géneros Pteris, e Histiopteris y sus representantes Chilenos. 1–15. *f. 1–7.*

Includes several Juan Fernández species.

Loubière, A.

1936. Sur la structure d'un bois silicifié de la Nouvelle-Calédonie. Bull. Soc. Bot. France **82:** 620–624. *f. 1–4.*

***Cedroxylon pancheri* n. sp. of the Cretaceous; paleobotanical.**

Lowe, E. J.

1856–72. Ferns: British and exotic. **1:** i-x, 1–60. *pl. 1–50.* 1856; **2:** 1–161. *pl.* 1–56; **3:** 1–142. *pl. 1–50.* 1857; **4:** 1–174. *pl. 1–64.* 1859; **5:** 1–168. *pl. 1–56.* 1858; **6:** 1–138. *pl. 1–50.* 1857; **7:** 1–183. *pl. 1–66.* 1859; **8:** 1–260. *pl 1–77.* 1860. Reprinted 1861–64 and again in 1868; another reprint (not seen) 1872.

Includes some Polynesian species.

1864–65. A natural history of new and rare ferns; containing species and varieties, none of which are included in any of the eight volumes of "Ferns, British and exotic", amongst which are the new Hymenophyllums and Trichomanes. i–viii, 1–192. *pl. 1–72, text f.* Reprinted 1865.

Includes some Polynesian species.

Lucas, A. H. S.

1935. The marine algae of Lord Howe Island. Proc. Linn. Soc. N. S. W. **60:** 194–232. *pl. 5–9. f. 1–7.*

A general consideration with extensive notes on the various species, and descriptions of some new ones.

Luerssen, C.

1871. Filices Graeffeanae. Beitrag zur Kenntniss der Farnflora der Viti-, Samoa-, Tonga- und Ellices Inseln. Schenk & Luerssen Mitt. Bot. **1:** 57–312. *pl. 11–19.*

A critical enumeration of 226 species with descriptions of new ones.

1873a. Ein Beitrag zur Farnflora der Palaos- oder Pelew-Inseln. Jour. Mus. Godeffroy **1**(1): 52–58.

A list of 42 species, none new.

1873b. Ueber die Farnflora der Cooks- oder Hervey-Inseln. Jour. Mus. Godeffroy **1**(1): 59–62.

A list of 25 species, none new.

1874. Die Farne der Samoa Inseln. Ein Verzeichniss der bis jetzt von den Schiffer-Inseln bekannten Gefässkryptogamen, nebst allgemeinen Bemerkungen über die Systematik dieser Pflanzengruppe. Schenk & Luerssen Mitt. Bot. **1**: 345–415.

A critical enumeration of 153 species with notes.

1875. Gefässkrytogamen: in Wawra, H., Beiträge zur Flora der Hawaiischen Inseln. Flora **58**: 417–428, 433–440.

An enumeration with descriptions of new species.

1876a. Verzeichniss der Gefässkryptogamen welche Dr. H. Wawra auf seiner Erdumsegelung mit der Fregatte "Donau" 1868–1871 und der Reise mit den Prinzen Philipp und August von S. Coburg, 1872 und 1873 sammelte. Flora **59**: 225–230, 285–287, 289–302.

Includes some Polynesian species.

1876b. Berichtigungen zu den in "Flora" 1875, No. 27 und 28 veröffentlichten Gefässkryptogamen der Hawaischen Inseln. Flora **59**: 302.

Corrections to the preceding papers.

1882. Ueber einige Hymenophyllaceen Neuhollands und Polynesiens. Bot. Centralbl. **9**: 438–443.

Includes *Hemiphlebium* (*Trichomanes*) *bimarginatum* from Fiji and Samoa.

Lütje, O.

1906. Beitrag zu einer Landeskunde des Karolinen-Archipels. 1–117.

Includes general notes on the flora and a bibliography; an inaugural dissertation of the University of Bonn.

Luetke, F. P.

1835–36. Voyage autour de monde . . . sur la corvette le Sénevine dans les années 1826–29. **1–2** (1835), **3** (1836); Atlas 1–38. *pl. 1–51. maps 1–3.* 1836.

Not seen; contains some illustrations of the vegetation and some notes on the plants of the Caroline Islands; see Mertens, K. H., 1836.

Lydgate, J. M.

1873. A short synopsis of Hawaiian ferns. 1–14.

A key to the species, including a description of *Davallia alexandri* n. sp. The correct spelling of the author's name is Lydgate, given on the title page as Lidgate.

1881. Indigenous ornamental plants. Hawaiian Annual (1882) **8**: 25–28.

Popular descriptions of selected species.

1882–83. Hawaiian woods and forest trees. Hawaiian Annual (1883) **9**: 33–35. 1882 (1884); **10**: 30–32. 1883.

Popular descriptions with comments on their usefulness.

1910. Endemic character of the Hawaiian flora. Hawaiian Annual (1911) **37**: 53–58.

Speculations on origin and comments on distribution.

1919–21. Reminiscences of an amateur collector. Hawaiian Annual (1920) **46**: 120–126. 1919 (1921); **47**: 68–76. 1920; **48**: 61–67. 1921 (1922).

Narrative of a collecting tour with Dr. Hillebrand.

Lyon, H. L.

1909. The forest disease on Maui. Hawaiian Pl. Rec. **1**: 151–159. *f. 1.*

An extract from a report on an unknown disease.

1910a. Cane diseases that may become epidemic in the Hawaiian Islands. Hawaiian Pl. Rec. **2**: 269–278. *1 f.*

Notes on various diseases.

1910b. Leguminous plants for Hawaiian fields. Hawaiian Pl. Rec. **3:** 51–63. *f. 1–7.*

Includes notes on relative values of 24 species of leguminous plants.

1910c. A study of Iliau. Hawaiian Pl. Rec. **3:** 143–153. *f. 1–11.*

Includes descriptions of *Melanconium iliau,* the chief causal agent of the iliau disease and the associated fungi, *M. sacchari, Allontospora radicicola,* and *Gnomonia sacchari.*

1910d. A new cane disease now epidemic in Fiji. Hawaiian Pl. Rec. **3:** 200–205. *f. 1–6.*

A study of disease caused by *Plasmodiophora brassicae.*

1911a. Notes on the sugar industry of Fiji. Hawaiian Pl. Rec. **4:** 318–339. *f. 1–6.*

Includes data on cane diseases (pp. 330-339).

1911b. Sereh and yellow stripe disease. Hawaiian Pl. Rec. **5:** 69–75. *f. 1–4.*

A general description of these sugarcane diseases.

1911c. Some local problems in green soiling with additional notes on bean varieties. Hawaiian Pl. Rec. **5:** 200–210. *f. 1–3.*

Includes notes on eight species of leguminous plants and their resistance to *Fusarium* and some other fungi.

1912a. A rind disease fungus. Hawaiian Pl. Rec. **6:** 218–219.

Diplodia cacaoicola.

1912b. Iliau, an endemic cane disease. Hawaiian Sugar Pl. Exp. Sta. Div. Path. Phys. Bull. **11:** 1–31. *pl. 1. f. 1–10.*

Caused by *Gnomonia iliau* n. sp. The appendix, pp. 29-31, by N. A. Cobb.

1913a. Diseases of the jack bean. Hawaiian Pl. Rec. **8:** 284–289. *f. 1–6.*

Includes *Septoria canavaliae, Gloesporium canavaliae,* and *Fusicoccum canavaliae.*

1913b. New or noteworthy fungi on sugar cane. Hawaiian Pl. Rec. **9:** 600–603. *f. 1–4.*

Includes *Lophodermium sacchari* n. sp. and *Spegazzinia ornata.*

1915a. The Australian leaf stripe disease of sugar cane. Hawaiian Pl. Rec. **12:** 257–265. *f. 1–3.*

A study of this disease, caused by *Sclerospora sacchari,* based on observations in Fiji.

1915b. Lahaina disease or root-rot. Hawaiian Pl. Rec. **12:** 297–304. *f. 1–3.*

A general description of this sugarcane disease.

1915c. A survey of the pineapple problems. Hawaiian Pl. Rec. **13:** 125–139. *f. 1–9.*

Includes notes on various diseases of pineapple.

1915d. An Hibiscus disease. Hawaiian Pl. Rec. **13:** 361–367. *f. 1–4.*

A species of *Xylaria.*

1917. The pigeon pea. Hawaiian Pl. Rec. **16:** 402–410. *1 f.*

Includes botanical notes on races and varieties of *Cajanus indicus* and its cultivation in Hawaii.

1919a. A dangerous bindweed. Hawaiian Pl. Rec. **20:** 248–249.

Convolvulus arvensis and methods of control.

1919b. A preliminary report on the root-rot organism. Hawaiian Pl. Rec. **21:** 2–8. *f. 1–5.*

Includes notes on eight species of Chytridineae.

1919c. Some observations on the forest problems of Hawaii. Hawaiian Pl. Rec. **21:** 289–300. *f. 1–6.*

A general discussion.

1920a. The kapoc or silk-cotton tree. Hawaiian Pl. Rec. **22:** 295–298. *3 f.*

Includes botanical notes and data on cultivation.

1920b. A sugar cane cancer-root. Aeginetia indica Roxb. Hawaiian Pl. Rec. **23:** *3 f.*

A brief note.

1920c. Pahala blight. Hawaiian Pl. Rec. **23:** 193–198. *f. 1–2.*

See also Williams, W. L. S., 1920.

1921a. Three major cane diseases: Mosaic, sereh, and Fiji disease. Bull. Exp. Sta. Hawaiian Sugar Pl. Assoc. Bot. Ser. **3:** 1–43. *1 pl.* (*frontisp.*), *f. 1–27.* 159. *f. 1–12.*

A detailed consideration of the three diseases.

1921b. Fiji disease. Hawaiian Pl. Rec. **24:** 179–186. *f. 1–7.*

A general consideration. Probably a virus.

1922. Fig trees for Hawaiian forests. Hawaiian Pl. Rec. **26:** 78–87. *ill.*

Not seen.

1923. Forestry on Oahu. Hawaiian Pl. Rec. **27:** 282–310. *f. 1–20.*

Largely statistical.

1924. The athel in Hawaii. Hawaiian Pl. Rec. **28:** 508–510.

Notes on *Tamarix aphylla*.

1927a. Exotic trees in Hawaii, Hawaiian Pl. Rec. **31:** 163–169. *f. 1–4.*

Botanical notes on *Colvillea racemosa* and *Terminalia myriocarpa*.

1927b. Further notes on stem galls of the sugar cane. Hawaiian Pl. Rec. **31:** 249–273. *f. 1–17.*

1927c. Botany in Hawaii. Bishop Mus. Spec. Publ. **12:** 10–11.

General notes.

1929. Ten years in Hawaiian forestry. Hawaiian Pl. Rec. **33:** 55–97. *f. 1–21. 1 text map.*

A general summary, including an enumeration of species with data on distribution and cultivation.

1941. Polymorphic species in Hawaii. Proc. Sixth Pacific Sci. Congr. **4:** 657.

Essentially a discussion of Fosberg's views regarding *Gouldia*. See Fosberg, 1937c.

Lyons, A. B.

1890. Artificial key to the genera and species of Hawaiian ferns. Hawaiian Annual (1891) **29:** 76–87.

1896. Native plants of the Hawaiian islands. Hawaiian Annual (1897) **23:** 55–70.

1899. What a botanist may see in Honolulu. Hawaiian Annual (1900) **26:** 93–108.

Popular descriptions of various ornamental plants in Honolulu.

1900. Plant names, scientific and popular, including in the case of each plant the correct botanical name in accordance with the reformed nomenclature, together with botanical and popular synonyms . . . . 1–489.

Includes a few names for Polynesian species.

M

Macbride, J. F.

1918. New or otherwise interesting plants, mostly North American Liliaceae and Chenopodiaceae. Contr. Gray Herb. **53:** 1–22.

Includes the adoption of *Madhuca* in place of *Bassia* in the Sapotaceae, with *M. amicorum* (A. Gray) Macbride (*Bassia amicorum* A. Gray) from Polynesia.

Macbride, T. H.

1926. A bit of Polynesian mycology. Mycologia **18:** 125–131.

Lists two species of *Stemonitis* from Fiji (pp. 129-31).

Macbride, T. H., and **Martin, G. W.**

1934. The Myxomycetes. A descriptive list of the known species with special reference to those occurring in North America. i–xi. 1–329. *t. 1–21.*

Monographic.

MacCaughey, V.

1912. Notes on some Honolulu palms. Hawaiian For. Agr. **9:** 17–18. *1 f.* 66–74. *f. 1–5,* 79–82. *f. 1–2.*

General notes.

MacCaughey, V., and **Emerson, J. S.**

1913–14. The Kalo in Hawaii. Hawaiian For. Agr. **10:** 186–193. *2 f.* 225–231. *3 f.* 280–288. *3 f.* 315–323. *3 f.* 349–358. *2 f.* 1913; **11:** 17–23, 44–51, 111–123. *6 f.* 201–216. *9 f.*

Concerns the cultivated forms of *Colocasia esculenta.*

MacCaughey, V.

1915a. A biological survey of Oahu. Hawaiian For. Agr. **12:** 23–33.

General.

1915b. Some common woody plants of the Oahu lowlands. Hawaiian For. Agr. **12:** 290–292.

A reference list.

1916a. The tree ferns of Hawaii. Am. Bot. **22:** 1–9. *f. 1–2.*

Popular.

1916b. Vegetation of the Hawaiian summit bogs. Am. Bot. **22:** 45–52.

Ecological.

1916c. The seaweeds of Hawaii. Am. Jour. Bot. **3:** 474–479.

Popular.

1916d. The economic woods of Hawaii. Forest Quart. **14:** 696–716.

General.

1916e. An annotated reference list of the more common trees and shrubs of the Konahuanui region. Hawaiian For. Agr. **13:** 28–34.

A list with notes and local names.

1916f. Precinctive flora of the Waianae Mountains, Oahu. An annotated reference list of seventy species and varieties. Hawaiian For. Agr. **13:** 85–89.

Includes data on the distribution of the species listed.

1916g. Coral reefs of the Hawaiian islands. Jour. Geogr. **14:** 252–253.

General.

1916h. The forests of the Hawaiian islands. Plant World **19:** 162–166. *f. 1–2.*

General.

1916i. The orchids of Hawaii. Plant World **19:** 350–355.

Three species considered in detail.

1916j. The genus Eugenia in the Hawaiian islands. Torreya **16:** 260–267.

General.

1916k. Passifloras in the Hawaiian islands. Jour. Bot. **54:** 363–368.

Popular notes on the introduced species.

1916l. The wild flowers of Hawaii. Am. Bot. **22:** 97–105, 131–135.

A popular discussion only.

1916m. The hau, an interesting tree of Hawaii. Hawaiian Annual (1917) **43:** 108–112 *2 f.*

Hibiscus tiliaceus.

1917a. The Oahu rain forest. Am. Forestry **23:** 276–278. *5 f.*

Popular.

1917b. Gunnera petaloidea Gaud., a remarkable plant of the Hawaiian islands. Am. Jour. Bot. **4:** 33–39.

Redescription and discussion.

1917c. The phytogeography of Manoa Valley, Hawaiian islands. Am. Jour. Bot. **4:** 561–603. *f. 1–14.*

Ecological.

1917d. A survey of the Hawaiian land flora. Bot. Gaz. **64:** 89–114. *f. 1–5.*

General.

1917e. Vegetation of Hawaiian lava flows. Bot. Gaz. **64:** 386–420. *f. 1–22.*

Ecological.

1917f. An annotated list of the forest trees of the Hawaiian Archipelago. Bull. Torr. Bot. Club **44:** 145–157.

A list with brief notes; see Rock 1917e.

1917g. The guavas of the Hawaiian islands. Bull. Torr. Bot. Club **44:** 513–524.

Popular.

1917h. Algae of the Hawaiian Archipelago. Hawaiian Annual (1918) **44:** 129–155.

A list arranged by families and genera.

1917i. A rare fruit tree of Hawaii. Hawaiian For. Agr. **14:** 97–98.

Diospyros ebenaster.

1917j. Lichen flora of the Hawaiian islands. Hawaiian For. Agr. **14:** 303–304.

Brief general notes.

1917k. The mangrove in the Hawaiian islands. Hawaiian For. Agr. **14:** 361–366.

Concerns the introduction and establishment of *Rhizophora.*

1917l. The food plants of the ancient Hawaiians. Sci. Monthly **4:** 75–80.

General.

1917m. The genus Artocarpus in the Hawaiian islands. Torreya **17:** 33–49.

General.

1917n. The genus Annona in the Hawaiian islands. Torreya **17:** 69–77.

General.

1917o. American explorers of Hawaii. Mid-Pacif. Mag. **14:** 281–285.

Not seen.

1918a. Algae of the Hawaiian Archipelago. Bot. Gaz. **65:** 42–57, 121–149.

General, with a list of species.

1918b. An endemic Begonia of Hawaii. Bot. Gaz. **66:** 273–275.

Hillebrandia sandwicensis.

1918c. The strand flora of the Hawaiian Archipelago. I. Geographical relations, origin, and composition. Bull. Torr. Bot. Club **45;** 259–277, (II. Ecological relations) 483–502.

Ecological.

1918d. The Hawaiian Kamani (Calophyllum inophyllum L.) Hawaiian For. Agr. **15:** 69–73.

General.

1918e. An ecological survey of the Hawaiian Pteridophytes. Jour. Ecol. **6:** 199–219.

Considers 190 species.

1918f. The native bananas of the Hawaiian islands. Plant World **21:** 1–12.

Popular.

1918g. The genus Morinda in the Hawaiian flora. Plant World **21**: 209–214.
Popular.

1918h. Endemic plants of Hawaii. Pritchardia. Plant World **21**: 317–328.
General.

1918i. The Hawaiian Violaceae. Torreya **18**: 1–11.
A compilation of data on 11 species with descriptions.

1918j. The genus Gleichenia (Dicranopteris) in the Hawaiian islands. Torreya **18**: 41–52.
A compilation of data on four species with descriptions.

1918k. The Hawaiian sumach. Torreya **18**: 183–188.
A detailed description of *Rhus semialata* var. *sandwicensis*.

1918l. The olona, Hawaii's unexcelled fiber plant. Science II. **48**: 236–238.
***Touchardia latifolia*.**

1918m. The Hawaiian lehua. Am. Forest. **24**: 409–418. *10 f.*
Metrosideros polymorpha.

1918n. A survey of the Hawaiian coral reefs. Am. Nat. **52**: *409–438. f. 1–9.*
Includes some general data on the flora and fauna of coral reefs.

1918–19. History of botanical exploration in Hawaii. Hawaiian For. Agr. **15**: 388–396, 417–429, 508–510. 1918; **16**: 25–28, 49–54. 1919.
Historical, with an appended bibliography.

1919a. Native and alien bananas of the Hawaiian islands. Mid-Pacif. Mag. **18**: 454–459.
Not seen.

1919b. The pala or mule's-foot fern, Marattia Douglasii (Presl) Baker, in the Hawaiian Archipelago. Torreya **19**: 1–8.
Includes a description and data on history and distribution of this species.

1920. Hawaii's tapestry forests. Bot. Gaz. **70**: 137–149. *f. 1–6.*
General.

McClelland, C. K.

1915. Grasses and forage plants of Hawaii. Hawaiian Agr. Exp. Sta. Bull. **36**: 1–43. *pl. 1-9.*
General for the subject indicated.

McEldowney, G. A.

1930. Forestry on Oahu. Hawaiian Pl. Rec. **34**: *267–287. 31 f. 2 text maps.*
A general discussion.

McFarland, J. H.

1935. The silversword of Hawaii. Hort. **13**: 512. *1 f.*
A popular account of *Argyroxiphium macrocephalum*.

MacFarlane, J. M.

1908. Nepenthaceae. Pflanzenr. **36**(IV. 111): 1–92. *f. 1–19.*
Monographic.

McGeorge, W. T.

1924. Lahaina disease, root-rot or plant failure. Hawaiian Pl. Rec. **28**: 468–472.
A general discussion.

Macgillivray, J.

1854. Letter from John Macgillivray, Esq., naturalist of H. M. Surveying-ship "Herald" commanded by Captain Denham; dated Sydney, March 3rd, 1854. Hook. Jour. Bot. Kew Gard. Miscel. **6**: 353–363.

General notes on the vegetation of Lord Howe Island, Isle of Pines (New Caledonia), and the New Hebrides, including *Grevillea gillivrayi* and *Stenocarpus milnei* n. spp. (by Hooker) from the Isle of Pines. See **Hooker, W. J.**, 1855b, for certain plates.

Macgregor, G.

1937. Ethnology of Tokelau Islands. Bishop Mus. Bull. **146**: i–vi, 1–183. *pl. 1–10. f. 1–25.*

Page 11, botany, contains a list of 37 local plant names with binomial equivalents.

McLean, O. G. See **Frear, M. D.**, 1938.

Macrae, J. See **Wilson, W. F.**, 1922.

Madelain, E., fils

1873. Du genre Croton, ses espèces, sa culture. Rev. Hort. **45**: 312–314.

Includes brief descriptions of some Polynesian species.

Magenc, P.

1914. Les Badamiers. Étude pharmacographique du genre Terminalia L. Ann. Mus. Colon. Marseille III **2**: i-xii. 1–111. *f. A–Z.*

Includes *T. glabrata* from Polynesia.

Magnusson, A. H.

1940. Studies in species of Pseudocyphellaria. The Crocata-group. Act. Hort. Gotob. **14**: 1–36. *f. 1–5.*

Includes descriptions of *P. mougeotiana* (Del.) Vain., *P. hawaiiensis* n. sp., and *P. carpoloma* (Del.) Vain. from Polynesia, and *P. gilva* (Ach.) Malme from Juan Fernández.

1941. New species of Cladonia and Parmelia from the Hawaiian Islands. Arkiv Bot. **30 B** (3): 1–9.

Descriptions of six new species of *Cladonia* and seven of *Parmelia.*

1942. Lichens of Nihoa and Necker Islands. Occ. Pap. Bishop Mus. **17**: 25–41.

An enumeration with descriptions of several new species.

Magnusson, A. H., and **Zahlbruckner, A.**

1943–45. Hawaiian lichens. Arkiv Bot. **31 A** (1): 1–96. 1943; (II) The families Lecideaceae to Parmeliaceae. **31 A** (6): 1–109. 1944; (III) The families Usneaceae and Physciaceae. **32 A** (2): 1–89. *pl. 1–10.* 1945.

Includes a review of recent publications on Pacific lichens and descriptions of many new species.

Maiden, J. H.

1898. Observations on the vegetation of Lord Howe Island. Proc. Linn. Soc. N. S. W. **23**: 112–158. *pl. 1–4.*

Includes *Cupania howeana* n. sp.

1899. Some further observations on the vegetation of Lord Howe Island. Proc. Linn. Soc. N. S. W. **24**: 381–384. *pl. 32–33.*

Critical notes on several species.

1901a. Notes on the botany of Pitcairn Island. Proc. Australas. Assoc. Adv. Sci. **8**: 262–271.

A list with notes.

1901b. On one of the so-called honeysuckles of Lord Howe Island. Proc. Linn. Soc. N. S. W. **26**: 156–159.

Guioa coriacea and its synonymy.

1902. On a new Cryptocarya from Lord Howe Island, together with notes on other plants from that island. Proc. Linn. Soc. N. S. W. **27**: 347–351. *f. 15.*

C. gregsoni n. sp.

1903. The flora of Norfolk Island. Proc. Linn. Soc. N. S. W. **28**: 692–785. *pl. 38.*

A critical enumeration of the known species with extensive notes.

1904. The botany of Funafuti, Ellice Group. Proc. Linn. Soc. N. S. W. **29**: 539–556.

An enumeration with notes.

1914. Further notes on the botany of Lord Howe Island. Proc. Linn. Soc. N. S. W. **39**: 377–384. *pl. 28.*

A list with notes, including *Plantago hedleyi* n. sp.

Malaspina, A.

1885. Viaje político-cíentifico alrededor del mundo por las corbetas Descubierta y Atrevida al mando de los capitanes de navio D. Alejandro Malaspina y Don José de Bustamante y Guerra desde 1789 á 1794. i–xxxi, 1–681. *illus. 1 folded map.*

A narrative of the "Malaspina Expedition," the plants of which were studied by Presl and Cavanilles; nonbotanical, but includes important data on itineraries. The cover title is: La vuelta al mundo por las corbetas Descubierta y Atrevida. . . . Introduction by Pedro de Novo y Colson.

Malta, N.

1926. Die Gattung Zygodon Hook. et Tayl. Eine monographische Studie. Latv. Univ. Bot. Darzã Darbi **1**: 1–185. *f. 1–104.*

Includes the Polynesian species.

Mangelsdorf, A. J. See **Gilmore, A. B.,** 1939.

Manguin, E.

1938. Contribution à la flore diatomique des Nouvelles-Hébrides. Bull. Soc. Bot. France **85**: 14–19. *pl. 1–3.*

A list with notes and a few new species.

Mann, A.

1907. Report of the diatoms of the Albatross voyages in the Pacific Ocean, 1888–1904. Contr. U. S. Nat. Herb. **10**: i–viii. 221–442. *pl. 44–54.*

Includes many new species and a bibliography (pp. 394-419).

Mann, H.

1866a. [Denudation on the Hawaiian islands.] Proc. Bost. Soc. Nat. Hist. **10**: 232–234.

General observations.

1866b. Description of some new species of the genus Schiedea, and of an allied new genus. Proc. Bost. Soc. Nat. Hist. **10**: 309–312.

Includes the descriptions of five new species of *Schiedea,* and a new genus *Alsinidendron.*

1866c. Revision of the Rutaceae of the Hawaiian Islands. Proc. Bost. Soc. Nat. Hist. **10**: 312–319.

Considers the genera *Pelea, Melicope, Platydesma,* and *Zanthoxylum.* This paper and the preceding one were reprinted under the title "Revision of the Genus Schiedea and of the Hawaiian Rutaceae," pp. 309-319. 1866.

1866–71. Flora of the Hawaiian islands. Proc. Essex Inst. **5**: 113–144. 1866; 161–176. 1867; 233–248. 1868; **6**: 105–112. 1871. Reprint, 1–88. no date, probably 1871.

A descriptive flora, Ranunculaceae to Araliaceae (part); no more published.

1867a. On the crater of Haleakala, East Maui, Hawaiian islands. Proc. Boston Soc. Nat. Hist. **11**: 111–113.

Includes some botanical observations.

1867b. Enumeration of Hawaiian plants. Proc. Am. Acad. Arts Sci. **7**: 143–235.

A list of 667 species, many described as new.

1869a. Statistics and geographical range of Hawaiian (Sandwich Islands) plants. Jour. Bot. **7**: 171–183.

A list of species.

1869b. Notes on Alsinidendron, Platydesma, and Brighamia, new genera of Hawaiian plants with an analysis of the Hawaiian flora. Mem. Bost. Soc. Nat. Hist. **1**: 529–541. *pl. 20–23.*

Includes the descriptions of the genera indicated. The cover of the reprint bears the title "Four New Genera of Hawaiian Plants", but it includes also Brigham's new genus *Hesperomannia.*

Mansfeld, R.

1930. Eine Melastomatacee Mikronesiens. Bot. Jahrb. **63**: 278.

Medinilla blumeana n. sp. from Palau Island.

See also **Diels, L.,** and **Mansfeld, R.**

Marchand, L.

1869. Révision du groupe des Anacardiacées. 1–198. *pl. 1–3.*

Monographic, with particular reference to the genera.

Marcuse, A.

1894. Die Hawaischen Inseln. i–iv, 1–186. *34 pl. 6 f. 1 map.*

Discusses the flora (pp. 133-139).

Markgraf, F.

1930. Die Apocynaceen von Mikronesien. Bot. Jahrb. **63**: 280–287.

Includes some species from Palau and the Marianas Islands.

1934. Die Gattung Astronidium A. Gray. Notizbl. Bot. Gart. Berlin **12**: 47–50.

Reinstates the genus *Astronidium,* reducing to it *Naudiniella* Krasser (*Naudinia* Decne.), and transferring to it about eight Polynesian species of *Astronia.*

1936. Die Gliederung der asiatischen Tabernaemontanoideen. Notizbl. Bot. Gart. Berlin **12**: 540–552. *f. 7.*

Includes *Pagiantha* n. gen, from Fiji, with data on several Polynesian species in the five genera recognized, restricting *Tabernaemontana* to America.

1938. Die Myristicaceen von Mikronesian: in L. Diels, Beiträge zur Flora von Micronesien und Polynesian V. Bot. Jahrb. **69**: 395–397.

Includes the few known species from the Palau and Caroline Islands, with key.

Martelli, U.

1904. Pandani Asiatici nuovi. Bull. Soc. Bot. Ital. **1904**: 298-305.

Includes some New Caledonian species.

1905. Pandanus. Nuove specie descritte da Ugolino Martelli. Webbia **1**: 361–371.

Includes *P. whitmeeanus* n. sp. native of Samoa; see **Martelli, U.,** 1907, for completion of this reference.

1907. Pandanus. Nuove specie descritte da Ugolino Martelli. Manipolo II. Webbia **2**: 423–439.

Includes the descriptions of several new species from Polynesia.

1910. Nuove specie di "Freycinetia". Webbia **3**: 167–186.

Includes six species from New Caledonia.

1910–13. Enumerazione delle "Pandanaceae". Webbia **3:** 307–327. 1910; **4:** 5–105. *pl. 1–43.*

Includes the then-known Polynesian species.

1912. Neue Pandanaceae Papuasiens. Bot. Jahrb. **49:** 60–67.

Includes some species from the Caroline Islands.

1913. Pandanaceae: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **89:** 488–491. f. 5. Reprint **5:** 46–49. *f. 5.*

Includes some Samoan species.

1914. Le specie e varietà nuove di "Pandanus" menzionate nella enumerazione delle Pandanaceae. Webbia **4:** 399–435.

Includes the descriptions of some new species from Polynesia.

1920. Pandanaceae: in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1:** 116–119.

An enumeration with redescriptions of some species.

1926. A new species of Pandanus from Fanning Island. Univ. Calif. Publ. Bot. **13:** 145–146. *pl. 12.*

Pandanus hermsianus n. sp.

1929. "Pandanus odoratissimus" o "Pandanus tectorius"? Nuovo Giorn. Bot. Ital. II **36:** 328–337.

Nomenclatorial, with particular reference to the Polynesian type.

1930a. Fiji Pandanaceae. Univ. Calif. Publ. Bot. **12:** 325–350. *pl. 37–44.*

An enumeration with notes and descriptions of new species.

1930b. Pandanaceae of Tonga. Univ. Calif. Publ. Bot. **12:** 351–362. *pl. 45–46.*

Includes some new species.

1930c. Two new varieties of Pandanus odoratissimus Linn. in the Hawaiian group. Univ. Calif. Publ. Bot. **12:** 363–368. *pl. 47.*

Two new varieties described.

1931. Two Pandanaceae from the New Hebrides collected by S. F. Kajewski. Jour. Arnold Arb. **12:** 269–270.

Includes *Freycinetia tannaensis* n. sp.

1932a. Pandanaceae: in Guillaumin, Contribution to the flora of the New Hebrides. Jour. Arnold Arb. **13:** 114. *pl. 43.*

A list with notes and descriptions.

1932b. Pandanaceae nuove dell' Archipelago Marquesas. Mem. Soc. Tosc. Sci. Nat. **42:** 221–227. *pl. 7–8.* Reprint 1–9. *pl. 7–8.*

Includes *Freycinetia delmasiana, F. hivaoensis,* and *Pandanus mendanensis* n. spp.

1932c. "Pelagodoxa Henryana" Becc. palma delle isole Marquesas. Nuovo Giorn. Bot. Ital. II. **39:** 243–250. *pl. 7–9. f. 1.*

A detailed description, with illustrations.

1932d. L'Arcipelago della Società e le sue Pandanaceae. Atti Soc. Tosc. Sci. Nat. **42:** 111–117. Reprint, 1–7.

Includes a key to the local forms of *Pandanus odoratissimus* and *P. pedunculatus.*

1933a. La distribuzione geografica delle Pandanaceae. Atti Soc. Tosc. Sci. Nat. **43:** 190–209. Reprint, 1–22.

A general discussion with tabulated data; lists some Polynesian species.

1933b. Pandanaceae of Tahiti. Univ. Calif. Pub. Bot. **17:** 149–170. *pl. 16–21.*

Includes four new species from Tahiti.

1933c. Pandanaceae of Rarotonga. Univ. Calif. Publ. Bot. **17:** 171–186. *pl. 22–25.*

Includes the descriptions of three new species.

1934a. Generi, specie e varietà nuove di palme gerontogee della tribù "Arecaceae" lasciate ineditae dal Dott. O. Beccari ed ordinate a cura di U. Martelli. Atti Soc. Tosc. Sci. Nat. **44:** 114–176.

Includes some new species from Polynesia and Micronesia and new names for other species.

1934b. Pandanaceae: in Kanehira, R., New or noteworthy trees from Micronesia. V. Bot. Mag. (Tokyo) **48:** 116–130, 163–164. *f. 1–8.*

Includes the descriptions of nine new species.

1934c. Samoan Pandanaceae. Occ. Pap. Bishop Mus. **10**(13)**:** 1–24. *f. 1–10.*

Twelve species recognized, with a key.

1935a. I generi e le specie delle palme gerontogee della tribù delle "Arecaceae". Esposizione geografica secondo la monografia inedita del Dr. O. Beccari. Nuovo Giorn. Bot. Ital. II. **41:** 693–723.

A list with tabulated distribution.

1935b. La sinonimia delle palme gerontogee della tribù delle Areceae. Nuovo Giorn. Bot. Ital. II. **42:** 17–88.

Alphabetical lists including the Polynesian species.

Martens, G. von

1866. Die Preussische Expedition nach Ost-Asien. Nach amtlichen Quellen. Bot. Theil, Die Tange. 1–152. *pl. 1–8.*

Includes various Polynesian species of algae.

Martin, G. W. See **Macbride, T. H.,** and **Martin, G. W.**

Martin, J. P.

1930a. Gumming disease of sugar cane. Hawaiian Pl. Rec. **34:** 65–78. *f. 1-8.*

Includes the description of *Bacterium vascularum,* which causes the disease.

1930b. Chlorotic streak disease of sugar cane. Hawaiian Pl. Rec. **34:** 375–378. *1 pl.*

History and description of this disease.

1931. Diseases, malformations and blemishes of sugar cane in Hawaii. Hawaiian Pl. Rec. **35:** 129–134.

Includes an enumeration of various diseases with their causal agents.

Martin, J. P., Carpenter, C. W., and **Weller, D. M.**

1932. Leaf scald disease of sugar cane in Hawaii. Hawaiian Pl. Rec. **36:** 145–196. *1 pl. f. 1–23. 1 map. 1 table.*

A detailed study of this bacterial disease.

Martin, J. P. See also **Caum, E. L.,** and **Martin, J. P.; Lee, H. A., Martin, J. P., Purdy, H. A.** (and others); and **Tattersfield, F., Martin, J. P.,** and **Howes, F. N.**

Martius, K. F. P. von

1831–50. Historia naturalis Palmarum. Opus tripartitum, cujus volumen primum Palmas generatim tractat, volumen secundum Brasiliae Palmas singulatim descriptione et icone illustrat, volumen tertium ordinis, familiarum, generum characteres recenset, species selectas describit et figuris adumbrat adjecta omnium synipsi. Accedunt tabulae CCVLV. **1:** i–vi. i–cxcviii. *pl. 1–55.* 1831–50; **2:** 1–152. *pl. 1–101.* 1823–37; **3:** 153–350. *pl. 102–180* 1831–50.

The then-known Polynesian species are included in vol. 3.

Massalongo, A. B.

1863. Sopra tre licheni della Nuova Zelanda. Bull. Soc. Nat. Moscou **36**(1): 254–268. *pl. 1–3.*

Includes detailed description in Italian of *Myxodictyon chrysosticta,* native of Juan Fernández and New Zealand.

Massee, G.

1889–90. A monograph of the Thelephoreae. Jour. Linn. Soc. Bot. 25: 107–155 *pl. 45–47.* 1889; (Part II) **27**: 95–205. *pl. 5–7.* 1890.

Includes some Polynesian species.

1906a. Revision of the genus Hemileia, Berk. Kew Bull. **1906**: 35–42 *1 pl.*

Includes references to Polynesian species.

1906b. Fungi exotici. V. Kew Bull. **1906**: 255–258.

Includes *Aposphaeria canavaliae* n. sp. from Fiji.

See also **Wakefield, E. M., Massee, G.,** and **Cotton, A. D.**

Masters, M. T.

1869. Davallia Mooreana, Masters, sp. n. Gard. Chron. **1869**: 964. *1 f.*

Recorded from New Hebrides.

1871. Contributions to the natural history of the Passifloraceae. Trans. Linn. Soc. **27**: 593–645. t. 64–65.

Includes the reference of two Fijian species of *Disemma* to *Passiflora.*

1878. Xeronema Moorei, Br. et Gris. Gard. Chron. II. **10**: 8. *f. 3.*

Native of New Caledonia.

1892. List of conifers and taxads in cultivation in the open air in Great Britain and Ireland. Jour. Roy. Hort. Soc. **14**: 179–256.

Includes various Polynesian species with synonymy.

Mathieu, C.

1882–84. Die neuen Pflanzen des Jahres 1881. Gart. Zeit. Wittmack **1**: 50–53. 1882; (. . . des Jahres 1882) **2**: 190–192, 326–330, 403–406. 1883; (. . . des Jahres 1883) **3**: 163–164, 213–215. 1884.

Consists of the excerpts from original descriptions of new species, including a few natives of Polynesia.

Mattic, F.

1940. Übersicht der Flechtengattung Cladonia in neuer systematischer Anordnung. Repert. Sp. Nov. **49**: 140–168.

Includes a few references to Polynesian species.

Matue, Y.

1942. Systematic studies of the plankton organisms occurring in Iwayama Bay, Palao. II. List of diatoms occurring in the bay. Palao Trop. Biol. Stat. Studies **2**: 521–525.

A list of 76 species.

Maxon, W. R.

1912. A new name for a Hawaiian fern. Am. Fern Jour. **2**: 19–20. *1 f.*

Polypodium saffordii nom. nov. (*P. minimum* Brack., non Aubl.).

1913. A new genus of davallioid ferns. Jour. Washington Acad. Sci. **3**: 143–144.

Sphenomeris with at least one species in Polynesia.

1923. Occasional notes on Old World ferns. I. Proc. Biol. Soc. Washington **36**: 169–178.

Includes *Tectaria setchellii* and *T. stearnsii* n. spp. from Samoa and some new names for other Polynesian species.

1924. Report upon a collection of ferns from Tahiti. Univ. Calif. Publ. Bot. **12:** 17–33. *pl. 1–6.*

An enumeration of Setchell and Parks collection, with descriptions of new species.

Mayor, A. G.

1921. Rose Atoll, American Samoa. Proc. Am. Philos. Soc. **60:** 62–70.

Includes some notes on the vegetation.

Mayuranathan, P. V.

1938. The original home of the coconut. Jour. Bombay Nat. Hist. Soc. **40:** 174–182.

Includes data on Polynesia.

Mazza, A.

1905–25. Saggio di Algologia Oceanica. Nuova Notar. **16:** 85–89, 129–141. 1905; **17:** 1–13, 41–56, 81–101, 129–150. 1906; **18:** 1–36, 67–98, 126–152, 177–195. 1907; **19:** 1–24, 49–66, 109–129, 153–170. 1908; **20:** 6–18, 65–86, 113–135. 1909; **21:** 1–27, 65–99, 125–152, 169–199. 1910; **22:** 7–25, 53–80, 109–139, 157–171. 1911; **23:** 1–24, 57–78, 109–122, 165–182. 1912; **24:** 1–22, 57–85, 113–131, 157–174. 1913; **25:** 1–34, 57–77, 141–162, 193–210. 1914; **26:** 1–42, 49–75; 133–154, 181–206. 1915; **27:** 1–53, 104–155, 169–215. 1916; **28:** 70–109, 176–239. 1917; **29:** 1–34, 57–112. 1918; **30:** 1–62. 1919; **31:** 1–64, 93–160. 1920; **32:** 1–48, 73–132. 1921; **33:** 1–31, 97–125. 1922; **34:** 1–24. 1923; **35:** 7–18. 1925. Reprint **1:** 1, 1–528. 1905–11; **2:** 529–1056. 1911–16; **3:** 1057–1584. 1916–22; **4:** 1585–2096. 1922–26.

Includes descriptions of and critical notes on 812 species of algae, some from Polynesia. The last few parts bear the title: "Aggiunte al Saggio Algologia."

Mead, J. P.

1928a. The forests of the Fiji Islands. Quart. Jour. For. **7:** 47–54.

A general description.

1928b. The forests of the Colony of Fiji. Legislative Council Paper **4:** 1–47. *2 maps.*

Includes many data regarding timber trees, with local and Latin names.

1933. A tour in Fiji. Malay. Forest. **2:** 24–32, 61–71.

Notes on the country from a forester's standpoint.

Meehan, T.

1881. Aralia elegantissima. Gard. Month. **23:** 207. *1 f.*

Native of the South Sea Islands (actual place of origin doubtful).

1884. The Tonga plant. Gard. Month. **26:** 340–341. *1 f.*

Epipremnum mirabile, native of the South Sea Islands.

Meeuse, B. J. D. See **Lam, H. J.,** and **Meeuse, B. J. D.**

Mehrlich, F. P., and **Fitzpatrick, H. M.**

1935. Dichotomophthora Portulacae, a pathogene of Portulaca oleracea. Mycologia **27:** 543–550. *f. 1–3.*

A new genus and species of fungi from Hawaii.

Meisner, C. F.

1836–43. Plantarum vascularium genera secundum ordines naturales digesta eorumque differentiae affinitates tabulis diagnosticis expositae. i–iv, 1–442; Pars altera, 1–401.

Includes the then-known Polynesian genera.

1857a. Polygonaceae. DC. Prodr. **14:** 1–186.

Monographic.

1857b. Proteaceae. DC. Prodr. **14:** 209–482.

Monographic.

1857c. Thymelaeaceae. DC. Prodr. **14:** 493–605.

Monographic.

1864a. Lauraceae. DC. Prodr. **15**(1): 1–260.

Monographic.

1864b. Hernandiaceae. DC. Prodr. **15**(1): 261–265.

Monographic.

Menzies, A.

1909. Ascent of Mount Hualalai (An extract from A. Menzies' journal of Vancouver's Voyage 1790–1794). Hawaiian Annual (1910). **36:** 72–89.

Includes observations on the vegetation.

See also **Wilson, W. F.,** 1920.

Mereschkowsky, C.

1902. On Polynesian diatoms. Scripta Bot. Hort. Univ. Petrop. **18:** 19–164. *pl. 4–6.*

Lists with descriptions of new species from Samoa, Tahiti, Hawaii, and other parts of the Pacific Ocean.

Merrill, E. D.

1914. An enumeration of the plants of Guam. Philip. Jour. Sci. **9:** Bot. 17–155.

An enumeration with descriptions of new species.

1915. On the application of the generic name Nauclea of Linnaeus. Jour. Washington Acad. Sci. **5:** 530–542.

***Neonauclea* is proposed for *Nauclea,* and the Polynesian species are transferred.**

1919. Additions to the flora of Guam. Philip. Jour. Sci. **15:** 539–544.

Includes two new species.

1920. Comments on Cook's theory as to the American origin and prehistoric Polynesian distribution of certain economic plants, especially Hibiscus tiliaceus Linnaeus. Philip. Jour. Sci. **17:** 377–384.

General.

1924. Bibliography of Polynesian botany. Bishop Mus. Bull. **13: 1–68.**

A publication preliminary to Merrill, 1937a, containing more than 1,300 entries.

1928. Some Polynesian botanical problems of fundamental importance. Proc. Third Pan-Pacific Sci. Congr. Tokyo **1:** 889–893.

General.

1933. The generic name Parsonsia and the status of Parsonsia Helicandra Hooker & Arnott. Brittonia **1:** 233–237.

See Merrill, 1934b.

1934a. The gymnosperms of Malaysia, the Philippines, and Polynesia. Proc. Fifth Pacific Sci. Congr. **4:** 3267–3271.

Phytogeographic.

1934b. Los nombres genéricos Parsonsia y Cuphea. Revist. Sudam. Bot. **1:** 97–99.

***Parsonia* is retained for the apocynaceous genus and *Cuphea* for the lythraceous genus, both having representatives in Polynesia.**

1936. Malaysian phytogeography in relation to the Polynesian flora.: in T. H. Goodspeed, Essays on geobotany. 247–261.

A general discussion.

1937a. Polynesian botanical bibliography, 1773–1935. Bishop Mus. Bull. **144: 1–194.**

The publication of which the present bibliography is an amplification, covering the period from 1773 to nearly the end of 1936, containing about 2,600 entries. See also Merrill, E. D., 1924.

1937b. On the significance of certain Oriental plant names in relation to introduced species. Proc. Am. Philos. Soc. **78:** 111–146.

Concerns the significance of certain local plant names in the Indo-Malaysian-Polynesian regions.

Merrill, E. D., and **Perry, L. M.**

1937. Reinstatement and revision of Cleistocalyx Blume (including Acicalyptus A. Gray), a valid genus of the Myrtaceae. Jour. Arnold Arb. **13:** 322–343. *pl. 215.*

Twenty-one species recognized, with key, five in Fiji previously placed under *Acicalyptus,* one in New Caledonia.

Merrill, E. D.

1939. A new species of Byttneria from Mangareva. Occ. Pap. Bishop Mus. **14:** 313–315. *f. 1.*

B. oligacantha n. sp.

1941. Man's influence on the vegetation of Polynesia with special reference to introduced species. Proc. Sixth Pacific Sci. Congr. **4:** 629–639.

A general discussion.

Merrill, E. D., and **Perry, L. M.**

1941. A summary of Kentrochrosia Lauterbach and Schumann. Philip. Jour. Sci. **76:** 19–21.

K. carolinensis (*Kopsia carolinensis*) in the Caroline Islands and *K. monocarpa* from New Hebrides.

Merrill, E. D.

1943. Emergency food plants and poisonous plants of the Islands of the Pacific. War Dept. Techn. Man. **10–420:** i-v, 1–149. *f. 1–113.*

A popular consideration of the subjects; records many vernacular names.

1945a. Ochrocarpos odoratus (Rafinesque) Merrill, a new name for a much named species, with a new species from Samoa. Jour. Arnold Arb. **26:** 93–96. *f. 1.*

Ochrocarpos glaucus n. sp. from Samoa.

1945b. On the underground parts of Tacca pinnatifida J. R. & G. Forst. (1776)= Tacca leontopetaloides (Linn.) O. Kuntze. Jour. Arnold Arb. **26:** 85–92. *pl. 1–2.*

A general consideration.

1945c. Plant life of the Pacific world. i-xv, 1–295. *f. 1–276.* MacMillan Company. Fighting Forces edition, published by the Infantry Journal, Washington. 1–298. *f. 1–276.*

A series of essays on various aspects of the botany of the Pacific region, with numerous illustrations of the more common species; selected bibliography by insular groups. Also includes discussions of forests, mangrove vegetation, weeds, cultivated plants, food plants, ecology and plant geography, vernacular names, and history of botany and exploration.

Merrill, E. D., and **Perry, M. L.**

1945. Plantae Papuanae Archboldianae, XVI. Jour. Arnold Arb. **26:** 229–266. *f. 1–11.*

Includes *Antirhea smithii* from Fiji.

1946. Some additional records for the Guam flora. Jour. Arnold Arb. **27:** 323–325.

Seventeen species credited to Guam for the first time, 12 of the genera being also new to the island; at least 12 of the species introduced ones.

Merrill, E. D.

1946. Merrilleana; a selection from the general writings of Elmer Drew Merrill, Sc.D., LL.D. Chron. Bot. **10:** 131–393. *illus.*

Consists of republications, including Merrill, E. D., 1920, 1937b, and 1941, with added biographical data and a bibliography of his writings.

Mertens, K. H.

1835. Notices [botaniques] sur les Îles Carolines: in Luetke, F. P., Voyage autour du monde . . . sur la corvette *la Séniavine*. **3:** 132–144, 337–352.

Not seen.

Metcalfe, C. R.

1935. The structure of some sandalwoods and their substitutes and of some other little known scented woods. Kew Bull. **1935:** 165–195. *pl. 6–9.*

Includes some Polynesian species.

Métraux, A.

1940. Ethnology of Easter Island. Bishop Mus. Bull. **160:** i-vii, 1–432. *pl. 1–7. f. 158.*

Pp. 12-18 include some data on plants.

Mettenius, G.

1856–59. Ueber einige Farngattungen. I. Polypodium. Abh. Senkenb. Ges. Frankfurt **2:** 1–138. *pl. 1–3,* 1857–59; (II. Plagiogyria) **2:** 265–275. *pl. 15.* 1858; (III. Pteris) **2:** 276–284. *pl. 16.* 1858; (IV. Phegopteris und Aspidium) **2:** 285–420. *pl. 17, 18.* 1858; (V. Cheilanthes) **3:** 47–99. *pl. 3,* 1859; (VI. Asplenium) **3:** 100–254. *pl. 3–6.* 1859. Reprinted as follows: **1:** 1–138. *pl. 1–3.* 1857; **2:** 1–11. *pl. 15.* 1858; **3:** 1–11. *pl. 16.* 1858; **4:** 1–136. *pl. 17, 18.* 1858; **5, 6:** 1–120. *pl. 3–6.* 1859.

Includes various Polynesian species.

1861. Filices Novae Caledoniae a cl. Vieillard collectae. Ann. Sci. Nat. IV Bot. **15:** 55–91, t. 3.

An enumeration of 139 species, many described as new; Hymenophyllaceae (pp. 88-91) by R. B. van den Bosch.

1870. Cryptogamae vasculares (Ophioglossaceen und Equisetaceen by J. Milde): in Fenzl, E., Reise der Oesterreichischer Fregatte Novara um die Erde . . . Botanischer Theil. **1:** 197–229.

A list including some Polynesian species.

See also **Kuhn, M.,** 1868–69.

Meunier, E.

1917. La tétragone. Rev. Hort. **89:** 282–283.

Tetragonia expansa **extending to New Caledonia.**

Meurisse, G.

1892. Étude du genre Santalum L. Bull. Soc. Linn. Paris **2:** 1025–1027.

Ten species recognized, including three new ones from Hawaii.

Meyen, F. J. F.

1834–35. Reise um die Erde ausgeführt auf dem Königlich Preussischen Seehandlungs-Schiffe Prinzess Louise commandirt von Capitain W. Wendt in den Jahren 1830, 1831, und 1832. **1:** i–viii, 1–493. *1 pl. 1 map.* 1834. **2:** i–vi, 1–411.. *1 map.* 1835.

A narrative, including original descriptions of various Hawaiian species.

1843. Observationes botanicas in itinere circum terram institutas. Beiträge zur Botanik, gesammelt auf einer Reise um die Erde. Nova Acta Acad. Leop.-Carol. Nat. Cur. **19:** Suppl. **1:** i–xxxii, 1–512. *pl. 1–13.*

Includes the descriptions of many new species from Hawaii and the Marianas Islands. Largely prepared by specialists, who are entered separately in this bibliography. For partial revision of the lichens see Mueller, J., 1883b.

Meyen, J., and Flotow, J.

1843. Lichenes: in Meyen, F. J. F., Observationes botanicas . . . Nova Acta Acad. Leop.-Carol. Nat. Cur. **19:** Suppl. **1:** 209–232. *pl. 4.*

Lists 70 species, some new, including various species from Hawaii and Guam. For critical notes on these see **Mueller, J.** (Muell.-Arg.), 1883b.

Meyer, E.

1850. Hortus Regiomontanus seminifer anno 1850. Ann. Sci. Nat. III. Bot. **14:** 349–350.

Reprinted description of *Desmodium sandwicense* n. sp. from Hawaii. Also reprinted in Linnaea **24:** 230. 1851.

Meyer, K. A.

1843a. Bemerkungen über die Gattungen der Daphnaceen ohne perigynische Schuppen, nebst einer Characteristik derselben. Bull. Phys. Math. Acad. Sci. St. Pétersb. **1:** 353–359. 1843. Reprint, 1–9.

Includes a few Polynesian species.

1843b. Remarques sur les genres de Daphnacées sans écailles périgynes, et exposition des caractères de ces genres. Ann. Sci. Nat. II. Bot. **20:** 45–53.

A French version of the preceding paper.

Meyer Drees, E.

1938. The genera Intsia and Pahudia (Legum.) in the Netherlands Indies. Bull. Jard. Bot. Buitenzorg III. **16:** 83–102. *f. 1–2.*

Includes *Intsia bijuga* f. *glabra n.f.,* extending to Polynesia.

Mez, C.

1902. Myrsinaceae. Pflanzenr. **9**(IV. 236): 1–437. *f. 1–61.*

Monographic.

1917. Novae species Panicearum. Notizbl. Bot. Gart. Berlin **7:** 45–78.

Includes *P. elegantulum* and *P. patulum* n. spp. from New Caledonia.

1920. Additamenta monographica 1919. III. Repert. Sp. Nov. **16:** 410–425.

Includes *Embelia vaupelii* n. sp. from Samoa and *Tapeinosperma acutangula* n. sp. from New Caledonia.

1921. Die Myrsinaceen Mikronesiens. Bot. Jahrb. **56:** 535–539.

Includes eight new species.

1924. Digitaria marianensis. Bot. Jahrb. **59:** 1.

A new species from the Marianas Islands (= *D. latronum* Henr.).

Mezger, K.

1926. Notes illustrées sur les bois de Nouvelle-Calédonie et sur les arbres qui les fournissent. Ann. Mus. Colon. Marseille IV **4**(2): 1–29. *pl. 1–81.*

General; the illustrations are of botanical specimens.

Mialaret, T.

1897. L'île de Pins; son passé, son présent, son avenir; colonisation & ressources agricoles. 1–222, [1]. *map.*

Pp. 71-95, "Exploitation Forestière-Agriculture," contains some botanical and economic data.

Middleton, J. T.

1943. The taxonomy, host range and geographic distribution of the genus Pythium. Mem. Torr. Bot. Club **20**(1): 1–171. *f.–1–17.*

Considers some Polynesian species.

Miers, J.

1858. On the Winteraceae. Ann. Mag. Nat. Hist. III **2:** 33–48.

Includes *Drimys fernandizianus* n. sp. from Juan Fernández.

1864–71. A complete monograph of the Menispermaceae. Contrib. Bot. **3:** i–v, 1–402. *pl. 88–154.*

Monographic.

1870. On three new genera of the Verbenaceae from Chile and its adjacent regions. Trans. Linn. Soc. **27:** 95–110. *pl. 26–28.*

Includes *Rhaphithamnus longiflorus* n. sp. from Juan Fernández.

1875. On the Barringtoniaceae. Trans. Linn. Soc. II. Bot. **1:** 47–118. *pl. 10–18.*

Includes some Polynesian species.

Miguel, D. G.

1887. Estudio sobre las islas Carolines. 1–207. *illus.; atlas, maps 1–15.*

Includes notes on the flora.

Milde, J.

1866. Das Genus Athyrium. Bot. Zeit. **24:** 373–376.

Lists some Polynesian species.

1870a. Ueber Athyrium, Asplenium und Verwandte. Bot. Zeit. **28:** 329–337, 345–354.

Includes some Polynesian species.

1870b. Ueber Todea und Leptopteris. Jahresb. Schles. Ges. Vaterl. Cult. **48:** 96–96. Republished in Bot. Zeit. **28:** 470–471.

Mentions the Polynesian species.

Miller, C. D.

1927. Food values of poi, taro, and limu. Bishop Mus. Bull. **37: 1–25.**

Colocasia and various algae.

1929. Food values of breadfruit, taro leaves, coconut, and sugar cane. Bishop Mus. Bull. **64: 1–23.**

Artocarpus, Colocasia, Cocos, and *Saccharum.*

Miller, C. D., Bazore, K., and **Robbins, R. C.**

1937. Some fruits of Hawaii, their composition, nutritive value and use. Hawaii Agr. Exp. Sta. Bull. **77: 1–133.** *f. 1–16.* 1937.

Issued January 1936, revised March 1937. Includes short descriptions of 22 tropical and semi-tropical fruits. Not seen.

Mills, F. W.

1933–35. An index to the genera and species of Diatomaceae and their synonyms, 1916–32. 1–1726. portr.

A multigraphed alphabetical list with literature references.

Mills, W.

1850. Musa Cavendishii in the Polynesian islands. Gard. Chron. **1850: 452.**

Largely economic notes on this species, which is widely cultivated in Polynesia.

Milne, W.

1855. The voyage of H.M.S. Herald; being an extract of a letter from M. Milne, dated Island of Tanna, New Hebrides, December 4, 1854. Hook. Jour. Bot. Kew Gard. Miscel. **7:** 151–155.

Includes notes on the vegetation of Fiji and the New Hebrides.

1857. Excursion into the interior of Naviti Levue, the principal of the Feejee Islands; being extracts of a letter from Mr. Milne, botanist of H. M. S. Herald, during the survey of those Islands under Captain Denham, R.N., dated Island of Ovolau, Feejee, Oct. 7, 1856. Hook. Jour. Bot. Kew Gard. Miscel. **9:** 106–115.

A narrative, with observations on the vegetation.

1859. On some of the plants used for food by the Fiji islanders. Edinb. New Philos. Jour. II. **10:** 151–153.

Not seen; see **Milne,** 1860b.

1860a. On the palms of the Feejee Islands. Edinb. New Philos. Jour. II. **12:** 162.

Brief notes on four species.

1860b. On some of the plants used for food by the Feejee islanders. Trans. Bot. Soc. [Edinb.] **6:** 263–265.

General; probably a republication of **Milne,** 1859.

Miquel, F. A. W.

1843a. Genera et species Cycadearum viventium. Linnaea **17:** 675–744.

Includes some Polynesian species.

1843b. Piperaceae: in Meyen, Observationes botanicas . . . Nova Acta Acad. Leop.-Carol. Nat. Cur. **19:** Suppl. **1:** 483–495.

Includes *Peperomia sandvicensis, P. latifolia,* and *P. gaudichaudii* n. spp. from Hawaii.

1843–44. Systema Piperacearum. i–iv, 1–575.

Includes the Polynesian species.

1846. Illustrationes Piperacearum. Nova Acta Acad. Leop.-Carol. Nat. Cur. **21:** Suppl. 1–87. *pl. 1–92.*

Includes some Polynesian species.

1847–48. Prodromus monographiae Ficuum. Lond. Jour. Bot. **6:** 514–588. 1847; **7:** 64–78, 109–116, 221–236, 425–442, 451–471. 1848.

Includes the Polynesian species.

1848. Revisio critica Casuarinarum. 1–84. *pl. 1–12.*

Includes the Polynesian species.

1861. Prodromus systematis Cycadearum. 1–36.

Monographic.

1865. Synopsis specierum Casuarinae. Flora **48:** 17–24.

Includes *C. equisetifolia* from Polynesia.

1867. Annotationes de Ficus speciebus. Ann. Mus. Bot. Lugd.-Bat. **3:** 260–300.

Includes various Polynesian species.

1868. Casuarineae. DC. Prodr. **16(2):** 332–344.

Monographic.

1870–71. Illustrations de la flore de l'Archipel Indien. i–x, 1–114. *pl. 1–37.*

Credits *Hypolytrum latifolium* to Fiji. Pp. 1-95. 1870; 97-110. 1871.

Mirande, R.

1920. Algues: in F. Sarasin, and J. Roux, Nova Caledonia Bot. **1:** 111.

Stigonema informe Kützing and *S. ocellatum* (Dillw.) Thuret.

Mitchell, A. L. See **Fagerlund, G. O.,** and **Mitchell, A. L.**

Mitten, W.

1861–62. Musci et Hepaticae Vitienses. Bonplandia **9:** 365–367. 1861; **10:** 19. 1862.

A list with descriptions of new species.

1868. A list of the Musci collected by the Rev. Thomas Powell in the Samoa or Navigator's Islands. Jour. Linn. Soc. Bot. **10:** 166–195. *pl. 5–6.*

An enumeration with descriptions of new species.

1871. Musci, Jungermanniae, Marchantieae: in Seemann, B. Flora Vitiensis. 378–419. *pl. 97–98.*

A general descriptive account of the Fijian species with a summary of those known from other parts of Polynesia.

1882. Record of new localities of Polynesian mosses, with descriptions of some hitherto undefined species. Proc. Linn. Soc. N. S. W. **7:** 98–104.
A list with descriptions of new species.

Miyoshi, M.

1927. Vegetation and natural monuments of the Hawaiian Islands. Home Dept. Tokyo, Japan 1–38. *11 f.*
Not seen; Japanese text.

Moldenke, H. N.

1937. A monograph of the genus Rhaphithamnus. Repert. Sp. Nov. **42:** 62–82.
Two species recognized, *R. venustus* in Juan Fernández.

1938. A monograph of the genus Petrea. Repert. Sp. Nov. **43:** 1–48.
Includes *P. volubilis* as cultivated in Polynesia.

1942a. An alphabetic list of invalid and incorrect scientific names proposed in the Verbenaceae and Avicenniaceae. 1–59.
Includes some Polynesian names; reproduced from typewritten copy.

1942b. A list showing the locations of the principal collections of Verbenaceae and Avicenniaceae. 1–46.
Includes data on various Polynesian collectors; reproduced from typewritten copy.

1942c. The known geographic distribution of the members of thte Verbenaceae and Avicenniaceae. 1–104.
Includes the Polynesian species; reproduced from the typewritten copy.

1945. The known geographic distribution of the members of the Verbenaceae and Avicenniaceae, Supplement 3.. Castanea **10:** 35–46. 1945; (Supplement 4) Am. Jour. Bot. **32:** 609–612. *f. 1–2.* 1945.
Includes *Lantana camara* var. *albiflora* n. var. from Oahu and lists various species from Hawaii and Fiji.

1946. The known geographic distribution of the members of the Eriocaulaceae, together with a checklist of scientific names proposed in this group. 1–62.
Reproduced from typewritten manuscript.

Montagne, J. F. C.

1835. Prodromus florae Fernandesianae. Pars Prima, sistens enumerationem plantarum cellularium quas in Insula Juan Fernandez a Cl. Bertero collectas describi edique curavit C. Montagne, D. M. Ann. Sci. Nat. II Bot. **3:** 347–356; **4:** 86–99.
An enumeration with notes and descriptions of 153 species.

1842. Troisième centurie de plantes cellulaires exotiques nouvelles. Décades V, VI, VII et VIII. Ann. Sci. Nat. II Bot. **18:** 241–282. *pl. 7.*
Includes *Parmelia* (*Physcia*) *papulosa* n. sp. from Hawaii.

1842–45. Plantes cellulaires: in Hombron & Jacquinot, Voyage au Pôle Sud et dans l'Océanie sur les corvettes l'Astrolabe et la Zélée executé par ordre du roi pendant les années 1837–1838–1839–1840, sous le commandement de M. J. Dumont d'Urville. Botanique **1:** i–xiv, 1–349. *pl. 1–20.*
Includes some Polynesian species.

1843. Quatrième centurie de plantes cellulaires exotiques nouvelles. Décades I–VI. Ann. Sci. Nat. II. Bot. **19:** 238–266. *pl. 8–9;* (Décade VII). **20:** 294–306.
Includes various new Polynesian species.

1846. Cryptogames cellulaires, Algues, Lichens, Hépatiques et Mousses: in Gaudichaud, C., Voyage autour du monde . . . sur la corvette la Bonite . . . **1:** i–xi, 1–163, 205–314.
Includes some Hawaiian species.

1848. Sixième centurie de plantes cellulaires exotiques nouvelles. Ann. Sci. Nat. III. Bot. **10**: 106–136. *pl. 6.*

Includes various mosses and fungi from Tahiti, some described as new.

1850–52. Plantas celulares: in Gay, C. Historia física y política de Chile . . . Botánica **7**: 1–515. 1850; **8**: 1–448. 1852.

Includes the Juan Fernández species.

1856. Sylloge generum specierumque cryptogamarum quas in variis operibus descriptas iconibusque illustratas, nunc ad diagnosim reductas, nonnullasque novas interjectas, ordine systematico disposuit. i–xxiv, 1–498.

Includes some Polynesian species.

Montin, D. L.

1778. De Lepidio bidentato. Nova Acta Phys.-Med. Acad. Leop.-Carol. Nat. Cur. **6**: 324–327. *pl. 5A.*

Lepidum bidentatum n. sp. from Polynesia.

Montrousier, X.

1860. Flore de l'île Art (près de la Nouvelle-Calédonie). Mém. Acad. Sci. Lyon II. **10**: 173–254.

An enumeration with the descriptions of new species. See **Beauvisage, J.,** 1894, 1901, for reductions and critical notes; see also **Guillaumin, A.,** and **Beauvisage, G.,** 1913.

Moore, C.

1869a. Lord Howe's Island. Gard. Chron. **1869**: 98.

General.

1869b. Vegetation of Lord Howe's Island. Jour. Bot. **7**: 299–304.

General.

1870. Sketch of the botany of Lord Howe's Island. Trans. Proc. Bot. Soc. [Edinb.] **10**: 365–372.

General.

1872. Remarks on the botany of Lord Howe's Island. Trans. Roy. Soc. N. S. W. **5**: 29–34.

Not seen.

Moore, C., and Betche, E.

1893. Handbook of the flora of New South Wales. i–xxxix, 1–582.

Lord Howe and Norfolk Island plants are listed (pp. 518-521).

Moore, J. W.

1933. New and critical plants from Raiatea. Bishop Mus. Bull. **102**: 1–53.

Includes the descriptions of about 80 new species and varieties in various families of flowering plants and ferns.

1934. Taxonomic studies of Raiatean plants. Occ. Pap. Bishop Mus. **10**(19): 1–8.

Includes two new species, three new combinations, and a critical note on the nomenclature of *Piper methysticum.*

1940. New species of dicotyledonous spermatophytes from Tahiti. Occ. Pap. Bishop. Mus. **16**: 1–24. *f. 1–14.*

Descriptions of 14 new species in different genera.

Moore, S. le M.

1880. Alabastra diversa. Jour. Bot. **18**: 1–8. *pl. 206.*

Includes *Medinilla halogeton* n. sp. from the Admiralty Islands and *Astronia samoensis* n. sp. from Samoa.

1927. Two new species of Acanthaceae. Jour. Bot. **65**: 13–14.

Includes *Dicliptera whitmeei* n. sp. from the Loyalty Islands.

See also **Rendle, A. B., Baker, E. G.,** and **Moore, S. le M.**

Moore, T.

1853. On venation as a generic character in ferns with observations on the genera Hewardia, J. Smith and Cionidium, Moore. Proc. Linn. Soc. **2**: 210–212.

Includes *Cionidium moorii* (*Deparia moorii*), native of New Caledonia.

1856. New garden ferns.—No. xiv. Gard. Chron. **1856**: 613. *1 f.*

Thyrsopteris elegans Kunze (*Panicularia berteri* Colla), native of Juan Fernández.

1857–62. Index Filicum; a synopsis, with characters of the genera, and an enumeration of the species of ferns with synonyms, references &c. i–clxii, 1–396. *pl. 1–84.*

The alphabetical index covers only the genera from *Abacopteris* to *Goniophlebium.*

1861. New garden ferns. Gard. Chron. **1861**: 696–697.

Includes description of *Asplenium obtusilobum* from New Hebrides.

1866. Lomaria ciliata, Moore. Gard. Chron. **1866**: 290.

Native of New Caledonia.

1867. New garden plants. Fl. Pomol. **1867**: 222–224. *1 f.*

Includes an illustration of and notes on *Acalypha tricolor* from New Caledonia.

1868. Doodia duriuscula, Moore, sp. n. Gard. Chron. **1868**: 1114.

Native of New Caledonia.

1869a. New crotons. Fl. Pomol. **1868**: 147–150. *2 f.*

Notes on five species of *Croton* introduced from the South Sea Islands.

1869b. Lomaria ciliata. Fl. Pomol. **1869**: 175. *1 f.*

Native of New Caledonia.

1870a. Todea Wilkesiana. Fl. Pomol. **1870**: 163–165. *1 f.*

Native of Fiji.

1870b. New crotons or codiaeums. Fl. Pomol. **1870**: 205–208. *f. 1–2.*

Notes on *Codiaeum veitchianum* and *C. undulatum,* natives of the South Sea Islands.

1870c. Todea Wilkesiana, Brackenridge. Gard. Chron. **1870**: 759. *f. 148.*

Native of Fiji; description and general note.

1871a. Pandanus Veitchii. Fl. Pomol. **1871**: 177–178. *1 f.*

Native of the South Sea Islands.

1871b. Croton Hookeri. Fl. Pomol. **1871**: 199–200. *1 f.*

Native of the South Sea Islands.

1871c. Dracaena magnifica. Fl. Pomol. **1871**: 272–273. *1 f.*

Native of the South Sea Islands.

1871d. Asplenium schizodon n. sp. Gard. Chron. **1871**: 1004. *f. 223.*

Native of New Caledonia. Description reprinted in Bull. Soc. Bot. France **18**: Rev. Bibl. 164. 1871.

1872a. Davallia Mooreana. Fl. Pomol. **1872**: 20–21. *3 f.*

Occurs in the New Hebrides.

1872b. Dracaena regina. Fl. Pomol. **1872**: 63–64. *1 f.*

Native of the South Sea Islands.

1872c. Croton variegatum multicolor. Fl. Pomol. **1872**: 88–90. *1 f.*

Native of the South Sea Islands.

1872d. Croton variegatum interruptum. Fl. Pomol. **1872**: 209–210. *1 f.*

Native of the South Sea Islands.

1872e. Pictures of palm trees. Kentia Canterburyana. Fl. Pomol. **1872**: 254–255. *1 f.*

Native of Lord Howe Island.

1873a. Codiaeum (Croton) Weismanni. Fl. Pomol. **1873:** 54–55. *1 f.*
Said to be from the Pacific Islands.

1873b. Dracaena imperialis. Fl. Pomol. **1873:** *224–225. 1 f.*
Native of the South Sea Islands.

1874a. Aralia Veitchii. Fl. Pomol. **1874: 4**–6. *1 f.*
Native of New Caledonia.

1874b. Dracaena amabilis. Fl. Pomol. **1874:** 75–76. *1 f.*
Native of the South Sea Islands.

1874c. Croton volutum. Fl. Pomol. **1874:** 138–139. *1 f.*
Native of the South Sea Islands.

1874d. Croton spirale. Fl. Pomol. **1874:** 211–212. *1 f.*
Native of the South Sea Islands.

1874e. Campsidium filicifolium. Fl. Pomol. **1874:** 279–281. *1 f.*
Native of Fiji.

1874f. Pleocnemia Leuzeana. Gard. Chron. II. **2:** 354. *f. 74.*
Native of the Philippines, extending to Samoa and Fiji.

1875a. Croton ovalifolium. Fl. Pomol. **1875:** 7–9. *1 f.*
Native of the "South Sea Islands."

1875b. Dracaenas—Baptistii and Hendersoni. Fl. Pomol. **1875:** 53–54. *2-f.*
Both natives of the "South Sea Islands."

1875c. Artocarpus Cannoni. Fl. Pomol. **1875:** 210–212. *1 f.*
Native of the "South Sea Islands."

1875d. Acalypha Wilkesiana marginata. Fl. Pomol. **1875:** 283–284. *1 f.*
Native of Fiji.

1876a. Croton majesticus. Fl. & Pomol. **1876:** 52–53. *1 f.*
Native of the "South Sea Islands."

1876b. Croton imperialis. Fl. Pomol. **1876:** 208–209. *1 f.*
Native of New Hebrides.

1877a. Araucaria Goldieana. Fl. Pomol. **1876:** 39-40. *1 f.*
A brief note on this native of New Caledonia.

1877b. Aralia filicifolia. Fl. Pomol. **1877:** 125-127. *1 f.*
Native of the "South Sea Islands."

1877c. Sadleria cyatheoides. Gard. Chron. II. **7:** 760. *f. 123.*
Native of Hawaii.

1878a. Sadleria cyatheoides. Fl. Pomol. **1878:** 2–3. *1 f.*
Native of Hawaii.

1878b. Phyllanthus roseo-pictus. Fl. Pomol. **1878:** 13–14. *1 f.*
Introduced from the "South Sea Islands."

1878c. Microlepia hirta cristata. Fl. Pomol. **1878:** 59. *1 f.*
Native of the "South Sea Islands."

1878d. Ixora Duffii. Fl. Pomol. **1878:** 76. *1 f.*
Native of the Caroline Islands.

1878e. Selaginella Victoriae. Fl. Pomol. **1878:** 90. *2 f.*
Native of the "South Sea Islands."

1878f. Fern sports. Gard. Chron. II. **9:** 368–369. *f. 61–64.*
Includes *Microlepia hirta cristata,* native of the South Sea Islands.

1879a. Croton maculatus Katoni. Fl. Pomol. **1879:** 27–28. *1 f.*
Probably from the "South Sea Islands."

1879b. Croton reginae. Fl. Pomol. **1879:** 58–59. *1 f.*

Native of the "South Sea Islands."

1879c. Appendiculate crotons. Fl. Pomol. **1879:** 67–69. *3 f.*

Includes *Croton picturatus* from New Hebrides and *C. paradoxus* from the "South Sea Islands."

1879d. Fern sports. Jour. Roy. Hort. Soc. **5:** 94–100. *4 f.*

Includes *Microlepia hirta cristata,* native of the "South Sea Islands."

1879e. Selaginella Victoriae. Gard. Chron. II. **11:** 74. *f. 8.*

Native of the South Sea Islands.

1879f. The Sandwich Islands cibotiums. Gard. Chron. II. **11:** 430–431. *f. 58–59.* 494–495. *f. 66–67.*

Four species described.

1880a. Panax plumatum. Fl. Pomol. **1880:** 92–93. *1 f.*

Native of Polynesia.

1880b. Dicksonia Berteroana. Fl. Pomol. **1880:** 116–118. *1 f.*

Native of Juan Fernández.

1881a. Ficus exsculpta. Fl. Pomol. **1881:** 44–45. *1 f.*

Native of the "South Sea Islands."

1881b. Lastrea (Nephrodium) Richardsii, var. multifida nov. var. Gard. Chron. II. **15:** 104.

Native of New Caledonia.

1881c. New garden ferns. Gard. Chron. II. **15:** 235, 267, 331–332.

Includes descriptions of six new Polynesian and New Caledonian species.

1881–85. Revue critique des plantes nouvelles de 1880. Belg. Hort. **31:** 28-31. 1881; (. . . de 1881) **32:** 23–36. 1882; (. . . de 1882) **33:** 17–32. 1883; (. . . de 1883) **34:** 19–36. 1884; (. . . de 1884) **35:** 60–78. 1885.

Includes a few Polynesian species.

1882a. Nephrodium Rodigasianum, T. Moore. Ill. Hort. **29:** 27–28. *pl. 442.*

Native of Samoa.

1882b. Lastrea Hopeana. Gard. Chron. II **18:** 744.

Native of Fiji.

1883a. Le Nephrodium Rodigasianum Th. Moore. Rev. Hort. Belg. **9:** 153–154. *f. 15.*

A general note on this native of Samoa.

1883b. Aralia Chabrieri. Fl. Pomol. **1883:** 178–179. *1 f.*

Native of New Caledonia.

1883c. Adiantum novae-caledoniae. Gard. Chron. II **19:** 720.

Native of New Caledonia.

1883–84. Register of novelties. Fl. Pomol. **1883:** 57–62. *3 f.* 92–95. 1883; **1884:** 155–159. *1 f.* 1884.

Includes some Polynesian species.

1884a. Kentia Lindeni. Fl. Pomol. **1884:** 71–72. *1 f.*

Native of New Caledonia.

1884b. Selaginella viridangula. Fl. Pomol. **1884:** 141–142. *2 f.*

Native of the "South Sea Islands."

1886. Selaginella gracilis, n. sp. Gard. Chron. II. **25:** 752.

Native of the "South Sea Islands."

1887. A decade of new Adiantums. Gard. Chron. III. **1**: 41–42, 110–111, 447–448, 547.

Includes some supposedly Polynesian species.

See also **Houlston, J.**, and **Moore, T.**

Moquin-Tandon, A.

1840. Chenopodearum monographica enumeratio. i–xi, 1–182.

Includes *C. sandwicheum* of Hawaii.

1849a. Salsolaceae. D. C. Prodr. **13**(2): 41–219.

Monographic.

1849b. Amarantaceae. DC. Prodr. **13** (2): 231–424.

Monographic.

Morren, E.

1876. Note sur les Aerides cultivés, spécialement Aerides Fieldingi hort. Belg. Hort. **26:** 283–291. *pl. 18–19.*

Includes an enumeration of the species with *A. thibautianum,* native of Polynesia.

Mori, K. See **Yamamoto, Y., Mori, K.**, and **Fukuyama, N.**

Morris, P. C.

1931. Early records of the introduction of trees and plants in Hawaii. Friend **150:** 253–255.

Includes a list of plants introduced from Australia.

Morrison, A.

1897. New Hebrides. Gard. Chron. III. **21:** 300. *f. 102.*

Includes notes on *Agathis obtusa,* native of Aneityum, New Hebrides.

1902. The natural features of the New Hebrides: in H. A. Robertson, The martyr isle, Erromanga. 449–463.

Forms an appendix to Robertson's work containing some account of the vegetation.

Morrison, G.

1903. The flora of Hawaii. Fl. Life **1903:** 157–159. *2 f.*

A short popular account.

Moseley, H. N.

1879. Notes by a naturalist on the *Challenger,* being an account of various observations made during the voyage of H.M.S. *Challenger* round the world, in the year 1872–1876 . . . i–xvi, 1–620. *2 pl. map. illus.*

Includes some data on the vegetation of Polynesia.

Motoda, S.

1941. Plankton productivity of Iwayama Bay in Palao, South Seas. Palao Trop. Biol. Stat. Studies **2:** 219–238. *f. 1–8. table 1–10.*

In English.

Mueller, C.

1901. Genera muscorum Frondosorum, classes Schistocarporum, Cleistocarporum, Stegocarporum complectentia, exceptis Orthotrichaceis et Pleurocarpis. i–vi, 1–474.

Includes those genera that extend to the Pacific region.

Mueller, F. von

1858–81. Fragmenta phytographiae Australiae **1** (1858–59) to **11** (1878–81).

Includes scattered references to Lord Howe Island plants, and to a few Polynesian plants, some described as new.

1872–95. Select plants readily eligible for industrial culture or naturalisation in Victoria with indications of their native countries and some of their uses. Proc. Zool. Acclim. Soc. Victoria **1**: 249–422. 1872. Reprint 1–180. 1872; [ed. 2]. i-vii, 1–293, 1876; Indian [ed. 3]. i-ix, 1–394. 1880; N. S. Wales ed. [ed. 4]. i-ix, 1–403. 1881; American ed. [ed. 5]: i-viii, 1–499. 1884; New Victorian ed. [ed. 6]: i-ix, 1–466. 1885; ed. 7: i-ix, 1–517. 1888; ed. 8: i-viii, 1–594. 1891; ed. 9: i-xi, 1–654. 1895.

Includes some Polynesian species; the title varies; the original publication and ed. 1, 2, 5, and 6 not seen.

1873. Contributions to the phytography of the New Hebrides and Loyalty Islands from Mr. F. A. Campbell's collections. 1–30.

A list with notes and with the description of new species. Reprinted from Campbell, F. A., "A Year in the New Hebrides," 1874. The reprint is undated, but my personal copy has a dedication to Commander Brongniart in F. von Mueller's handwriting, dated December 1873.

1875a. Index omnium Insulae Howeanae plantarum, quas hactenus obtinui, exclusis speciebus certe introductis. Fragm. Phyt. Austral. **9**: 76-78.

A supplementary list.

1875b. [Note on Exocarpus phyllanthoides Endl., and other plants found in Norfolk Island.] Fragm. Phyt. Austral. **9**: 169.

About 14 additional species listed.

1875c. Descriptive notes of a new Vaccinium from Samoa. Pap. Proc. Roy. Soc. Tasmania **1875**: 163–165. Reprint 1–5.

V. whitmeei n. sp., with a list of species in other groups.

1880. A new tree from the New Hebrides. Southern Sci. Record **1**: 149–150.

Aristotelia braithwaitei n. sp.

1881a. Remarks on a new jasmine from Samoa. Chem. Drug. Austral. Suppl. **4**: 29. Reprint [1].

Jasminum betchei n. sp.

1881b. Record of some Orchideae from the Samoan islands. Southern Sci. Record **1**: 171–175. Reprint 1–4.

Includes *Corysanthes betchei, Cryptostylis alismifolia, Bulbophyllum betchei,* and *B. prenticei* n. spp. from Samoa.

1882. Observations on a Cycas indigenous to the Fiji Islands. Chem. Drug. Austral. Suppl. **5**: 34. Reprint [1].

Cycas seemanni. See next entry.

1883. Notice sur un Cycas indigène aux îles Fiji. Belg. Hort. **33**: 182–185.

Cycas seemanni. A French version of the preceding item.

1884. On some plants of Norfolk Island, with description of a new Asplenium. Jour. Bot. **22**: 289–290.

A. robinsonii n. sp. Republished in Bot. Centralbl. **20**: 83. 1884.

1885a. Notes on some plants from Norfolk Island. Jour. Bot. **23**: 353–354.

A short list with notes.

1885b. Record of an hitherto undescribed Calanthe from New Caledonia. Southern Sci. Record n. s. **1**: .. ... Republished in Gard. Chron. II. **24**: 679. 1885 and in Bot. Centralbl. **24**: 212–213. 1885.

Calanthe langei n. sp. The reprint of the original paper consists of two pages.

1885c. Record of an additional New Caledonian Liparis. Southern Sci. Record n. s. **1**: .. ... Reprinted in Bot. Centralbl. **22**: 87–88.

Liparis layardi n. sp. A reprint of the original paper consists of a single page, December 1885.

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1886a. Record of an undescribed Phajus from New Caledonia. Southern Sci. Record n. s. **2**: 263–264.

P. robertsii n. sp.

1886b. Observations on some Papuan and Polynesian Sterculiaceae. Vict. Nat. **3**: 45–52.

Includes *Sterculia oliganthera* from New Caledonia.

1891. Notes on a rare pandanaceous plant. Vict. Nat. **7**: 143–144. Reprinted in Bot. Centralbl. **45**: 123–124. 1891.

Pandanus hombronia (*Hombronia edulis* Gaudich.) of the Marianas Islands.

1938. Reliquiae Australienses. III. Repert. Sp. Nov. **43**: 287–288.

Aristotelia braithwaitei, native of New Hebrides; said to be a posthumous work edited by **F. Fedde,** but is only a reprint of **Mueller, F. von,** 1880.

See also **Naudin, C.,** and **Mueller, F. von,** 1887.

Mueller, J. (Muell.-Arg.).

1863–65. Euphorbiaceae. Vorläufige Mittheilungen aus dem für DeCandolle's Prodromus bestimmten Manuscript über diese Familie. Linnaea **32**: 1–126. 1863; **34**: 1–224. 1865.

Includes some Polynesian species.

1864. Neue Euphorbiaceen des Herbarium Hooker in Kew, auszugsweise vorläufig mitgetheilt aus dem Manuscript für DeCandolle's Prodromus. Flora **47**: 433–441, 465–471, 481–487, 513–520, 529–540.

Includes some Polynesian species.

1865. Ueber Glochidion (Forst.). Flora **48**: 369–380, 385–391.

A systematic enumeration, including some Polynesian species.

1866. Euphorbiaceae (excl. Euphorbia). DC. Prodr. **15**(2) : 189–1286.

Monographic.

1870. Neue Apocyneen aus Neu-Caledonien. Flora **53**: 168–172.

Descriptions of *Heurckia* n. gen. with *H. semperflorens,* two species of *Alyxia,* and five species of *Alstonia.*

1881–90. Lichenologische Beiträge. Flora **64**: 81–88, 100–112, 225–236. 1881; **65**: 291–306, 316–322, 326–337, 397–402, 483–490, 499–505, 515–519. 1882; **66**: 17–25, 243–249, 317–322, 330–338. 1883; **67**: 283–289, 349–354, 396–402, 613–621. 1884; **68**: 331–356, 503–518. 1885; **70**: 56–64, 268–273, 316–322, 336–338, 423–429. 1887; **71**: 17–25, 129–142, 195–208, 528–552. 1888; **72**: 505–508. 1889; **73**: 187–202. 1890.

Includes some Polynesian species. For index see **Hue, A. M.,** 1899.

1883a. Die auf der Expedition der Gazelle von Dr. Naumann gesammelten Flechten. Bot. Jahrb. **4**: 53–58.

Includes some Polynesian species.

1883b. Revisio Lichenum Meyenianorum i. e., Lichenium a cll. Meyen et Flotow in Act. Acad. Leopold. Nat. Cur. 1843 XIX. Suppl. I. 209–232. editorum. Jahrb. Bot. Gart. Berlin **2**: 308–319.

Includes *Usnea barbata* var. *angulosa* from Hawaii. See **Meyen, F. J. F.,** 1843.

1884a. Lichenes Otaitenses a cl. G. Brunaud lecti et ab E. Roumeguère communicati. Rev. Myc. **6**: 90–91.

A list of ten species, including *Cora nitida* n. sp. from Tahiti.

1884b. Lichenes nouveaux provenant de la Palestine, de l'Egypte, d'Othaiti, des Kergulen, etc. Bibl. Univ. Arch. Sci. Phys. Nat. III. **11**: 634–635.

A short note on the results of lichenological investigations; see also the preceding entry.

1887a. Enumération de quelques Lichens de Nouméa. Recueillis par M. Théophile Savès, communiqués par le Chevalier Roumeguère. Rev. Myc. 9: 77–82.

A list with descriptions of new species; ten species of fungi listed in a footnote.

1887b. Revisio lichenum australiensium Krempelhuberi. Flora 70: 113–118.

Sticta quercizans, native of Lord Howe Island, reduced to *S. sinuosa* v. *macrophylla.*

1889. Lichenes Sandwicenses a Dr. Hillebrand lecti, et a Prof. Askenasy communicati. Flora 72: 60–62.

A list of 37 species, with some new varieties.

1892–95. Lichenes exotici. Hedwigia 31: 276–288. 1892; 32: 120–136. 1893; 34: 27–38. 1895.

Includes some Polynesian species.

1893. Lichenes Neo-Caledonici a cl. B. Balansa in Nova Caledonia lecti, nec non alii nonnulli ab aliis ibiden observati. Jour. Bot. Morot 7: 51–55, 92–94, 106–111.

An enumeration of 127 species, some new.

1896. Analecta australiensia. Bull. Herb. Boiss. 4: 87–96.

Includes *Coccocarpia pellita* var. *mesomorpha,* native of New Hebrides.

See also **Heurch, H. van,** and **Mueller, J.,** 1871; **Thűmen, F. von,** and **Mueller, J.**

Mueller, K.

1845. Synopsis Macromitriorum hactenus cogitorum. Bot. Zeit. 3: 521–526, 539–545.

Seventy-eight species considered, including a few from Polynesia.

1849–51. Synopsis muscorum frondosorum omnium hucusque cognitorum. 1: i–viii, 1–812. 1849; 2: 1–772. 1850–51.

Includes the then-known Polynesian species.

1856. Monographische Kritik der Lycopodiaceen-Gattung Psilotum Sw. Bot. Zeit. 14: 217–227, 233–243. *pl. 7.*

Includes the Polynesian species.

1857. Decas muscorum Oceani Pacifici. Bot. Zeit. 15: 777–782.

Ten new species, mostly Polynesian.

1858–62. Additamenta nova ad Synopsin muscorum. Bot. Zeit. 16: 161–165. 1858; 20: 327–329, 337–339, 361–362.

Includes several new species from Polynesia.

1859. Supplementum novum ad Synopsin muscorum. Bot. Zeit. 17: 205–207, 219–221.

Includes some Polynesian species.

1864. Manipulus muscorum novorum. Bot. Zeit. 22: 358–359.

Includes *Macromitrium owahiense* n. sp. from Hawaii.

1873. Musci Polynesiaci praesertim Vitiani et Samoani Graffeani. Jour. Mus. Godeffroy 3(6): 51–90.

A critical enumeration of 126 species, many described as new.

1887. Sphagnorum novorum descriptio. Flora 70: 403–422.

Includes *S. wheeleri* n. sp. from Hawaii.

1889. Laubmoose (Musci Frondosi): in Die Forschungsreise S.M.S. "Gazelle" . . . 4(5): Botanik 1–64.

Includes *Cryphaea schleinitziana* n. sp. and five other species from Fiji.

1896. Bryologia Hawaiica, adjectis nonnullis musci novis Oceanicis. Flora 82: 434–479.

A list of 146 species, many described as new.

1897. Additamenta ad Bryologiam Hawaiicam. Bull. Herb. Boiss. **5:** 850–853.
Nine new species described from Hawaii.

1898. Symbolae ad Bryologiam Australiae, II. Hedwigia **37:** 76–171.
Includes some Polynesian species.

Mueller, K., and **Brotherus, V. F.**

1900. Musci Schauinslandiani, ein Beitrag zur Kenntniss der Moosflora der Pacifischen Inseln. Ergebnisse einer Reise nach dem Pacific (H. Schauinsland 1896–97). Abh. Naturw. Ver. Bremen **16:** 493–512.
A list with notes and with the descriptions of various new species from Hawaii.

Mueller, K.

1901. Vorarbeiten zu einer Monographie der Gattung Scapania. Bull. Herb. Boiss. II. **1:** 593–614.
Nine species described, including *S. grossidens* from Hawaii. See **Stephani, F.,** and **Mueller, K.,** 1897.

Müller, W.

1917. Yap: in G. Thilenius, Ergebnisse der Südsee Expedition 1908–1910. II. B **2**(1): i–xviii, 1–230. *illus.*
Includes minor notes on economic plants.

Muir, F.

1921. The origin of the Hawaiian flora and fauna. Bishop Mus. Spec. Publ. **7:** 143–146 (Proc. First Pan–Pacific Sci. Conference).
A general consideration, largely entomological.

Munro, G. C.

1932. The rotation and distribution of plants. Bishop Mus. Spec. Publ. **20:** 22–23.
A brief abstract.

1933. Preserving the rare plants of Hawaii. Bishop Mus. Spec. Publ. **21:** 26–27.
A brief discussion.

See also **Forbes, C. N.,** and **Munro, G. C.**

Munro, W.

1868. A monograph of the Bambusaceae, including descriptions of all the species. Trans. Linn. Soc. **26:** 1–157. *pl. 1–6.*
Includes a few Polynesian species.

Munz, P. A.

1943. A revision of the genus Fuchsia (Onagraceae). Proc. Calif. Acad. Sci. IV. **25:** 1–105. *pl. 1–16.*
Monographic; includes *F. cyrtandroides* from Tahiti.

Murray, A.

1867. Dr. Hooker on insular floras. Gard. Chron. **1867:** 152, 181–182.
Notes on Hooker's conclusions. See **Hooker,** 1866, 1867.

Murray, J. A.

1784. Caroli a Linné equitis. Systema vegetabilium secundum classes, ordines, genera, species, cum characteribus et differentiis. i–xx, 1–887, [1–17].
Ed. 14 of Linnaeus' "Systema Vegetabilium," followed by ed. 15, i-xvi, 1-821. 1798.

N

Nadeaud, J.

1864. Plantes usuelles des Tahitiens. 1–52.
Not seen.

1873. Énumération des plantes indigènes de l'île de Tahiti. i–v, 1–86.
A list of 508 species, with notes, local names, and descriptions of new species.

1874. On the botany of Tahiti. Trans. Proc. New Zeal. Inst. **6:** App. lxvi–lxxx.

Notes on the vegetation with many references to special species. The manuscript was found among the papers of William Swainson, and its author unknown when published. Rehder (Bradley Bibl. **1:** 510. 1911) credits it to Nadeaud; it is probably a translation of some part of **Nadeaud,** 1864.

1897a. Note sur quelques plantes rares ou peu connues de Tahiti. Jour. Bot. Morot **11:** 103–120.

Includes descriptions of some new species and notes on previously described ones.

1897b. Le Maota de Tahiti (Cyrtosperma Merkusii). Jour. Bot. Morot **11:** 259–260.

A general note.

1897c. Le genre Hernandia aux îles de la Société. Jour. Bot. Morot **11:** 288–290.

Three species recognized, including *H. temarii* n. sp.

1898. Les Composées arborescentes de Tahiti. Jour. Bot. Morot **12:** 117–118.

Notes on three species of *Fitchia.*

1899. Plantes nouvelles des Îles de la Société. Jour. Bot. Morot **13:** 1–8.

Seven new species described, with notes on a few others.

Nakai, T.

1930. Notulae ad plantas Japoniae et Koreae XXXVIII. Bot. Mag. Tokyo **44:** *7–40. f. 1–3.*

Lists 31 species of *Osmanthus,* including a few from Hawaii and New Caledonia.

Nannfeldt, J. A.

1924. Revision des Verwandtschaftskreises von Centella asiatica (L.) Urb. Svensk Bot. Tidskr. **18:** 397–426. *pl. 6–7, f. 1–2.*

Includes Polynesian records of *C. asiatica.*

Naudin, C.

1849–53. Melastomacearum quae in Musaeo Parisiensi continentur monographicae descriptionis et secundum affinitates, distributionis tentamen. Ann. Sci. Nat. III. Bot. **12:** 196–284. *pl. 10–15.* 1849; **13:** 25–39, 126–159, 273–303, 347–362. *pl. 5–8.* 1849; **14:** 53–76, 118–165. *pl. 4–7.* 1850; **15:** 43–79. *pl. 3–4,* 276–345. *pl. 12–15.* 1851; **16:** 83–246. *pl. 18, 24–25.* 1851; **17:** 305–382. 1852; **18:** 85–154, 257–294. *pl. 3–6.* Reprint 1–720. *pl. 1–27.* 1853.

Includes the then-known Polynesian species.

1850. Le bananier de la Chine. Son importance comme plante économique, ses produits dans les îles de la Polynésie. Rev. Hort. III **4:** 526–532.

Includes data on cultivation and uses of *Musa cavendishii,* native of China but introduced in Samoa and other Pacific Islands.

1852. Plantes nouvelles ou peu connues introduites dans l'horticulture. Rev. Hort. IV. **1:** 203–211, 381–391.

Includes notes on *Dammara obtusa,* introduced from the New Hebrides and *Araucaria columnaris* from New Caledonia.

1854. Revue du jardinage. Espèces et variétés récemment introduites en horticulture. Rev. Hort. IV. **3:** 321–329.

Includes *Clianthus puniceus* var. *magnificus,* said to be a native of the Navigator Islands (Samoa).

1857. Un coup d'oeil sur la Nouvelle Calédonie. Fl. Serr. Jard. Eur. **12:** 129–133.

A general geobotanical sketch.

1858. Description d'une nouvelle espèce du genre Bryonia. Ann. Sci. Nat. IV Bot. **9:** 396–398.

B. pancheri n. sp. from New Caledonia.

1859a. Essais d'une monographie des espèces et des variétés du genre Cucumis. Ann. Sci. Nat. IV. Bot. **11:** 5–87.

Contains data on some forms of *C. pubescens* from the South Sea Islands.

1859b. Revue des Cucurbitacées cultivées au muséum, en 1859. Ann. Sci. Nat. IV. Bot. **12:** 79–164. *pl. 8–10.*

Includes *Cucumis pancherianus* n. sp. and *Bryonia pancheri* from New Caledonia.

1862a. Espèces et variétés nouvelles de Cucurbitacées cultivées au muséum d'histoire naturelle, en 1860 et 1861. Ann. Sci. Nat. IV. Bot. **16:** 154–199. *pl. 1–4, 13 f. B.*

Includes *Cucumis pancherianus* and *Luffa cylindrica minima* from New Caledonia.

1862b. Cucurbitacées cultivées au muséum d'histoire naturelle en 1862; description d'espèces nouvelles et de quelques formes hybrides obtenues de plantes de cette famille. Ann. Sci. Nat. IV. Bot. **18:** 159–208. *pl. 8–11.*

Includes *Melothria pentaphylla* n. sp. from New Caledonia.

1866a. Un coup d'oeil sur la Nouvelle-Calédonie. Rev. Hort. **(37:)** 146–147.

A general note compiled from **Veitch,** 1866.

1886b. Cucurbitacées cultivées au muséum d'histoire naturelle en 1866. Ann. Sci. Nat. V. Bot. **6:** 5–32.

Contains "Tableau Synoptique des Cucurbitacées," pp. 23-32, including at least two Polynesian species.

Naudin, C., and Mueller, F. von

1887. Manuel de l'acclimateur ou choix de plantes recommandées pour l'agriculture, l'industrie et la médicine et adaptées aux divers climats de l'Europe et de pays tropicaux. 1–565. *frontisp.*

Includes some Polynesian species.

Naumov, N. A.

1939. Clés de Mucorinées. 1–137, i–xxxvi, 1–3. *f. 1–82.*

A French translation of ed. 2 of that work in Russian (not seen) with additional notes by the author and the preface by P. Allorge. Published as vol. 9 of the "Encyclopédie Mycologique" edited by P. Lechevalier. Includes *Mortierella elasson* from Hawaii.

Naveau, R.

1928. Mousses critiques. Rev. Bryol. II. **1:** 38–40.

A list of herbarium names, including some of New Caledonian species. For reductions see **Dixon, H. N.,** 1929.

Neal, M. C.

1927. Flowering cycle in Honolulu. Hawaiian Annual (1928) **54:** 49–61.

A generic consideration.

1928. In Honolulu gardens. Bishop Mus. Spec. Publ. **13:** i–iv, 1–327. *pl. 1–27. f. 1–68;* ed. 2, i–iv, 1–336. *pl. 1–27. f. 1–71.* 1929.

Chiefly botanical in reference to locally cultivated plants, their names, characters, uses, and origins.

1930. Hawaiian marine algae. Bishop Mus. Bull. **67:** 1–84. *f. 1–21.*

General, but largely ecological; many of the forms considered are determined only to the genus.

1934. Plants used medicinally: in Handy, E. S. C., *et al.* Outline of Hawaiian therapeutics. Bishop Mus. Bull. **126:** *39–49.*

An annotated list, arranged alphabetically by vernacular names, with botanical equivalents and references.

1937a. South Point, Island of Hawaii. Parad. Pacif. **49**(11): 17–18, 30.

Includes notes on the vegetation.

1937b. Bean trees of Hawaii. Parad. Pacif. 49(6): 21, 31. *3 f.*

General notes.

1939a. A list of mosses and vascular plants collected on Mauna Kea, August, 1938. Bishop Mus. Spec. Publ. **34**: 13.

Not seen; apparently an abstract.

1939b. The pink Tecoma tree. Parad. Pacif. **51**(1): 14, 28. *1 f.*

A note on *Tecoma* (*Tabebuia*) *pentaphylla* introduced in Hawaii.

1939c. Native Hawaiian Hibiscus. Parad. Pacif. **51**(6): 11.

Popular notes on native species.

1939d. The vegetation of Lake Waiau, Hawaii. Parad. Pacif. **51**(10): 7, 32. *1 f.*

A general note.

1939. A list of mosses and vascular plants collected on Mauna Kea, August, 1935. Bishop Mus. Spec. Publ. **34**: 13.

Merely a summary of the total number of species collected without a list.

See also **Hartt, C. H.**, and **Neal, M. C.**

Nees von Esenbeck, C. G.

1829. Agrostologia brasiliensis seu descriptio graminum in imperio brasiliensi huc usque detectorum. i–ii, 1–608.

Includes some original descriptions of Polynesian species. This forms vol. 2, pt. 1 of Martius' "Flora Brasiliensis."

1843a. Cyperaceae: in Meyen, F. J. F., Observationes botanicas . . . Nova Acta Acad. Leop.-Carol. Nat. Cur. 19: Suppl. 1: 53–124.

An enumeration with descriptions of new species, a few from Hawaii.

1843b. Gramineae: in Meyen, F. J. F., op. cit. 135–208.

Ten species of Hawaiian grasses are listed with notes and descriptions (pp. 169-172).

1847. Acanthaceae. DC. Prodr. 11: 46–519.

Monographic.

See also **Lindenberg, J. B. W.**, 1844–47.

Nelmes, E.

1938. Notes of Carex. III. Three allied Pacific species. Kew Bull. 1938: 106–110.

C. graeffeana confined to Fiji with *samoensis* n. var. in Samoa, the Philippine form formerly referred here described as new, the third one considered being from Borneo.

Nessel, H.

1934. Neue Lycopodien, die von allen schon bekannten Arten durch ihren Habitus ganz besonders abweichend und auffallend sind. Repert. Sp. Nov. **36**: 177–193. *pl. 170–177.*

Includes *Urostachys bonapartei* n. sp. from Fiji, *U. neocaledonicus* n. sp. from New Caledonia, and *U. sprengeri* n. sp. from Tahiti.

1935. Beiträge zur Kenntnis der Gattung Lycopodium. Repert. Sp. Nov. **39**: 61–71. *pl. 189–194.*

Five species from Fiji are listed, including *Urostachys kandavuensis* n. sp. (pp. 66-68).

1939. Die Bärlappgewächse (Lycopodiaceae). Eine beschreibende Zusammenstellung mit besonderer Berücksichtigung ihrer Varietäten und Formen. i–viii, 1–404. *7 pl. f. 1–87. frontisp.*

Monographic; illustrated by 258 individual figures.

1940. Beiträge zur Kenntnis der Lycopodiaceen. Revis. Sudam. Bot. **6:** 156–175. *pl. 7–19.*

Consists of Latin diagnosis of species and varieties described as new in the preceding entry, several in *Lycopodium* and *Urostachys* from Polynesia.

Nichols, C. F.

1893. Pele's fernery. Science **22:** 288–289. *4 f.*

A popular account of some Hawaiian ferns.

Nicholson, G.

1885. Cook's Araucaria (A. Cooki). Garden **28:** 122–123. *1 f.*

Native of New Caledonia.

Nicholson, W. E.

1942. Some hepatics from the Hawaiian Islands. Trav. Bryol. [13], fasc. **1:** 142–144.

Enumeration of previously unnamed collections.

Niedenzu, F.

1915–24. Malpighiaceae palaeotropicae. Arb. Bot. Inst. Akad. Braunsb. **6:** 1–63. 1915; (II) Verz. Vorles. Akad. Braunsb. 1–19. 1924.

A few references to Micronesian and New Caledonian species.

1928. Malpighiaceae. Pflanzenr. **91**(IV. 141): 1–246. *f. 1–24;* **93**(IV. 141): 247–572. *f. 25–41;* **94**(IV. 141): 573–870. *f. 42–48.*

Monographic.

Nightingale, G. T.

1835. Oceanic sketches . . . With a botanical appendix by Dr. Hooker of Glasgow. i–x, 1–132. *illus.*

Includes a list of ferns, by W. J. Hooker, in the botanical collection made by Mr. Nightingale (pp. 127-132).

Nishiyama, S.

1941. [Fungi collected from Palao]. Hakubut. Zassi **38:** 83–85.

In Japanese.

Nitschke, R.

1923. Die geographische Verbreitung der Gattung Acalypha. Bot. Arch. **4:** 277–317. *map.*

A list of the known species based on the work of Pax and Hoffmann.

Nordstedt, O.

1878. De Algis aquae dulcis et de Characeis ex insulis Sandvicensibus a Sv. Berggren 1875 reportatis. Comment. Soc. Physiogr. Lund. **7:** 1–24. *pl. 1, 2.*

An enumeration with notes and the descriptions of new species.

1888. Einige Characeenbestimmungen. I. Ueber einige Characeen im Herbarium des K. botanischen Museums zu Berlin. Hedwigia **27:** 181–196. *pl. 6.*

Includes some Polynesian species.

1896. Index desmidiacearum citationibus locupletissimus atque bibliographia. 1–310.

An alphabetical list of the known species with references.

1908. Index desmidiacearum . . . Supplementum. 1–149.

Supplementary to the preceding item.

Novo y Colson, P. de. See **Malaspina, A.,** 1885.

Nuttall, T.

1838. On a new species of Tacca. Am. Jour. Pharm. **9**: 305–306. *1 pl.*

Tacca oceanica n. sp. from Hawaii; description repeated in **Nuttall,** 1866.

1843. Description and notices of new or rare plants in the natural orders Lobeliaceae, Campanulaceae, Vacciniaceae, Ericaceae, collected in a journey over the continent of North America and during a visit to the Sandwich Islands and upper California. Trans. Am. Philos. Soc. II. **8**: 251–272.

Includes the original descriptions of various Hawaiian species.

1866. On a new species of Tacca. Jour. Bot. **4**: 261–263.

Republication of **Nuttall,** 1838, by Seemann, who extends the range of the species to Tonga.

Nutting, C. C. See **Wylie, R. B.,** 1924.

Nylander, W.

1857. Énumération générale des Lichens, avec l'indication sommaire de leur distribution géographique. Mém. Soc. Sci. Nat. Cherbourg **5**: 85–146; Supplement, 332–339.

Includes the known Polynesian species.

1858a. Animadversiones circa Collemaceos quosdam. Flora **41**: 337–338.

Lists a few species of *Leptogium* from Polynesia.

1858b. Expositio synoptica Pyrenocarpeorum. Mém. Soc. Acad. Maine-et-Loire **4**: 5–88.

Includes some Polynesian species.

1858–63. Synopsis methodica Lichenum omnium hucusque cognitorum praemissa introductione lingua Gallica tractata. **1**: 1–430, i–iv, *pl. 1–8.* 1858–60; **2**: 1–64. *pl. 1.* 1863.

A critical enumeration, including some Polynesian species.

1859a. Lichenes in regionibus exoticis quibusdam vigentes exponit synopticis enumerationibus. Ann. Sci. Nat. IV. Bot. **11**: 205–264.

Pp. 234-247 bear the subtitle "Lichenes Polynesienses"; an enumeration of 140 species, some new.

1859b. Prodromus expositionis lichenum Novae Caledoniae. Ann. Sci. Nat. IV. Bot. **12**: 280–283.

A list of 26 species with notes, including *Collema amphiurum* n. sp.

1861. Expositio lichenum Novae Caledoniae. Ann. Sci. Nat. IV. Bot. **15**: 37–54.

An enumeration of 104 species, some new.

1862. Expositio synoptica generis Coenogonii. Bot. Zeit. **20**: 177–178.

Includes *C. confervoides* n. sp. from Tahiti.

1865. Enumeratio synoptica Sticteorum. Flora **48**: 296–299.

A list of 61 species, some from Polynesia.

1867. Novae explorationes lichenium Neo-Caledoniae. Flora **50**: 193–197.

A list.

1868a. Synopsis lichenum Novae Caledoniae. Bull. Soc. Linn. Normandie II. **2**: 39–140.

A list with notes and descriptions.

1868b. Conspectus synopticus Sticteorum. Bull. Soc. Linn. Normandie II. **2**: 498–505.

A list with some Polynesian species.

1870. Recognitio monographica Ramalinarum. Bull. Soc. Linn. Normandie II. **4**: 101–180.

Includes *R. taitensis* n. sp. from Tahiti.

1885. Parmeliae exoticae novae. Flora **68:** 605–615.

Includes some Polynesian species.

O

Ogura, Y.

1930. On the structure of Hawaiian tree ferns, with notes on the affinity of the genus Cibotium. Bot. Mag. (Tokyo) **44:** 467–478. *f. 1–6.*

Includes *Cibotium hawaiense* Nakai and Ogura n. sp.

1942. [Mangrove plants of East Asia.] (I) Bot. & Zool. **10:** 145–149. *f. 1–6;* (II) 233–237. *f. 7–9.*

Includes notes on the Micronesian mangrove species; Japanese text.

Ohwi, J.

1930–31. Contributiones ad Caricologiam Asiae orientalis (Pars prima). Mem Coll. Sci. Kyoto Univ. B **5:** 247–292; (Pars altera) B **6:** 238–270. 1931.

Mentions a few Polynesian species.

1939. Two new species of Cyperaceae from the Caroline Islands. Acta Phytotax. Geobot. **8:** 67–69.

Carex kanehirae and *Fimbristylis hatusimae* n. spp. from Palau.

1941. Grasses of Micronesia. Bot. Mag. Tokyo **55:** 537–552.

An enumeration of 75 species collected by Kanehira and Hatusima, including 5 new species, 1 new variety, and 5 new combinations.

1942a. Micronesian Cyperaceae collected by Prof. R. Kanehira and Dr. S. Hatusima. Journ. Jap. Bot. **18:** 130–138.

An enumeration of 53 species, including 2 new species, 1 new variety, and 3 new combinations.

1942b. Symbolae ad floram Asiae Orientalis (XVIII). Act. Phytotax. Geobot. **11:** 249–265.

Includes *Digitaria subhorizontalis* n. sp. from Palau.

Okabe, M.

1941a. An enumeration of the plants collected in Marshall-Island. Jour. Jap. For. Soc. **23:** 261–272.

General notes in Japanese, with a list of species.

1941b. [Drugs used by the islanders of Palao.] Journ. Anthropol. Soc. Nippon **56:** 413–426. *f. 1–4.*

In Japanese. Includes a list of 82 vegetable drugs.

1941c. [Edible plants in Palao Islands.] Sangyō No Nanyō **4:** 2–9.

In Japanese.

1941d. [Reports on the vegetation of Palao Islands.] Sangyō No Nanyō **4:** 9–18.

In Japanese.

1942. [A list of plants collected in East Caroline Islands.] Jour. Jap. For. Soc. **26:** 1–20.

In Japanese.

Okamura, K.

1904. List of marine algae collected in Caroline Islands and Australia. Bot. Mag. (Tokyo) **18:** 77–96. *f. 1–4.*

A systematic and geographical enumeration.

1916. List of marine algae collected in Caroline Islands and Marianne Islands. 1915. Bot. Mag. (Tokyo) **30:** 1–14. *pl. 1. f. 1–9.*

Includes *Halarachnion calcareum* n. sp.

1932. The distribution of marine algae in Pacific waters. Rec. Oceanogr. Works Japan **4:** 30–150.

A list of 3,794 species with tabulation of their geographic distribution, 658 species occurring in Polynesia; bibliography.

1934. The distribution of marine algae in Pacific waters. Proc. Fifth Pacific Sci. Congr. **4:** 3133–3144.

A general consideration, with an extensive bibliography.

Oliver, D.

1861. The natural order Aurantiaceae, with a synopsis of the Indian species. Jour. Linn. Soc. Bot. **5:** Suppl. **2:** 1–44.

Includes some species that extend to Polynesia.

1866. On Hillebrandia, a new genus of Begoniaceae. Trans. Linn. Soc. **25:** 361–363. *pl. 46.*

Native of Hawaii.

1877. Eranthemum laxiflorum. Bot. Mag. **103:** *pl. 6336.*

Native of the New Hebrides and Fiji.

1881. Erythrospermum polyandrum Oliv. Hook. Ic. **14:** 24. *pl. 1333.*

Native of Samoa.

1883. Gardenia Storckii. Hook. Ic. **15:** *pl. 1448.*

Native of Fiji.

1889. Inocarpus edulis, Forst. Hook. Ic. **19:** *pl. 1837.*

Native of Polynesia.

1894a. Ardisia megaphylla, Hemsl. Hook. Ic. **24:** *pl. 2316.*

Native of Fiji.

1894b. Dizygotheca nilssoni, N. E. Br. Hook. Ic. **24:** *pl. 2323.*

Native of New Caledonia.

1896a. Santalum fernandezianum F. Phil. Hook. Ic. **25:** *pl. 2430.*

Native of Juan Fernández.

1896b. Vavaea megaphylla, Wright, Hook. Ic. **25:** *pl. 2438.*

Native of Fiji.

Oliver, W. R. B.

1910. The vegetation of the Kermadec Islands. Trans. Proc. New Zeal. Inst. **42:** 118–175. *pl. 12–23. map.*

Ecological, with an annoted list of species.

1911. List of lichens and fungi collected in the Kermadec Islands. Trans. Proc. New Zeal. Inst. **44:** 86–87.

A list with notes.

1917. The vegetation and flora of Lord Howe Island. Trans. Proc. New Zeal. Inst. **49:** 94–161. *pl. 10–16. f. 1–3.*

Ecological with an extensively annotated list of species.

1929. A revision of the genus Dracophyllum. Trans. Proc. New Zeal. Inst. **59:** 678–714. *pl. 78–102.*

Includes the few Polynesian species.

1935. The genus Coprosma. Bishop Mus. Bull. **132:** 1–207. *pl. 1–59. f. 1-67.*

Monographic; 90 species recognized.

1942. New species of Coprosma from New Guinea and the Hawaiian Islands. Rec. Dominion Mus. (New Zeal.) **1:** 44–47. *pl. 14. f. 1–2.*

Includes *C. skottsbergiana* from Molokai, Hawaii.

Ooststroom, S. J. van

1934. A monograph of the genus Evolvulus. Med. Bot. Mus. Univ. Utrecht **14:** 1–267.

Includes the few Polynesian species.

1938. The Convolvulaceae of Malaysia, I. Blumea **3:** 62–94. *1 f.*

Includes *Cuscuta campestris,* occurring in Polynesia.

1939. Two new species of Merremia from Fiji, representatives of a new section Wavula (Convolvulaceae). Blumea **3:** 263–266. *f. 1.*

M. pacifica and *M. calyculata* n. spp.

Orr, M. Y.

1944. The leaf anatomy of Podocarpus. Trans. Proc. Bot. Soc. Edinburgh **34:** 1–54. *pl. 1–2.*

Includes the New Caledonian and Polynesian species.

Osborn, A.

1831. Agathis vitiensis Card. Chron. III **90:** 458.

Native of Fiji; a general note.

Ostergaard, J. M. See **Setchell, W. A., Hoffmeister, J. E.,** and **Ostergaard, J. M.**

Ostinelli, V.

1921. Fioritura e fruttificazione della Rhopalostylis sapida Wendl. et Drude (Areca sapida Forst., Kentia sapida Mart.). Bull. Soc. Tosc. Ort. **46:** 19–20.

Description of flowers and fruits of this native of Norfolk Island.

Otero, J. J., and **Cook, M. T.**

1934. Partial bibliography of virus diseases of plants. Jour. Agr. Univ. Porto Rico. **28:** 1–410.

Lists various papers on virus diseases of Polynesian species.

1935–38. First supplement to partial bibliography of virus diseases. Jour. Agr. Univ. Puerto Rico **19:** 129–313. 1935; (Second supplement) **20:** 741–818. 1936; (Third supplement) **22:** 263–393. 1938.

Supplementary to the preceding item.

P

Paillieux, A., and **Bois, D.**

1884. Le potager d'un curieux, histoire, culture, et usages de 100 plantes comestibles, exotiques, peu connues ou inconnues. Bull. Soc. Nat. Acclim. France IV. **1:** 44–75, 131–158, 259–288, 363–391, 465–492, 570–598, 653–678, 728–747, 824–847, 896–913, 945–962. 1884. Reprint 1–294. 1885.

Includes some Polynesian species. Ed. 2 of 1892 has not been seen. For ed. 3 and 4 see **Paillieux, A.,** and **Bois, D.,** 1899, and **Bois, D.,** 1927-37, respectively.

1899. Le potager d'un curieux, histoire, culture and usage de 250 plantes comestibles peu connues ou inconnues. i–xvi, 1–678. *f. 1–82.*

Includes some species from Polynesia. This is ed. 3 of **Paillieux, A.,** and **Bois, D.,** 1884.

Paine, R. W.

1934. The control of Koster's curse (Clidemia hirta) on Taveuni. Agr. Jour. (Fiji) **7**(1) : 10–21. *1 pl. 2 folded charts.*

Largely experimental results.

1940. Tangimauthia, a flower of Fiji. Agr. Jour. (Fiji) **11:** 56.

Medinilla waterhousei.

Palacky, J.

1882. Über die Flora von Neu-Caledonien. Sitzber. Böhm. Gesell. Wiss. **1882**: 186–188. 1882. Reprint 1–2. 1882.

Brief general notes.

Palla, E.

1907. Neue Cyperaceen II. Osterr. Bot. Zeitschr. **57**: 424–425.

Includes *Carex rechingeri* n. sp. from Samoa.

1908. Cyperaceae: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **84**: 450–455. Reprint **2**: 66–71.

Includes some Samoan species.

Pampaloni, L. See **Pampanini, R.**, and **Pampaloni, L.**

Pampanini, R.

1904. Une Cunoniacée nouvelle de la Nouvelle-Calédonie. Bull. Herb. Boiss. II. **4**: 490.

Codia microcephala n. sp.

1905. Le Cunoniacee degli Erbari di Firenze e di Ginevra. Ann. di Bot. **2**: 43–106. *pl. 5–7.*

Includes various New Caledonian species.

Pampanini, R., and **Pampaloni, L.**

1905–06. Contribuzione alla conoscenza del genera Xanthostemon F. Muell. Nuovo Giorn. Bot. Ital. II. **12**: 673–688. 1905; **13**: 121–137. *f. 1–4.*

Includes some species from New Caledonia.

Pampanini, R.

1908a. Il Lycopodium pseudosquarrosum Pamp. e le sue affinità. Bull. Soc. Bot. Ital. **1908**: 69–77.

The species is extensively discussed in relation to *L. squarrosum.*

1908b. Un nuovo Lycopodium: "L. pseudo-squarrosum" Pampanini, sp. n. Bull. Soc. Tosc. Ort. **33**: 99–100. *pl. 2.*

Native of "Polinesia tropicale o le Isole della Sonda."

Pancher, I.

1873. Description de l'Aralia tenuifolia de la Nouvelle-Calédonie. Adansonia **10**: 372–373.

1881. Notes sur la Nouvelle-Calédonie et sur sa flore, tirées de la correspondance de feu M. Pancher. Ill. Hort. **28**: 24–27.

General.

See also **Sebert H.**, [and **Pancher, I.**].

Panzer, G. W. F.

1783. Beitrag zur Geschichte des ostindischen Brodbaums, mit einer systematischen Beschreibung desselben, aus den ältern sowohl als neuern Nachrichten und Beschreibungen zusammengetragen. 1–45. *pl. 1.*

A reprint of "Beschreibung des ostindischen Brodbaums," by **G. W. F. Panzer,** *in* **G. F. Christmann** and **G. W. F. Panzer,** Vollständiges Pflanzensystem. **10**: 337-381. *Pl. 76.* 1783.

Papenfuss, G. F.

1943. Notes on algal nomenclature. II. Gymnosorus J. Agardh. Am. Jour. Bot. **30**: 463–469. *f. 1–15.*

Pocockiella nom. nov., with *P. variegata,* is proposed for a widely distributed species previously known chiefly as *Padina, Zonaria,* or *Aglaozonia* (*A. pacifica*).

1944a. Notes on algal nomenclature III. Miscellaneous species of Chlorophyceae, Phaeophyceae and Rhodophyceae. Farlowia **1**: 337–346.

Includes *Botryocladia skottsbergii* n. comb. (*Chrysymenia skottsbergii*) from Juan Fernández.

1944b. Structure and taxonomy of Taenioma, including a discussion of the phylogeny of the Ceramiales. Madroño **7**: 193–214. *pl. 23–24. f. 1.*

T. perpusillum mentioned from Hawaii.

1945. Review of the Acrochaetium-Rhodochorton complex of the red Algae. Univ. Calif. Publ. Bot. **18**: 299–334.

Includes *Rhodochorton subsimplex,* native of Tonga.

1946. Structure and reproduction of Trichogloea Requienii, with a comparison of the genera of Helminthocladiaceae. Bull. Torr. Bot. Club **73**: 419–437. *f. 1–26.*

Several Polynesian species mentioned and discussed.

Pardé, L.

1937. Les conifères. 1–294. *26 f. 61 photogr.*

Includes *Araucaria excelsa* from Norfolk Island and *A. cookii* from New Caledonia.

Parham, B. E. V.

1935. Wilt disease of "Yangona." Agr. Jour. [Fiji] **8**(1): 2–8.

A discussion of this disease of *Macropiper* [*Piper*] *methysticum,* its cause, and possible control measures.

1937a. Citrus diseases in Fiji. Agr. Jour. [Fiji] **8**(4): 22–24.

Notes on several diseases.

1937b. Poisonous plants of Fiji. Agr. Jour. [Fiji] **8**(4): 25–26.

Notes on various species.

1938a. New banana varieties for Fiji. Agr. Jour. [Fiji] **9**(2): 12–14. *f. 1–6.*

A general consideration.

1938b. The history and distribution of Solanum Torvum Swartz in Fiji with notes on the possibility of its control. Agr. Jour. [Fiji] **9**(3): 2–5.

General data.

1938–40. Notes on weeds in Fiji I. Agr. Jour. [Fiji] **9**(3): 12. 1938; (II) **10**: 21. 1939; (III) 11: 83–84, (IV) 101–103. 1940.

Piper aduncum, Lythrum hyssopifolium, Urena lobata, and *Cyperus rotundus.*

1939a. List of plants introduced to Fiji by R. B. Howard and W. L. Wallace. Agr. Jour. [Fiji] **10**: 112–116.

Includes 46 species belonging to 24 families and 33 genera.

1939b. The sago palm—a valuable source of food. Agr. Jour. [Fiji] **10**: 21–23.

Metroxylon vitiensis.

1940. The control of weeds. Agr. Jour. [Fiji] **11**: 51–52.

Includes references to *Tribulus terrestris, Panicum maximum, Cyperus rotundus, Xanthium pungens,* and *Lantana camara.*

1941. Dalo varieties from Rotuma Island (Colocasia esculenta (L.) Schott). Agr. Jour. [Fiji] **12**: 51–52.

Lists 20 varieties under Fijian names.

1942a. Fijian plant names i–vi, 1–83. (Department of Agriculture, Suva, Fiji.)

An alphabetic list with binomial equivalents and a synopsis of Fijian plant families; bibliography.

1942b. Some useful plants of the Fiji Islands. Agr. Jour. (Fiji) **13**: 39–47; 69–75.

A compilation of useful data regarding a wide variety of subjects, compiled primarily as an aid to service men. Reported to have been reissued in the form of a separately paged bulletin, the latter not seen.

1942c. Observations on plants received for identification. Agr. Jour. (Fiji) **13:** 50–52.

Extensive notes on five native and introduced species.

1942d. Climbing plants suitable for camouflage. Agr. Jour. (Fiji) **13:** 52.

A list with notes.

1942e. Weeds in Fiji IV. Agr. Jour. (Fiji) **13:** 53–54.

Extensive notes on *Hyptis pectinata* and *Elephantopus mollis;* other numbers of this series not seen.

1942f. Botanical note. Plant protection. (Notes from the Pathological Laboratory—III.) Agr. Jour. (Fiji) **13:** 27–28.

***Rhizopus artocarpi* on *Artocarpus integer*, *Albugo candida* on Cruciferae, and *Phytophthora hibernalis* on *Citrus*.**

1944. Plant introduction 1933–1943. Agr. Jour. (Fiji) **15:** 94–104.

Includes drugs, fibers, fodders, grasses, field crops, fruits, trees, and ornamental plants; references.

1945a. Control of noxious weeds in Tailevu and Navua. Agr. Jour. (Fiji) **16:** 71–75.

Includes ecological notes.

1945b. The "blue" grasses in Fiji. Agr. Jour. (Fiji) **16:** 104–107.

Concerns species of *Dicanthium*, *Amphilopis*, *Andropogon*, and *Ischaemum;* references.

1946. Botanical notes. Agr. Jour. (Fiji) **17:** 22–25.

Miscellaneous descriptive and economic notes on 6 local species; references.

Parham, H. B. R.

[1935] Names of a few Fijian plants and their botanical equivalents. 1–13.

An alphabetical list of about 360 native names with their binomial equivalents and notes, supplementary to Wright, 1918.

1937. Valuable plants of Fiji. Pacific Islands Monthly **7:** 41–42, 49–51.

Not seen.

1943. Fiji native plants with their medicinal and other uses. Polynesian Soc. Mem. **16:** i–xii. 1–160.

An alphabetical sequence of native plant names with binomial equivalents; many data regarding uses are recorded.

Parham, W. L.

1929. List of plant names, Naivakasiga, Bua. Agr. Jour. [Fiji] **2:** 65.

A table of botanical, customary names (Wright's list), and Bua names with economic notes. See Wright, C. Harold, 1918.

1937. The Fijians as agriculturists. Agr. Jour. [Fiji] **8** (3): 15–17.

A general note.

1938a. The wild tamarind (Leucaena glauca Benth.) Agr. Jour. [Fiji] **9** (1): 18.

General notes.

1938b. Two useful trees. Agr. Jour. [Fiji] **9**(2): 23–24.

Popular notes on *Persea americana* and *Bixa orellana*.

Parham, W. L., and Dakui, M.

1938. The yam. Agr. Jour. [Fiji] **9** (3): 12–13.

***Dioscorea esculenta* and *D. pentaphylla*.**

Parham, W. L.

1939. Jerusalem artichoke (Helianthus tuberosus). Agr. Jour. [Fiji] **10:** 34–35.

A short note.

1941. Albizzia falcata — a quick growing tree. Agr. Jour. [Fiji] **12:** 67–68.

A general note.

1942. Observations on pasture improvement. Agr. Jour. (Fiji) **13:** 36–38.

Lists various plant species including weeds.

Paris, É. G.

1893–98. Index bryologicus sive enumeratio muscorum hucusque cognitorum adjunctis synonymia distributioneque geographica locupletissimis. Act. Soc. Linn. Bordeaux **46:** i–x, 15–334. 1893; **49:** 1–384. 1895; **50:** 1–256. 1896; **51:** 1–416. 1897. Reprint i–vi, 1–1379. 1894–98.

An alphabetical list with citations to literature, synonymy, and geographic distribution of all known species.

1900. Index bryologicus sive enumeratio muscorum hucusque cognitorum adjunctis synonymia distributioneque geographica locupletissimus. Supplementum primum. 1–334.

Supplementary to the preceding.

1903–06. Index bryologicus sive enumeratio muscorum ad diem ultimam anni 1900 cognitorum adjunctis synonymia distributioneque geographica locupletissimus. Editio secunda **1:** 1–384. 1903–1904; **2:** 1–375. 1904; **3:** 1–400. 1904–05; **4:** 1–368. 1905; **5:** 1–160, [1–31]. *1 map.* 1906.

An amplification of the preceding two entries.

1906–10. Hépatiques de la Nouvelle-Calédonie. Rev. Bryol. **33:** 27–29. 1906; **35:** 62. 1908; **37:** 128–132. 1910.

A list based on identifications made by Stephani.

1909. Muscinées de la Nouvelle-Calédonie. Rev. Bryol. **36:** 45.

Trichostomum ? aduncum n. sp. and a list of 11 hepatics based on Stephani's determinations.

1910. Florule bryologique et hépaticologique de l'ile des Pins (Kunié). Rev. Bryol. **37:** 34–42.

A list with notes (New Caledonia).

Parkinson, S.

1768–83. [Drawings and sketches of plants made by S. Parkinson during Cook's first voyage (1768–71) . . . .].

Unpublished illustrations, including various Polynesian species, preserved in the library of the British Museum, Natural History.

1773. A journal of a voyage to the South Seas, in his Majesty's ship, the Endeavour. Faithfully transcribed from the papers of the late Sydney Parkinson, draughtsman to Joseph Banks, Esq., on his late expedition with Dr. Solander, round the world . . . i–xxiii, 1–212. *pl. 1–27;* ed. 2. i–xxiii, 1–353. *pl. 1–26. 2 maps.* 1784.

Pages 37-50 concerning the useful plants of Tahiti translated into German and republished in 1777. See **Z.,** 1774.

Parks, H. E.

1926. Tahitian fungi collected by W. A. Setchell & H. E. Parks. Univ. Calif. Publ. Bot. **12:** 49–59.

A list of species with notes, none new.

Parlatore, F.

1868. Coniferae. DC. Prodr. **16(2):** 361–521.

Monographic.

Parris, G. K.

1938a. The diseases of truck crops in Hawaii. Ext. Bull. Hawaii Agric. Exp. Sta. **33:** 1–78. *42 f.*

A popular work on the diseases of vegetables in Hawaii.

1938b. The reactions of introduced bean varieties to rust (Uromyces phaseoli typica) in Hawaii. Pl. Disease Rep. **22:** 424–428.

Mimeographed data, many varieties of beans tabulated.

1939a. A new disease of papaya. Bishop Mus. Spec. Publ. **34:** 25.

A brief abstract.

1939b. A new disease of papaya in Hawaii. Proc. Am. Soc. Hort. Sci. **36:** 263–265. *f. 1–3.*

The suggestion is made that a virus disease is involved.

1940. A check list of fungi, bacteria, nematodes, and viruses occurring in Hawaii, and their hosts. Pl. Disease Rep. Suppl. **121:** 1–91.

Not seen.

1941. Diseases of taro in Hawaii and their control. With notes in field production. Hawaii Agr. Exp. Sta. Circ. **18:** 1–29. *f. 1–5.*

Discussion of the diseases and the methods of their control.

1942. Eye-spot of Napier grass in Hawaii, caused by Helminthosporium sacchari. Phytopath. **32:** 46–63. *f. 1–6.*

A study of this disease of *Pennisetum purpureum.*

See also **Kikuta, K., Whitney, L. D.,** and **Parris, G. K.**

Patouillard, N.

1887. Contributions a l'étude des champignons extra-européens. Bull. Soc. Myc. France **3:** 119–131. *1 f.*

Includes *Hypomyces caledonicus* n. sp. from New Caledonia.

1887–1915. Champignons de la Nouvelle-Calédonie. Bull. Soc. Myc. France **3:** 168–178. *pl. 17.* 1887; **24:** 165–168. *1 f.* 1908; **25:** 129–134. 1909; **27:** 34–38. *2 f.* 329–333. *pl. 9.* 1911; **31:** 31–35. *2 f.* 1915.

Includes descriptions of many new species.

1889a. Fragments mycologiques. Jour. Bot. Morot **3:** 256–259. 1889.

Includes *Polyporus pachyphloeus* n. sp. from Fiji.

1889b. Le genre Ganoderma. Bull. Soc. Myc. France **5:** 64–80. *pl. 10–11.*

Includes some Polynesian species.

1896–1908. Champignons nouveaux ou peu connus. Bull. Soc. Myc. France **12:** 132–136. *pl. 9.* 1896; **14:** 149–156. 1898; **24:** 1–12. *3 f.* 1908.

Includes some new species from Polynesia.

1902. Descriptions de quelques champignons extra-européens. Bull Soc. Myc. France **18:** 299–304. *pl. 14.*

Includes a few new species from New Caledonia.

1904. Descriptions de quelques champignons nouveaux des îles Gambier. Bull. Soc. Myc. France **20:** 135–138. *f. 1.*

Seven new species described.

1906a. Champignons recueillis par M. Seurat dans la Polynésie française. Bull. Soc. Myc. France **22:** 45–62. *pl. 1–2.*

A list with notes and the descriptions of new species.

1906b. Un Mitremyces de la Nouvelle Calédonie. Ind. Mycol. Writ. Lloyd **2:** *273–274. f. 117–119.*

M. leratii n. sp.

See also **Bresadola, G.,** and **Patouillard, N.**; and **Hariot P.,** and **Patouillard, N.**

Patouillard, N., and **Hariot, P.**

1906. **Fungorum novorum decas secunda.** Bull. Soc. Myc. France **22:** 116–120. *1 f.*

Includes *Hypocrea incarnata* n. sp. from Samoa.

1912. **Fungorum novorum decas quarta.** Bull. Soc. Myc. France **28:** 280–284. *pl. 14.*

Includes *Clavariopsis pulchella* from New Caledonia and *Montagnella alyxiae* from Tahiti.

Pax, F.

1893. Über die Verbreitung der südamerikanischen Caryophyllaceae und die Arten der Republica Argentina. Bot. Jahrb. **18:** 1–35.

Includes *Sagina hawaiiensis* n. sp. from Hawaii.

Pax, F., and Knuth, R.

1905. Primulaceae. Pflanzenr. **22**(IV. 237): 1–386. *f. 1–75. 2 maps.*

Monographic.

Pax, F., and Lingelsheim, A. von

1906. Zwei neue Euphorbiaceen aus Neu-Kaledonien. Repert. Nov. Sp. **3:** 25–26.

Cleidion lutescens and *Macaranga alchorneoides* n. spp.

Pax, F.

1910a. Euphorbiaceae-Adrianeae, Pflanzenr. **44** (IV. 147. II): 1–111. *f. 1–35.*

Monographic.

1910b. Euphorbiaceae-Jatropheae. Pflanzenr. **42**(IV. 147): 1–148. *f. 1–45.*

Monographic.

Pax, F., and Hoffmann, K.

1911. Euphorbiaceae-Cluytieae. Pflanzenr. **47**(IV. 147. III): 1–124. *f. 1–35.*

Monographic.

1912a. Euphorbiaceae-Gelonieae. Pflanzenr. **52**(IV. 147. 1V): 1–41. *f. 1–11.*

Monographic.

1912b. Euphorbiaceae-Hippomaneae. Pflanzenr. **52**(IV. 147. V): 1–319. *f. 1–58.*

Monographic.

1914. Euphorbiaceae-Acalypheae-Mecurialinae. Pflanzenr. **63**(IV. 147. VII): 1–473. *pl. 1 (map). f. 1–67.*

Monographic.

1919a Euphorbiaceae-Acalypheae-Plukenetiinae-Epiprininae-Ricininae. Pflanzenr. **68**(IV. 147. IX-XI): 1–134. *f. 1–29.*

Monographic.

1919b. Euphorbiaceae-Additamentum VI. Pflanzenr. **68**(IV. 147. XIV): 1–63.

Supplementary to preceding items.

1922. Euphorbiaceae-Phyllanthoideae-Phyllantheae. Pflanzenr. **81**(IV. 147. XV): 1–349. *f. 1–26.*

Monographic.

1924. Euphorbiaceae-Crotonoideae-Acalypheae-Acalyphinae. Pflanzenr. **85**(IV. 147. XVI) : 1–231. *f. 1–3.*

Monographic.

1928. Einige neue Euphorbiaceae. Notizbl. Bot. Gart. Berlin **10:** 383–386.

Includes *Macaranga graeffeana* n. sp. from Fiji.

Paxton, J.

1836–38. New and beautiful plants, figured in the three leading botanical periodicals. Paxton's Mag. Bot. **2:** 77–79. 1836; **5:** 42–47. 1838.

Includes some Polynesian species.

1843. Barringtonia speciosa. Paxton's Mag. Bot. **10:** 241–242. *1 pl. 1 f.*

Native of the Pacific Islands.

1849. The Almug, or Algum tree of the ancients. Paxton's Mag. Bot. **15:** 109–116. *f. a-c.*

Includes *Santalum album* occurring in Fiji and Marquesas Islands.

See also **Lindley, J.,** and **Paxton, J.,** 1850–84.

Pearson, W. H.

1922. Hepaticae [of New Caledonia]. Jour. Linn. Soc. Bot. **46: 13–44.** *pl. 2–3.*

An enumeration with descriptions of new species.

Peck, C. H.

1907. New species of fungi. Bull. Torr. Bot. Club **34:** 97–104.

Includes *Lepiota xylophila* n. sp. from Hawaii.

Pereiro, A. Cabeza. See **Cabeza Pereiro, A.**

Pérez Arbelaez, E.

1928. Die natürliche Gruppe der Davalliaceen (Sm.) Kfs., unter Berücksichtigung der Anatomie und Entwicklungs-geschichte ihres Sporophyten. Bot. Abh. Goebel **14:** 1–96. *f. 1–35.*

Includes taxonomic data on some Polynesian genera and species.

Pergallo, H., and **Pergallo, M.**

1911. Diatomaceae marinae von dem Solomons-, Samoa-, und Hawaiinseln: in Rechinger, K., Botanische und zoologische Ergebnisse. . . . Denkschr. Akad. Wiss. Wien **88:** 3–11. *pl. 1–2.* Reprint **4:** 3–11. *pl. 1–2.*

A list with descriptions of new species.

Pergallo, M. See the preceding authors.

Perkins, J. and **Gilg, E.**

1901. Monimiaceae. Pflanzenr. **4**(IV. 101): 1–122. *f. 1–28.*

Monographic.

Perkins, J.

1911. Monimiaceae (Nachträge). Pflanzenr. **49**(IV. 101): 1–67. *f. 1–15.*

Monographic; supplementary to the preceding item.

Perret, V.

1883. Catalogue de plantes utiles et d'ornement réunies dans les pépinières, jardins et cultures d'essai de l'establissement de Koé (Nouvelle-Calédonie). Jour. Soc. Centr. Hort. France III. **5:** 334–338.

A list, chiefly exotic plants.

Perring, W.

1885. Iris (Moraea) Robinsoniana Moore et Müll. Gart. Zeit. Wittmack **4:** 157–158. *f. 38.*

Native of Lord Howe Island.

Perry, L. M. See **Merrill, E. D.,** and **Perry, L. M.**

Persoon, C. H.

1805–07. Synopsis plantarum, seu enchiridium botanicum, complectens enumerationem systematicam specierum hucusque cognitarum. **1:** i–xii, 1–546. 1805; **2:** 1–657. 1806–07.

Includes the then-known Polynesian species.

1827. Fungi: in Gaudichaud, C., Botanique du voyage . . . sur les corvettes l'Uranie et le Physicienne. 165–215.

Includes some Polynesian species.

Petch, T.

1914. The genera Hypocrella and Aschersonia (a preliminary note). Ann. Bot. Gard. Peradeniya **5**: 521–537.

Includes *Aschersonia taitensis* from Tahiti.

1921. Studies in entomogenous fungi II.—The genera Hypocrella and Aschersonia. Ann. Bot. Gard. Peradeniya **7**: 167–278. *pl. 2–5.*

Includes *Aschersonia taitensis* Mont. from Tahiti.

1931. Notes on entomogenous fungi. Trans. Brit. Mycol. Soc. **16**: 55–75. *f. 1–4.*

Includes a note on *Metarrhizium anisopliae* from Hawaii and Samoa.

Petermann, G. L. See **Richter, H. E.**, 1835-40.

Petersen, J. B.

1926. Marine Cyanophyceae from Easter Island: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island. **2**: Bot. 461–463.

A list of five species with notes.

Petitmengin, M. See **Bonati, G.**, and **Petitmengin, M.**

Petrak, F.

1927. Mykologische Notizen. Ann. Myc. **25**: 193–343.

Includes a detailed description of *Yoshinagella polymorpha* from Hawaii.

Pfeiffer, H.

1921–22. Conspectus Cyperacearum in America meridonali nascentium. I. Genus Heleocharis R. Br. (sub nomine incorrecto Eleocharis). Herbarium **1**: 41–42. 53–56, 65–68. 1921; 85–88. 1922.

Includes a key to the recognized species, some of which extend to Juan Fernández.

1925. Vorarbeiten zur systematischen Monographie der Cyperaceae-Mapanieae. Bot. Arch. Mez **12**: 446–472. *pl. 1–3. f. 1.*

Includes a few Polynesian species.

1927. Oreobolus R. Br., eine merkwürdige Cyperaceengattung. Repert. Sp. Nov. **23**: 339–353. *pl. 38.*

Includes *Lophoschoenus neocaledonicus* from New Caledonia and *Gahnia affinis* and *Oreobolus furcatus* from Hawaii.

Pfeiffer, K. G. L.

1873–74. Nomenclator botanicus. Nominum ad finem anni 1858 publici juris factorum, classes, ordines, tribus, familias, divisiones, genera, subgenera vel sectiones designantium enumeratio alphabetica adjectis auctoribus, temporibus, locis systematicis apud varios, notis literariis atque etymologicis et synonymis. **1**: 1–1876. 1873–74; **2**: 1–1698. 1874.

Concerns genera and other group names for the entire world.

Pfizer, E., and **Kränzlin, F.**

1907. Orchidaceae-Monandrae-Coelgyninae. Pflanzenr. **32**(IV. 50. II B. 7): 1–169. *f. 1–54.*

Monographic.

Philippi, F.

1881. Catalogus plantarum vascularium Chilensium. i–viii, 1–377.

Includes at least one species, *Santalum album* (p. 261), from Juan Fernández.

1892. El árbol de sándalo de la isla de Juan Fernandez. Anal. Mus. Nac. Chile **9:** Sec. Bot. 5–7. *pl. 1.*

Santalum fernandezianum.

Philippi, R. A.

1856a. Bemerkungen über die Flora der Insel Juan Fernandez. Bot. Zeit. **14:** 625–636, 641–650.

Lists 139 species, 28 described as new. This paper appeared in September 1856; repeated in the next two entries.

1856b. Observationes sobre la flora de Juan Fernandez. Anal. Univ. Chile [**13:**] 157–169.

Spanish version of the preceding entry. This appeared November 30, 1856.

1857. Remarques sur la flore de l'île Juan Fernandez. Ann. Sci. Nat. IV. Bot. **7:** 87–110.

French version of the preceding two entries.

1857–65. Plantarum novarum chilensium, centuria quarta. Linnaea **29:** 1–47, (centuria quinta) 48–95, (centuria sexta) 96–110. 1857–58; **30:** 185–212. 1859–60; (centuriae inclusis quibusdam Mendócinis et Patagonicis) **33:** 1–308. 1864–65.

Includes some Juan Fernández species.

1865a. Descripción de algunas plantas nuevas chilenas. Anal. Univ. Chile **26:** 638–650.

Includes *Lactoris fernandeziana* from Juan Fernández. The number is for May 1865; see next entry.

1865b. Ueber zwei neue Pflanzen-Gattungen. Ein Schreiben an Hrn. Prof. u. Director Dr. Edward Fenzl. Verh. Zool.-Bot. Ges. Wien **15:** 517–523. *t. 12–13.*

Includes *Lactoris fernandeziana* from Juan Fernández.

1872–73. Descripción de las plantas nuevas incorporadas últimamente en el herbario chileno. Anal. Univ. Chile **41:** 663–746. 1872; **43:** 479–583. 1873.

Includes some Juan Fernández species.

1873. Bemerkungen über die chilenischen Arten von Edwardsia. Bot. Zeit. **31:** 737–744.

Includes the Juan Fernández species.

1876. El sándalo de la isla de Juan Fernández. Anal. Univ. Chile **48:** 259–261.

A general note questioning *Santalum* as the source.

1895. Plantas nuevas chilenas de las familias que corresponderon al tomo IV de la obra de Gay. Anal. Univ. Chile **90:** 187–230. *pl. 1.*

Includes *Wahlenbergia tuberosa,* native of Juan Fernández.

Piccone, A.

1885. Notizie preliminari intorno alle alghe della *Vettor Pisani* raccolte dal Sig. C. Marcacci. Nuovo Giorn. Bot. Ital. **17:** 185–188.

Mentions a collection made in Hawaii; see the following entries.

1886a. Nota sulle raccolte algologiche fatte durante il viaggio di circumnavigazione compiuto dalla R. corvetta *Vettor Pisani.* Giorn. Soc. Let. Conversaz. Sci. **10:** — —.

A preliminary note on the collections considered in detail in the next two entries. Reviewed in Notarisia **1:** 150-151. 1886. The original not seen.

1886b. Alghe del viaggio di circumnavigazione della *Vettor Pisani.* 1–97. *pl. 1–2.*

Includes 30 species from Hawaii.

1889. Nuove alghe del viaggio di circumnavigazione della *Vettor Pisani.* Reale Accad. Lincei Mem. Cl. Sci. Fis. Math. Nat. IV. **6**: 9–63. Reprint 1–57.

Includes 19 species from Hawaii.

Pickering, C.

1863–76. The geographical distribution of animals and plants. **1**: 1–168, [1–44]. 1863; **2**: 1–524. *4 maps.* 1876.

Includes various data on Polynesian species. Part I, "The History of the Introduction of Domestic Plants and Animals," formed vol. 15 of the Wilkes United States Exploring Expedition reports. The subtitle of Part 2 is: "Plants in Their Wild State."

1879. Chronological history of plants: Man's record of his own existence illustrated through their names, uses and companionship. i–xvi, 1–1222. *portr.*

Includes some Polynesian references.

Pierre, L.

1883. Énumeration des espèces du genre Garcinia: in his: Flore forestière de la Cochinchine **2**: I–XL. *pl. 81–92.*

A general revision, including the few Polynesian species.

1890–91. Notes botaniques Sapotacées. 1–68.

Includes a few Polynesian references.

Pilger, R.

1903. Taxaceae. Pflanzenr. **18**(IV. 5): 1–124. *f. 1–24.*

Monographic.

1920. Über einige Gramineae der Skottsbergschen Sammlung von Juan Fernandez. Repert. Sp. Nov. **16**: 385–388.

Includes the descriptions of two new species.

1922. Ueber die Formen von Plantago major L. Repert. Sp. Nov. **18**: 257–283.

Includes *P. major* var. *paludosa* f. *longissima* n. f. from Hawaii.

1923. Beiträge zur Kenntnis der Gattung Plantago. III. Repert. Sp. Nov. **19**: 114–119.

Critical review of six Hawaiian species.

1936. Drei neue Arten von Plantago aus der Verwandtschaft von P. pachyphylla Gray. Repert. Sp. Nov. **40**: 237–239.

P. crajinai and *P. melanochrous* from Hawaii and *P. rupicola* from the Austral Islands.

1937. Plantaginaceae Pflanzenr. **102** (iv. 269) : 1–466. *f. 1–45.*

Monographic.

Piper, C. V.

1917. Notes on Canavalia with descriptions of new species. Proc. Biol. Soc. Washington **30**: 174–178.

Includes *C. microcarpa* as Polynesian.

Piper, C. V., and Dunn, S. T.

1922. A revision of Canavalia. Kew Bull. **1922**: 129–145. *1 map.*

Sixteen Old World species recognized, with a key, including those of Polynesia.

Planchon, J. E.

1848. Sur les Ulmacées (Ulmacées et Celtidées de quelques auteurs) considérées comme tribu de la famille des Urticées. Ann. Sci. Nat. III. Bot. **10**: 244–341.

Includes a few Polynesian species.

1852. Araucaria columnaris. Fl. Serr. Jard. Eur. **7**: 243–244. *pl. 733–34.*

Native of New Caledonia.

1853. Clianthus puniceus, var. magnificus. Fl. Serr. Jard. Eur. **9**: 57. *pl. 879.*

A new variety said to have been introduced from the Navigator Islands (Samoa).

Planchon, J. E., and **Triana, J.**

1860–62. Mémoire sur la famille des Guttifères. Ann. Sci. Nat. IV. Bot. **13:** 306–376. *pl. 15–16.* 1860; **14:** 226–367. *pl. 15–18.* 1860; 15: 240–319. 1861; **16:** 263–308. 1862. Reprint i–iv. 1–336. *pl. 1–8.* 1862.

Includes the Polynesian species.

Planchon, J. E.

1873. Ulmaceae. D. C. Prodr. **17:** 151–210.

Monographic.

1877a. Pritchardia pacifica Seem. et Wendl. Fl. Serr. Jard. Eur. **22:** 1–2. *pl. 2262–63.*

A general description and discussion; colored plate.

1877b. Araucaria excelsa, Rob. Br. Fl. Serr. Jard. Eur. **22:** 65–66. *pl. 2304–05.*

Native of Norfolk Island.

1880a. Dracaena (Cordyline) princess Margaret, Veitch. Fl. Serr. Jard. Eur. **23:** 13–15. *pl. 2375–2376.*

Introduced from the South Sea Islands.

1880b. Erythrina marmorata, Veitch. Fl. Serr. Jard. Eur. **23:** 21–23. *pl. 2379–2380.*

Introduced from the South Sea Islands.

1883. Eranthemum Cooperi, Hook. Fl. Serr. Jard. Eur. **23:** 293–295. *pl. 2472.*

Native of New Caledonia.

1887. Monographie des Ampélidées vraies. DC. Monog. Phan. **5:** 305–654.

Monographic.

See also **Decaisne, J.,** and **Planchon, J. E.**

Poellnitz, K. von

1933. Neue Portulaca-Arten. Repert. Sp. Nov. **33:** 158–165.

Includes *P. samoensis* n. sp.

1934a. Monographie der Gattung Talinum Adans. Repert. Sp. Nov. **35:** 1–34.

Includes *T. paniculatum,* an introduced species in Polynesia.

1934b. Versuch einer Monographie der Gattung Portulaca L. Repert. Sp. Nov. **37:** 240–320.

Includes the Polynesian species.

1936. New species of Portulaca from Southeastern Polynesia. Occ. Pap. Bishop Mus. **12** (9): 1–6.

A list with notes and descriptions of new species and varieties.

Poiret, J. L. M. See **Lamarck, J. B. A. P. M. de,** 1783-1817 and 1791-1823.

Poisson, J.

1874. Les Élaéocarpées de la Nouvelle-Calédonie. Ill. Hort. **21:** 15–17.

A short general consideration.

1876. Recherches sur les Casuarina et en particulier sur ceux de la Nouvelle-Calédonie. Nouv. Arch. Mus. Hist. Nat. Paris **10:** 59–111. *pl. 4–7.* Reprint 1–56. *pl. 4–7.*

1883. Deux plantes à recommander. Rev. Hort. **55:** 225–226.

Includes *Tecophilaea cyaneo-crocea,* native of Juan Fernández.

1900. Note sur le caoutchouc de la Nouvelle-Calédonie. Bull. Mus. Hist. Nat. (Paris) **6:** 431–433. Reprint 1–3.

Ficus prolixa and ***Manihot glaziovii.***

Pope, W. T.

1910. Ornamental plant life of Hawaii. Hawaiian Annual (1911) **37:** 71–88.
General; lists of palms, trees, vines, shrubs, and herbs.

1926a. Bananas of the Territory of Hawaii. Hawaiian Annual (1927) **53:** 106–110.
General.

1926b. Unsettled variations of papaya. Bishop Mus. Spec. Publ. **11:** 25.
A brief note on *Carica papaya.*

1929. Manual of wayside plants of Hawaii, including illustrations, descriptions, habits, uses and methods of control of such plants as have a wild nature of growth, exclusive of ferns. 1–289, 1. *t. 1–160.*
A descriptive work covering chiefly introduced and naturalized plants.

Popenoe, W.

1920. Manual of tropical and subtropical fruits, excluding the banana, coconut, pineapple, citrus fruits, olive and fig. i–xv, 1–474. *pl. 1–24. f. 1–62.*
Discusses some species native of or cultivated in Polynesia.

Post, E.

1936. Systematische und pflanzengeographische Notizen zur Bostrychia-Caloglossa-Assoziation. Rev. Alg. **9:** 1–84. *f. 1–4.*
Includes some Polynesian species.

1938–39. Weitere Daten zur Verbreitung des Bostrychietum II. Hedwigia **78:** 202–215. 1938; (III) Arch. Protistenk. **93:** 6–37. *pl. 1–2.* 1939.
Includes *Bostrychia radicans, Caloglossa ogasawaraensis,* and *Dictyotopsis propagulifera* from Fiji. See Hedwigia **77:** 11-19. 1937, for the first part.

1939. Bostrychia tangatensis spec. nov., eine neue Bostrychia der ostafrikanischen Mangrove. Arch. Protistenk. **92:** 152–156. *f. 1.*
Lists *B. kelanensis* from Fiji.

Posthumus, O.

1924. On some principles of stelar morphology. Rec. Trav. Bot. Néerl. **21:** 111–296. *f. 1–20.*
Includes references to some Polynesian genera and species of ferns.

1936. On the systematical value of the stem anatomy in the Polypodiaceae. Rec. Trav. Bot. Néerl. **33:** 775–802.
Discusses some genera and species extending to Polynesia.

Potier de la Varde, R.

1912. Contribution à la florule de Taiti. (Description de deux espèces nouvelles). Rev. Bryol. **39:** 20–23. *f. 1–2.*
A list with descriptions of *Weisia ? clavinervis* and *Bryum larminati* n. spp.

1928. Fructification de Pterobryella vagapensis C. M. Rev. Bryol. II **1:** 36–37. *f. 1.*
Native of New Caledonia.

Powell, T.

1868a. On various Samoan plants and their vernacular names. Jour. Bot. **6:** 278–285. 342–347, 355–370.

1868b. List of Samoan ferns collected and arranged according to Hooker's 'Species Filicum'. Jour. Bot. **6:** 317–319, 340–342.

1877. On the nature and mode of use of the vegetable poisons employed by the Samoan islanders. Jour. Linn. Soc. Bot. **16:** 55–60.
A discussion of the various species so used.

Prain, D.

1904. The species of Dalbergia of south-eastern Asia. Ann. Bot. Gard. Calcutta **10**(1): i–iii, i–iv, 1–114. *pl. 1–91.*

Includes the known Polynesian species. See **Jackson, B. D.,** 1893-1938.

Prain, D., and Burkill, I. H.

1914. A synopsis of the Dioscoreas of the Old World, Africa excluded, with descriptions of new species, and of varieties. Jour. As. Soc. Bengal II. **10:** 5–41.

In all, 107 species recognized, including those of Polynesia, with key and descriptions of new species.

1936. An account of the genus Dioscorea in the East. Part I. The species which twine to the left. Ann. Bot. Gard. Calcutta **14**(1): i–iii, i–ii, 1–210, i–vi. *pl. i–ii, 1–85.*

Includes the known Polynesian species.

1939. An account of the genus Dioscorea in the East. Part II. The species which twine to the right: with addenda to part 1, and a summary. Ann. Bot. Gard. Calcutta **14**(2): 211–528. *pl. 86–150.*

Includes the known Polynesian species. The text, pp. 211-428, and pls. 86-150 printed in 1939 but not yet distributed (August 1946). The only part seen is pp. 427-528, of which there was a limited distribution in 1939.

Prantl, K.

1883. Systematische Uebersicht der Ophioglosseen. Ber. Deutsch. Bot. Ges. **1:** 348–353.

Includes a few Polynesian species.

1884. Beiträge zur Systematik der Ophioglosseen. Jahrb. Bot. Gart. Berlin **3:** 297–350. *pl. 7–8.*

Includes a few Polynesian species.

See also **Engler, A.,** and **Prantl, K.,** 1897–1908, and 1924–40.

Preissecker, K.

1910. Nicotiana: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **85:** 350–355. Reprint **3:** 176–181.

Includes Samoan records.

Presl, K. B.

1825–36. Reliquiae Haenkeanae, seu descriptiones et icones plantarum, quas in America meridionali et boreali, in insulis Philippinis et Marianis collegit Thaddaeus Haenke. **1:** i–xv, 1–356. *pl. 1–48.* 1825–30; **2:** 1–152. *pl. 49–72.* 1831–36.

Includes the descriptions of various new species from the Marianas Islands. For dates of issue see **W. T. Stearn** in Jour. Soc. Bibl. Nat. Hist. **1:** 153-154. 1938. **1:** i-xv. 1-84. 1825; 85-148. 1827; 149-206. 1828; 207-355. 1830; **2:** 1-56. 1831; 57-152. 1835.

1834. Repertorium botanicae systematicae . . . i–viii, 1–385.

Includes some Polynesian species.

1836a. Prodromus monographiae Lobeliacearum. Abh. Böhm. Ges. Wiss. n. ser. **4**(9): 1–52. Reprint 1–52.

Lists various Polynesian species.

1836b. Tentamen Pteridographiae seu genera Filicacearum praesertim juxta venarum decursum et distributionem exposita. Abh. Böhm. Ges. Wiss. IV. **5:** Reprint 1–290. *pl. 1–12.*

Includes some Polynesian species.

1843. Hymenophyllaceae. Eine botanische Abhandlung. Abh. Böhm. Ges. Wiss. V. **3:** 93–163. *pl. 1–12.* Reprint *1–70. pl. 1–12.*

Includes the Polynesian species.

1845. Supplementum tentaminis Pteridographiae, continens genera et species ordinum dictorum Marattiaceae, Ophioglossaceae, Osmundaceae, Schizaeaceae et Lygodiaceae. Abh. Böhm. Ges. Wiss. V. **4:** 261–380. Reprint 1–120.

Includes various Polynesian species.

1851. Epimeliae botanicae. Abh. Bohm. Ges. Wiss. V. **6:** 361–624. *pl. 1–15.* Reprint 1–264. *pl. 1–15.*

Descriptions of various ferns and seed plants, including some Polynesian species. The title page of reprint in 1849, fascicle cover (back) 1851. For data on date of issue see Bull. Torr. Bot. Club 22: 590 (footnote). 1906.

Preston, F. G.

1923. Osteomeles anthyllidifolia. Gard. Chron. III. **73:** 335. *f. 160.*

A general discussion of this Polynesian species.

Printz, H.

1940. Vorarbeiten zu einer Monographie der Trentepohliaceen. Nyt. Mag. Naturvid. **80:** 137–210. *pl. 1–32.*

Includes a few Polynesian species of *Trentepohlia* and *Phycopeltis.*

Pritzel, G. A.

1847–77. Thesaurus literaturae botanicae omnium gentium inde a rerum botanicarum initiis ad nostra usque tempora, quindecim millia operum recensense. i–viii. 1–547. 1847–51; ed 2 [1] 1–576. 1872–77.

A bibliographical work covering most independently published botanical works issued before 1872. Ed. 2 was reprinted by offset in 1924.

1855–66. Iconum botanicarum index locupletissimus. Verzeichniss der Abbildungen sichtbar blühender Pflanzen und Farrnkräuter aus der botanischen und Gartenliteratur des XVIII und XIX Jahrhunderts in alphabetischer Folge zugesammengestellt. i–xxxi, 1–1183. 1855; Zweite bis zu ende des Jahres 1865 fortgeführte Ausgabe. **1:** i–xxi, 1–1183; **2:** i–xiv, 1–298. 1866.

An alphabetical list of the illustrations of plants. See **Stapf,** 1929-31.

Privat-Deschanel, P.

1930. Océanie: in Géographie universelle (Edited by P. Vidal de la Blache and L. Gallois) **10:** 231–277. *illus.*

Includes a few data regarding plants of various parts of Micronesia. Pp. 1-68 of the volume considers the Pacific Ocean as a whole, and some data included therein apply to plants.

Pucci, A.

1887. Impatiens Hawkeri. Bull. Soc. Tosc. Ort. **12:** 286–290. *1 pl.*

A colored plate and a description of this species said to be from the South Sea Islands; the species came from New Guinea.

1895–96. Piante nuove. Bull. Soc. Tosc. Ort. **20:** 152–153, 337–338; **21:** 246–247. 1896.

Includes a few Polynesian species.

1896. Graptophyllum picturatum. Bull. Soc. Tosc. Ort. **21:** 200–201. *1 pl.*

Said to be from the South Sea Islands.

1906. Il genere Musa. Bull. Soc. Tosc. Ort. **31:** 268–275.

Includes notes on *M. fehi,* native of Tahiti, and *M. discolor,* native of New Caledonia; for other parts of this article see pp. 235-240 and 296-301.

Pukui, M. K. See **Handy, E. S. C., Pukui, M. K.,** and **Livermore, K.**

Purdy, H. A. See **Lee, H. A., Martin, J. P., Purdy, H. A.** (and others).

Putterlick, A.

1839. Synopsis Pittosporearum. [1–6], 1–30, [1–2].

Includes *Pittosporum taitense* n. sp. from Tahiti.

Puvilland, —

1878. Varia. Rev. Hort. **50:** 400.

Includes notes on *Xeronema moorei,* native of New Caledonia; based on **Masters, M. T.,** 1878.

1879. Plantes nouvelles d'introduction anglaise. Rev. Hort. **51:** 366–368.

Includes notes on *Phyllanthus seemannianus,* introduced from New Hebrides.

Pynaert, C.

1889. Quelques fougères nouvelles. Rev. Hort. Belge **15:** 230–234. *f. 34–35.*

Includes notes on and illustrations of *Nephrolepis rufescens tripinnatifida,* native of Fiji.

1904. Areca Ilsemanni. Rev. Hort. Belge **30:** 73. *1 t.*

Native of the South Sea Islands.

1905a. Les Araucaria néo-calédoniens. Rev. Hort. Belge **31:** 109–110. *2 t.*

Includes notes on *A. rulei* and *A. goldieana.*

1905b. L'Araucaria Niepraschki. Rev. Hort. Belge **31:** 132. *1 t.*

Probably a variety of *A. rulei,* native of New Caledonia.

1906. L'Araucaria de Cook (A. Cooki Br.) (A. columnaris Forster). Rev. Hort. Belge **32:** 82–84. *f. 26.*

Araucaria cooki var. *aurea,* a garden form, of this New Caledonian species.

Pynaert, É.

1878. L'Araucaria excelsa. Rev. Hort. Belge **4:** 196–197. *1 t.*

Native of Norfolk Island.

1884. Le Kentia (Grisebachia) Balmoreana (Wendl.). Rev. Hort. Belge **10:** 42–44. *f. 7*

Native of Lord Howe Island. The specific name should be *belmoreana.*

1886a. L'Asplenium horridum Kaulfuss. Rev. Hort. Belge **12:** 100–101. *f. 16.*

Native of Hawaii.

1886b. Impatiens Hawkeri. Rev. Hort. Belge **12:** 272–274. *f. 27.*

General note on this species said to be native of Polynesia; actually the species occurs in New Guinea.

1896. Lè Juania australis Drude. Rev. Hort. Belge **22:** 44–46.

Native of Juan Fernández.

See also **Kerchove de Denterghem, O., de,** and **Pynaert, E.**

R

R.

1843. Sandal-wood. Gard. Chron. **1843:** 132–133, 333–334.

Concerns certain Polynesian species of *Santalum.*

Radlkofer, L.

1878. Ueber Sapindus und damit in Zusammenhang stehende Pflanzen. Sitzber. Math.-Phys. Kl. Akad. Wiss. München **8:** 221–408.

Includes a description of *S. oahuensis.*

1879a. Ueber Cupania und damit verwandte Pflanzen. Sitzber. Math.-Phys. Kl. Akad. Wiss. München **9:** 457–678.

Includes some Polynesian species.

1879b. Ueber die Sapindaceen Höllandisch-Indiens. Act. Congr. Internat. Bot. Hort. Amsterdam **1877:** 70–133, 216–254. Reprint 1–103.

Includes some species from New Caledonia.

1887. Ueber fischvergiftende Pflanzen. Sitzber. Math. Phys. Kl. Akad. Wiss. München **16:** 379–416.

Includes a systematic list of plants, some natives of Polynesia.

1889. Zur Klärung von Theophrasta und der Theophrasteen, unter Uebertragung dahin gerechneter Pflanzen zu den Sapotaceen und Solanaceen. Sitzber. Math. Phys. Kl. Akad. Wiss. München **19:** 221–281.

Includes notes on "*Theophrasta* sp.," from Samoa (p. 261).

1890. Ueber die Gliederung der Familie der Sapindaceen. Sitzber. Math. Phys. Kl. Acad. Wiss. München **20:** 105–379.

Includes *Alectryon macrococcus* Radkl., a new name for *Mahoe* Hillebr., a native of Hawaii, and *Picrocardia* n. gen. with *P. resinosa* n. sp. from New Caledonia.

1909. Ueber die Gattung Allophylus und die Ordnung ihrer Arten. Sitzber. Math.-Phys. Kl. Akad. Wiss. München **38**(*2*)**:** 201–240.

Includes the Asiatic and Polynesian species, pp. 226-234.

1910. Sapindaceae: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **85:** 305–306. Reprint **3:** 131–132.

Includes some Samoan species.

Radlkofer, L., and **Rock, J. F.**

1911. New and noteworthy Hawaiian plants. Bot. Bull. Hawaii Board Agr. For. **1:** 1–14. *pl. 1–6.*

Includes the descriptions of various new species.

Radlkofer, L.

1911. Sur le Cupania collina Panch. et Séb. Not. Syst. **2:** 9–11.

Native of New Caledonia = *Arytera collina* Radlk.

1920. Gesamtübersicht über die Sapindaceen Papuasiens. Bot. Jahrb. **56:** 251–316. *f. 1–4.*

Includes some Polynesian species.

1924. Sapindaceae oceanicae novae vel emendatae. Repert. Sp. Nov. **20:** 27–42.

Includes description of some new species in *Podonephelium, Cupaniopsis,* and *Arytera,* natives of Polynesia.

1931–34. Sapindaceae. Pflanzenr. **98**(IV. 165)**:** 1–1539. *f. 1–46.*

Monographic.

Räsänen, V.

1943. Das System der Flechten. Übersicht mit Bestimmungstabellen der natürlichen Flechtenfamilien, ihrer Gattungen, Untergattungen, Sektionen und Untersektionen. Acta Bot. Fenn. **33:** 1–82.

A total of 506 genera recognized, touching all parts of the world; key.

Rafarin, —

1875. Végétaux nouveaux. Rev. Hort. **47:** 109–110.

Includes a short description of *Asplenium schizodon,* native of New Caledonia.

1877. Revue de quelques plantes nouvelles. Rev. Hort. **49:** 35–38. *f. 5–6,* 87–90. *f. 13–14,* 254–255. *f. 43.*

Includes short descriptions of various new species from New Caledonia and other Pacific Islands.

Raffill, C. P.

1906. The genus Araucaria. Gard. Chron. III. **40:** 352–353. *f. 139–140.*

Notes on *A. cookii, A. balansae, A. rulei* from New Caledonia, and *A. excelsa* from Norfolk Island.

Rafinesque, C. S.

1837–38. Flora Telluriana. Introd. et classific. ad mantissa synoptica 2000 nova genera plantarum vel nov. ord. et spec. in orbis tellurianum. Determ. coll. inv. obs. et descr. **1:** 1–101. 1837; **2:** 1–112. 1837; **3:** 1–100. 1837; **4:** 1–135. 1838.

Includes some Polynesian references. A facsimile reproduction was issued by the Arnold Arboretum in 1946.

1838. Sylva Telluriana mantis. synopt. New genera and species of trees and shrubs of North America, and other regions of the earth, omitted or mistaken by the botanical authors and compilers, or not properly classified, now reduced by their natural affinities to the proper natural orders and tribes. Being a supplement to the Flora Telluriana. 1–184.

Contains a few new generic names and new binomials appertaining to Polynesia based on previously published descriptions by other authors from that region. A facsimile reproduction was issued by the Arnold Arboretum in 1943.

Raiqiso, F. C.

1936. Kau vula (Endospermum sp.) Agr. Jour. [Fiji] **8**(2): 28.

A description with economic notes.

Ramirez, F.

1936. Mi ultimo viaje a Juan Fernandez. Revis. Chileno Hist. Nat. **39:** 57–59.

Includes notes on various plants observed.

Rands, R. D. See **Stevenson, J. H.**, and **Rands, R. D.**

Raper, K. B. See **Thom, C.**, and **Raper, K. B.**

Rattray, J.

1888. A revision of the genus Aulacodiscus Ehrb. Jour. Roy. Micr. Soc. **1888:** 337–385. *pl. 5–7.*

Includes a few Polynesian species.

Rechinger, K., and **Rechinger, L.**

1906. Bericht über eine naturwissenschaftliche Reise nach den Samoa- und Salomonsinseln. Oesterr. Touristenklub Mitt. Sekt. Naturk. **18:** 31–35.

A popular account with very little botanical data.

Rechinger, K.

1907–09. Plantae novae Pacificae. Repert. Nov. Sp. **4:** 228–233. 1907; (II) 130–133. 1908; (III) **6:** 49–51. 1908; (IV) 325–328; (V) **7:** 17–18; (VI) 168. 1909.

Includes the descriptions of many new species from Samoa.

1907–15. Botanische und zoologische Ergebnisse einer wissenschaftlichen Forschungsreise nach den Samoa-Inseln, dem Neuguinea Archipel, und den Salomonsinseln von März bis Dezember, 1905. I. Denkschr. Akad. Wiss. Wien **81:** 197–317. *pl. 1–3.* (reprint 1–121). 1907; (II) **84:** 385–562. *pl. 1–6. 14 f.* (reprint 1–178). 1908; (III) **85:** 175–432. *pl. 1–18. 34 f.* (reprint 1–258). 1910; (IV) **88:** 1–65. *pl. 1–3. f. 5.* (reprint 1–65). 1911; (V) **89:** 443–708. *pl. 1–9. f. 1–32.* (reprint 1–266). 1913; (VI) **91:** 139–213. *pl. 1–3.* (reprint 1–75). 1915.

With the assistance of specialists: Reinbold, Foslie, Von Höhnel, Zahlbrückner, Stephani, Brotherus, Palla, Bresadola, Von Keissler, Peragallo, and others. Part six contains general indices to the entire work. Includes the descriptions of many new species from Samoa.

1908a. Ueber eine botanische Forschungsreise nach den Samoa- und Salomons-Inseln. Mitt. Naturw. Ver. Steiermark **44:** 244–245.

Narrative of exploration.

1908b. Samoa: in Karsten, G. & Schenk, H., Vegetationsbilder **6**(1): [1–5]. *pl. 1–6.*

Illustrations and descriptions of the vegetation of Samoa.

See also **Fleishmann, H.,** and **Rechinger, K.**

Rechinger, K. H. (filius).

1934. Die süd- und zentralamerikanischen Arten der Gattung Rumex. Vorarbeiten zu einer Monographie der Gattung Rumex. III. Arkiv Bot. **26**(3): 1–58. *pl. 1–6. f. 1–15.*

Includes five species from Juan Fernández with *R. foliosus* n. sp.

Rechinger, L. See **Rechinger, K.,** and **Rechinger, L.,** 1906.

Record, M.

1945. A collection of woody plants from Melanesia. Trop. Woods **81**: 9–45.

An annotated enumeration, including some natives of Fiji, with a check list of local names.

Record, S. J.

1932. Notes on tropical timbers. Trop. Woods **32**: 1–6.

Includes a note on *Alstonia spathulata* from the Carolines.

Redinger, K.

1938. Restitution und kritische Revision der Flechtengattungen Enterographa Fée und Sclerophyton Eschw. Repert. Sp. Nov. **43**: 49–77. *pl. 243.*

Includes a few species from Hawaii and New Caledonia.

1940. Lichenes: in Hochreutiner, B. P. G., Plantae Hochreutineranae V. Candollea **8**: 47–60.

Includes a few Polynesian species.

Reed, M.

1907. The economic seaweeds of Hawaii and their food value. Ann. Rep. Hawaii Agric. Exper. Sta. 61–88. *pl. 4–7.*

Regel, E. von

1859. Die Arten der Gattungen Dracaena und Cordyline, die in den Gärten Petersburg's cultivirt werden, und deren Cultur im Zimmer und Gewächshause. Gartenfl. **8**: 326–336.

Includes an enumeration with a few natives of Polynesia.

1864. Cordyline australis Endl. Gartenfl. **13**: 291-292. *pl. 450.*

Native of Norfolk Island.

1868. Tacca pinnatifida Forst. Gartenfl. **17**: 162–163. *pl. 582.*

Native of the Society Islands.

1870. **Anthurium aralifolium.** Gartenfl. **19**: 98–99. *pl. 648.*

Native of New Caledonia.

Regel, E. von, and others.

1870. Annotationes botanicae. Ind. Sem. Hort. Bot. Petrop. **1868**: Suppl. 10–34.

Includes a redescription of *Anthurium aralifolium,* native of New Caledonia.

Regel, E. von

1872. Tecophilaea cyanocrocus Leyb. Gartenfl. **21**: 97–98. *pl. 718.*

Native of Juan Fernández.

1876. Baeckea parvula D.C. Gartenfl. **25**: 356. *pl. 886. f. 2.*

Native of New Caledonia.

1888. Nephrolepis rufescens Prsl. var. tripinnatifida h. Veitch. Gartenfl. **37**: 94–96. *f. 24.*

Introduced from Fiji.

Rehder, A.

1911–18. The Bradley bibliography. A guide to the literature of the woody plants of the world published before the beginning of the twentieth century. Compiled at the Arnold Arboretum of Harvard University under the direction of Charles Sprague Sargent. Publ. Arnold Arb. no. 3. **1:** i-xii, 1–566. 1911; **2:** i-vi, 1–926. 1912; **3:** i-x, 1–806. 1915; **4:** i-xiii, 1–589. 1914; **5:** i-xxxii, 1–1008. 1918.

A comprehensive bibliography of the subject.

Rehm, H.

1911. Ascomycetes novi. IV. Ann. Myc. **9:** 363–371.

Includes *Xylaria morchelliformis* n. sp. from Hawaii.

Reichardt, H. W.

1866. Diagnosen der neuen Arten von Pilzen, welche die Novara-Expedition mitbrachte. Verh. Zool. Bot. Ges. Wien **16:** 373–376.

Includes five new species of fungi from Tahiti.

1868a. Orthorhynchium, eine neue Laubmoos-Gattung. Verh. Zool. Bot. Ges. Wien **18:** 115–116.

Native of Tahiti.

1868b. Diagnosen der neuen Arten von Laubmoosen welche die Novara-Expedition mitbrachte. Verh. Zool. Bot. Ges. Wien **18:** 193–198.

Includes two new species from Tahiti.

1870. Fungi, Hepaticae et Musci frondosi: in Fenzl, E., Reise der Österreichischen Fregatte Novara um die Erde . . . Botanischer Theil **1:** 133–196. *pl. 20–36.*

Includes some Polynesian species.

1877. Beitrag zur Kryptogamenflora der Hawaiischen Inseln. Sitzber. Akad. Wiss. Wien **75:** 553–582. Reprint 1–30.

A critical consideration of Wawra's material, with descriptions of new species of algae (by Grunow), fungi, hepaticae, and mosses.

1878. Beitrag zur Phanerogamenflora der Hawaiischen Inseln. Sitzber. Akad. Wiss. Wien **76:** 721–734. Reprint 1–14. 1878.

A list of grasses and sedges with notes and descriptions of new species based on Wawra's material.

Reiche, K.

1894–1911. Flora de Chile **1:** 1–379, [1]. 1894–96; **2:** 1–397. 1898; **3:** 1–425, [1]. 1899–1901; **4:** 1–488, [1]. 1902–1905; **5:** 1–463. 1910; **6:** 1–176. 1911.

A general descriptive flora including the Juan Fernández species. Consists of separately paged reprints of his "Estudios Criticos sobre la Flora de Chile": Ann. Univ. Chile **88** (1894). Vol. 6 was never completed.

Reichenbach, H. G. (filius)

1847–76. Orchidiographische Beiträge. Linnaea **19:** 369–379. 1847; **20:** 673–696. 1847; **22:** 859–867. 1849; **25:** 225–232. 1852; **41:** 17–98. 1876.

Includes the descriptions of a few Micronesian and many New Caledonian species.

Reichenbach, H. G. (filius), and **(Kränzlin, F.)**

1858–1900. Xenia Orchidacea. Beiträge zur Kenntniss der Orchideen. **1:** 1–246. *pl. 1–100.* 1858; **2:** 1–232. *pl. 101–200.* 1862–74; **3:** i–vi, 1–192. *pl. 201–300.* 1878–1900.

Descriptions and illustrations of orchids from various parts of the world, including some from Polynesia. Vol. 3 is by Kränzlin.

Reichenbach, H. G. (filius).

1862. Dendrobium Mohlianum. Bonplandia **10:** 334–335. *pl. 16.*

Native of Fiji.

1866. Aerides Thibautianum, Rchb. fil. Gard. Chron. **1866:** 100

Thought to be native of Polynesia.

1868. Orchideae: in Seemann, B., Flora Vitiensis. 293–305. *pl. 90–92.*

A general consideration of the then-known species.

1876. Eria acutissima n. sp. Gard. Chron. II. **5:** 567.

Native of the Sunda Islands, or "Polynesia or Philippines." Kränzlin (1910-11) says its origin is unknown; probably not from Polynesia.

1877a. Dendrobium (Dendrocoryne) tipuliferum, n. sp. Gard. Chron. II. **7:** 72.

Native of Fiji.

1877b. Dendrobium Petri, n. sp. Gard. Chron. II. **7:** 107.

Native of Polynesia.

1877c. Spathoglottis Petri, n. sp. Gard. Chron. II. **8:** 392.

Native of the South Sea Islands.

1877d. Two new orchids from Samoa collected by the Rev. S. J. Whitmee. Jour. Bot. **15:** 132–133.

Dendrobium dactylodes and *Etoeria* [*Hetaeria*] *whitmeei,* n. spp.

1878. Saccolabium mimus, n. sp. Gard. Chron. II. **9:** 266.

Native of Polynesia.

1878–81. Orchideae Wilkesianae indescriptae. Otia Bot. Hamburg **1:** 50–56. Reprinted in Reichenbach Xen. Orch. **3:** 27–32. 1881.

Includes some Polynesian species.

1882a. Orchideae describuntur II. Flora **65:** 531–535.

Includes *Calanthe bracteosa* n. sp. from Samoa.

1882b. Calanthe bracteosa n. sp. Gard. Chron. II. **18:** 712.

Native of Fiji.

1882c. Grammatophyllum elegans n. sp. Gard. Chron. II. **18:** 776.

Native of the "South Sea Islands."

1883. Spathoglottis pacifica. Gard. Chron. II. **19:** 340.

Native of the Pacific Islands.

1883–86. New garden plants. Gard. Chron. II. **20:** 166. 1883; II. **26:** 552-553, 1886.

Includes *Calanthe anchorifera* and *Dendrobium inauditum* n. spp. from Polynesia.

1886. Dendrobium (Dendrocoryne) inauditum, n. sp. Gard. Chron. II. **26:** 552.

Native of Polynesia.

Reid, C. F.

1939. Bibliography of the Island of Guam. 1–202.

Not very complete in the botanical field. Published by the H. W. Wilson Co.

Reinbold, T.

1899. Meeresalgen. Ergebnisse einer Reise nach dem Pacific (Prof. Dr. Schauinsland 1896–97). Abh. Naturw. Ver. Bremen **16:** 287–302.

A list with notes, including various species from Hawaii and Samoa.

1900. Meeresalgen von den Norfolk-Inseln. Nuov. Notar. **11:** 147–153.

A list.

1901. Meeresalgen von den Karolinen (meist von Yap) welche Prof. Dr. Volkens gesammelt hat. Hedwigia **40:** 350–351.

A list.

1907. Meeresalgen: (Phycochromophyceae, Chlorophyceae, Phaeophyceae, Rhodophyceae exklusive der nicht articulirten Corallinaceae): in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **81**: 200–208. Reprint 1: 4–12.

Includes some Samoan species.

Reinecke, F.

1895a. Samoa. Jahresb. Schles. Ges. Vaterl. Cult. **73**(2 b) : 66–80.

Includes notes on various plants and their uses.

1895b. Die Nutzpflanzen Samoas und ihre Verwendung. Jahresb. Schles. Ges. Vaterl. Cult. **73**(2 c): 22–46.

Notes on economic species.

1896–98. Die Flora der Samoa-Inseln. Bot. Jahrb. **23**: 237–368. *pl. 4–5. 8 f.* 1896; **25**: 578–708. *pl. 8–13. 1 f.* 1898.

With the assistance of specialists: Schmidle, Reinbold, Hennings, J. Mueller, Stephani, Brotherus, Christ, and others. Lists with descriptions of new species.

1902a. Samoa. 1–312.

Not seen.

1902b. Die Vegetation der Samoa-Inseln mit Berücksichtigung der pacifischen Florengebiete. Verh. Ges. Deutsch. Naturf. Leipzig **73**(II, 1): 221–223.

General for the subject indicated.

1903a. Die Samoa-Inseln und ihre Vegetation in pflanzengeographischer Beziehung. Mitt. Perth. Geogr. Anstalt **49**: 241–249.

General.

1903b. Die Vegetation der Samoa-Inseln. Prometheus **14**: 725–729. *f. 523–529,* 743–745. *f. 544–549.*

Descriptive.

1906. Pflanzengeographie Polynesiens. Mitt. Perth. Geogr. Anstalt **52**: 281–284.

A general discussion.

Reissek, S.

1842. Monographische Erläuterung der Gattung Pennantia und Aufklärung ihrer natürlichen Verwandtschaft. Linnaea **16**: 337–346. *pl. 12–13.*

Includes *Pennantia endlicheri* from Norfolk Island.

Renault, F., and **Cardot, J.**

1901. Note sur le genre Taxithelium, R. Spruce. Rev. Bryol. **28**: 109–112.

A list including the few Polynesian species.

1905. Musci exotici novi vel minus cogniti adjectis Hepatices quas elaboravit F. Stephani. Bull. Soc. Bot. Belg. Mém. **41**(1): 1–148.

Includes some Polynesian species.

Rendle, A. B.

1899. A systematic revision of the genus Najas. Trans. Linn. Soc. II. Bot. **5**: 379–444. t. 39–42.

Includes a few Polynesian species.

1901. Najadaceae. Pflanzenr. **7**(IV. 12): 1–21. *f. 1–5.*

Monographic.

Rendle, A. B., Baker, E. G., and Moore, S. le M.

1921–22. A systematic account of the plants collected in New Caledonia and Isle of Pines by Prof. R. H. Compton, M. A., in 1914. Part I. Flowering plants (Angiosperms). Jour. Linn. Soc. Bot. **45:** 245–417. *pl. 13–24.* 1921; Part II. Gymnosperms [ferns and mosses] 421–446. *pl. 26–27.* 1922; Part III. Cryptogams (Hepaticae-Fungi) **46:** 13–96. *pl. 2–5.* 1922.

A systematic enumeration with descriptions of many new species. Gymnosperms and ferns by R. H. Compton; Musci by L. Thériot; fresh-water algae by N. Carter; Charophyta by J. Groves; lichens by A. L. Smith; fungi by E. M. Wakefield; and Mycetozoa by G. Lister.

Riccobono, V.

1906. Fruttificazione dell' Howea Belmoreana. Boll. Ort. Bot. Palermo **5:** 119–121.

Includes some historical data on the introduction of this native of Lord Howe Island and a description of its flowers.

1915. Araliacee coltivate all' aperto in Sicilia. Bull. Soc. Tosc. Ort. **40:** 28–32.

Includes description and notes on *Meryta denhami,* native of New Caledonia.

Richard, A.

1833–34. Sertum Astrolabianum. Description des espèces nouvelles ou peu connues, recueillies par M. Lesson jeune, chirurgien de la marine royale, pendant la circumnavigation de la corvette l'Astrolabe **2:** i–lvi, 1–167. *pl. 1–39.*

Includes some Polynesian species. This is a part of the "Voyage de Découvertes de l'Astrolabe . . . Pendant les Années 1826-29 sous la Commandement de Dumont d'Urville. Botanique."

Richard, L. C.

1822. Mémoire sur une nouvelle famille de plantes, les Balanophorées. Mém. Mus. Hist. Nat. Paris **8:** 404–435. *pl. 19–21.* Reprint 1–32. *pl. 19–21.*

Includes *Balanophora fungosa* from New Caledonia.

Richter, H. E.

1835–40. Caroli Linnaei systema, genera, species plantarum uno volumine. Editio critica adstricta, conferta, sive Codex botanicus Linnaeanus . . . i–xxxii, 1–1102. 1835; Index alphabeticus by G. L. Petermann. i–iv, 1–202. 1840.

A compilation and republication of all Linnaean descriptions.

Ridley, H. N.

1886. A monograph of the genus Liparis. Jour. Linn. Soc. Bot. **22:** 244–297.

Includes the Polynesian species.

1888. A revision of the genera Microstylis and Malaxis. Jour. Linn. Soc. Bot. **24:** 308–351.

Includes the Polynesian species.

1930. The dispersal of plants throughout the world. i–xx, 1–744. *pl. 1–22.*

Includes data on the vegetation of various Polynesian islands.

1934. Firmiana and Erythropsis. Kew Bull. **1934:** 214–217.

Includes *Firmiana diversifolia* of Fiji.

1938. Notes on Xylocarpus. Kew Bull. **1938:** 288–292.

Records *X. granatum* from Polynesia.

Riley, L. A. M.

1926. Notes on the flora of Rapa. Kew Bull. **1926:** 51–56. *1 map.*

Includes the descriptions of four new species.

Ripperton, J. C., Goff, R. A., Edwards, D. W., and **Davis, W. C.**
1933. Range grasses of Hawaii. Hawaii Agr. Exp. Sta. Bull. **65:** 1–58. *f. 1–49.*

General for the subject indicated.

Ripperton, J. C., and **Hosaka, E. Y.**
1942. Vegetation zones of Hawaii. Hawaii Agr. Exper. Sta. Bull. **89:** 1–60. *2 maps. f. 1–7.*

A general discussion with tabulated list of species. Climate, pp. 6-12, by S. B. Jones.

Ripperton, J. C. See also **Chung, H. L.,** and Ripperton, J. C.; and **Hosaka, E. Y.,** and **Ripperton, J. C.**; and **Whitney, L. D., Hosaka, E. Y.,** and **Ripperton, J. C.**

Robbins, R. C. See **Miller, C. D., Bazore, K.,** and **Robbins, C. R.**

Robertson, H. A. See **Morrison, A.,** 1902.

Roberty, G.
1937. Hypothèses sur l'origine et les migrations des cotonniers cultivés et notes sur les cotonniers sauvages. Candollea **7:** 297–360. *pl. 17–28.*

Includes *Gossypium purpurascens* var. *taitense* n. comb. (*G. taitense*) from Tahiti, New Caledonia, Mascarene Islands, and Madagascar and var. *religiosoides* from Fiji.

1942. Gossypiorum revisionis tentamen. Candollea **9:** 19–103. *pl. 1.*

Includes a few Polynesian references.

Robinson, B. L.
1910. Spermatophytes, new or reclassified, chiefly Rubiaceae and Gentianaceae. Proc. Am. Acad. Arts Sci. **45:** 394–412. Reprinted in Contr. Gray Herb. **38:** 394–412.

Contains new combinations in *Bikkia* and *Timonius* for a few New Caledonian and Polynesian species.

1913. Revisions of Alomia, Ageratum, and Oxylobus. Proc. Am. Acad. Arts Sci. **49:** 438–491. Reprinted in Contr. Gray Herb. **42:** 438–491.

Records *Ageratum conyzoides* from Hawaii.

Robinson, C. B.
1911. Philippine Urticaceae. Philip. Jour. Sci. **6:** Bot. 1–31. *pl. 1–3.*

Includes a photographic reproduction of the Polynesian type specimen of *Elatostema sessile.*

Robinson, W. J.
1912–14. A taxonomic study of the Pteridophyta of the Hawaiian Islands. Bull. Torr. Bot. Club **39:** 227–248. *pl. 18–20.* 567–601. *pl. 40–44.* 1912; **40:** 193–228. *pl. 9–12.* 1913; **41:** 51–59. *pl. 1–2.* 1914.

A systematic consideration of the known species.

Robyns, W.
1938. A naturalist in the Hawaiian Islands. Bull. Cercle Alumni Fond. Univ. Brux. **9:** 124–139. *illus.*

Not seen.

Robyns, W., and **Lamb, S. H.**
1939. Preliminary ecological survey of the island of Hawaii. Bull. Jard. Bot. Brux. **15:** 241–293. *f. 10–43.*

Ecological.

Rock, J. F.
1909a. A new Hawaiian Scaevola (S. Swezeyana). Bull. Torr. Bot. Club **36:** 645–646. *f. 1.*

From Oahu.

1909b. A new Hawaiian shrub. Hawaiian For. Agr. **6:** 503.

Scaevola swezeyana n. sp. This is apparently a republication of **Rock, J. F.,** 1909a.

1910. Some new Hawaiian plants. Bull. Torr. Bot. Club **37:** 297–304. *f. 1–5.*

Pittosporum hosmeri, Sideroxylon rhynchospermum, Lysimachia glutinosa, and *Dubautia waialealae* n. spp.

1911a. Notes upon Hawaiian plants with descriptions of new species and varieties. Col. Hawaii Bull. 1: 1–20. *pl. 1–5.*

Descriptions of five new species in various families and several varieties of *Viola.* For republication of descriptions see **Fedde, F.,** 1908-12.

1911b. Synopsis of the Hawaiian Flora. Hawaiian Annual (1912) **28:** 82–91.

1913a. The indigenous trees of the Hawaiian islands. i-v, 1–518. *pl. 1–215.*

A general botanical treatment.

1913b. List of Hawaiian names of plants. Bot. Bull. Hawaii Board Agr. For. **2:** 1–20.

An alphabetical list of native names with their binomial equivalents.

1913c. New species of Hawaiian plants. Col. Hawaii Bull. **2:** 9–12, 39–47. *pl. 9–12.*

Includes descriptions of several new species, chiefly Campanulaceae. On the cover the title appears as "Descriptions of New Species of Hawaiian Plants."

1913d. Remarks on certain Hawaiian plants described by H. Léveillé in Fedde Repertorium X. 10/14 (1911) 156–157. Col. Hawaii Bull. **2:** 48–49.

Six species considered and reduced.

1913e. The ferns of Hawaii. Friend **71:** 28–30, 40.

Not seen.

1914. Revisio plantarum Hawaiiensium a Léveillé descriptarum. Repert. Sp. Nov. **13:** 352–361.

Most of the new species from Hawaii proposed by Léveillé reduced to previously described ones. See **Léveillé, H.,** 1911, 1912-13.

1915a. Vegetation der Hawaii-Inseln. Bot. Jahrb. **53:** 275–311.

Phytogeographical.

1915b. A new Hawaiian Cyanea. Bull. Torr. Bot. Club **42:** 77–78. *pl. 1.*

C. larrisonii n. sp. from Kauai.

1916a. The sandalwoods of Hawaii. A revision of the Hawaiian species of the genus Santalum. Bot. Bull. Hawaii Board Agr. For. **3:** 1–43. *pl. 1–13.*

A general taxonomic treatment; nine species recognized.

1916b. A new species of Pritchardia. Bull. Torr. Bot. Club **43:** 385– 387. *pl. 21. f. 1.*

P. beccariana n. sp. from Hawaii.

1916c. Palmyra Island, with a description of its flora. Col. Hawaii Bull. **4:** 1–53. *pl. 1–20. 1 f. 1 map.*

General observations and a list of species with notes. Also privately reprinted in 1916 with the same pagination.

1916d. Preliminary list of plants growing in Mrs. Mary E. Foster's grounds, Nuuanu Avenue, Honolulu. Hawaiian For. Agr. **13:** 113–123. *pl. 1–4.*

Mostly exotic species, many introduced by Hillebrand, whose home was this estate.

1916e. Some plants of Hawaii. Mid-Pacif. Mag. **11:** 579–583. *3 f.*

Botanical notes on various species.

1917a. The ornamental trees of Hawaii. i–v. 1–210. *pl. 1–79.*

A general botanical treatment.

1917b. Revision of the Hawaiian species of the genus Cyrtandra, section Cylindrocalyces Hillebr. Am. Jour. Bot. **4:** 604–623. *f. 1–5.*

Monographic.

1917c. The Ohia Lehua trees of Hawaii. A revision of the Hawaiian species of the genus Metrosideros Banks, with special reference to the varieties and forms of Metrosideros collina (Forster) A. Gray subspecies polymorpha (Gaud.) Rock. Bot. Bull. Hawaii Board Agr. For. **4**: 1–76. *pl. 1–31.*

A taxonomic treatment; five species and numerous varieties recognized.

1917d. Notes on Hawaiian Lobelioideae, with descriptions of new species and varieties. Bull. Torr. Bot. Club **44**: 229–239. *pl. 9–16.*

Thirteen species described.

1917e. Hawaiian trees—a criticism. Bull. Torr. Bot. Club **44**: 545–546.

Notes on **MacCaughey.** 1917g.

1917f. Sandal wood in Hawaii. Mid-Pacif. Mag. **13**: 356–359.

History and exploitation.

1918a. Cyrtandreae Hawaiienses, sect. Crotonocalyces Hillebr. Am. Jour. Bot. **5**: 259–277. *pl. 18–23.*

Monographic.

1918b. Pelea and Platydesma. Bot. Gaz. **65**: 261–267. *f. 1.*

A general consideration of the known Hawaiian species.

1918c. New species of Hawaiian plants. Bull. Torr. Bot. Club **45**: 133–139. *pl. 6.*

Cyanea giffardii, C. rollandioides, Rollandia angustifolia, Lobelia oahuensis, and *Straussia glomerata* n. sp.

1918d. Trees recommended for planting. Hawaiian Pl. Rec. **18**: 414–421.

Includes notes on various species and their value for cultivation in Hawaii.

1919a. Cyrtandreae Hawaiienses, Sections Schizocalyces Hillebr. and Chaetocalyces Hillebr. Am. Jour. Bot. **6**: 47–68. *pl. 3–8.*

Monographic.

1919b. Cyrtandreae Hawaiienses, sect. Microcalyces Hillebr. Am. Jour. Bot. **6**: 203–216. *pl. 29–32.*

Monographic.

1919c. The arborescent indigenous legumes of Hawaii. Bot. Bull. Hawaii Board Agr. For. **5**: 1–53. *pl. 1–18.*

General.

1919d. The Hawaiian genus Kokia, a relative of the cotton. Bot. Bull. Hawaii Board Agr. For. **6**: 1–22. *pl. 1–7.*

A taxonomic treatment of the known forms of *Kokia.*

1919e. A monographic study of the Hawaiian species of the tribe Lobelioideae, family Campanulaceae. Mem. Bishop Mus. **7**(2) : i–xvi, 1–394. *pl. 1–217.*

1920a. The leguminous plants of Hawaii, being an account of the native, introduced, and naturalized trees, shrubs, vines, and herbs belonging to the family Leguminosae. i–x, 1–234. *pl. 1–93.*

Includes a key to the genera and descriptions of about 200 species. Published by the Hawaiian Sugar Planters' Experiment Station.

1920b. The genus Plantago in Hawaii. Am. Jour. Bot. **7**: 195–210. *pl. 13.*

Includes a key to the Hawaiian species and varieties.

1920c. The poisonous plants of Hawaii. Hawaiian For. Agr. **17**: 59–62, 97–101.

General notes.

See also **Beccari, O.,** and **Rock, J. F.,** 1921 ; and **Radlkofer, L., and Rock, J. F.,** 1911.

Rodigas, E.

1882a. Araucaria Mülleri, Ad. Brong. & A. Gris. Ill. Hort. **29**: 73–74. *pl. 449.*

Native of New Caledonia.

1882b. Kentia (Kentiopsis) Luciani Lind. Ill. Hort. **29**: 77. *pl. 451.*
Native of New Caledonia.

1882c. L'Epipremnum mirabile Schott. Rev. Hort. Belge **8**: 157. *1 pl.*
Native of Fiji.

1884. Aralia monstrosa (B. S. Williams). Rev. Hort. Belge **10**: 60. *1 pl.*
Native of New Caledonia.

1889. Oxera pulchella Labill. Ill. Hort **36**: 17–18. *pl. 76.*
Native of New Caledonia.

Roemer, J. J., and **Schultes, J. A.**

1817–30. Systema vegetabilium secundum classes, ordines, genera, species. Cum characteribus, differentiis et synonymiis. Editio nova, speciebus inde ab editione XV detectis aucta et locupletata. **1**: i–xxviii, 1–642. 1817; **2**: i–viii, 1–964. 1817; **3**: i–vi, 1–584. 1818; **4**: i–lx, 1–888. 1819; **5**: i–viii, i–lii, 1–632, (corrigenda) [1–6]. 1919; **6**: 1–viii, i–lxx, 1–852, (corrigenda) [1–5]. 1820; **7**(1): i–xliii. 1–753. 1829; **7**(2): i–iv, xlv–cvii, 755–1815. 1830. Ed. nov. 1–323. 1830; Mantissae in volumina I–III curarunt Joseph August Schultes et Julius Hermann Schultes, filius **1**: i–vi, 1–386. 1822; **2**: 1–388. 1824; **3**; 1–717. 1827.
This is a new edition of Linnaeus's "Systema Vegetabilium," appearing between ed. 15 (Murray) and ed. 16 (Sprengel).

Rohrbach, P.

1871–73. Beiträge zur Systematik der Caryophyllinen. III. Linnaea **37**: 183–312.
Includes a few Juan Fernández species.

Rolfe, R. A.

1883. Notes on Carruthersia and Voacanga. Jour. Bot. **21**: 200–202.
Includes *Melodinus vitensis* from Fiji.

1889. Dendrobium Fairfaxii, Rolfe, n. sp. Gard. Chron. III. **3**: 798–799.
Native of the New Hebrides.

1893–1922. New orchids: Decade 4. Kew Bull. **1893**: 4–8. 1893; (13) **1895**: 33–37, (14) 191–195, (15) 281–285. 1895; (16) **1896**: 44–47. 1806; (21–22) **1898**: 192–199. 1898; (30) **1907**: 128–132. 1907; (31) **1908**: 68–73, (32) 412–416. 1908; (33) **1909**: 61–66. 1909; (38) **1912**: 131–135. 1912; (48) **1921**: 52–56. 1921; (49) **1922**: 22–26. 1922.
Includes original descriptions of various Polynesian species.

1907. Donax and Schumannianthus. Jour. Bot. **45**: 242–244.
Nomenclatural.

1912. Dendrobium imthurnii. Bot. Mag. **138**: t. 8452.
Described from the New Hebrides.

1920. Metrosideros collina. Bot. Mag. **146**: t. 8846.
Widely distributed in Polynesia.

Romell, L.

1928. Basidiomycetes from Juan Fernandez: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island. **2**: Botany 465-471. *1 f.*
A list with notes.

Rose, J. N. See **Britton, N. L.**, and **Rose, J. N.**

Rosenstock, E.

1909. Filices novae, V. Repert. Sp. Nov. **7**: 146–150.
Includes *Asplenium tenuiculum* n. sp. from New Caledonia.

1910. Filices novae annis 1909 et 1910 a M. Franc et Le Rat in Nova Caledonia lectae. Repert. Sp. Nov. 9: 71–76.

Eleven new species and varieties described.

1911. Felices novae a cl. Franc in Nova Caledonia collectae. Repert. Sp. Nov. **10:** 158–163.

Twelve new species and varieties described; a continuation of the preceding.

1912a. Beschreibung neuer Hymenophyllaceae aus dem Rijks Herbarium zu Leiden. Med. Rijks Herb. Leiden **11:** 1–3.

Includes *H. subdimidiatum* n. sp. from New Caledonia.

1912b. Blechnum Francii Rosenst., ein neuer Wasserfarn. Repert. Sp. Nov. **12:** 191–192.

Native of New Caledonia.

1917. Felices palaeotropicae novae herbarii Lugduno-Batavi. Med. Rijks Herb. Leiden **31:** 1–8.

Includes some new species from New Caledonia.

Rossbach, R. P.

1940. Spergularia in North and South America. Rhodora **42:** 57–83. *pl. 589. f. 1–15,* 105–143. *pl. 590–592,* 158–193. *pl. 593–596,* 203–213.

Monographic; includes at least one species from our area, *S. confertiflora* from Juan Fernández.

Rostafinski, J. T.

1874–75. Sluzowce (Mycetozoa) monographia. Pamiet. Towarz. Nauk Scislych Paryzu **5**(4) : 1–215. 1874; **6**(1) : 216–432. *pl. 1–13.* 1875.

Monographic.

1876. Dodatek I do monografii Sluzowców. Pamiet. Towarz. Nauk Scislych Paryzu **8**(4) : 1–42. *1 pl.*

Supplementary to the preceding; includes *Chondrioderma berkeleyanum* n. sp. from Tahiti.

Roster, G.

1913–15. Le palme coltivate in piena aria nei giardini di Italia. Bull. Soc. Tosc. Ort. **38:** 194–200, 218–225. *pl. 7, 9.* 1913; **39:** 169–176, 191–193. 1914; **40:** 32–43. 1915.

Includes descriptions of and notes on some Polynesian species.

1920–21. La resistenza al freddo; la identificazione e la nomenclatura delle palme con elenco dei giardini d'Italia dove si coltivano all' aria aperta. Bull. Soc. Tosc. Ort. **45:** 70–75. 1920; **46:** 22–25. 1921.

Includes botanical notes and data on frost resistance on some natives of Polynesia.

Roth, G.

1911. Übersicht über die Gattung Calymperes. Hedwigia **51:** 122–134.

Includes some Polynesian species.

1913. Nachtrag I zu Band I der aussereuropäischen Laubmoose von 1910–11. Hedwigia **53:** 81–98, *pl. 1-2. 1 f.*

Includes some Polynesian species.

Rougier, E.

1917. Île de Christmas. Bull. Soc. Étud. Océan. **1:** 25–30.

Includes a very few notes on plants.

1923–24. Maladies et médecines à Fiji. Bull. Soc. Étud. Océan. **7:** 21–34. 1923; **8:** 5–20. 1923; **9:** 3–9. 1924.

The last part contains a list of plant binomials with local names for Fiji and pp. 7-9 a similar list for Tahiti.

Roumeguère, C.

1882. Bouquet de cryptogames rapporté des iles de l'Océan Pacifique par M. J. Remy, ancien voyageur du Muséum. Rev. Myc. **3:** 94–96. *pl. 29.*

A short list; lichens determined by J. Mueller, fungi by Kalchbrenner, some described as new.

Roux, J. See **Sarasin, F.,** and **Roux, J.**

Ruhland, W.

1903. Eriocaulaceae. Pflanzenr. 13 (IV. 30): 1–294. *f. 1–40.*

Monographic.

Ruiz, H.

1940. Travels of Ruiz, Pavón, and Dombey in Peru and Chile (1777–1788). With an epilogue and official documents added by Augustin Jésus Barreiro. Field Mus. Nat. Hist. Bot. Ser. **21:** 1–372, *2* maps.

Scarcely pertains to the Polynesian region but does include the record of introduction of *Platanus otahetianus* (apparently *Broussonetia papyrifera*) from Tahiti into Peru. English translation by B. E. Dahlgren from the unpublished Spanish manuscript.

Russ, G. W.

1932. Notes on the distribution of Neowawraea. Bishop Mus. Spec. Publ. **20:** 6–7.

Not seen.

S

Saccardo, P. A.

1882–1931. Sylloge fungorum omnium hucusque cognitorum **1** to **25:** 1882–1931.

Includes redescriptions of the known species of fungi from all parts of the world. Lithoprint reproduction, Edwards Brothers, 1945.

Sadebeck, R.

1897. Die wichtigeren Nutzpflanzen und deren Erzeugnisse aus den deutschen Colonien. Jahrb. Hamb. Wiss. Anstalt **14**(3): 1–138.

Includes data on some Polynesian economic plants.

1899. Die Kulturgewächse der deutschen Kolonien und ihre Erzeugnisse. i-xiii. 1–366. *f. 1–127.*

Includes data on *Coelococcus carolinensis, C. vitiensis,* and some other economic plants from Polynesia.

Safert, E.

1919. Kusaie: in G. Thilenius, Ergebnisse der Südsee Expedition 1908–1910. II. **4**(1): i–xxviii, 1–298, illus.

Includes some data on economic plants.

Safford, W. E.

1902. Guam and its people. Am. Anthropol. n. ser. **4:** 707–729. *pl. 27–30.*

Includes notes on the vegetation and the introduced plants. Republished with revisions in Ann. Rep. Smiths. Inst. Append. 1902: 493-507. *pl. 1-12.* 1903.

1904. Extracts from the notebook of a naturalist on the island of Guam. Plant World **7:** 1–8. *1 f.* 25–31, 53–60, 81–87. *1 f.* 113–118, 141–146, 163–169, 189–195, 213–220, 237–245, 261–268, 285–298.

Includes many observations on the vegetation.

1905a. The useful plants of the island of Guam. Contr. U. S. Nat. Herb. **9:** 1–416. *pl. 1–70.*

An alphabetical list with extensive notes, including various new names, the authors of these being W. F. Wright and F. V. Coville. Includes a chapter on history of exploration.

1905b. Our smallest possession—Guam. Nat. Geogr. Mag. **16:** 229–237. *5 pl.*

Includes some data regarding plant life.

1910? A year on the Island Guam. An account of the first American administration, with notes on the physical geography, climate, flora and fauna of the island, its history, and the character of its people. i-ix, 1–190. *illus.*

A repaged (numbering machine) reprint of **Safford, W. E.,** 1904, with added title page, table of contents, and introduction. No date is given for the reprint, but the introduction refers to the original publication having appeared "several years ago" and contains references to publications appearing in 1906. The only copy seen was presented by the author to the Library of Congress in 1911.

1921. Cultivated plants of Polynesia and their vernacular names, an index to the origin and migration of the Polynesians. Bishop Mus. Spec. Publ. **7:** 183–187 (Proc. First Pan-Pacific Sci. Congress 1920).

The philological evidence supporting the western origin of most of the plants cultivated by the early Polynesians.

Sagot, P.

1886. Bananier Féhi, sa forme asperme et sa forme séminifère. Bull. Soc. Bot. France **33:** 317–326.

A general note.

St. John, H.

1931a. Pilea bisepala, St. John, new species. 42–45. *f. 2.*

A reprint from Wilder, G. P. "Flora of Rarotonga," Bishop Mus. Bull. **86:** 42-45. 1931. The above title appears only on the reprint.

1931b. Additions to the flora of Niihau. Occ. Pap. Bishop Mus. **9(14):** 1–11. *pl. 1–3.*

Includes the descriptions of several new species.

1932. Notes on Pritchardia. Occ. Pap. Bishop Mus. **9(19):** 1–5.

Questions the value of certain characters used to differentiate Hawaiian species.

St. John, H., and Hosaka, E. Y.

1932a. Noxious weeds of the Hawaiian pineapple fields. Bishop Mus. Spec. Publ. **20:** 7.

An abstract; see next entry.

1932b. Weeds of the pineapple fields of the Hawaiian islands. Univ. Hawaii Research Publ. **6:** 1–196. *82 f.*

Illustrations and popular descriptions of more than 80 of the commonest weeds of Hawaii.

St. John, H.

1933. Lysimachia, Labordia, Scaevola, and Pluchea. Hawaiian plant studies—I. Occ. Pap. Bishop Mus. **10(4):** 1–10. *pl. 1. f. 1.*

Critical notes on a few species, including *Scaevola skottsbergii* n. sp.

1934. Panicum, Zanthoxylum, Psychotria, and Sicyos. Hawaiian plant studies—2. Occ. Pap. Bishop Mus. **10(12):** 1–7. *f. 1–2.*

Notes on various species, including *Panicum pellitoides* n. sp.

1935. Additions to the flora of Midway Islands. Hawaiian plant studies—III. Occ. Pap. Bishop Mus. **11(14):** 1–4.

Lists 17 species, mostly introduced weeds.

St. John, H., and Hosaka, E. Y.

1935. Hawaiian Panicum, Metrosideros, Sanicula, Lobelia, and Rollandia. Occ. Pap. Bishop Mus. **11 (13):** 1–18. *pl. 1–2. f. 1–6.*

Five new species and several varieties described.

St. John, H.

1936a. Transfer of the Papuan Gouldia to the genus Psychotria. Occ. Pap. Bishop Mus. **12(7)**: 1–4. *pl. 1.*

P. papuana, with notes on one Polynesian species.

1936b. A revision of the Hawaiian species of Labordia described by H. Baillon. Hawaiian plant studies—4. Occ. Pap. Bishop Mus. **12(8)**: 1–11. *pl. 1–4.*

Critical notes on Baillon's species, including *L. baillonii* n. sp.

St. John, H., and **Fosberg, F. R.**

1936. Vegetation of Flint Island, Central Pacific. Bishop Mus. Spec. Publ. **30: 21.**

A brief abstract; see next entry for the full paper.

1937. Vegetation of Flint Island, Central Pacific. Occ. Pap. Bishop Mus. **12(24): 1–4.**

A brief descriptive statement with a list of 36 species.

1938. Identification of Hawaiian plants; a key to the families of Dicotyledons of the Hawaiian Islands, descriptions of the families, and list of the genera. Univ. Hawaii Occ. Pap. **36: 1–53.**

St. John H., and **Hosaka, E. Y.**

1938. Notes on Hawaiian species of Lobelia. Hawaiian plant studies—5. Occ. Pap. Bishop Mus. **14: 117–126.** *1. f.*

Deals chiefly with the varieties of *L. gaudichaudii.*

St. John, H.

1939a. New Hawaiian species of Clermontia, including a revision of the Clermontia grandiflora group. Hawaiian plant studies—6. Occ. Pap. Bishop Mus. **15: 1–19.** *pl. 1–6.*

Includes nine species and varieties.

1939b. New Hawaiian Lobeliaceae. Hawaiian plant studies—7. Occ. Pap. Bishop Mus. **15: 21–35.** *pl. 1–7.*

Seven new species and varieties described.

1939c. Jungles of Fiji. Bishop Mus. Spec. Publ. **33: 24.**

A six-line abstract, nonbotanical in spite of its title.

St. John, H., and **Fosberg, F. R.**

1939. A new variety of Ruppia maritima (Ruppiaceae) from the tropical Pacific. Occ. Pap. Bishop Mus. **15: 175–178.** *1 f.*

R. maritima var. *pacifica* n. var., with f. *pacifica* n.f. from Hawaii.

1940. Identification of Hawaiian plants: Part 2. A key to the families and genera of the gymnosperms and of the monocotyledons of the Hawaiian Islands, with descriptions of the families. Univ. Hawaii Occ. Pap. **41: 1–47.**

A continuation of **St. John, H.,** and **Fosberg, F. R.,** 1938.

St. John, H.

1940a. Hawaiian plants named by Endlicher in 1836. Hawaiian plant studies—8. Occ. Pap. Bishop Mus. **15:** 229–238.

A discussion of Endlicher's previously overlooked new combinations, three of which replace later binomials.

1940b. Ophioglossum, Rollandia, and Scaevola. Hawaiian plant studies—9. Occ. Pap. Bishop Mus. **15:** 351–359. *f. 1.*

Ophioglossum falcatum, Scaevola mollis f. *trilobata* n. f., and *Rollandia humboldtiana* f. *albida* n. f.

1940c. Itinerary of Hugh Cuming in Polynesia. Occ. Pap. Bishop Mus. 16: 81–90. *portr.*

Lists the places that Cuming visited in Polynesia, with his plant numbers 1357-1433, which should not be confused with the corresponding ones in Cuming's later Philippine collections.

1942a. Later travels and botanical studies of William Hillebrand. Chron. Bot. 7: 69-70.

Pertains to the preparation and publication Hillebrand's "Flora of the Hawaiian Islands."

1942b. New combinations in the Gleicheniaceae and in Styphelia (Epacridaceae). Pacific plant studies 1. Occas. Pap. Bishop Mus. 17: 79–84.

Includes an enumeration of the Gleicheniaceae of the eastern and southern Pacific Islands.

1943a. Distribution of Ophioglossum on islands of the Pacific Ocean. Pacific plant studies 2. Occ. Pap. Bishop Mus. 17: 177–182. *f. 1–2.*

Seven species considered.

1943b. New Hawaiian species of Peperomia. Hawaiian plant studies 10. Occ. Pap. Bishop Mus. 17: 171–175. *f. 1–2.*

Includes descriptions of *Peperomia dextrolaeva* and *P. haupuensis* n. spp., with *P. oahuensis* first reported from Kauai.

1944. Diagnoses of Hawaiian species of Pelea (Rutaceae). Hawaiian plant studies 13. Lloydia 7: 265–274.

Brief preliminary descriptions of about 45 new species of *Pelea* and numerous new varieties, all from Hawaii.

1945a. Dryopteris, Deschampsia, Portulaca, Lupinus, Fagara, Stenogyne, and Dubautia. Hawaiian plant studies 12. Bull. Torr. Bot. Club 72: 22–30.

Critical notes on various species with some new names, chiefly in minor categories.

1945b. Revision of Cardamine and related Cruciferae in Hawaii, and Nasturtium in Polynesia. Pacific plant studies 3. Occ. Pap. Bishop Mus. 18: 77–93. *f. 1.*

One species of *Nasturtium* and three of *Cardamine,* including *C. konaensis* n. sp. described.

1945c. Valid names in the Gleicheniaceae: Pacific plant studies no. 4. Am. Fern Jour. 35: 87–89.

Dicranopteris sandwicensis Degener reduced to *D. emarginata* (Brack.) W. J. Robinson, with synonymy and discussion.

See also **Eames, A. J.,** and **St. John, H.**

Sajö, K.

1906. Bilder aus Polynesien. Prometheus 17: 614–618. *f. 487–488,* 629–633. *f. 494–498,* 644–649. *f. 502–507,* 664–669. *f. 513–518,* 678–683. *f. 522–523.*

Includes notes on various plant species.

Sakurai, K.

1943. Beobachtungen über Japanische Moosflora. (XXVI) Bryoflora von Micronesia (I). Bot. Mag. Tokyo. 57: 86–92. *f. 1–14;* (XXVII) Bryoflora von Mikronesia (II). Bot. Mag. Tokyo. 57: 249–257. *f. 1–19.*

Includes one new genus and seven new species.

Salisbury, R. C.

1808. Some remarks on the plants now referred to Sophora, with characters of the genus Edwardsia. Trans. Linn. Soc. 9: 296–300. *pl. 26.*

Includes *Edwardsia chrysophylla* n. gen. n. sp. from Hawaii.

Salmon, E. S.

1902. Bryological notes. Jour. Bot. **40**: 1–9. *pl. 429.*

Includes critical notes on some Polynesian species.

Salomon, C.

1877a. Ueber die Farngattung Gleichenia. Gartenfl. **26**: 205–209.

Includes various species from the South Sea Islands.

1877b. Die Palmen nebst ihren Gattungen und Arten für Gewächshaus- und Zimmer-Kultur. 1–6, 1–184. *f. 1–22.*

Contains a systematic enumeration and description of the genera and species including some from Polynesia.

Salvoza, F. M.

1936. Rhizophora. Nat. Appl. Sci. Bull. Univ. Philip. **5**: 179–237. *pl. 1–9. f. 1–3. 1 map.*

A general monographic treatment, eight species and several varieties recognized, including the Polynesian forms.

Sambo, M. C.

1941. Classis lichenum clavis familiarum et generum. Nuov. Giorn. Bot. Ital. II. **48**: 517–558.

All genera included; geographic ranges not indicated.

Sandstede, H.

1938. Ergänzungen zu Wainio's "Monographia Cladoniarum universalis" unter besonderer Berücksichtigung des Verhaltens der Cladonien zu Asahina's Diaminprobe. Repert. Sp. Nov. Beih. **103**: 1–103. *pl. 1–16.*

Includes some references to Polynesian species.

1938–39. Cladoniaceae A. Zahlbr. I. Pflanzenar. **3**: 63–71. *maps 51–60.* 1932; (II) **4**: 83–92. *maps 61–70.* 1938; (III) **4**: 93–102. *maps 71–80.* 1939.

Includes data on distribution in Polynesia.

Santesson, R.

1942a. The South American Cladinae. Arkiv Bot. **30A** (10) : 1–27. *pl. 1–3. f. 1–3.*

Includes *Cladonia pycnoclada* from Juan Fernández.

1942b. The South American Menegazziae. Arkiv Bot. **30A** (11) : 1–35. *pl. 1, 2. f. 1, 2.*

Includes *Menegazzia sanguinascens* from Juan Fernández and some transfers of Hawaiian species of *Parmelia* to *Menegazzia.*

1944. Phycopeltis nigra Jennings, a misunderstood epiphyllous "alga". Svensk. Bot. Tidsk. **38**: 243–248. *f. 1–3.*

The New Zealand *Phycopeltis nigra* is shown not to be an alga but a mixture of two fungi, one of them *Trichothallus hawaiiensis,* which is figured.

Sarasin, F., and **Roux, J.**

1914–21. Nova Caledonia: Recherches scientifiques en Nouvelle Calédonie et aux iles Loyalty. B. Botanique. Rédaction: Hans Schinz et A. Guillaumin. 1–311. *pl. 1–8.*

This paper has also a German subtitle: "Forschungen in Neu-Caledonien und auf dem Loyalty-Inseln." Prepared with the assistance of several specialists; the parts entered separately in this biblography. Includes the descriptions of many new species.

Sarasin, F.

1917. Neu Caledonien und die Loyalty Inseln. Reise Erinnerungen eines Naturforschers. i–x, 1–281. *8 pl. f. 1–184. 1 map.*

A narrative with notes on the vegetation.

Sauerbeck, F. See **Jaeger, A.,** and **Sauerbeck, F.**

Sauvageau, C.

1900–14. Remarques sur les Sphacélariacées. i–xii, 1–634. *f. 1–128.*

Includes some Polynesian species.

Sbarbaro, C.

1939. Aliquot Lichenes oceanici in Cook insulis (Tonga, Rarotonga, Tongatabu, Eua) collecti. Archivio Bot. **15:** 101–104.

Includes several new species and varieties.

Schaffner, J. H.

1931. Studies of Equiseta in European herbaria. Am. Fern Jour. **21:** 90–102. *pl. 9.*

Discusses *E. ramosissimum* and *E. debile,* the latter extending to Fiji.

1932. Diagnostic key to the species of Equisetum. Am. Fern Jour. **22:** 69–75, 122–128.

Twenty-three species characterized, including a record of *E. debile* from Fiji.

Schauer, J. C.

1847. Verbenaceae. DC. Prodr. **11:** 522–700.

Monographic.

Schauinsland, H.

1899. Drei Monate auf einer Korallen-Insel (Laysan). 1–104.

General; briefly reviewed in Biol. Centralbl. **19:** 622.

1900. Ein Besuch auf Molokai, der Insel der Aussätzigen. Abh. Naturw. Ver. Bremen **16:** 513–543. *11 pl. 1 f.*

Includes observations on the flora.

Scheffer, R. H. C. C.

1874. Bijdragen uit het buitenland tot de kennis der flora van den Indischen Archipel. Nat. Tijdschr. Nederl. Ind. **34:** 33–111.

Contains excerpts from the works by different authors, with notes on various Polynesian species.

1876a. Enumération des plantes de la Nouvelle-Guinée, avec description des espèces nouvelles. Ann. Jard. Bot. Buitenzorg **1:** 1–60.

Includes *Maniltoa grandiflora* n. comb. (*Cynometra grandiflora* A. Gray) of Fiji.

1876b. Sur quelques palmiers du groupe des Arécinées. II. Ann. Jard. Bot. Buitenzorg **1:** 103–164. *pl. 1–30.*

Includes *Drymophloeus filifera* n. sp. from Fiji.

Schellenberg, G.

1923a. Die bis jetzt aus Neu-Guinea bekannt gewordenen Opiliaceae, Olacaceae und Icacinaceae. Bot. Jahrb. **58:** 155–177.

Includes some Polynesian species.

1923b. Die Connaraceen Papuasiens. Bot. Jahrb. **58:** 178–181.

Includes some Polynesian species.

1924a. Die Connaraceae von Mikronesien. Bot. Jahrb. **59:** 17.

Connarus gaudichaudi from Palau.

1924b. Eine neue Icacinacee von den Palau-Inseln. Bot. Jahrb. **59:** 17.

Urandra elliptica n. sp.

1938. Connaraceae. Pflanzenr. **103.** (IV. 127): 1–326. *f. 1–48.*

Monographic.

Schiffner, V.

1889. Lebermoose (Hepaticae) mit Zugrundelegung der von Dr. A. C. M.

Gottsche ausgeführten Vorarbeiten: in Die Forschungsreise S.M.S. "Gazelle" . . . 4 (4) : Botanik 1–48. *pl. 1–8.*

Includes *Ricciella linearis* n. sp. and four other species from Fiji.

Schimper, W. P.

1865. Euptychium, muscorum Neocaledonicorum genus novum et genus Spiridens revisum specieque nova auctum. Nova Acta Acad. Leop.-Carol. Nat. Cur. **32**(7) : 1–10. *pl. 1–3.*

Includes New Caledonian and Polynesian species. The description of the ***Euptychium*** is repeated in Bull. Soc. Bot. France **13:** Rev. Bibl. 153-154. 1866.

1867. Nachtrag zu der Genus Spiridens (Vid. Vol. XXXII, P. 1) Spiridens flagellosus Schpr. species nova descripta et iconibus illustrata). Nova Acta Acad. Leop.-Carol. Nat. Cur. **33**(5) : 1–6. *pl. 4.*

Native of Fiji.

Schindler, A. K.

1905. Halorrhagaceae. Pflanzenr. **23**(IV. 225) : 1–133. *f. 1–36.*

Monographic.

1924. Uber einige kleine Gattungen aus der Verwandtschaft von Desmodium Desv. Repert. Sp. Nov. **20:** 266–286.

Includes a few Polynesian species in genera segregated from *Desmodium.*

1925–27. Desmodii generumque affinium species et combinationes novae. Repert. Sp. Nov. **21:** 1–21. 1925; (II) **22:** 250–288. 1926; (III) **23:** 353–362. 1927.

Includes some New Caledonian species of *Arthroclianthus* and the reduction of *D. pilosiusculum* DC. to a variety of *Meibomia limensis* O. Ktze. of Hawaii and Tonga.

1928. Die Desmodiinen in der botanischen Literatur nach Linné. Repert. Sp. Nov. Beih. **49:** 1–371

Includes the Polynesian species.

Schinz, H.

1914. Equisetales und Triruridaceae von Neu-Caledonia: in Sarasin, F., & Roux, J., Nova Caledonia Bot. **1:** 59.

Equisetum ramosissimus Desf. and *Sciaphila dolichostyla* Schltr.

1920. Lycopodiales (Nachtrag) : in Sarasin, F. and Roux, J., Nova Caledonia Bot. **1:** 112.

Lycopodium phlegmaria L.

1929. Ergebnisse der Reise von Dr. A. U. Däniker nach Neu-Caledonien und den Loyalitätsinseln 1924–25. Viert. Naturf. Ges. Zürich **74:** 50–98. *f. 1–5.*

Includes papers on lichens by Wainio, mosses by Thériot, ferns by C. Christensen, and orchids by Kränzlin, entered separately in this bibliography.

See also **Hackel, E.,** and **Schinz, H.**

Schkuhr, C.

1809. Vier und zwanzigste Klasse des Linné'schen Pflanzensystems oder Kryptogamische Gewächse. i–xiv. 1–212. *219 pl.*

Describes some of Forster's specimens and notes the occurrence of certain Polynesian species. See also **Kunze, G.,** 1840–51.

Schlechtendal, D. F. L. von

1861–62a. Betrachtungen über Hoplismenus. Linnaea **31:** 263–313.

Includes a few Polynesian species (*Oplismenus*).

1861–62b. Ueber Setaria, P. B. Linnaea **31:** 387–509.

Includes various species that extend to Polynesia.

See also **Chamisso, L. C. A. von,** and **Schlechtendal, D. von.**

Schlechter, R.

1900. Monographie der Podochilinae. Mém. Herb. Boiss. **21**: 1–78.
Includes some Polynesian species.

1903. Neue Kautschukbäume aus Neucaledonien. Tropenpfl. **7**: 526–530. *1 f.*
Alstonia dürckheimiana n. sp.

1905. Pflanzengeographische Gliederung der Inseln Neu-Caledonien. Bot. Jahrb. **36**: 1–41.
Ecological.

1906. Neue Orchidaceen der Flora des Monsun-Gebietes. Bull. Herb. Boiss. II **6**: 295–310. 453–472.
Includes the descriptions of several new species from Samoa and the New Hebrides.

1906–12. Orchidaceae novae et criticae Decas IV. Repert. Nov. Sp. **3**: 15–20, (V) 45–51, (VI) 77–82, (VII) 106–111. 1906; (X) 316–321. 1907; (XVIII) **9**: 161–166, (XIX) 212–218, (XX) 281–287, (XXI) 289–294, (XXIII-XXIV) 428–439. 1911; (XXV) **10**: 248–254. 1911; (XXXV) **11**: 41–47. 1912.
Includes the descriptions of various new species from Polynesia.

1907–08. Beiträge zur Kenntnis der Flora von Neu Kaledonien. Bot. Jahrb. **39**: 1–274. *f. 1–23.* 1907; **40**: Beibl. **92**: 20–45.
An enumeration with the descriptions of new species.

1908. Beiträge zur Kenntnis der Asclepiadaceen des Monsun-Gebietes. Bot. Jahrb. **40**: Beibl. **92**: 1–19. *pl. 1–2.*
Includes some new species from Polynesia.

1910–11. Revision der Orchidaceen von Deutsch-Samoa. Repert. Sp. Nov. **9**: 82–96. 1910; 98–112. 1911.
Eighty-two species considered, many described as new.

1921a. Die Orchidaceen von Mikronesien. Bot. Jahrb. **56**: 434–501. *f. 1–3.*
An enumeration with descriptions of new species.

1921b. Die Elaeocarpaceen von Mikronesien. Bot. Jahrb. **56**: 562–564.
Elaeocarpus kerstingianus and *E. gibbonii* n. spp. from the Caroline Islands.

1921c. Die Asclepiadaceen von Mikronesien. Bot. Jahrb. **56**: 565–569.
Includes *Hoya schneei* n. sp. from the Caroline Islands.

1921d. Die Scrophulariaceen von Mikronesien. Bot. Jahrb. **56**: 570–575.
A list with synonyms.

1921e. Die Gesneraceen von Mikronesien. Bot. Jahrb. **56**: 576–577.
Cyrtandra palawensis n. sp. from Palau Islands.

1923. Corybas Salisb. oder Corysanthes R. Br.? Repert. Sp. Nov. **19**: 18–24.
Nomenclatural; the Polynesian species of *Corysanthes* transferred to *Corybas*.

Schmid, W.

1937. Ergebnisse der Reise von Dr. A. U. Däniker nach Neu-Kaledonien und den Loyalty-Inseln (1924/26). Beitrag zur Kenntnis von Callitropsis araucarioides Compton. Ber. Schweiz. Bot. Ges. **47**: 124–159. *pl. 1–2. f. 1–34.* 1937. Reprinted in Mitt. Bot. Mus. Univ. Zurich **153**: 124–159. *pl. 1–2. f. 1–34.* 1937.
A morphological and anatomical study of this native of New Caledonia.

Schmidle, W.

1897a. Algologische Notizen. IV. Einige neue und seltene Algen aus Polynesien. Allg. Bot. Zeitschr. **3**: 57–58.
Includes *Lyngbya distincta* from Hawaii.

1897b. Zur Entwicklung einer Zygnema und Calothrix. Flora **84**: 167–173. *pl. 5.*

Includes *C. sandvicense* from Hawaii.

1897c. Einige Baumalgen aus Samoa. Hedwigia **36**: 277–287. *pl. 6–9.*

Four new species described.

1901. Einige Algen, welche Prof. Dr. Volkens auf den Carolinen gesammelt hat. Hedwigia **40**: 343–349. *pl. 12.*

A list with notes and the descriptions of new species.

Schmidt, O. C.

1923. Beiträge zur Kenntnis der Gattung Codium Stackh. Bibl. Bot. **23**(91): 1–68. *f. 1–44.*

Thirty-two species recognized, some Polynesian.

1924. Einige neue Selaginellen aus Westindien und Tahiti. Repert. Sp. Nov. **20**: 155–158.

Includes *S. setchellii* n. sp. from Tahiti.

1928. Verzeichnis der Meeresalgen von Neu-Guinea und dem westlichen Oceanien. Hedwigia **68**: 19–86. *1 f.*

A systematic enumeration of 484 species, many recorded from Samoa, Fiji, the Marshall, Caroline, and Marianas Islands.

1930. Neue Arten der Gattung Selaginella von den Marquesas-Inseln. Repert. Sp. Nov. **28**: 236–238.

Three new species described.

Schnee, H. (editor).

1920. Deutsches Kolonial-Lexikon: **1**: i-xxxi, 1–776. *illus.* **2**: 1–698. *illus.* **3**: 1–778. *illus.*

Includes many signed articles, some on the vegetation.

Schneider, N.

1907. Les acalypha. Rev. Hort. **79**: 357–359. *f. 118–119.*

Includes *Acalypha musaica, A. obovata,* and *A. wilkesiana,* natives of Polynesia.

Schott, H. W.

1856. Synopsis Aroidearum complectens enumerationem systematicam generum et specierum hujus ordinis. 1–140.

Includes the Polynesian species.

1860. Prodromus systematis Aroidearum. 1–602.

Includes the Polynesian species.

1861–62. Aroideologisches. Bonplandia **9**: 367–369. 1861; **10**: 346–347. 1862.

Includes three new species from Fiji.

Schouw, J. F.

1835. Naturen paa Sydhavs-Oerne. Dansk Ugeskr. **6**: 133–144.

Not seen.

1850. Index seminum in horto academico Hauniensi a. 1849 collectorum. 1–14.

Contains the original description of *Leonurus intermedius* Didrichsen (p. 14) from Tahiti.

Schrank, F. P. von

1817–22. Plantae rariores horti academici Monacensis, descriptae et observationibus illustratae. **1**: *pl. 1–50.* 1817–19; **2**: *pl. 51–100.* 1819–22.

A large folio work consisting of colored plates accompanied by descriptive letterpress, including *Jacquinia aurantiaca* said to be native of Hawaii.

Schröter, C.

1922–23. Naturwissenschaftliche Skizzen von einer Reise um die Welt. Hawaii. Merkbl. Volkshochschule Zürich **1922–23.** 19 pages.

Not seen; title from Schröter's Bibliography.

Schröter, H., and Winkler, H.

1935–36. Monographie der Gattung Elatostema s.l. Repert. Sp. Nov. Beih. **83**(1): 1–56. *pl. 1–8.* 1935; (Spezieller Teil) **82**(2): 1–174. *pl. 9–40.* 1936.

Monographic.

Schröter, H.

1938. Monographie der Gattung Procris. I. Repert. Sp. Nov. **45:** 179–192; (II) 257–300.

Includes the Polynesian species.

Schultes, J. A. See **Roemer, J. J., and Schultes, J. A.**

Schultz, K. H. (Schultz-Bipontinus)

1856. Verzeichniss der Cassiniaceen welche Herr E. Jardin in den Jahren 1853–58, auf den Inseln des Stillen Oceans gesammelt hat. Flora **39:** 353–362.

Lists various species from Hawaii, Tahiti, and the Marquesas Islands, some described as new.

Schulz, O. E.

1903. Monographie der Gattung Cardamine. Bot. Jahrb. **32:** 280–623. *pl. 7–10.*

Includes the few Polynesian species.

1907. Erythroxylaceae. Pflanzenr. **29**(IV. 134): 1–176. *f. 1–32.*

Monographic.

1919–23. Cruciferae-Brassicaceae. Pars prima. Subtribus I. Brassicinae et II. Raphaninae. Pflanzenr. **70**(IV. 105): 1–290. *f. 1–35.* 1919; (Pars secunda. Subtribus III. Cakilinae, IV. Zillinae, V. Vellinae, VI. Savignyinae, VII. Moricandiinae) **84**(IV. 105): 1–100. *f. 1–26.* 1923.

Monographic.

1921. Eine Crucifere der Karolinen. Bot. Jahrb. **56:** 507.

Brassica integrifolia var. *timoriana.*

1924. Cruciferae-Sisymbrieae. Pflanzenr. **86**(IV. 105): 1–388. *f. 1–74.*

Monographic.

1927. Cruciferae-Draba et Erophila. Pflanzenr. **89**(IV. 105): 1–396. *f. 1–35.*

Monographic.

Schulze, G. K. von

1934. Neue Arten der Gattung Hybanthus. Notizbl. Bot. Gart. Berlin **12:** 108–114.

Includes the description of *H. agateoides,* native of New Caledonia.

Schumann, K.

1888. Die Flora des deutschen Ost-Asiatischen Schutzgebietes. Bot. Jahrb. **9:** 189–223.

Includes some Polynesian species.

1900. Musaceae. Pflanzenr. **1** (IV. 45): i–vii, 1–45. *f. 1–10.*

Monographic.

Schumann, K., and Lauterbach, K.

1901. Die Flora der deutschen Schutzgebiete in der Südsee. i-xvi, 1–613. *pl. 1–22. map.*

An enumeration with the descriptions of new species, including those of the Marianas, Caroline, and Marshall Islands.

Schumann, K.

1902. Marantaceae. Pflanzenr. **11**(IV. 48): 1–184. *f. 1–23.*
Monographic.

1904. Zingiberaceae. Pflanzenr. **20**(IV. 46): 1–458. *f. 1–52.*
Monographic.

Schumann, K., and **Lauterbach, K.**

1905. Nachträge zur Flora der deutschen Schutzgebiete in der Südsee (mit Ausschluss Samoas und der Karolinen). 1–446. *pl. 1–14.*
A continuation of **Schumann** and **Lauterbach,** 1901.

Schuster, J.

1932. Cycadaceae. Pflanzenr. **99**(IV. 1): 1168. *pl. 1–5. f. 1–20. map.*
Monographic.

Schuster, K.

1931–36. Orchidacearum iconum index. Zusammenstellung der in der Literatur erschienen Tafeln und Textabbildungen von Orchideen. Repert. Sp. Nov. Beih. **60**: 1–536→
Includes Polynesian references. Incomplete.

Schwaegrichen, C. F.

1830. Species Muscorum frondosorum. i-xiv, 1–122.
Includes some Polynesian species. See also **Hedwig, J.,** 1801–42.

Schweinfurth, C.

1943. An orchid novelty from Fiji. Bot. Mus. Leafl. Harvard Univ. **11**: 55–56.
Pseuderia smithiana var. *amplifolia* n. var.

Scribner, F. L.

1899. Notes on the grasses in the Bernhardi Herbarium collected by Thaddeus Haenke, and described by J. S. Presl. Missouri Bot. Gard. Rep. **10**: 35–59. *pl. 1–54.*
Includes critical notes on some of Presl's species from the Marianas Islands.

Sebert, H., and **[Pancher, I.]**

[1874.] Notice sur les bois de la Nouvelle Calédonie suivie de considérations générales sur les propriétés mécaniques des bois et sur les procédés employés pour les mesurer. Partie descriptive en commun avec M. Pancher, ancien botaniste du gouvernement, à Noumea. i-viii, 1–276. *pl. 1–11.*
Includes a botanical consideration (pp. 166-267); many new species proposed.

Seemann, B.

1852. Notes on the Sandwich Islands. Hook. Jour. Bot. Kew Gard. Misc. **4**: 335–341.
General observations on the vegetation.

1853a. Die Flora von Oahu. Bonplandia **1**: 30–32.
General notes.

1853b. Die Flora von Oahu. Deutsch. Gart. Mag. **1853**: 167–171.
General notes.

1853c. Narrative of the voyage of H. M. S. Herald during the years 1845–51, under the command of Henry Kellett, R.N., C.B.; being a circumnavigation of the globe, and three cruises to the Arctic regions in search of Sir John Franklin. **1**: i–xvi. 1–322. frontisp., map; **2**: i-vii. 1–295.
Includes observations on the plants of Hawaii (vol. 2, pp. 79-90).

1856. Popular history of palms and their allies, containing a familiar account of their structure, geographical and geological distribution, history, properties, and uses, and a complete list of all the species introduced into our gardens. i-xvi, 1–359. *pl. 1–20.* 1856; ed. 2. 1866.

Includes some Polynesian species; ed. 2 not seen; for German editions see next entry.

1857. Die Palmen. Populäre Naturgeschichte derselben und ihrer Verwandten; nebst einem vollständigen Verzeichniss aller bisher in unsre Gärten eingeführten Arten . . . unter Mitwirkung des Verfassers Deutsch bearbeitet von Dr. Carl Bolle. i-xii, 1–258. *7 pl.;* ed. 2: i-x, 1–368. *7 pl. 1 f.* 1863.

German editions of **Seemann, B.,** 1856; includes data on Polynesia. Ed. 2 contains "Synopsis Palmarum," pp. 312-359, with various Polynesian species.

1861a. Cyrtandra Pritchardii. Bonplandia **9**: 364–365.

Native of Fiji.

1861b. Storckiella Vitiensis. Bonplandia **9**: 363–364. *pl. 6.*

Native of Fiji.

1861c. Notes made during a government expedition to the Viti or Fiji Islands. Gard. Chron. **1861**: 599–600, 622–625, 649.

Includes notes on the vegetation.

1861d. Poisonous plants of the Viti or Fiji Islands. Gard. Chron. **1861**: 697.

A general note, based on the next item.

1861e. Die giftigen Pflanzen der Viti- oder Fiji-Inseln. Hamburg. Gart. Blumenzeit. **17**: 437–442.

A general consideration.

1861–62. Plantae Vitienses. Bonplandia **9**: 253–262. 1861; **10**: 295–297. 1862.

A list of 916 species from Fiji.

1862a. Viti: An account of a government mission to the Vitian or Fijian Islands in the years 1860–61. i-xv, 1–447. *map.*

A narrative; includes a list of plants.

1862b. Synopsis plantarum Vitiensium. Systematic list of all the Fijian plants at present known. 1–17.

A separately paged reprint from the preceding entry; a list of scientific names with many local equivalents.

1862c. On Antiaris Bennettii, a new species of upas-tree from Polynesia. Ann. Mag. Nat. Hist. III. **9**: 405–407.

Native of Fiji.

1862d. Antiaris Bennettii. Bonplandia **10**: 3–4. *pl. 7.*

Native of Fiji.

1862e. Lindenia vitiensis. Bonplandia **10**: 33–34. *pl. 8.*

Native of Fiji.

1862f. Smythea pacifica. Bonplandia **10**: 68–70. *pl. 9.*

Native of Fiji.

1862g. Notizen über Südsee-Pflanzen. Bonplandia **10**: 153–155.

Critical notes on various species.

1862h. Ueber neue und verkannte Clerodendron-Arten. Bonplandia **10**: 249–250.

Includes *C. amicorum* n. sp. from Samoa.

1862i. Solanum anthropophagorum. Bonplandia **10**: 274. *pl. 14.*

Native of Fiji.

1862j. Ueber die Compositen-Gattung Fitchia. Bonplandia **10**: 294.

A short note on this Polynesian genus.

1862k. Botryodendron Endl. = Meryta Forst. Bonplandia **10:** 294–295.

Six species discussed.

1862l. Pritchardia pacifica. Bonplandia **10:** 309–310. *pl. 15.*

Native of Fiji.

1862m. Podocarpus dulcamara Seem. Bonplandia **10:** 365–366.

Includes also *P. vitiensis* n. sp. from Fiji.

1862n. Pimia rhamnoides und Disemma caerulescens, zwei neue Südsee-pflanzen. Bonplandia **10:** 366.

Natives of Fiji and Tonga.

1862o. Vegetable productions and resources of the Vitian or Fijian Islands. . . .

Published as an appendix to a parliamentary paper entitled "Correspondence Relative to the Fiji Islands." Not seen. Title from Bot. Mag. **90:** sub. *pl. 5424.* 1864.

1863a. Podocarpus vitiensis, a new coniferous tree from the Viti Islands. Jour. Bot. **1:** 33–36. *pl. 2.*

1863b. The Solana of tropical Polynesia. Jour. Bot. **1:** 206–211.

An enumeration of 15 species, some new.

1863c. On the genus Ceodes of Forster. Jour. Bot. **1:** 244–246.

Ceodes reduced to *Pisonia;* two Polynesian species discussed.

1864a. The Cucurbitaceae of tropical Polynesia. Jour. Bot. **2:** 47–52.

Eighteen species discussed.

1864b. New South Sea Island plants. Jour. Bot. **2:** 70–77.

A list with eight new species.

1864–68. Revision of the natural order Hederaceae. Jour. Bot. **2:** 235–250. *9 f.* 289–309. *9 f.* 1864; **3:** 73–81. *pl. 27.* 173–181, 265–276, 361–363. *pl. 41.* 1865; **4:** 293–299, 352–353. 1866; **5:** 236–239. 1867; **6:** 52–58, 129–142. *pl. 79.* 161–165. *pl. 80.* 1868.

Includes the Polynesian species. See **Seemann, B.,** 1868a for reprint.

1865. On Faradaya, a new Australian genus. Jour. Bot. **3:** 256–259.

Includes three species from Polynesia.

1865–73. Flora Vitiensis: A description of the plants of the Viti or Fiji Islands with an account of their history, uses, and properties. i–xxxiii, **1–453.** *pl. 1–100.*

A general flora. Dates of issue: pp. 1-120 (1865); 121-196 (1866); 197-236 (1867); 237-324 (1868); 325-453 (1873, not 1869 as indicated on the signatures).

1868a. Revision of the natural order Hederaceae, being a reprint with numerous additions and corrections of a series of papers published in the "Journal of Botany" British and foreign. 1–107. *7 pl. 19 f.*

Includes the Polynesian species. See **Seemann, B.,** 1864-68.

1868b. On two genera of Smilacineae. Jour. Bot. **6:** 193–194. *pl. 81–83,* 257–258.

Includes three new species of *Pleiosmilax* (= *Smilax*) from Polynesia.

1870a. A new genus of Celastrineae from New Caledonia. Jour. Bot. **8:** 68–69.

Phocea andersonii n. sp.

1870b. Pandorea austro-caledonica, Seem. Gard. Chron. **1870:** 1085.

Native of New Caledonia and Lord Howe Island.

1880. List of Fijian plants: in Cooper, H. S., Coral lands. **1:** 308–339.

A list with notes on some economic species. Apparently republication of **Seemann,** 1862b.

Selling, O. H.

1942. The post-glacial vegetation history of the Hawaiian Islands. Acta Hort. Gotob. **15:** 31–34.

A preliminary report.

1944. A new species of Schizaea from Melanesia, and some connected problems. Svensk. Bot. Tidsk. **38**: *207–225. pl. 1–3. f. 1–4.*

Schizaea melanesica n. sp. observed from New Caledonia and Fiji.

Semper, H. A.

1873. Die Palau-Inseln im Stillen Ozean. 1–372.

General description; not seen.

Senn, H. A.

1939. The North American species of Crotalaria. Rhodora **41**: 317–367. Reprint, Contr. Gray Herb. **125**: 317–367.

Cites the Hawaiian range of several introduced species and adjusts the nomenclature of others, notably *C. mucronata* Desv. (*C. striata* DC., *C. saltiana* auctt., non Andr.).

Setchell, W. A.

1905. Limu. Univ. Calif. Publ. Bot. **2**: 91–113.

A list of Hawaiian names applied to algae, many with their binomial equivalents.

1914. The Scinaia assemblage. Univ. Calif. Bot. **6**: 79–152. *pl. 10–16.*

Includes some Polynesian species.

1923. A reconnaissance of the vegetation of Tahiti, with special reference to that of the reefs. Year Book Carnegie Inst. Washington **21**: 180–187.

A general survey, with notes on the zonal distribution.

1924. American Samoa. Part 1. Vegetation of Tutuila Island; Part II. Ethnobotany of the Samoans; Part III. Vegetation of Rose Atoll. Dept. Marine Biol. Carnegie Inst. Washington **20**: 1–275. *pl. 1–37. f. 1–57.*

Carnegie Institution Publ. 341. A systematic enumeration with notes and descriptions of new species, general ecology, and economic uses of the plants.

1925–35. Notes on Microdictyon. Univ. Calif. Publ. Bot. **13**: 101–107. 1925; (II) 147–53. 1926; (III) **19**: 129–139. *pl. 13–15.* 1935.

Includes critical notes on some Polynesian species.

1926a. Tahitian algae collected by W. A. Setchell, C. B. Setchell & H. E. Parks Univ. Calif. Publ. Bot. **12**: 61–142. *pl. 7–22.*

A list with notes and descriptions of new species.

1926b. Tahitian Spermatophytes collected by W. A. Setchell, C. B. Setchell & H. E. Parks. Univ. Calif. Publ. Bot. **12**: 143–240. *pl. 23–36.*

A list with notes and descriptions of new species.

1926c. Phytogeographical notes on Tahiti. I. Land vegetation. Univ. Calif. Publ. Bot. **12**: 241–290.

General.

1926d. Phytogeographical notes on Tahiti. II. Marine vegetation. Univ. Calif. Publ. Bot. **12**: 291–324.

General.

Setchell, W. A., Hoffmeister, J. E., and **Ostergaard, J. M.**

1926. The Tonga expedition of 1926. Science II. **64**: 440–442.

Includes some notes on the vegetation.

Setchell, W. A.

1928a. Migration and endemism with reference to Pacific insular floras. Proc. Third Pan-Pacific Sci. Congr. Tokyo **1**: 869–875.

General.

1928b. Coral reefs as zonational plant formations. Science II. **68**: 119–121.

A general discussion.

1929. The genus Microdictyon. Univ. Calif. Publ. Bot. **14**: 453–588. *f. 1–105.*

Includes a few Polynesian species.

1934. Marine plants and Pacific palaeogeography. Proc. Fifth Pacific Sci. Congr. **4:** 3117–3131. *f. 1–11.*

Considers the distribution of Polynesian marine phanerogams and algae.

Setchell, W. A., and Christophersen, E.

1935. Preliminary notes on Sarcopygme, a new rubiaceous genus from Samoa. Occ. Pap. Bishop Mus. **11**(5): 1–5.

Three species transferred from *Sarcocephalus* and *Breonia.*

Setchell, W. A.

1935a. Notes on Microdictyon. III. Univ. Calif. Publ. Bot. **19:** 129–139. *pl. 13–15.*

Includes critical notes on several Polynesian species.

1935b. Acroblastum vs. Polyplethia a complex of the Balanophoraceae. Univ. Calif. Publ. Bot. **19:** 141–158. *pl. 16–19.*

Acroblastum is accepted as a segregate from *Balanophora* with nine recognized species, *A. pallens* in Tahiti and *A. wilderi* in Rarotonga.

1935c. Pacific insular floras and Pacific paleogeography. Am. Nat. **69:** 289–310. *1 map.*

A general discussion.

1935d. Some marine plants of southeastern Melanesia. Proc. Calif. Acad. Sci. **21:** 259–276. *pl. 11–15.*

Includes a few species of algae from the Santa Cruz Islands.

1937. The codiums of the Juan Fernandez Islands: in Skottsberg, C., Natural history of Juan Fernandez and Easter Island, Bot. **2:** 587–600. *pl. 34–48.*

Includes the descriptions of two new species of *Codium* with notes on a few others.

1940. Some trabeculate codiums (including two new species). Proc. Nat. Acad. Sci. **26:** 443–448. *f. 1–5.*

Includes *Codium phasmaticum* n. sp. from Hawaii.

Seurat, L. G.

19–?. Vocabulaire des termes d'histoire naturelle (animaux et plantes) dans les dialectes tahitien, tuamotu, mangarévien et marquisien. 1–28.

An alphabetical list of vernacular names, with scientific equivalents; bibliography. Not seen; see **Blake, S. F.,** and **Atwood, A. C.,** 1942, p. 128.

1903. Observations sur la structure de l'île Timoe (Crescent). 1–8.

Contains short lists of fauna and flora. Not seen; see **Blake, S. F., and Atwood, A. C.,** 1942, p. 126.

1904. Observations sur la structure, la faune et la flore de l'île Marutea du Sud. (Archipel du Tuamotu). 1–12.

Not seen; see **Blake, S. F.,** and **Atwood, A. C.,** 1942, p. 124.

1905. Flore économique de la Polynésie française. Bull. Soc. Nat. Acclim. France **51:** 310–326, 355–359, 369–376.

General.

1906. Tahiti et les établissements française de l'Océanie. 1–127. *6 pl. 8 f. 1 map.*

General; includes notes on the vegetation (pp. 34-64).

Shear, C. L. See **Clements, F. E.,** and **Shear, C. L.;** and **Stevens, N. E.,** and **Shear, C. L.**

Sherff, E. E.

1920–32. Studies in the genus Bidens. V. Bot. Gaz. **70:** 89–109. *pl. 11–14.* 1920; (VI) **76:** 144–166. *pl. 12–14.* 1923; (VII) **81:** 25–54. *pl. i–iv.* 1926; (VIII) **85:** 1–29. *pl. 1–5.* 1928; (IX) **86:** 435–447. *pl. 14–16.* 1928; (X) **93:** 213–220. 1932.

Includes various Hawaiian species.

1925–35. New or otherwise noteworthy Compositae. (II) Bot. Gaz. **80:** 367–389. *pl. 19–22.* 1925; (III) **88:** 285–309. *pl. 17–21.* 1929; (IV) **89:** 362–373. 1930; (VI) **91:** 308–319; (VII) **92:** 202–209. 1931; (VIII) **94:** 589–597. 1933; (IX) **95:** 78–103. 1933; (X) Am. Jour. Bot. **22:** 705–710. *pl. 1.* 1935.

Includes descriptions of various new species and varieties from Hawaii.

1932. Revision of the genus Cosmos. Field Mus. Nat. Hist. Bot. Ser. **8:** 401–447.

Includes *C. sulphureus* from the Marianas islands.

1933. Some new or otherwise important Compositae of the Hawaiian islands. Am. Jour. Bot. **20:** 616–619.

Descriptions of new species and varieties of *Dubautia* and *Railliardia.*

1934a. A study of the genus Tetramolopium Nees (Family Compositae). Bot. Gaz. **95:** 498–502.

A consideration of the Hawaiian species, some described as new.

1934b. Some new or otherwise important Labiatae of the Hawaiian islands. Am. Jour. Bot. **21:** 698–701.

Includes the description of one species of *Haplostachys* and numerous new varieties in several genera.

1934c. Some new or otherwise noteworthy members of the families Labiatae and Compositae. Bot. Gaz. **96:** 136–153.

Includes the description of various new species and varieties from Hawaii.

1935a. Revision of Tetramolopium, Lipochaeta, Dubautia, and Railliardia. Bishop Mus. Bull. **135:** 1–136. *f. 1–43.*

A general revision of the Polynesian species of these genera.

1935b. Revision of Haplostachys, Phyllostegia, and Stenogyne. Bishop Mus. Bull. **136:** 1–101. *f. 1–38.*

A general revision of these three genera, with 5, 22, and 24 species, respectively, and numerous varieties.

1936a. Additions to the genus Euphorbia L. and to certain genera of the Compositae. Bot. Gaz. **97:** 580–609.

Includes the descriptions of a few new species and various new varieties of Hawaiian *Euphorbia.*

1936b. Revision of the genus Coreopsis. Field Mus. Nat. Hist. Bot. Ser. **11:** 277–475. *f. 1–3.*

Monographic; includes transfers of *C. molokaiensis* and some other Polynesian species to the genus *Bidens*

1937a. Some Compositae of southeastern Polynesia (Bidens, Coreopsis, Cosmos, and Oparanthus). Occ. Pap. Bishop Mus. **12(19):** 1–19. *pl. 1–6.*

Includes a description of the new genus *Oparanthus* and new species and varieties in other genera.

1937b. Certain new plants from Hawaii and Mexico. Am. Jour. Bot. **24:** 88–90.

Includes *Claoxylon helleri* n. sp. and two new varieties of *C. sandwicense* from Hawaii.

1937c. The genus Bidens. Field Mus. Nat. Hist. Bot. Ser. **16:** 1–709. *pl. 1–189.*

Monographic, 233 species recognized.

1938a. Revision of the Hawaiian species of Euphorbia L. Ann. Missouri Bot. Gard. **25:** 1–94. *pl. 2–11.*

Twenty-one species with many varieties recognized.

1938b. Studies in the genus Labordia Gaud., with a new variety in Megalodonta E. L. Greene. Am. Jour. Bot. **25:** 579–589.

Includes several new species and varieties from Hawaii.

1939a. Genus Labordia. Field Mus. Nat. Hist. Bot. Ser. **17**: 445–546.

A general revision of this Hawaiian genus, 23 species and many varieties recognized.

1939b. Additional studies of the Hawaiian Euphorbiaceae. Field Mus. Nat. Hist. Bot. Ser. **17**: 547–576.

Critical notes and descriptions of new species and varieties in *Claoxylon, Aleurites, Drypetes, Phyllanthus, Antidesma,* and *Euphorbia.*

1939c. Some new or otherwise noteworthy Labiatae and Compositae. Field Mus. Nat. Hist. Bot. Ser. **17**: 577–612.

Includes data, including new species and varieties, on Hawaiian *Phyllostegia, Stenogyne, Lipochaeta,* and *Dubautia.*

1941a. New or otherwise noteworthy plants from the Hawaiian Islands. Am. Jour. Bot. **28**: 18–31.

Consists of descriptions of new species and varieties in the genera *Pittosporum, Phyllostegia, Stenogyne, Railliardia, Lipochaeta,* and *Bidens.*

1941b. Additions to our knowledge of the American and Hawaiian floras. Field Mus. Nat. Hist. Bot. Ser. **22**: 407–441.

Descriptions of new species, varieties, and combinations in *Pittosporum, Euphorbia, Stenogyne,* and *Bidens.*

1942a. Some recently collected specimens of Schiedea (Caryophyllaceae) and of Mexican Compositae. Am. Jour. Bot. **29**: 332–333.

Includes *Schiedea haleakalensis* Degener & Sherff, n. sp. from Hawaii.

1942b. Revision of the Hawaiian members of the genus Pittosporum Banks. Field Mus. Nat. Hist. Bot. Ser. **22**: 467–566, 574–580 (index).

The title on the cover reads "Hawaiian Pittospora."

1942c. Some new or otherwise noteworthy Mexican Coreopsideae (genera Heterosperma Cav. and Bidens L.) and a note on Xylosma hawaiiense Seem. Field Mus. Nat. Hist. Bot. Ser. **22**: 567–573.

Drypetes Forbesii Sherff reduced to *Xylosma hawaiiense* Seem.

1943. Some additions to our knowledge of the genus Schiedea Cham. & Schlecht. Am. Jour. Bot. **30**: 606–608.

Several new species and more numerous new varieties described from Hawaii.

1944a. Some additions to our knowledge of the flora of the Hawaiian Islands. Am. Jour. Bot. **31**: 151–161. *pl. 1–3.*

Includes various new varieties in *Schiedea, Alsinodendron,* and *Labordia,* with new binomials in *Alsinodendron,* a new generic name *Argyrautia* (*A. Degeneri*) for a bigeneric hybrid, with description, and notes on representatives of other genera.

1944b. New or otherwise noteworthy American and Hawaiian Coreopsideae. Am. Jour. Bot. **31**: 277–281.

Includes one new species and two new varieties of *Bidens* from Hawaii.

1945a. Some additions to the genus Dodonaea L. (fam. Sapindaceae). Am. Jour. Bot. **32**: 202–214.

Dodonaea sandwicensis described as new with many new varieties and forms of *D. eriocarpa* from Hawaii.

1945b. Revision of the genus Schiedea Cham. & Schlecht. Brittonia **5**: 308–336.

Monographic, 19 species recognized in Hawaii.

1946a. Remarks upon certain Hawaiian Labiatae and Compositae. Bull. Torrey Club **73**: 184–193.

Miscellaneous critical notes.

1946b. Some new or otherwise noteworthy dicotyledonous plants. Am. Jour. Bot. **33**: 499–510.

Ten of the entities described or discussed, mostly new varieties, are from Hawaii; new species are *Silene degneri* and *Schiedea sarmentosa.*

Sherman, J.

1935. Useful trees of Guam. Guam Record. **11:** 301–302.

Not seen.

Sherrin, W. R.

1938. Revision of the genus Spiridens: in Dixon, H. N., On a small collection of mosses from New Guinea . . . Ann. Bryol. **10:** 17–19.

Includes the Polynesian species of *Spiridens*.

Shillibeer, J.

1817. A narrative of the Briton's voyage to Pitcairn's Island. i-iii, 1–179[1–2]. *18 pl.*

Includes scattered references to economic plants; no binomials.

Simmonds, H. W.

1931–32. Noxious weeds and their control in Fiji. Agr. Jour. [Fiji] **4:** 29–31. 1931; **5:** 18–20. 1932.

Notes on six species.

1932a. Biological control—progress report. Agr. Jour. [Fiji] **5:** 21–22.

Concerns chiefly *Clidemia hirta* and *Lantana crocea*.

1932b. Weeds in relation to agriculture. Agr. Jour. [Fiji] **5:** 58–62.

A general discussion of weeds and their control.

1933. Biological control of Clidemia hirta. Agr. Jour. [Fiji] **6:** 32–33.

1934. Biological control of noxious weeds, with special reference to the plants Clidemia hirta (the curse) and Stachytarpheta jamaicensis (blue rat tail). Agr. Jour. [Fiji] **7:** 3–10. *1 pl.*

Includes also notes on *Lantana, Psidium,* and *Solanum*.

1937. The biological control of the weed Clidemia hirta, commonly known in Fiji as "the curse." Agr. Jour. [Fiji] **8**(3): 37–39.

Concerns the history and control of this introduced American species.

1938. The biological control of the weed Clidemia hirta commonly known in Fiji as "the curse." Trop. Agr. **15:** 173–174.

Adapted from the preceding paper.

Simmons, H. G.

1905. Remarks about the relations of the floras of the Northern Atlantic, the Polar Sea, and the northern Pacific. Beih. Bot. Centralbl. **19**(2): 149–194.

Includes tabulated data on distribution of algae in the "north" and "warmer Pacific."

Sims, J.

1807a. Jasminum simplicifolium. Bot. Mag. **25:** *pl. 980.*

Here recorded from Tonga.

1807b. Cardiospermum Halicacabum. Bot. Mag. **26:** *pl. 1049.*

Here recorded from Tahiti.

1812. Ocimum scutellarioides. Bot. Mag. **35:** *pl. 1446.*

Here recorded from Tanna, New Hebrides.

1814. Jacquinia aurantiaca. Bot. Mag. **40:** *pl. 1639.*

Said to be native of the Sandwich Islands (Hawaii).

1819. Convolvulus Turpethum. Bot. Mag. **46:** *pl. 2093.*

Here recorded from Tahiti.

1823a. Broussonetia papyrifera. Bot. Mag. **50:** *pl. 2358.*

Here recorded from Tahiti.

1823b. Tetragonia expansa. Bot. Mag. **50:** *pl. 2362.*

Here recorded from Tongatabu.

1825. Herpestis Monnieria β portulacacea. Bot. Mag. **52:** *pl. 2557.*

Here recorded from Polynesia.

1826. Gardenia florida var. ovalifolia. Bot. Mag. **53:** *pl. 2627.*

Here recorded from the South Sea Islands.

Sinclair, I.

1885. The indigenous flowers of the Hawaiian islands. Forty-four plates, painted in water colours and described. [*pl. 1–44,* descr. text].

Illustrations and descriptive text, no pagination, plates not numbered.

Singer, R.

1943. A monographic study of the genera Crinipellis and Chaetocalathus. Lilloa **8:** 441–534. *f. 1–6.*

Includes descriptions of *Crinipellis patouillardii* and *C. mirabilis* n. spp. and *C. carecomoeis* var. *subelata* n. var. from New Caledonia.

1945. The Laschia-complex (Basidiomycetes). Lloydia **8:** 170–230. *pl. 1–3.*

Records several species of *Campanella, Favolaschia,* and *Filoboletus* from the Pacific region.

Sjöstedt, L. G.

1924. Ein neues Sargassum von der Osterinsel: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island. **2:** Botany 311–314. *f. 1–5.*

S. skottsbergii n. sp.

Skan, S. A.

1918. Melicytus ramiflorus. Bot. Mag. **144:** *pl. 8763.*

Here described from Fiji.

Skottsberg, C.

1910a. Juan Fernandez-öarnas sandelträd. Svensk. Bot. Tidskr. **4:** 167–173. *f. 1–2.*

Santalum fernandezianum.

1910b. Vegetationsbilder von den Juan Fernandez-Inseln: in Karsten, G. & Schenk, H., Vegetationsbilder **8**(2): *pl. 7–12.*

Selected views of characteristic vegetation.

1914. Studien über die Vegetation der Juan Fernandez Inseln. Bot. Ergeb. der Schwed. Exped. nach Patagonien und dem Feuerlande 1907–1909, IV. Svensk. Vet. Akad. Handl. **51**(9): 1–73. *pl. 1–7. f. 1–12.*

A general discussion of the vegetation, including descriptions of new species.

1917a. La expedición científica sueca á las Islas Esporádicas de Chile 1916–17. Informe preliminar sobre los resultados botánicos. Revis. Univ. Córdoba **4:** 110–115.

Not seen, probably compiled from the preceding item.

1917b. Den svenska Pacific-expeditionen 1916–17. Ymer. **37:** 191–196, 336–338.

Includes brief data on the vegetation of Juan Fernández.

1918a. The island of Juan Fernandez. Geogr. Rev. **5:** 362–383. *f. 1–20.*

Includes notes on the vegetation.

1918b. Die schwedische Expedition nach den chilenischen Inseln im Grossen Ozean 1916/17. Mitt. Perth. Geogr. Anstalt **64:** 74–76.

Includes data on the vegetation of Juan Fernández.

1920–43. The natural history of Juan Fernandez and Easter Island. **2:** Botany 1–58. *pl. 1–5. 10 f.* 1920; 59–240. *pl. 6–20. 42 f.* 1922; 241–448. *pl. 21–27. 55 f.* 1924; 449–550. *pl. 28–33. 56 f.* 1928; 551–762. *pl. 34–54. 52 f.* 1943.

The contributions of individual authors are here separately indexed.

1922. The Phanerogams of Easter Island: in The natural history of Juan Fernandez and Easter Island. **2:** Botany 61–84. *pl. 6–9. f. 1–2,* 95–240. *pl. 10–20. f. 1–39.*

A critical enumeration with notes and the descriptions of new species.

1924. Några i Göteborgs botaniska trädgård odlade Juan Fernandez-arter. Acta Horti Gothob. **1:** 256–258.

Notes on various Juan Fernández species.

1925a. Juan Fernandez and Hawaii. Bishop Mus. Bull. **16:** 1–47.

Phytogeographic.

1925b. Einige Bemerkungen über die alpinen Gefässpflanzen von Masafuera (Juan Fernandez-Inseln). Veröffentl. Geobot. Inst. Rübel Zürich **3:** 87–96.

A general discussion with a list of species.

1926–36. Vascular plants from the Hawaiian islands. I. Acta Horti Gothob. **2:** 185–284. *f. 1–9.* 1926; (II.) **10:** 97–193. *f. 1–23.* 1936.

A critical enumeration, including many new species, new varieties, and new names.

1927a. Iakttagelser över blomningen hos Cyanea hortella (H. Mann) Rock. Acta Horti Gothob. **3:** 43–55. *f. 1–16.*

Extensive notes on a plant from Hawaii flowering in Gothenburg.

1927b. Einige Pflanzen von der Oster-Insel. Acta Horti Gothob. **3:** 163–165.

A short list with notes.

1927c. Artemisia, Scaevola, Santalum, and Vaccinium of Hawaii. Bishop Mus. Bull. **43:** 1–89. *pl. 1–8. f. 1–30.*

Critical revision of the genera indicated.

1928a. The vegetation of Easter Island: in The natural history of Juan Fernandez and Easter Island. **2:** Botany 487–502. *pl. 28–33.*

Ecological.

1928b. Pollinationsbiologie und Samenverbreitung auf den Juan Fernandez-Inseln: in The natural history of Juan Fernandez and Easter Island. **2:** Botany 503–547. *f. 1–54.*

General for the subject indicated.

1928c. On some arborescent species of Lobelia from tropical Asia. Acta Horti Gothob. **4:** 1–26. *f. 1–31.*

Includes a note on the affinity of the Hawaiian Lobeliaceae.

1928d. Remarks on the relative independency of Pacific floras. Proc. Third Pan-Pacific Sci. Congr. Tokyo **1:** 914–920.

A general discussion.

1929a. Notes on some recent collections made in the islands of Juan Fernandez. Acta Horti Gothob. **4:** 155–171. *f. 1–17.*

A list of critical notes and descriptions of new species.

1929b. Plant communities of the Juan Fernandez. Proc. Int. Congr. Plant. Sci. 1926. **1:** 565–574.

Ecological.

1930a. Further notes on Pacific sandalwoods. Acta Horti Gothob. **5:** 135–145. *f. 1–39.*

Notes on various species, including *Santalum marchionense* n. sp.

1930b. Pollination and seed dispersal in the Juan Fernandez Islands. Proc. Fourth Pac. Sci. Congr. Java **3:** 395–399.

General.

1930c. The case of Juan Fernandez. Proc. Fourth Pacific Sci. Congr. Java **3:** 401–403.

Concerns an attempt to establish a nature reserve.

1930d. The geographical distribution of the sandalwoods and its significance. Proc. Fourth Pacific Sci. Congr. Java **3:** 435–442. *f. 1–17. map.*

Includes taxonomic data and a bibliography.

1931a. Remarks on the flora of the high Hawaiian volcanoes. Acta Horti Gothob **6:** 47–65.

Concerns distribution and phytogeographical relationships. See **Skottsberg, C.,** 1931c.

1931b. Pipturi species hawaiienses novae. Acta Horti Gothob. **7:** 1–5.

Six new species described.

1931c. The flora of the high Hawaiian volcanoes. Fifth Int. Bot. Congr. Combr. Rep. Proc. 91–97.

Ecological and phytogeographical. See **Skottsberg, C.,** 1931a.

1932a. Pipturus "albidus" outside the Hawaiian islands. Acta Horti Gothob. **7:** *23–29. f. 1–18.*

Includes *P. polynesicus* and *P. naudeaudii* n. spp.

1932b. Remarks on Pipturus argenteus and P. incanus of Weddell. Acta Horti Gothob. **7:** 43–63. *f. 1–49.*

Includes critical notes on various Polynesian forms.

1932c. Juan Fernandez-öarnas växtstramhällen. Mem. Soc. Fauna Fl. Fennica **7:** 248–254.

A general account of the vegetation.

1933a. Additional notes on Pipturus. Acta Horti Gotob. **8:** 111–118. *f. 1–13.*

Includes data on some Polynesian species, and a new genus, *Pseudopipturus.*

1933b. Vaccinium cereum (L. fil.) Forst. and related species. Acta Horti Gotob. **8:** 83–102. *f. 1–66.*

A critical consideration, with description of new species and varieties.

1933c. Myoporum in Rarotonga. Acta Horti Gotob. **8:** 147–167. *f. 1–48.*

Includes *M. wilderi* n. sp.

1934a. Additional notes on Santalum and Vaccinium from the Pacific. Acta Horti Gotob. **9:** 185–192. *f. 1–23.*

Includes supplementary and critical notes on Moore's Raiatean species, with reductions.

1934b. Astelia and Pipturus of Hawaii. Bishop Mus. Bull. **117:** 1–77. *pl. 1–38. f. 1–32.*

Six species of *Astelia* and 13 species of *Pipturus* recognized, with several varieties.

1934c. Le peuplement des îles pacifiques du Chili. [Mém.] Soc. Biogéogr. **4:** 271–280.

Concerns the flora of Juan Fernández and Easter Island; phytogeographical.

1934d. Studies in the genus Astelia Banks et Solander. Svensk. Vet. Akad. Handl. III **14**(2): 1–106. *pl. 1–24. f. 1–272.*

Monographic; 23 species of *Astelia* and 4 of *Collospermum* recognized.

1935a. Astelia, an Antarctic-Pacific genus of Liliaceae. Proc. Fifth Pacific Sci. Congr. 3317–3323. *f. 1–2.*

A brief summary of 23 species of *Astelia* and 5 of *Collospermum.*

1935b. Notes on the vegetation in the Cumberland Bay caves, Masatierra, Juan Fernandez Islands. Ecology **16:** 364–374. *f. 1–5.*

An ecological discussion with a list of species.

1936a. Antarctic plants in Polynesia: in Goodspeed, T. H., Essays on geobotany . . . . 291–310. *f. 1.*

A general discussion.

1936b. The arboreous Nyctaginaceae of Hawaii. Svensk Bot. Tidskr. **30:** 722–743. *f. 1–6.*

Includes *Ceodes umbellifera* (with reproduction of its type), *Heimerlia* (n. gen.) *brunoniana,* and *Rockia sanwicensis.*

1936c. Juan Fernandez-öarnas havslagflora. 1–2.

A preliminary note, reprinted from "Nordiska (19 scandinaviska) naturforskarmötet i Helsingfors 1936."

1937a. Further notes on Vaccinium of Hawaii. Acta Horti Gotob. **12:** 145–151. *f. 1–4.*

Critical notes on five species; *V. calycinum fimbriata* and *V. reticulatum longiflora* described as new forms.

1937b. Further remarks on Hawaiian Artemisiae. Bot. Mag. (Tokyo) **51:** 196–202. *f. 1–45.*

Includes *Artemisia kauaiensis* n. sp. and critical notes on others.

1937c. Liliaceae of southeastern Polynesia. Occ. Pap. Bishop Mus. **13:** 233–244. *f. 1–2.*

Includes *Astelia rapensis* n. sp. and new varieties in *Dianella.*

1937d. Recent researches in Astelia B. and S. Trans. Proc. Roy. Soc. New Zeal. **67:** 218–226. *f. 1.*

Includes data on distribution of *Astelia* and *Collospermum* in Polynesia.

1938a. Ericaceae and Santalaceae of southeastern Polynesia. Occ. Pap. Bishop Mus. **14:** 31–43. *f. 1–5.*

Includes *Exocarpus psilotiformis* n. sp. from Rapa.

1938b. Geographical isolation as a factor in species formation, and its relation to certain insular floras. Proc. Linn. Soc. **150:** 286–292.

Includes data on the floras of Hawaii and Juan Fernández.

1938c. On Mr. C. Bock's collection of plants from Masatierra (Juan Fernandez), with remarks on the flowers of Centaurodendron. Acta Horti Gotob. **12:** 361–373. *f. 1–30.*

Includes notes on a few species, but pertains chiefly to *Centaurodendron.*

1939a. A hybrid violet from the Hawaiian Islands. Bot. Not. **1939:** 805–812. *f. 1–6.*

Viola luciae n. hybr. (*V. mauiensis* Mann. x *V. robusta* Hillebr.).

1939b. Remarks on the Hawaiian flora. Proc. Linn. Soc. **151:** 181–186.

A general discussion.

1940a. Observations on Hawaiian violets. Acta Hort. Gotob. **13:** 451–528. *f. 1–46.*

Eight species recognized and critically considered.

1940b. En exkursion till Hawaii-öarna Sommaren 1938. Ymer **1940:** 1–22. *f. 1–9.*

Includes notes on the vegetation.

1940c. Nagra drag av den antarktiska kontinentens biologiska historia. Norske Vid. Selsk. Forhandl. **12:** 45–55.

Includes notes on Polynesian elements of Antarctic origin.

1941a. Report on Hawaiian bogs. Proc. Sixth Pacific Sci. Congr. **4:** 659–661.

Essentially ecological.

1941b. The flora of the Hawaiian Islands and the history of the Pacific basin. Proc. Sixth Pacific Sci. Congr. **4:** 685–707. *f. 1–21.*

A general discussion.

1941c. Heimerliodendron nov. nom. Svensk Bot. Tidskr. **35:** 364. Reprint [1].

Heimerlia Skottsb., native of Hawaii, is renamed *Heimerliodendron,* with a correction of the original description.

1941d. Plant succession on recent lava flows in the Island of Hawaii. Göteborgs Kungl. Vet.-Vitterh.-Samhälles Handl. Sjät. Följd. Ser. B. **1(8)**: 1–32. *pl. 1–10. f. 1–2.*

A study of the vegetation of lava flows; ecological; not seen.

1941e. Report of the standing committee for the protection of nature in and around the Pacific for the years 1933–1938. Proc. Sixth Pacif. Sci. Congr. **4**: 499–546. (1940) 1941.

Contains many data regarding present vegetation on various Pacific islands, as well as places of deposit of important collections of Polynesian botanical material.

1941f. Marine algal communities of the Juan Fernandez Islands, with remarks on the composition of the flora: in his Natural History of Juan Fernandez and Easter Islands Bot. **2**: 671–696. *pl. 54.*

Essentially ecological; contains a tabulated list of the species with their known geographic distribution.

1942. Vascular plants from the Hawaiian Islands. III. Pteridophytes collected during the Hawaiian bog survey 1938. Acta Horti Gotob. **15**: 35–148. *f. 1–694.*

Elaphoglossum parvisquameum described as new, with various new names in minor categories in other genera.

1943a. Additional remarks to "Marine Algal Communities of the Juan Fernandez Islands" in his "Natural History of Juan Fernandez and Easter Island" **2**: 761–762. Supplementary to **Skottsberg, C.,** 1941.

1943b. Dr. Sven Berggren's collection of Hawaiian vascular plants. Bot. Not. **1943**: 358–372.

An enumeration with notes on various species; no new names.

1944a. On the flower dimorphism in Hawaiian Rubiaceae. Arkiv Bot. **31A(4)**: 1–28. *f. 1–95.*

Includes studies of flowers of *Kadua, Gouldia, Bobea, Straussia, Morinda,* and several other genera.

1944b. Vascular plants from the Hawaiian Islands. IV. Phanerogams collected during the Hawaiian bog survey 1938. Acta Horti Gotob. **15**: 275–531. *f. 1–556.*

A systematic enumeration including eleven new species and many new varieties. Piperaceae by T. G. Yuncker, Loranthaceae by B. H. Danser, Pittosporaceae and Euphorbiae by E. E. Sherff.

1945a. The flower of Canthium. Arkiv Bot. **32A(5)**: 1–12. *f. 1–43.*

A detailed study largely based on the Polynesian *Canthium odoratum.*

1945b. The Juan Fernandez and Desventuradas Islands: in Verdoorn, F., "Plants and Plant Science in Latin America." 150–153.

General notes on the flora, largely ecological.

See also **Christensen, C.,** and **Skottsberg, C.**; and **Degener, O.,** and **Skottsberg, C.,** 1937.

Sleumer, H.

1935. Revision der Gattung Pernettya Gaud. Notizbl. Bot. Gart. Berlin **12**: 626–655.

Includes *P. rigida* from Juan Fernández.

1938a. Vermischte diagnosen. VI. Repert. Sp. Nov. **45**: 9–20.

Includes *Flacourtia mollipila* n. sp., native of Fiji.

1938b. Die malesisch-pacifischen Xylosma-Arten. Notizbl. Bot. Gart. Berlin **14**: 288–297.

Twenty species recognized, with key.

1939a. Revision der Ericaceen von Neu-Guinea. I. Die papuasisch-ozeanischen Arten der Gattung Agapetes D. Don: in Diels, L., Beiträge zur Flora von Papuasien XXIV. Bot. Jahrb. **70**: 95–106.

Includes *Agapetes vitiensis* from Fiji.

1939b. Beitrag zur Kenntnis der Proteaceen Papuasiens: in Diels, L., Beiträge zur Flora von Papuasien XXIV. Bot. Jahrb. **70**: 125–148.

Includes *Grevillea micronesica* from Palau.

1940. Beiträge zur Kenntnis der Icacinaceen und Peripterygiaceen. Notizbl. Bot. Gart. Berlin **15**: 228–257.

Includes *Merrilliodendron megacarpum* with synonymy, occurring in the Marianas Islands.

1942. Revision der Ericaceen von Neu-Guinea. V. Revision der papuasischen Arten der Gattung Vaccinium L. in: Diels, L., Beiträge zur Flora von Papuasien XXVI. Bot. Jahrb. **72**: 216–269.

Includes *Vaccinium whitmeei* F. v. M. (*V. antipodum* Reinecke) from Samoa.

Slooten, D. F. von

1924. The Combretaceae of the Dutch East Indies. Bull. Jard. Buitenzorg III, **6**: 11–64. *f. 1–5 map.*

Includes a few Polynesian species.

1937. Die Verbreitung von Lumnitzera und einigen anderen Mangrovegewächsen. Blumea Suppl. **1**: 162–175. *f. 1–7.*

Includes notes on the Micronesian distribution of *Lumnitzera littorea.*

Smith, A. C.

1934. Plant collecting in Fiji. Jour. N. Y. Bot. Gard. **35**: 261–280. *f. 1–7.*

A narrative of exploration with observations on the vegetation. See next two entries.

1935a. Botanical exploration of the Fiji Islands. Trop. Woods **41**: 1–5.

A summary of the preceding entry.

1935b. Plant collecting in Fiji. Proc. Linn. Soc. **148**: 5–7.

See preceding two entries.

1936–42. Fijian plant studies. Bishop Mus. Bull. **141**: 1–166. *f. 1–83.* 1936; (II) Botanical results of the 1940–41 cruise of the *Cheng Ho.* Sargentia **1**: i–iv, 1–143. *f. 1–5.* 1942.

Includes the descriptions of several new genera, many new species, and critical notes on others; prepared with the assistance of various specialists.

1941. Notes on Old World Hippocrateaceae. Am. Jour. Bot. **28**: 438–443.

Includes *Salacia vitiensis* n. sp. from Fiji and transfers of various New Caledonian species from *Salacia* to *Dicarpellum.*

1941–44. Studies of Papuasian plants, III. Jour. Arnold Arb. **22**: 343–374. 1941; (VI) **25**: 104–121, 271–298. 1944.

Includes *Calophyllum vitiense* Turr. from Fiji and *Aceratium braithwaitei* Schltr. (*Elaeocarpus kajewskii* Guill.) from New Hebrides and transfers of New Caledonian species of *Antholoma* to *Sloanea.*

1941-46. Studies of Pacific Island plants, (I) Bull. Torr. Bot. Club **68**: 397–406. 1941; (II) Notes on the Pacific species of Piper. Jour. Arnold Arb. **24**: 347–361. 1943; (III) New and noteworthy flowering plants from Fiji. Bull Torr. Bot. Club **70**: 533–549. 1943; (IV) Notes on Fijian flowering plants. Jour. Arnold Arb. **26**: 97–110. 1945; (V) New and noteworthy flowering plants of Fiji. Jour. Arnold Arb. **27**: 319–322. 1946.

Includes descriptions of new species, critical notes, etc., chiefly Fijian.

1943. Taxonomic notes on the Old World species of Winteraceae. Jour. Arnold Arb. **24:** 119–164. *f. 1–6.*

Includes some New Caledonian species of *Bubbia, Belliolum, Exospermum,* and *Zygogynum.*

1944. Reminiscences of fern collecting in Fiji. Am. Fern Jour. **34:** 1–16. *pl. 1–2.*

General observations.

See also **Bailey, I. W.,** and **Smith, A. C.**

Smith, A. L.

1922. Lichens [of New Caledonia]. Jour. Linn. Soc. Bot. **46:** 71–87.

Includes descriptions of some new species.

Smith, F. G.

1934. Diellia and its variations. Occ. Pap. Bishop Mus. **10(16):** 1–22. *pl. 1–7. f. 1–3.*

A general study of the problem.

Smith, J.

1846. An enumeration of ferns cultivated in the Royal Gardens at Kew, in December 1845; with characters and observations on some of the genera and species. Comp. Bot. Mag. **72:** 7–39.

Includes *Adiantum setulosum* n. sp. from Norfolk Island.

1857. Cultivated ferns; or a catalogue of exotic and indigenous ferns cultivated in British gardens, with characters of the genera, principal synonyms, etc. i–xii, 1–84.

Includes some Polynesian species.

1866. Ferns: British and foreign. Their history, organography, classification, and enumeration [of the species of garden ferns] with a treatise on their cultivation . . . i–xi, 1–412. *1 pl. f. 1–163.* 1866; new and enlarged ed. i–xv, 1–450. *1 pl. f. 1–163.* 1877; another ed. 1896.

Includes some Polynesian species; the subtitles vary slightly. The edition of 1896 does not differ much from that of 1877.

1875. Historia filicum, an exposition of the nature, number and organography of ferns . . . i–xiv, 1–429. *pl. 1–29.*

Includes various Polynesian species.

Smith, J. E.

1797. Botanical characters of some plants of the natural order Myrti. Trans. Linn. Soc. **3:** 255–288.

Includes *Metrosideros villosa* from Tahiti.

1802–20. [Botany] in Rees' Cyclopedia. **1(1802)–39(1820).**

The title of the work is: "The Cyclopedia; or Universal Dictionary of Arts, Sciences, and Literature by Abram Rees." It contains the original descriptions of some Polynesian species in alphabetic sequence through all volumes. The title pages of all volumes are dated 1819; for dates of issue of the individual volumes see **Jackson, B. D.,** Jour. Bot. **34:** 310–316. 1896.

Smith, J. G.

1906. The black wattle (Acacia decurrens) in Hawaii. Hawaii Agr. Exp. Sta. Bull. **11:** 1–16. *pl. 1–3.*

Includes data on cultivation and uses of this species introduced from Australia.

Smith, J. J.

1912a. Bulbophyllum Thou. Sect. Cirrhopetalum. Bull. Jard. Bot. Buitenzorg II. **8:** 19–29.

Includes *B. baladeanum, B. layardii,* and *B. le-ratii* from New Caledonia.

1912b. Sarcanthus Lndl. und die nächstverwandten Gattungen. Nat. Tijdschr. Nederl. Ind. **72:** 79–115.

Includes *S. nagarensis* from Fiji and *Pomatocalpa vaupelii* from Samoa.

1934. Cystopus Lév. und Cystopus Bl. Acta Fauna Fl. Univ. II. Bot. **1**(14)**:** 1–6.

Pristiglottis Cretz. & J. J. Sm. is proposed as a new generic name for *Cystopus* Blume (1858), non Lév. (1847), and 20 species are transferred, including the few Polynesian ones.

Smith, J. S.

1940. Preliminary tests on the seasoning of Kauri. Agr. Jour. [Fiji] **11:** 12–15.

Agathis vitiensis.

1941. Albizzia falcata. Agr. Jour. [Fiji] **12:** 67.

Brief report on its very rapid growth in Fiji.

Smith, S. C.

1943. Silversword—rare jewel of an Hawaiian crater. Nature Mag. **36:** 31–32. *illus.*

A popular account of *Argyroxiphium,* with reproduction of photographs of the plant.

Smith, W. G.

1871. Fungi: in Seemann, B., Flora Vitiensis. 421–423.

Seven species considered, with notes.

1874a. Croton majesticum. Floral Mag. **1874:** *pl. 103.*

Native of the South Sea Islands.

1874b. Phyllanthus nivosus. Floral Mag. **1874:** *pl. 120.*

Native of New Hebrides.

1874c. Croton spirale. Floral Mag. **1874:** *pl. 126.*

Introduced from the South Sea Islands.

1875a. Croton volutum. Flora Mag. **1875:** *pl. 154.*

Native of the South Sea Islands.

1875b. Artocarpus Cannonii. Floral Mag. **1875:** *pl. 184.*

Native of the Society Islands.

Snowden, J. D.

1935. A classification of the cultivated Sorghums. Kew Bull. **1935:** 221–255.

Thirty-one species recognized, a few from Polynesia.

1936. The cultivated races of Sorghum. i–viii. 1–274. *f. 1–35.*

A general consideration.

Solander, D. C.

1769–82. Plantae Ins[ularum] Ocean[i] Pac[ifici]. Pp. 30.
Plantae Otaheitenses. Pp. 181.
Index speciminum plantarum Insulae Otaheitensis. Pp. 24.
Index . . . plantarum Insulae Otaheite reliquarumque insularum Oceani Pacifici. Pp. 32.
Catalogus plantarum Insulae Otaheite. Pp. 24.
Primitiae florae insularum Oceani Pacifici sive catalogus plantarum in Otaheite, Eimeo, Otaha, Huaheine, & Ulaietea a. c. 1769 &c. Pp. 199–380.
[Manuscript lists of plants collected . . . in the order in which they were placed in drying books for carriage home]. Pp. 29.

These items form a part of Solander's unpublished manuscripts in the library of the British Museum, Natural History. They are based on material collected by Banks and Solander during Captain Cook's first voyage, 1768-71.

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Solereder, H.

1903. Über Artocarpus laciniata Hort. und ihre Zugehörigkeit zu Ficus Cannonii N. E. Brown. Bull. Herb. Boiss. II. **3**: 515–521.

Native of Polynesia.

Solms-Laubach, H.

1869. Chloranthaceae. DC. Prodr. **16**(1): 472–485.

Monographic.

1879. Monographia Pandanacearum. Linnaea **42**: 1–110.

Includes some Polynesian species.

1901. Rafflesiaceae. Pflanzenr. **5**(IV. 75): 1–19. *f. 1–13.*

Monographic.

Sonnerat, P.

1782. Voyage aux Indes Orientales et à la Chine, fait par ordre du roi, depuis 1774 jusqu'en 1781 . . . suivi d'observations sur le Cap de Bonne-Espérance, les îsles de France & de Bourbon, les Maldives, Ceylan, Malacca, les Philippines & les Moluques, & des recherches sur l'histoire naturelle de ces pays. **1**: i–xv, [i–viii], 1–318. *pl. 1–80;* **2**: i–viii, 1–298. *pl. 81–140;* another edition **1**: i–xxii, 1–340. *pl. 1–2;* **2**: 1–376. *pl. 1–2;* **3**: *1–362. 3 pl.* 1782; nouvelle édition, revue et rétablie . . . augmentée . . . par M. Sonnini. **1**: 1–12, xiii–xxviii, 1–372; **2**: 1–445; **3**: 1–413; **4**: 1–489. 1806; Collection de planches pour servir au voyage aux Indes Orientales et à la Chine. 1–8. *pl. 1–140.* 1806.

Includes *Spondias cytherea,* native of Tahiti. For German edition see next entry.

1783. Reise nach Ostindien und China, auf Befehl des Kőnigs unternommen vom Jahre 1774 bis 1781. **1**: i–xii, 1–268. *pl. 1–80;* **2**: i–x, 1–215. *pl. 81–140.*

A German edition of the preceding entry, translated by Johann Pezzl.

Soubeiran, J. L.

870. Note sur quelques produits [végétaux] de la Nouvelle-Calédonie. Jour. Pharm. Chimie **10**: 242–244.

Not seen.

Sparhawk, W. N.

1944. Notes on forests and trees of the central and southwest Pacific area. 1–78.

Compiled mimeographed data with references to Samoa, Fiji, New Caledonia, New Hebrides, and Micronesia.

Sparrman, A.

1780. Tres novae plantae, descriptae. Nov. Act. Soc. Sci. Upsal. II. **3**: 190–195.

Includes *Mimosa simplex* from Tanna, New Hebrides.

Speare, A. T.

1912a. A fungus disease of the borer beetle. Hawaiian Pl. Rec. **6**: 121–126. *f. 1, 2.*

Includes descriptions of *Metarrhizium anisoplice* and *Sterigmatocystis ferruginea.*

1912b. Fungi parasitic upon insects injurious to sugar cane. Hawaiian Sugar Pl. Exp. Sta. Div. Path. Phys. Bull. **12**: 1–62. *pl. 1–6. f. 1–2.*

Includes the descriptions of several new species of fungi from Hawaii.

1912c. Notes on Hawaiian fungi. I. Gibellula suffulta n. sp. Phytopath. **2**: 135–137. *pl. 12.*

Native of Hawaii.

1915–16. Weeds. Hawaiian Pl. Rec. **12**: 218–223. *f. 1–4,* (II) 312–318. *f. 1–4,* (III) 400–404. *f. 1–4.* 1915; (IV) **13**: 11–16. *f. 1–3,* (V) 81–86. *f. 1–3,* (VI) 140–145. *f. 1–3.* 1916.

Includes botanical notes on various Hawaiian weeds.

Sprague, T. A.

1907. A revision of Dubouzetia. Kew Bull. **1907:** 125–128.

Five New Caledonian species recognized.

1910. Tristellateia australis. Bot. Mag. **136:** *pl. 8334.*

Here described from the Solomon Islands and New Caledonia.

1914a. Hibiscus Waimeae. Bot. Mag. **140:** *pl. 8547.*

Native of Hawaii.

1914b. Hibiscus Arnottianus. Kew Bull. **1914:** 45–47.

Native of Hawaii.

1915. Emmenosperma Pancherianum Baill. Hook. Ic. **31:** *pl. 3027.*

Native of New Caledonia.

1919. Dolichandrone and Markhamia. Kew Bull. **1919:** 302–314.

D. spathacea is credited to New Caledonia.

1923. Apium leptophyllum. Jour. Bot. **61:** 129–133.

A detailed discussion on origin, distribution, and synonymy; native of America, now a weed in most warm countries including parts of Polynesia.

Sprague, T. A., and **Summerhayes, V. S.**

1927. Santalum, Eucarya, and Mida. Kew Bull. **1927:** 193–202. *1 map.*

Includes *Mida fernandeziana* from Juan Fernández.

Sprague, T. A.

1928–29. The correct spelling of certain generic names I. Kew Bull. **1928:** 113–115, (II) 285–296, (III) 337–365. 1928; (IV) **1929:** 38–52, (V) 241–243. 1929.

Includes many genera occurring in Polynesia.

1944. A new species of Rapanea (Myrsinaceae) from Lord Howe Island. Proc. Linn. Soc. **155:** 288–290.

Rapanea mccomishii.

Sprengel, A.

1828. Tentamen supplementi ad Systematis vegetabilium Linnaeani editonem decimam sextam. 1–35.

Supplementary to **Sprengel, K.,** 1825–28.

Sprengel, K.

1807. Novarum plantarum ex herbario meo centuria. 1–58.

Republication of **Beiler,** 1807, without the latter's name, appended to Sprengel, K., "Mantissa Florae Halensis"; includes four species from Tanna, New Hebrides.

1813–15. Plantarum minus cognitarum pugillus primus et secundus. **1:** [1–9], 1–98. 1813; **2:** 1–98. 1815.

Includes some Polynesian species.

1820–22. Neue Entdeckungen im ganzen Umfang der Pflanzenkunde. **1:** i–iv, 1–452. *pl. 1–3.* 1820; **2:** [1–6], 1–363. *pl. 1–3.* 1821; **3:** [1–5], 1–409. 1822.

Includes a few references to Polynesian species.

1825–28. Caroli Linnaei Systema vegetabilium. Editio XVI. **1:** i–vi, 1–922. 1825; **2:** 1–939. 1825; **3:** 1–936. 1826; **4**(1)**:** 1–592. 1827; **4**(2)**:** (Curae posteriores) 1–410. 1827; **5:** 1–750. 1828.

Ed. 16 of Linnaeus' "Systema vegetabilium." Includes descriptions of Polynesian species. See also **Sprengel, A.,** 1828.

Sprenger, C.

1890. Phormium tenax. Lino o canapa della Nuova Zelanda. Bull. Soc. Tosc. Ort. **15:** 241–248.

Economic and agricultural notes on this native of Norfolk Island.

1898. Araucaria Cookii R. Br. Gartenwelt **2:** 295–296.

A general note on this native of New Caledonia.

Spring, A. F.

1838. Beiträge zur Kenntniss der Lycopodien. Flora **21:** 161–175.

Includes *L. capillaceum* from the Marianas Islands.

1841–43. Enumeratio Lycopodinearum, quas in ejusdem plantarum ordinis monographia mox edenda descripsit A. Spring. Bull. Acad. Sci. Belg. **8:** 511–522. 1841; **10:** 225–235. 1843. Reprint 1–35. 1843.

Includes *Selaginella laxa* n. sp. from Tahiti.

1842–50. Monographie de la famille des Lycopodiacées. Mém. Acad. Sci. Bruxelles **15:** 1–110. 1842; **24:** 1–358. 1850.

Monographic.

1846. Cryptogamae vasculares. Lycopodineae: in Gaudichaud, C., Voyage autour du monde . . . sur le corvette la Bonite . . . **3:** 315–344.

Includes some Hawaiian species of *Lycopodium.*

1870. Lycopodiaceae novae. Van Heurck Obs. Bot. 28–30.

Includes *Selaginella viridangula* n. sp. from Fiji.

Spruce, R. See **Bescherelle, É.,** and **Spruce, R.,** 1889.

Stancliff, J. O.

1923. Botanical notes from Tahiti. Am. Bot. **29:** 3–6.

Popular notes.

1924. The taros of Tahiti and the Marquesas. Am. Bot. **30:** 110–111.

Popular.

Stapf, O.

1906. Durandea magnifolia, Stapf. Hook. Ic. **29:** 1–3. *pl. 2822.*

Considers 13 species, mostly Polynesian.

1909. The herbarium Savatier. Kew Bull. **1909:** 148–150.

Concerns its content and history; includes some data on collection of L. Savatier in Tahiti and in the Marquesas Islands.

1922. Cyrtococcum trigonum Stapf. Hook. Ic. **31:** *pl. 3096.* 1–3.

Includes the transfer of certain species of *Panicum* that extend to Polynesia to *Cyrtococcum.*

1929–31. Iconum botanicarum index Londinensis sive G. A. Pritzelii iconum botanicarum index locupletissimus emendatus auctus et ad annum MCMXX productus auspiciis sumtibusque regiae societatis horticulturae Londinensis in tutela ac praesidio regii horti botanici Kewensis. **1:** i–xx, 1–547. 1929; **2:** 1–548. 1930; **3:** 1–555. 1930; **4:** 1–568. 1930; **5:** 1–549. 1931; **6:** 1–570. 1931.

An index to the published illustrations of plants. For supplement see **Worsdell, W. C.,** 1941.

Stappaert, de

1883. Le Davallia fijensis plumosa. Rev. Hort. Belge **9:** 60. *1 pl.*

Apparently a garden form of this native of Fiji.

Stebbins, G. L. See **Babcock, E. B.,** and **Stebbins, G. L.**

Steenis, C. G. G. J. van

1927. Malayan Bignoniaceae, their taxonomy, origin, and geographical distribution. Rec. Trav. Bot. Néerl. **24:** 787–1049. *f. 1–18.*

Includes the New Caledonian species.

Steinbach, E.

1895. Die Marshall Inseln und ihre Bewohner. Verh. Ges. Erdk. Berlin **22:** 449–488.

Includes notes on the vegetation.

Stephani, F.

1884. Die Gattung Radula. Hedwigia **23:** 113–116, 129–137, 145–159, 161–163.

Includes some Polynesian species.

1885–86. Hepaticarum species novae vel minus cognitae. I. Hedwigia **24:** 89–91. *pl. 1–2.* 1885; (IV) **24:** 246–250. 1886; (VII) **25:** 202–208. *pl. 1–2.* 1886; (VIII) **25:** 233–249. *pl. 1–2.* 1886.

Includes some Polynesian species.

1889. Hepaticae Australiae. I. Hedwigia **28:** 128–135. *pl. 3. 5 f.* 155–175. *pl. 4.* 257–278.

Includes some Polynesian species.

1890. Die Gattung Lejeunea im Herbarium Lindenberg. Hedwigia **29:** 1–23, 68–99, 133–142.

Includes some Polynesian species.

1893–96. Hepaticarum species novae. Hedwigia **32:** 17–29, 137–147, 204–214, 315–327. 1893; **34:** 43–65, 1895; **35:** 73–140. 1896.

Includes some Polynesian species.

Stephani, F., and Mueller, K.

1897. Beiträge zur Kenntnis der Moosflora der Hawaiinseln. Bull. Herb. Boiss. **5:** 840–854.

"Hepaticae sandvicenses," pp. 840-849 (Stephani). "Additamenta ad Bryologiam Hawaiicam," pp. 850-853 (Müller).

Stephani, F.

1900–24. Species hepaticarum. **1:** 1–413. 1900; **2:** 1–615. 1906; **3:** 1–693. 1906–09; **4:** 1–824. 1909–12; **5:** 1–1044. 1912–17; **6:** 1–763. 1924.

Vols. 1 to 3 reprinted from Bull. Herb. Boiss. **6:** 1896, to II **8:** 1908. After 1908 all parts issued independently.

1907. Hepaticae: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **81:** 288–299. Reprint **1:** 92–103.

Includes some Samoan species.

1910. Hepaticae: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **85:** 193–201. Reprint **3:** 19–27.

Includes some Samoan species.

1911. Hepaticae Samoanae. II. Nachtrag: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **88:** 32–35. Reprint **4:** 32–35.

A list.

1912. Hepaticae: in Hochreutiner, B. P. G., Plantae Hochreutineranae. Ann. Conserv. Jard. Bot. Genève **15:** 153–156.

Includes a few species from Hawaii and Samoa.

1914. Hepaticae von Neu-Caledonien: in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1:** 17–19.

Aneura viridissima and *Acolea caledonica* n. sp.

1915. Nachtrag zu den Hepaticae der Samoainseln: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **91:** 165–166.

An enumeration, including descriptions of five new species.

1920. Hepaticae (Nachtrag): in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1:** 110.

Includes *Marchantia pileata* and *Fimbriaria drummondii.*

See also **Jack, J. B.,** and **Stephani, F.**

Steudel, E. G.

1821–24. Nomenclator botanicus enumerans ordine alphabetico nomina atque synonyma tum generica tum specifica et a Linnaeo et recentioribus de re botanica scriptoribus plantis phanerogamis imposita. **1:** i–xvii, 1–900, [1–5]. 1821; (Plantis cryptogamis) **2:** i–xviii, 1–450. 1824.

A list of published binomials with synonyms.

1840–41. Nomenclator botanicus, seu: synonymia plantarum universalis, enumerans ordine alphabetico nomina atque synonymia, tum generica tum specifica, et a Linnaeo et a recentioribus de re botanica scriptoribus plantis phanerogamis imposita. Editio secunda ex nova elaborata et aucta. **1:** 1–852. 1840; **2:** 1–810. 1841.

An amplified edition of volume 1 of the preceding.

1850. Urticeae nondum descriptae. Flora **33:** 257–261.

Includes several new species from Juan Fernandez.

1854–55. Synopsis plantarum glumacearum. **1:** i–vii, 1–475. 1854–55; **2:** 1–348. 1855.

Includes descriptions of all then-known species. For dates of issue see **Rendle, A. B.** Jour. Bot. **37:** 33. 1899. The secondary title of vol. 1 is: "Synopsis Plantarum Graminearum"; that of vol. 2 is: "Synopsis Plantarum Cyperacearum et Affinium Restiacearum, Eriocaulonearum, Xyridearum, Desvauxiearum, Juncearum."

1856. Einige Beiträge zu der Chilesischen und Peruanischen Flora, hauptsächlich nach den Sammlungen von Bertero und Lechler. Flora **39:** 401–412, 417–426, 436–444.

Includes some Juan Fernández species.

Stevens, F. L.

1925a. Notes on Hawaiian botany with special reference to the fungi. Trans. Illinois Acad. Sci. **15:** 115–118.

A brief general discussion.

1925b. Hawaiian fungi. Bishop Mus. Bull. **19:** 1–189. *pl. 1–10. f. 1–35.*

An enumeration of the 393 species known in Hawaii with the descriptions of many new species, host index, and bibliography.

1927–28. The Meliolineae I. Ann. Mycol. **25:** 405–469. *pl. 1–2.* 1927; (II) **26:** 165–384. *pl. 1–6.* 1928.

Includes some Polynesian species.

Stevens, N. E., and **Shear, C. L.**

1929. Botryosphaeria and Physalospora in the Hawaiian Islands. Mycologia **21:** 313–320. *f. 1.*

Concerns *B. ribis chromogena, P. fusca,* and *P. malorum.*

Stevenson, J. A., and **Cash, E. K.**

1936. The new fungus names proposed by C. G. Lloyd. Bull. Lloyd Libr. **35:** (Mycol. Ser. 9): 1–209.

Includes the new binomials proposed by C. G. Lloyd without original indication of their being new, some being for Polynesian species.

Stevenson, J. A., and **Rand, R. D.**

1938. An annotated list of the fungi and bacteria associated with sugar cane and its products. Hawaiian Pl. Rec. **42:** 247–313.

Includes numerous Polynesian records.

Stizenberger, E.

1867. Lecidea sabuletorum Flörke und die ihr verwandten Flechten-Arten. Eine Monographie. Nova Acta Acad. Leop.-Carol. Nat. Cur. **34** (2): 1–84. *pl. 1–3.*

Includes *L. cyrtelloides* from Hawaii.

1868. De Lecanora subfusca ejusque formis commentatio. Bot. Zeit. **26:** 889–902.

Includes several Polynesian species.

1895. Die Grübchenflechten (Stictei) und ihre geographische Verbreitung. Flora **81:** 88–150.

Lists some Polynesian species.

Stockmayer, S.

1915. Nachtrag zu den Süsswasseralgen: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **91:** 167–168.

Includes some data on Samoan species.

Stokes, J.

1812. A botanical materia medica consisting of the generic and specific characters of the plants used in medicine and diet, with synonyms, and references to medical authors. **1:** i–lxviii, 1–503; **2:** 1–567; **3:** 1–549; **4:** 1–702. 1812.

Includes a few Polynesian species.

Stokes, J. F. G.

1921. Fish poisoning in the Hawaiian islands with notes on the custom in southern Polynesia. Occ. Pap. Bishop Mus. **7:** 219–233. *pl. 17–19.*

Considers the plants used for this purpose.

Storck, J.

1862. Jacob Storck auf den Viti-Inseln. Bonplandia **10:** 181–182.

A letter from Storck, a collector, to B. Seemann.

Storey, W. B. See **Jones, W. W.**

Ström, K. M.

1922. Freshwater algae from Juan Fernandez and Easter Island in Skottsberg, C., The natural history of Juan Fernandez and Easter Island. **2:** Botany 85–93. *1 f.*

A list with notes.

Stubbs, W. C.

1910. Report on the agricultural resources and capabilities of Hawaii. U. S. Dept. Agr. Off. Stations Bull. **95:** 1–100. *pl. 1–27.*

Includes data on cultivated species of plants in Hawaii.

Stuchbery, H. M.

1937. Yanggara. Agr. Jour. [Fiji] **8**(3): 40–42.

Includes references to some species of grasses.

Studt, W.

1926. Die heutige und frühere Verbreitung der Koniferen und die Geschichte ihrer Arealgestaltung. Mitt. Inst. Bot. Hamb. **6:** 167–307. *pl. 5–20.*

Phytogeographic.

Sturtevant, E. L.

1919. Sturtevant's notes on edible plants edited by U. P. Hedrick. i–vii, 1–686. *portr.*

A posthumous publication including data on some Polynesian species.

Suckling, J. J. C.

1939. The cultivation and hand-pollination of vanilla. Agr. Jour. [Fiji] **10**: 42–43.

Vanilla planifolia.

Suessenguth, K.

1936. Amarantaceae of southeastern Polynesia. Bishop Mus. Occ. Pap. **12**(2): 1–10. *f. 1–2.*

Includes *Achyranthes mangarevica* n. sp. and notes on other species.

1938. Amarantaceen-Studien I. Amarantaceae aus Amerika, Asien, Australien. Repert. Sp. Nov. **44**: 36–48.

Includes *Charpentiera obovata* var. *elliptica* and *Ch. obovata* f. *grandifolia* from Hawaii.

Sullivant, W. S.

1857. Notices of new species of mosses from the Pacific Islands. Proc. Am. Acad. Arts Sci. **3**: 73–81, 181–185.

Includes the descriptions of many new species from Polynesia.

1859. Musci. United States Exploring Expedition . . . under the command of Charles Wilkes, U. S. N. **17**: 1–32. *pl. 1–26.*

Includes some Polynesian species.

1874. Sandwich Island mosses collected by H. Mann and W. T. Brigham. Bull. Torr. Bot. Club **5**: 10–11.

An enumeration of 38 species, three new.

Summerhayes, V. S., and **Hubbard, C. E.**

1927. The grasses of the Fiji Islands. Kew. Bull. **1927**: 18–44.

Includes descriptions of 59 species with a key.

Summerhayes, V. S.

1928. New Plants from the Seychelles. Kew Bull. **1928**: 388–395.

Smythea pacifica Seem. of Polynesia is reduced to *S. lanceata* (Tul.) Summerh.

Summerhayes, V. S., and **Hubbard, C. E.**

1930. A supplement to the grasses of the Fiji Islands. Kew Bull. **1930**: 252–265.

Supplementary to **Summerhayes** and **Hubbard,** 1927; includes *Ischaemum vitiense* n. sp.

Summerhayes, V. S.

1932. Artocarpaceae: in Guillaumin, Contribution to the flora of the New Hebrides. Jour. Arnold Arb. **13**: 96–106.

1933a. Ficus glandifera. Hook. Ic. **32**: *pl. 3188.*

Native of the New Hebrides.

1933b. Ficus nasuta. Hook. Ic. **32**: *pl. 3189.*

Native of the Santa Cruz Islands.

1939. The genus Ficus in the Samoan Islands. Occ. Pap. Bishop Mus. **15**: 109–118. *f. 1.*

Nine species recognized, with key, synonymy, etc., including *F. samoensis* n. sp.

1940. The genus Ficus (Moraceae) in southeastern Polynesia. Occ. Pap. Bishop Mus. **15**: 227–228.

Three species recognized, none new.

See also **Sprague, T. A.,** and **Summerhayes, V. S.**

Surridge, H. R.

1937a. The grasses Spartina Townsendii and S. brasiliensis in Fiji. Agr. Jour. [Fiji] **8**(3): 22–23.

Economic notes.

1937b. Trees ornamental and useful. Agr. Jour. [Fiji] **8(4): 15–18.**

Includes notes on 24 species.

1938a. "Duruka" (Saccharum). Agr. Jour. [Fiji] **9(1): 24.**

The local name "duruka" belongs to *Saccharum spontaneum,* not to *Flagellaria indica.*

1938b. The germination of teak seed, Tectona grandis. Agr. Jour. [Fiji] **9(4):** 23–24.

Surridge, H. R., and **Parham, B. E. V.**

1941. Botanical notes, 1. Leafy green vegetables in Fiji. Agr. Jour. (Fiji) **12:** 76–77.

A list with notes.

Svedelius, N.

1924. On the discontinuous geographical distribution of some tropical and subtropical marine algae. Arkiv Bot. **19**(3) : 1–70. *f. 1–14.*

Includes some Polynesian references.

Svenson, H. K.

1929. Monographic studies in the genus Eleocharis. Rhodora **31:** 121–135. *pl. 188,* 152–163, 167–191. *pl. 189,* 199–219. *pl. 190,* 224–242. *pl. 191.* Reprinted without change of pagination in Contr. Gray Herb. **86.**

Includes some Polynesian species.

1939. Monographic studies in the genus Eleocharis—V. Rhodora **41:** 1–19. *pl. 537–539. text maps 1–28,* 43–77. *pl. 540–545. text maps 29–52.* Reprinted without change of pagination in Contr. Brooklyn Bot. Gard. **85.**

Includes several species extending to Polynesia and New Caledonia; a continuation of **Svenson, H. K.,** 1929.

1944. The New World species of Azolla. Am. Fern. Jour. **34:** 69–84. Reprinted without change of pagination in Contr. Brooklyn Bot. Gard. **100.**

Includes *A. caroliniana,* introduced into Hawaii.

Swallen, J. R.

1936. Three new grasses from Polynesia. Jour. Washington Acad. Sci. **26: 177–179.**

New species in *Eragrostis, Garnotia,* and *Aristida* from Rapa, Raiatea, and Fiji.

Swartz, O.

1799. Dianome Epidendri generis Linn. Nova Acta Soc. Sci. Upsal. II, **6:** 61–88. *pl. 1–5.*

Includes some Polynesian species of *Dendrobium.*

1800. Afhandling om Orchidernes slägter och deras systematiska indelning Svensk. Vet. Akad. Handl. **21:** 115–134, 202–254. *pl. 1–3.*

Includes some Polynesian species of *Dendrobium.*

1801–05. Genera et species Filicum ordine systematico redactarum adjectis synonymis et iconibus selectis, nec non speciebus recenter detectis, et demum plurimis dubiosis ulterius investigandis. Jour. Bot. Schrad. **2:** 1–120. 1801. Reprinted in Ann. Bot. Konig & Sims **1:** 422–489.

Includes descriptions of some new Polynesian species of ferns.

1805a. Genera and species of natural order of the Orchideae: in **Koenig, C.,** Tracts relative to botany 121–214. *pl. 2–8.*

A republication of **Swartz, O.,** 1800.

1805b. Genera et species Orchidearum systematice coordinatarium. Neu. Jour. Bot. Schrad. **1:** 1–108. *pl. 1.*

Includes *Malaxis rheedii* and *Dendrobium crispatum* from Polynesia.

1806. Synopsis Filicum earum genera et species systematice complectens. Adjectis Lycopodineis et descriptionibus novarum et rariorum specierum. i–xviii, 1–445. *pl. 1–5.*

Includes some Polynesian species.

Swingle, W. T.

1940a. Limnocitrus, a new genus, also new species of Wenzelia, Paramignya and Atalantia (Rutaceae-Aurantioideae). Jour. Arnold Arb. **21:** 1–24. *pl. 1–4.*

Includes *Wenzelia kambarae* n. sp. from Fiji.

1940b. New varieties and new combinations in the genera Clausena, Oxanthera, and Triphasia of the orange subfamily Aurantioideae. Jour. Washington Acad. Sci. **30:** 79–83. *f. 1–2.*

Includes *Oxanthera undulata* comb. nov., native of New Caledonia.

1944. The botany of Citrus and its wild relatives of the orange subfamily (family Rutaceae, subfamily Aurantioideae): in Webber, H. J., and Batchelor, L. D., The citrus industry. **1:** 129–474. *f. 25–74.*

Twenty-three genera recognized. Various Polynesian representatives are included.

Sydow, H. See **Theissen, F.**, and **Sydow, H.**

Sydow, H., and **Sydow, P.**

1921. Die Pilze Mikronesiens aus der Sammlung Ledermann. Bot. Jahrb. **56:** 430–432.

An enumeration, including a few new species.

Sydow, P., and **Sydow, H.**

1902–24. Monographia Uredinearum, seu specierum omnium ad hunc usque diem cognitarum descriptio et adumbratio systematica. **1:** i–xxxiv, 1–972. *pl. 1–45.* 1902–04; **2:** i–xix, 1–396. *pl. 1–14.* 1909–10; **3:** 1–726. *pl. 1–32.* 1912–15; **4:** i–iv, 1–671. 1923–24.

Monographic.

Sykes, R. A.

1931. Forestry in Fiji. Agr. Jour. [Fiji] **4:** 169–174.

A general discussion.

1933. The forests of the Colony of Fiji. Legislative Council Paper **9:** 1–58. *2 maps.*

General information regarding forestry conditions and important constituent tree species.

Szyszylowicz, I. von

1885–86a. Zur Systematik der Tiliaceen I. Bot. Jahrb. **6:** 427–457. 1885; (II) **7:** 133–145. 1886.

Includes some New Caledonian references.

1885–86b. Tiliaceae generum monographia. Lipowate monografija rodzajów. Rozpr. Sprawozd. Matem. Przyr. Akad. Um. Krakow **13:** 207–303. *pl. 2–5;* **15:** 48–75. *pl. 2.* 1886. Reprint **1–2:** 1–99. *pl. 2–5.* 1885; **3:** 1–28. 1885; *pl. 2.* 1886.

A monographic study in Polish based on the preceding entry. Includes some New Caledonia references.

T

T, C.R.

1937. General notes. Agr. Jour. [Fiji] **8**(4): 46–47.

Ischaemum aristatum and *I. rugosum.*

T., W.

1915. Hibiscus Waimeae. Gard. Chron. III, **57**: 8. *f. 1.*

A general note; native of Hawaii.

Takahashi, M. See **Whitney, L. D., Bowers, F. A. I.,** and **Takahashi, M.**

Takeda, H.

1915. Contributions to the knowledge of the Asiatic Polypodiums, with special reference to the Chinese species. Notes Bot. Gard. Edinb. **8:** 265–312.

Includes the Hawaiian forms of *Polypodium lineare.*

Tanaka, Takesi

1941. The genus Hypnea from Japan. Sci. Pap. Inst. Algol. Res. Fac. Sci. Hokkaido Imp. Univ. **2:** 227–250. *f. 1–21. pl. 53–54.*

Includes some Micronesian species.

1944a. The Japanese species of Protoflorideae (I). Journ. Jap. Bot. **20:** 217–224. *f. 1–5.*

Includes *Goniotrichum Alsidii* from Ponape.

1944b. The Japanese species of Protoflorideae. Sci. Pap. Inst. Algol. Res. Fac. Sci. Hokkaido Imp. Univ. **3:** 79–97. *f. 1–16.*

Includes notes on some Micronesian species.

Tanaka, Tyôzaburô

1928. Revisio Aurantiacearum. I. Bull. Soc. Bot. France **75:** 708–715. Reprinted in Mem. Tanaka Citrus Exp. Sta. 1(1): 39–46. 1932.

Includes *Citrus vitiensis* and *C. upoluensis* n. spp. from Fiji and Samoa.

1931. Notes on the Dutch Indian species of Rutaceae–Aurantieae (Revisio Aurantiacearum–V). Med. Rijks Herb. Leiden **69:** 1–13. Reprinted in Contr. Herb. Taihoku Univ. **2**(1931), same pagination.

Includes *Micromelum minutum,* native of the Friendly Islands.

Tashiro, Y.

1890. [Notes on a trip to some Pacific Islands.] Bot. Mag. (Tokyo) **4:** [125]–[131], [168]–[172], [201]–[208]. *pl.* [6], (IV) [244]–[251].

Japanese text.

Tardieu-Blot, M. L. See **Guillaumin, A., Camus, A.,** and **Tardieu-Blot, M. L.**

Tate, R.

1893. The geographic relations of the floras of Norfolk and Lord Howe Islands. Macleay Memorial Volume. Linn. Soc. N. S. W. 205–221.

Phytogeographic.

Tattersfield, F., Martin, J. P., and **Howes, F. N.**

1940. Some fish-poison plants and their insecticidal properties. Kew Bull. **1940:** 169–180.

Includes *Barringtonia asiatica* and *Derris trifoliata.*

Taylor, T.

1846. New Hepaticae. Lond. Jour. Bot. **5:** 258–284, 365–417.

Includes some Polynesian species.

1847. New lichens, principally from the herbarium of Sir William J. Hooker. Lond. Jour. Bot. **6:** 148–197.

Includes some species from Polynesia.

Taylor, T. H. C.

1928. Investigations in Trinidad on a parasite for "Clidemia hirta." Agr. Jour. [Fiji] 1(2): 2–8.

Clidemia hirta described as a bad pest in Fiji.

Taylor, W.
1900. List of palms in Hawaii. Hawaiian Annual (1901) **27:** 29.

Tehon, L. R.
1935. A monographic rearrangement of Lophodermium. Univ. Illinois Bull. **32(51):** 1–151. t. 1–5. Illinois Biol. Monogr. **13:** 231–381. *pl. 1–5.*
Includes the known Polynesian species.

Thaxter, R.
1896–1931. Contribution towards a monograph of the Laboulbeniaceae. Mem. Am. Acad. Arts Sci. II. **12:** 187–429. *pl. 1–26.* 1896; (2) **13:** 217–469. *pl. 28–71.* 1898; (3) **14:** 309–424. *pl. 1–10.* 1924; (4) **15:** 427–580. *pl. 1–24.* 1926; (5) **16:** 1–435. *pl. 1–60.* 1931.
Includes a few Polynesian species.

1902. Preliminary diagnoses of new species of Laboulbeniaceae. Proc. Am. Acad. Arts Sci. **38:** 9–57. Reprinted in Contr. Crypt. Lab. Harvard Univ. **2**(50): 9–57.
Includes descriptions of some new species from Hawaii.

1920. New Dimorphomycetae. Proc. Am. Acad. Arts Sci. **55:** 211–282. Reprinted in Contr. Crypt. Lab. Harvard Univ. **3**(87): 211–282.
Includes a few new species from Fiji.

Theissen, F., and **Sydow, H.**
1915. Die Dothideales. Kritisch-systematische Originaluntersuchungen. Ann. Myc. **13:** 149–746. *pl. 1–6.*
Monographic.

Theissen, F.
1916. Verschiedene Mitteilungen. Ann. Myc. **14:** 263–273. *f. 1–6.*
Includes *Haplophyse oahuensis* n. gen. n. sp. from Hawaii.

Theissen, F., and **Sydow, H.**
1917. Synoptische Tafeln. Ann. Myc. **15:** 389–491. *f. 1–38.*
Includes *Capnodium anonae,* native of Polynesia.

Theissen, F.
1917. Mykologische Abhandlungen. Verh. Zool. Bot. Ges. Wien **66:** 296–400. *1 pl. f. 1–14.*
Includes *Euthrypton globiferum* from Hawaii, here described as a new genus.

1919. Neue Original-Untersuchungen von Ascomyceten. Verh. Zool. Bot. Ges. Wien **69:** 1–24.
Includes *Asterina samoensis* (*Dimerosporium* Hennings) from Samoa.

Thellung, A.
1906. Die Gattung Lepidium (L) R. Br. Neue Denkschr. Schweiz. Ges. Naturw. **41**(1): 1–340. *12 f.*
Includes the few Polynesian species.

Thériot, J.
1904. Mousses de la Nouvelle-Calédonie récoltées par le Dr. de la Combe. Bull. Acad. Int. Géogr. Bot. **13:** 85–86. *pl. 1–2.*
Includes descriptions of several new species.

1907. Diagnoses d'espèces et de variétés nouvelles de Muscinées. Bull. Acad. Int. Géogr. Bot. **17:** 306–308.
Includes some New Caledonian species.

1908–11. Diagnoses d'espèces et de variétés nouvelles de mousses (5). Bull. Acad. Int. Géogr. Bot. **18:** 250–254. 1908; (6) **19:** 17–24. 1909; (7) **20a:** 96–104. 1910; (9) **21:** 269–272. 1911.

Includes New Caledonian species; a change in the title of the preceding paper.

1911. Holomitrium vaginatum (Hook.) et espèces affines. Bull. Soc. Bot. Genève II. **3:** 245–252. *f. 1–7.*

Recorded from Tahiti with a variety in New Caledonia.

1914. Musci de la Nouvelle Calédonie et des Îles Loyalty: in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1:** 21–32.

Forty-two species described, some new.

1920–21. Considérations sur le flore bryologique de la Nouvelle-Calédonie et diagnoses d'espèces nouvelles. Rev. Bryol. **47:** 69–71. 1920; **48:** 11–16, 22–28, 54–59. 1921.

Various new species described.

1922. Musci [of New Caledonia]. Jour. Linn. Soc. Bot. **45:** 462–466.

An enumeration.

1927. Mousses récoltées dans l'île Más a Tierra (Juan Fernandez) en 1927, par M. Gualterio Looser. Rev. Chil. Hist. Nat. **31:** 256–259. *f. 1.*

A short list including *Rigodium looseri* n. sp.

1929. Neu-Caledonische Laubmoose: in Däniker, A. U., Ergebnisse der Reise nach Neu-Caledonien. Viert. Naturf. Ges. Zürich **74:** 52–55. *2 f.* Reprinted in Mitt. Bot. Mus. Univ. Zürich **130:** 52–55. *2 f.*

Includes *Bryum daenikeri* and *Ectropothecium nitidum* n. spp.

1932. Liste et correction des fautes orthographiques ou autres erreurs contenues dans le 2e édition des Musci de Brotherus, in Engler-Prantl, Die natürlichen Pflanzenfamilien. Rev. Bryol. II. **4:** 170–185. 1931 (1932).

Includes at least one new name appertaining to a Polynesian species, *Ptychomitrium neocaledonicum.* See **Engler, A.,** and **Prantl, K.,** 1924–40.

Thériot, J., Dixon, H. N., and **Buch, H.**

1934. Bryophyta nova (17–25). Ann. Bryol. **7:** 157–162. *1 f.*

Includes *Microdus picquenoti* n. sp. from Tahiti.

Thériot, J.

1936. Reliquiae Boissieranae. Bull. Soc. Bot. Genève **26:** 76–91, *12 f.*

Includes *Isopterygium longipes* from Tahiti.

1937. Mousses de l'Ile de Paques. Rev. Bryol. Lichénol. II. **10:** 74–77. *f. 1–2.*

A list of 11 species from Easter Island, two new.

1938. Sur une collection des mousses des Nouvelles-Hébrides (Mission E. Aubert de la Rue, 1934). Rev. Bryol. Lichénol. II. **10:** 128–135. *f. 1–4.*

A list of 50 species with notes, four new.

Thiselton-Dyer, W. T. See **Jackson, B. D.,** 1892–1938.

Thom, C., and **Raper, K. B.**

1945. A manual of the Aspergilli. i–ix, 1–373. *f. 1–76.*

Monographic; bibliography pp. 289-330.

Thompson, L.

1940. Southern Lau, Fiji: an ethnography. Bishop Mus. Bull. **162:** i–iv, 1–228. *pl. 1–5. f. 1–21.*

Includes some data on various economic plants.

Thrum, T. G.

1914. Flowering trees of Honolulu. Hawaiian Annual (1915) **41:** 38–43.

Popular descriptions.

1922. Leaf uses of the Hawaiians. Hawaiian Annual (1923) **49**: 71–73.

General for the subject.

Thümen, F. von, and **Mueller, J.** (Muell.-Arg.)

1889. Pilze und Flechten: in Die Forschungsreise S.M.S. "Gazelle" . . . **4**(3): Botanik 1–16.

Fungi by von Thümen, lichens by Mueller (pp. 6-16); includes five species from Fiji.

Thunberg, C. P.

1781–1801. Nova genera plantarum. 1–194.

A series of 16 doctorate dissertations prepared by Thunberg's students under his supervision, containing some Polynesian genera. The descriptions are credited to Thunberg.

Thurston, J. B.

1886. Catalogue of trees, shrubs and foliage plants, at Thurmbirg, Suva, and St. Helier's, Tariuni, Fiji. 1-18.

Not seen.

Tieghem, P. van

1894a. Aciella, genre nouveau de la tribu des Elytranthées dans la famille des Loranthacées. Bull. Soc. Bot. France **41**: 433–440.

Seven new species from New Caledonia described.

1894b. Sur le groupement des espèces en genres dans les Loranthacées à calice dialysépale et anthères basifixes. Bull. Soc. Bot. France **41**: 497–511.

Includes some Polynesian species.

1894c. Quelques compléments à l'étude des Loranthées à calice dialysépale et anthères basifixes ou Phenicanthémées. Bull. Soc. Bot. France **41**: 533–550.

Includes some Polynesian species.

1894d. Sur les Loxanthera, Amylotheca et Treubella, trois genres nouveaux pour la tribu des Élytranthées dans la famille des Loranthacées. Bull. Soc. Bot. France **41**: 257–269.

Includes *Treubella forsteriana* from Tahiti and *T. vitiensis* from Fiji.

1895. Sur le groupement des espèces en genres dans la tribu des Elytranthées de la famille des Loranthacées. Bull. Soc. Bot. France **42**: 433–449.

Includes some Polynesian species.

1896a. Korthasella, genre nouxeaux pour la famille des Loranthacées. Bull. Soc. Bot. France **43**: 83–87.

Includes some Polynesian species.

1896b. Sur le groupement des espèces en genres dans les Ginalloées, Bifariées, Phoradendrées, et Viscées, quatre tribus de la famille des Loranthacées. Bull. Soc. Bot. France **43**: 161–194.

Includes some Polynesian species.

1900a. Sur le genre Érythrosperme considéré comme type d'une famille nouvelle les Érythrospermacées. Jour. Bot. Morot **14**: 125–129.

Morphological; mentions the Polynesian species.

1900b. Sur les dicotylédones du groupe des Homoxylées. Jour. Bot. Morot **14**: 259–297, 330–361.

Includes data on various New Caledonia and Lord Howe Island species of *Drimys, Bubbia, Belliolum, Exospermum,* and *Zygogynum.*

1907. Sur les Inovulées. Ann. Sci. Nat. IX. Bot. **6**: 125–260.

Includes some Polynesian species of *Balanophoraceae.* For partial republication see Fedde. F., 1909b.

Tilden, J.

1901. Collection of algae from the Hawaiian islands. Hawaiian Annual (1902) **28:** 106–113.

A list with brief descriptions.

1902. Algae collecting in the Hawaiian islands. Postelsia 133–175. *pl. 14–18.*

A popular account.

1904. Algae collecting in the Hawaiian islands. Hawaiian Annual (1905) **31:** 131–145.

Narrative of a collecting tour with a list of common forms.

1910. Minnesota algae. Vol. 1: The Myxophyceae of North America and adjacent regions including Central America, Greenland, Bermuda, the West Indies and Hawaii. **1:** 1–328. *pl. 1–20.*

Includes various Hawaiian species.

1920. Bibliography of the literature relating to the Pacific Ocean algae and to the freshwater algae of countries bordering upon the Pacific Ocean. 1–58.

Bibliographic.

1921. The study of Pacific Ocean algae. Bishop Mus. Spec. Publ. **7:** 207–209. (Proc. First Pan-Pacific Sci. Conference).

An abstract; general.

1928. The distribution of marine algae, with special reference to the flora of the Pacific Ocean (A preliminary paper). Proc. Third Pan-Pacific Sci. Congr. Tokyo **1:** 946–953.

General.

1935. The Algae and their life relations i–xii, 1–550. *f. 1–257.*

Includes references to some Polynesian species.

Tongg, R. C. See **Kuck, L. E.,** and **Tongg, R. C.**

Tokida, J.

1941. On some little known marine algae of Japan. (II). Bot. & Zool. **9:** 49–56. *f. 1–2.*

Includes notes on *Bostrychia* from Palau.

Tokioka, T.

1942a. Systematic studies of the plankton organisms occurring in Iwayama Bay, Palao. I. Introductory notes, with some references to the surface water temperature and the settling volume of plankton in the bay. Palao Trop. Biol. Stat. Studies **2:** 507–519. *table 1–5. 1 f.*

1942b. [Comparison of planktons from some coral lagoons in Palao]. Kagaku Nanyō **4:** 177–191. *table 1–3. f. 1.*

In Japanese. Includes a list of species.

Toni, G. B. de

1889–1924. Sylloge Algarum omnium hucusque cognitarum. **1:** 1–12, i–cxxxix, 1–1315. 1889; **2**(1): i–cxxxii, 1–490. 1891; **2**(2): 491–817. 1892; **2**(3): 819–1426; **2**(4): 1–8, i–ccxiv, 1427–1556. 1894; **3:** i–xvi, 1–638. 1895; **4**(1): i–lxi, 1–386, [1–2.] 1897; **4**(2): 387–773, [1–2.] 1900; **4**(3): 775–1521, [1–3.] *Portr.* 1903; **4**(4): 1523–1973; **5:** [1, 2.] i–xi, 1–767. 1924.

Includes descriptions of all then-known species. For a continuation see his 1937-39 reference.

1931–32. Bibliographia algologica universalis, seu repertorium totius litteraturae phycologicae hucusque editae. i–ix, 1–436.

Covers authors Abbe to Bygrave, 686 in all, with 2,735 titles of papers on algology.

1937–39. Diagnoses algarum novarum post Sylloges editionem descriptarum. I. Myxophyceae. Centuria **I–II:** lvs. [1–8], 1–200. 1937; Cent. **III–V:** lvs. 201–500, (bibliog. & index) 1–44. 1938; Cent. **VI:** lvs. 501–600. 1939.

Includes *Lyngbya putealis* var. *Geitleri* from Samoa.
description is on a separate leaf, and each century is prepared for separate binding.

1939. Noterelle di nomenclatura algologica. IX. Quarto elenco di Missoficee omonime. Archivio Bot. **15:** 288–292.

Includes some Polynesian species; a continuation of **Toni, G. B.,** 1889-1924. Each

Tothill, J. D.

1928. Notes on the prickly Solanum. Agr. Jour. [Fiji] **1(3): 31–34.**

Concerns means of control of *S. torvum.*

1929. Notes on pasture plants in Fiji. Agr. Jour. [Fiji] **1(3): 12–15.** *1 table.*

Concerned with chemical analyses but has a list of species in the table.

Trécul, A.

1847. Mémoire sur la famille des Artocarpées. Ann. Sci. Nat. III. Bot. **8:** 38–157. t. 1–6.

Includes the few Polynesian species.

Trelease, W.

1884. Plants collected in Caroline Island by Dr. Dixon. Mem. Nat. Acad. Sci. [Washington] **2:** 88–90.

A list of species.

Trevisan, V. B. A.

1849. Caulerpearum sciagraphia. Linnaea **22:** 129–144.

Includes a few Polynesian species.

Triana, J.

1871. Les Melastomacées. Trans. Linn. Soc. **28:** 1–188. *pl. 1–7.*

Includes some Polynesian species.

See also **Planchon, J. E.,** and **Triana, J.**

Trinius, C. B.

1821. Agrostographische Beyträge. Sprengel Neue Entdeck. **2:** 33–94.

Includes *Pennisetum articulare* n. sp. from Nukuhiva.

1824. De graminibus unifloris et sesquifloris. Dissertatio botanica, sistens Theoriae constructionis fioris graminei epcrisin, terminologiae novae rationes, de methodo disquistiones, adjecta, generum ac specierum e tribu Uni- et Sesquiflororum plurium synopsi. 1–314. [1–7]. *pl. 1–5.*

Includes some Polynesian species.

1826. De graminibus paniceis. Dissertatio botanica altera. 1–289.

Includes some Polynesian species.

1828–36. Species graminum iconibus et descriptionibus illustravit. **1:** 1–248. *pl. 1–120.* 1828; **2:** 1–244. *pl. 121–240.* 1829; **3:** 1–244. *pl. 241–360.* 1836.

Includes some Polynesian species.

1830. Graminum genera quaedam speciesque complures definitionibus novis illustravit. Mém. Acad. Sci. St. Pétersb. VI. **1:** 54–93, 353–416. Reprinted in Presl, Repert. Bot. 202–256. 1834.

Includes a few Polynesian species.

1832. Andropogoneorum genera speciesque complures definitionibus novis illustravit. Mém. Acad. Sci. St. Pétersb. VI. **2:** 239–337. Reprinted in Presl, Repert. Bot. 275–312. 1834.

Includes some Polynesian species.

1834. Panicearum genera retractavit speciebusque compluribus illustravit. Mém. Acad. Sci. St. Pétersb. VI. 3(2): 89–355. *1 pl.* Reprint. 1–267.

Includes some Polynesian species.

1840. [Genera Graminum] IV Oryzea. Mém Acad. Sci. St. Pétersb. VI. 5(3): 167–188. Reprint 1–23.

Includes a few Polynesian species.

Truffaut, G.

1891. Les Aralias de serre chaude. Rev. Hort. **63**: 223–226. *f. 52–56.*

Includes notes on 15 species from New Caledonia, New Hebrides, and other South Sea Islands. English translation in Garden **39**: 565-566. 5 f.

Tryon, R. M., Jr.

1941. A revision of the genus Pteridium. Rhodora **43**: 1–31. *pl. 650–652. maps 1–3,* (II) *37–67. pl. 653. maps 4–11.* Reprinted without change of pagination in Contr. Gray Herb. **134**.

Includes references to some Polynesian forms.

1942. A revision of the genus Doryopteris. Contr. Gray Herb. **143**: 1–80. *pl. 1–8. maps 1–12.*

Includes the few Polynesian species.

Tseng, C. K.

1944. Notes on the algal genus Taenioma. Madroño **7**: 215–226. *pl. 25. f. 1.*

T. perpusillum recorded from Tongatabu, Fiji, and the Friendly Islands.

Tsiang, Y.

1934. Notes on the Asiatic Apocynales 2. Sunyat. **2**: 89–202. *pl. 21–35.*

Includes data on a few New Caledonian species.

Tuckerman, E.

1862. Lichens. Rep. Wilkes U. S. Explor. Exped. **17**: 113–152. *pl. 1–2.*

Includes the Polynesian species.

1867. Lichenes: in Mann, H., Enumeration of Hawaiian plants. Proc. Am. Acad. Arts. Sci. **7**: 223–235.

A list with new species.

Tulasne, L. R.

1851. Antidesmata et Stilaginellas, novum plantarum genus, recenset nonnullaque de eis affinibus. Ann. Sci. Nat. III. Bot. **15**: 180–266.

Includes a few Polynesian species.

Turbet, C. R.

1929. Lantana crocea. Agr. Jour. [Fiji] **2**: 34–35.

A correction of the identity of this species formerly called *L. camara.*

1931. Lantana poisoning of cattle in Fiji. Agr. Jour. [Fiji] **4**: 24–29.

Lantana crocea is identified as the cause of the trouble.

Turczaninow, N.

1863. Verbernaceae et Myoporaceae nonnullae hucusque indescriptae. Bull. Soc. Nat. Moscou **36**(2): 193–227.

Includes the original description of *Verbena nudiflora* from Hawaii.

Turrill, W. B.

1915a. Pareugenia Imthurnii, Turrill. Hook. Ic. **31**: *pl. 3004.*

Native of Fiji.

1915b. Kermadecia vitiensis Turrill. Hook. Ic. **31**: *pl. 3022.*

Native of Fiji.

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1915c. A contribution to the flora of Fiji. Jour. Linn. Soc. Bot. **43:** 15–39.

An enumeration with descriptions of new species.

1916. Geissois Imthurnii Turrill. Hook. Ic. **31:** *pl. 3053.*

Native of Fiji.

1924. Macaranga from Fiji. Kew Bull. **1924:** 393.

***M. magna* Turrill, a new name for *M. grandifolia* Turrill, non Merrill.**

Tuyama, T.

1938a. Neue Triuridaceae Micronesiens. Bot. Mag. (Tokyo) **52:** *61–65. f. 1–4.*

***Andruris palawensis* n. sp. from Palau Island.**

1938b. Plants of Marcus Island. Jour. Jap. Bot. **14:** 425–426, (Suppl.) 554.

A list of 15 species; Japanese text.

1938c. Hetaeria Raymundi Schlechter: in Nakai, T., Ic. Pl. As. Orient. **2:** 177–178. *pl. 66.*

Native of Palau Island.

1939a. Crinum octobris Nakai et Tuyama: in Nakai, T., Ic. Pl. As. Orient. **3:** 207–208. *pl. 77. (1–2).*

Perhaps from Micronesia, the description based on a living plant cultivated in Tokyo "from one of the south sea islands."

1939b. On Santalum boninense, and the distribution of the species of Santalum. Jour. Jap. Bot. **15:** 697–712. *f. 1–3. 1 map.*

The recognized species are tabulated, with the geographic distribution of each noted; Japanese text.

1939–41. Orchidaceae novae Micronesicae. Bot. Mag. (Tokyo) **54:** 52–59. *f. 1–5.* 1939; (II) **54:** 261–272. *pl. 2 f. 6,* (III) 273– 280. *pl. 3, f. 7,* (Japanese summary) 282–292, (IV) 295–298. *f. 8–9,* (Japanese summary) 319–321. 1940; (V) Jour. Jap. Bot. **17:** 505–523. *f. 10–13.* 1941.

Includes descriptions of many new species in various genera from various parts of Micronesia, with notes on others.

1940a. Fragmenta florae Micronesiacae (I). Jour. Jap. Bot. **16:** 194–205. *f. 1–3.*

An enumeration with descriptions of some new species.

1940b. Gymnosiphon Okamotoi Tuyama: in Nakai, T., Ic. Pl. As. Orient. **3:** 327–239. *pl. 87.*

Description of this new species from Palau Island.

1940c. On genus Haloragis and Micronesian species. Jour. Jap. Bot. **16:** 273–285. *f. 1–6.*

***H. palauensis* n. sp. from Palau Islands and *H. chinensis* var. *yapensis* n. var. from Yap described.**

1940d. [Notes on plants from the South Seas]. Jour. Jap. Bot. **16:** 630–632.

Japanese text and title. *Spathiphyllum funereum* Tuyama (1940) is reduced to *S. micronesicum* Hatusima (1939), and *Vanilla ponapensis* Kaneh. and Yamamoto becomes *Galeola ponapensis* Tuyama. Numerous other Micronesian species are mentioned.

1941a. Nomina vernacula in insula Palau (Pelew), Caroline, Micronesia. (I) Kagaku Nanyō **3:** 135–151. *fig. a–k;* (II) **4:** 15–34. *pl. 1–3;* (III) 97–107.

In Japanese. Includes a table of Japanese, Latin, and vernacular names.

1941b. [Vernacular and Japanese names of Palmae in Palau Islands.] Journ. Jap. Bot. **17:** 320–324.

In Japanese, with Latin and vernacular names.

1941c. [An abnormal form of an orchid]. Journ. Jap. Bot. **17:** 429. *1 f.*

Notes on specimen of *Dendrobium* with spurless flowers found in Truk; Japanese text.

1941d. Orchidaceae novae Micronesiacae. (V) Journ. Jap. Bot. **17:** 505–523. *f. 10–13.*

Includes many new species, with a summary in Japanese.

1942a. [Miscellaneous notes on Japanese Digitaria.] Journ. Jap. Bot. **18:** 6–21.

Critical notes in Japanese. Includes notes on Micronesian species.

1942b. [A plant naturalized in Micronesia]. Journ. Jap. Bot. **18:** 90.

A note on *Oxalis bahiensis*.

1943. On Rumphius' "Arbor ovigera" and the related species, with reference to Hernandia sonora. Sigen-Kagaku-Kenkyusho Hōkoku **1:** 27–44. *f. 1–4. pl. 1–2.*

Critical notes in Japanese and a summary in English, with *Hernandia labyrinthica* n. sp. described from Rota, Marianas Islands.

1944. On Luisia teretifolia Guadichaud. Act. Phytotax. Geobot. **13:** 282–285. *1 f.*

A detailed description based on a living specimen from Rota.

U

Uittien, H.

1936. Studies in the Cyperaceae-Mapanieae I-V. Rec. Trav. Bot. Néerl. **33:** 133–155. *f. 1–3.* Reprinted in Meded. Bot. Mus. Rijksuniv. Utrecht **26:** 1936; same pagination.

Includes a revision of *Thoracostachyum*, pp. 133-140, crediting *T. pandanophyllum* to the Palau Islands.

Underwood, L. M.

1893. Index Hepaticarum. Part 1—Bibliography. Mem. Torr. Bot. Club **4:** 1–91.

Includes papers on Polynesia.

1898. American Ferns, I. The ternate species of Botrychium. Bull. Torr. Bot. Club **25:** 521–541.

Includes *B. daucifolium* from the Society Islands and Samoa.

1905. The genus Alcicornium of Gaudichaud. Bull. Torr. Bot. Club **32:** 587–596.

Includes *A. bifurcatum* from New Caledonia and Lord Howe Island.

1906. The genus Stenochlaena. Bull. Torr. Bot. Club **33:** 35–50. *f. 1–10.*

Includes *S. milnei* n. sp. from Polynesia.

1907. American ferns, VIII. A preliminary review of North American Gleicheniaceae. Bull. Torr. Bot. Club **34:** 243–262. *f. 1–10.*

A key to the genera includes *Stromatopteris*, a native of New Caledonia.

Unruh, M.

1943. Monographie der Gattung Leucosyke Zoll. & Mor. Bot. Jahrb. **73:** 191–258. *pl. 23–25. f. 1–10.*

Monographic; includes the Polynesian species.

Uphof, J. C. T.

1942. A review of the species of Crinum. Herbertia **9:** 63–84.

A systematic treatment, without keys.

Urban, I.

1896. Ueber einige Ternstroemiaceen-Gattungen. Ber. Deutsch. Bot. Ges. **14:** 38–51.

Includes *Ternstroemiopsis* n. gen. based on *Eurya sandwicensis* of Hawaii.

Utinomi, H.

1942. [Algae perforating the calcareous substance]. Kagaku Nanyō **5**: 123–128. *1 table. f. 1–5.*

A general account in Japanese.

1945. Bibliographia Micronesica scientiae naturalis et cultus. i–iii. 1–3. 1–208.

Botany, pp. 1-21.

V

Vahl, M.

1790. Om slaegten Cinchona og dens arter. Skrivt. Naturh.-Selsk. **1**(1): 1–25. *pl. 1–4.*

Includes *Cinchona corymbifera* from Tongatabu; see Lambert, A. B., 1797, for republication of this item.

1790–94. Symbolae botanicae, sive plantarum tam earum, quas in itinere, imprimis orientali collegit Petrus Forskål, quam aliarum recentibus detectarum, exactiores descriptiones nec non observationes circa quasdam plantas dudum cognitas. **1:** [1–4], 1–108. *pl. 1–50.* 1790; **2:** 1–106. *pl. 51–75.* 1794.

Includes a few Polynesian species.

1805–06. Enumeratio plantarum vel ab iliis, vel ab ipso observatarum, cum earum differentiis specificis, synonymis selectis et descriptionibus succinctis. **1:** i–lx, 1–381. 1805; **2:** i–viii, 1–423. 1806.

Includes some Polynesian species.

1810. Tilloeg til afhandlingen om slaegten Cinchona i Selskabets Skrivters forste deels lste hefte. Skrivt. Naturh-Selsk. **6:** 23–83.

Includes *Cinchona corymbifera,* native of Tongatabu. See also Lambert, A. B., 1797.

Vainio, E. A. (Wainio, E. A.)

1887–97. Monographia Cladoniarum universalis. Acta Soc. Fauna Fl. Fenn. **4:** 1–509. 1887; **10:** 1–498. 1894; **14:** 1–268. 1897.

Monographic.

1921–23. Lichenes insularum Philippinarum III. Ann. Acad. Sci. Fenn. A **15**(6): 1–368. 1921; (IV) **19**(35): 1–84. 1923.

Includes some species from the Marianas Islands.

1924. Lichens a W. A. Setchell et H. E. Parks in insula Tahiti a 1922 collecti. Univ. Calif. Publ. Bot. **12:** 1–15.

An enumeration with descriptions of new species.

1929. Neu-Caledonische Flechten: in Daniker, A. U., Ergebnisse der Reise nach Neu-Caledonien. Viert. Naturf. Ges. Zürich **74:** 50–52. Reprinted in Mitt. Bot. Mus. Univ. Zürich **130:** 50–52.

***Usnea spinosissima Sticta ignambensis,* and *Lecidea epiochracea* n. spp.**

Valeton, T.

1886. Critisch Overzicht der Olacineae B. et H. [1–2], 1–280. *pl. 1–6.*

Includes a few Polynesian species.

1902. Einige Notizen über neue und schon bekannte Arten der Gattung Geniostoma. Bull. Inst. Bot. Buitenzorg **12:** 1–28. *pl. 1.*

Includes *G. rupestre* from Samoa.

1914a. Die Nyctaginaceae Papuasiens. Bot. Jahrb. **52:** 101–103.

Includes some Polynesian species.

1914b. Rubiacées de l'herbier du Muséum. Not. Syst. **3:** 53–55.

Includes *Tarenna tahitensis* n. sp. from Tahiti.

1930. Die Rubiaceen von Mikronesien. Bot. Jahrb. **63**: 288–323.

An enumeration, with keys and descriptions of many new species.

Van Houtte, L. See **Houtte, L. van**

Van Heurck, H. See **Heurck, H. van**

Van Ooststroom, S. J. See **Ooststroom, S. J. van**

Van Zwaluwenberg, R. H. See **Zwaluwenburg, R. H. van**

Vatke, W.

1874. Notulae in Campanulaceas herbarii regii berolinensis. Linnaea **38**: 699–735.

Includes some references to Hawaiian species.

1876. Descriptiones specierum novarum. Linnaea **40**: 221–224.

Includes *Cyrtandra hillebrandii* n. sp. from Hawaii. This short paper is appended to Vatke's enumeration of Schimper's Abyssinian plants.

Vaupel, F.

1908. Samoanische Farne. Verh. Bot. Ver. Brandenb. **50**: lxxiii–lxxv.

Brief general notes.

1910. Die Vegetation der Samoa-Insel. Vortrag mit einer grösseren Anzahl nach Originalaufnahmen hergestellter Lichtbilder, von denen 6 auf Taf. I–III wiedergegeben sind. Bot. Jahrb. **44**: Beibl. **102**: 47–58. *pl. 1–3.* Reprinted in Ber. Zusammenk. Freien Ver. Pflanzengeogr. Syst. Bot. 47–58. *pl. 1–3.* 1910.

General notes on the vegetation.

Veitch, J. G.

1866. Extracts from the journal of Mr. J. G. Veitch during a trip to the Australian Colonies and the South Sea Islands. Gard. Chron. **1866**: 172, 195, 220, 243, 267, 291.

Includes observations on the vegetation of Samoa, Tonga, Fiji, and other island groups.

1875. The undetermined splendid novelties. Gard. Chron. II. **4**: 159.

Includes descriptions of *Aralia elegantissima* and *Artocarpus laciniata* from the "South Sea Islands", in the advertising pages.

Ventenat, E. P.

1803–05. Jardin de la Malmaison. **1**: *pl. 1–60.* 1803–04; **2**: *pl. 61–120.* 1804–05.

Contains descriptions of a few Polynesian species; the plates accompanied by unpaged letterpress.

Verdoorn, F.

1928. Kritische Bemerkungen über ostasiatische und ozeanische Frullania-Arten aus dem subgenus Homotropantha (De Frullaniaceis III). Rev. Bryol. II. **1**: 109–122. *f. 1–11.*

A key to the species of the subgenus *Homotropantha.*

1930a. Die Frullaniaceae der Indomalesichen Inseln (De Frullaniaceis VII). Ann. Bryol. Suppl. **1**: 1–187. *f. 1–304.*

An enumeration, including various Polynesian species.

1930b. Revision der von Ozeanien angeführten Frullaniaceae (De Frullaniaceis VIII). Nederl. Kruidk. Arch. **1930**: 155–175.

Includes some Polynesian species.

1934a. Studien über Asiatische Jubuleae (De Frullaniaceis XV–XVII). Mit einer Einleitung Bryologie und Hepaticologie ihre Methodik und Zukunft. i–xii, 1–231. *f. 1–32. frontisp.*

Includes various Polynesian species.

1934b. Revision der von Ozeanien, Australien und Neuseeland angeführten Lejeuneaceae Holostipae (de Frullaniaceis XIV). Blumea **1**: 216–240.

Fifty-nine species recognized including various Polynesian forms; many reductions.

1937. On some new collections of Asiatic and Oceanic Jubuleae (De Frullaniaceis XVIII). Blumea Suppl. 1: 210–213.

A list of 40 species, with notes, 17 from Polynesia, none of the latter new. See also **Skottsberg, C.,** 1945b.

Verlot, B.

1855. L'Araucaria excelsa du jardin botanique d'Orléans. Rev. Hort. IV. **4**: 215–217.

Introduced from Norfolk Island.

Verona, O.

1931. Nuovi Micromiceti su Pandanacee. Nuovo Giorn. Bot. Ital. II. **38**: 534–537. *f. 1–3.*

Includes *Phoma pandani* n. sp. and *Macrophoma pandani* from the Marquesas Islands.

Vesque, J.

1889. Epharmosis, sive materiae ad instruendam anatomiam systematis naturalis. Pars secunda. Genitalia foliaque Garcinearium et Calophyllearum. 1–30. *pl. 1–162. 2 charts.*

Includes some Polynesian species.

1893. Guttiferae. DC. Monog. Phan. **8**: 1–669.

Monographic.

1895. Revision du genre Eurya. Bull. Soc. Bot. France **42**: 151–161.

Includes a key to the accepted species.

Vickery, J. W.

1937. Two new species and one new variety of Drimys Forst., with notes on the species of Drimys and Bubbia Van Tiegh. of south-eastern Australia and Lord Howe Island. Proc. Linn. Soc. N.S.W. **62**: 78–84. *pl. 5. f. 1–2.*

Includes *Bubbia howeana* from Lord Howe Island.

Vieillard, E.

1862a. Plantes utiles de la Nouvelle-Calédonie. Ann. Sci. Nat. IV. Bot. **16**: 28–76. Reprint 1–49.

Twenty-one species described.

1862b. Études sur le genre Oxera et Deplanchea. Bull. Soc. Linn. Normandie **7**: 88–97. Reprint 1–11.

Eleven species described.

Vieillard, E., and Deplanche, E.

1862–63. Essais sur la Nouvelle-Calédonie. Rev. Marit. Colon. **6**: 52–85, 203–235, 475–498, 615–656. 1862; **7**: 81–100. 1863. Reprint 1–150.

A general account, including data on economic plants.

Vieillard, E.

1865a. Plantes de la Nouvelle-Calédonie. Bull. Soc. Linn. Normandie **9**: 332–348.

See next entry.

1865b. Notes sur quelques plantes de la Nouvelle-Calédonie. Bull. Soc. Linn. Normandie **9**: 392–394.

In this and the preceding paper, 21 new species are described. Reprinted together under the former title 1-21. 1865.

1866. Notes sur quelques plantes intéressantes de la Nouvelle-Calédonie. Bull. Soc. Linn. Normandie **10**: 92–112. Reprint 1–23.

About 20 new species described.

1873. Étude sur les palmiers de la Nouvelle-Calédonie. Bull. Soc. Linn. Normandie II **6**: 226–232. Reprint 1–9.

Considers the genera *Kentia, Chambeyronia,* and *Basselinia.*

Viguier, R.

1905a. Sur les Araliacées du groupe des Polyscias. Bull. Soc. Bot. France **52**: 285–314.

Includes a key, many new species from New Caledonia, and *Bonnierella* n. gen. from Tahiti.

1905b. Note sur le genre Dizygotheca. Jour. Bot. Morot **19**: 21–27.

D. plerandroides n. sp. from New Caledonia, the diagnosis reprinted in Repert. Nov. Sp. **3**: 336. 1907.

1906. Recherches anatomiques sur la classification des Araliacées. Ann. Sci. Nat. IX. Bot. **4**: 1–210.

Includes many New Caledonian species, some new. For partial republication see **Fedde, F.,** 1908c.

1909. Nouvelles recherches sur les Araliacées. Ann. Sci. Nat. IX. Bot. **9**: 305–405.

Includes some Polynesian species.

1912. Les Epacridacées de la Nouvelle-Calédonie. Assoc. Franç. Avanc. Sci. Dijon **40**: Notes et Mém. **1**: 433–447.

Largely anatomical, includes keys to the species of *Dracophyllum* and *Leucopogon.*

Viguier, R., and **Guillaumin, A.**

1912. Les formes de jeunesse des Araliacées de Nouvelle-Calédonie. Not. Syst. **2**: 255–262.

General notes on various species.

Viguier, R.

1925. Contributions a l'étude de la flore de la Nouvelle-Calédonie. Araliacées. Jour. Bot. Morot **23**: 38–104.

A general revision with keys and descriptions. This concluding number of the "Journal de Botanique" was printed in 1914 but because of Morot's death was not distributed until June 1925.

See **M. L. Green,** Kew Bull. **1928**: 155-156. 1928.

1930. La végetation de Tahiti. Archiv. Bot. Viguier **4**: Bull. 85–92.

General notes compiled from **Setchell, W. A.,** 1922b.

Vilmorin, [J. M.] P. L. de

1905. Hortus Vilmorinianus. Catalogue des plantes ligneuses et herbacées existant en 1905 dans les collections de M. Ph. L. de Vilmorin et dans les cultures de M. M. Vilmorin-Andrieux et C^{ie}, á Verrières-le-Buisson. Bull. Soc. Bot. France **51**: Append. i–xii, 1–371. *pl. 1–28. f. 1–105.* Reprint 1906.

Includes at least one species from Hawaii—*Fragaria sandwicensis.*

Virey, J. J.

1843. Remarques sur la flore économique des îles Marquises et de la Société. Jour. Pharm. Chim. Paris III. **4**: 298–301.

Not seen.

Virot, R.

1939. Equisse phytogéographique Néo-Calédonienne. Étud. Melanés. **1**: 25–29.

A brief summary.

Vogel, T.

1836. Leguminosae, adjectis quas cl. Ehrenberg in Hispaniola collegit. De plantis expeditione speculatoria Romanzoffiana. Linnaea **10**: 582–603.

Includes some Hawaiian species.

1843. Leguminosae: in Meyen, Observationes botanicas . . . Nov. Act. Acad. Leop.-Carol. Nat. Cur. **19**: Suppl. **1**: 1–46.

Includes some Polynesian species.

Volkens, G.

1901a. Einige Ergebnisse einer Reise nach den Karolinen und Marianen. Verh. XIII Deutsch. Geographentag. 167-179.

Includes notes on vegetation.

1901b. Ueber die Karolinen-Insel Yap. Verh. Ges. Erdk. Berlin **28**: 62–76. *pl. 1.*

General including notes on vegetation.

1901c. Die Vegetation der Karolinen, mit besonderer Berücksichtigung der von Yap. Bot. Jahrb. **31**: 412–477. *pl. 11–14.*

A general consideration with an enumeration of the species, some new.

1901d. Skizzen von einer Reise nach den Karolinen und Marianen. Gartenfl. **50**: 453–463.

Includes notes on vegetation. See also Verh. Bot. Ver. Brandenb. **42**: xx-xxi, 1901 [Ueberblick . . . seiner Reise . . .].

1903. Die Flora der Marshallinseln. Notizbl. Bot. Gart. Berlin **4**: 83–91.

A list with a few notes, no new species.

1904. [Die Vegetation der Marianen im Stillen Ozean]. Allg. Bot. Zeitschr. **1904**: 61.

Abstract of an address given before the Botanischer Verein der Provinz Brandenburg.

1914. Beiträge zur Flora von Mikronesien. Bot. Jahrb. **52**: 1–18.

An enumeration with descriptions of new species; Palmae by Beccari, Orchidaceae by Schlechter, Balanophoraceae by Schlechter, Selaginella by Hieronymus. See **Diels,** 1921-31, for parts II, III, and IV.

Voronov, G. N.

1937. [The family Cunoniaceae and its possible importance for tanning purposes.] Bull. Appl. Bot. Pl. Breed. I. **2**: 3–16.

In Russian with a brief English résumé; includes data on the distribution of the family in Polynesia.

Vos, A. de

1875–83. Enumération méthodique des plantes nouvelles ou intéressantes qui ont été signalées en 1874. Belg. Hort. **25**: 29–62, 89–112. 1875; (. . . en 1875) **26**: 88–104, 116–131, 147–160. 1876; (. . . en 1876) **27**: 127–181. 1877; (. . . en 1877) **28**: 75–139. 1878; (. . . en 1878) **29**: 101–135, 136–158. 1879; (. . . en 1879) **30**; 98–160. 1880; (. . . en 1880) **31**: 211–269. 1881; (. . . en 1881) **32**: 315–381. 1882. (. . . en 1882) **33**: 319–385. 1883.

Includes brief descriptions with notes on some Polynesian species.

Vouaux, L.

1910. Descriptions de quelques espèces de champignons. Bull. Soc. Myc. France **26**: 153–157.

Includes five new species from New Caledonia.

Vriese, W. H. de

1849–50. Analecta Goodenoviearum. Nederl. Kruidk. Arch. **2**: 1–32, 137–171, 1849–50. Reprint 1–67. 1850.

Includes the few known Polynesian species. Pp. 1-32 (1849); 137-171 (1850).

Vriese, W. H. de, and **Harting, P.**

1853. Monographie des Marattiacées, d'aprés les collections du Musée impérial de Vienne et celui de Paris, de Sir William Jackson Hooker, de M.

François Delessert, de M. le Dr. F. Junghuhn de quelques principaux Jardins de l'Europe et celui de Buitenzorg à l'île de Java. i–viii, 1–60. *pl. 1–9.*

Includes some Polynesian species.

Vriese, W. H. de

1854. Goodenovieae ad auctoritatem Musei Caesarei Vindobonensis, Parisiensis, illustr. Roberti Brownei, Guil. J. Hookeri, Joan. Lindleji, Franc. Lessertii, Lud. Preissii, Ferd. Lud. Splitgerberi, aliorumque. Nat. Verh. Holl. Maatsch. Wetensch. II **10:** i–viii, 1–194. *pl. 1–38.*

Includes the Polynesian species.

W

W.

1885. Kentia. Sempervirens **14:** 17–19. *2 f.*

Includes the illustrations of *K. robusta* and *K. luciani* and notes on some other natives of New Caledonia.

Wagner, R.

1914. Morphologische Bemerkungen über Pelagodendron vitiense Seem. Ann. Naturhist. Hofmus. Wien **28:** 40–47. *f. 1–5.*

Native of Fiji.

Wagner, W. H., Jr.

1945. Ferns on Pacific island coconut trees. Am. Fern Jour. **35:** 74–76.

About 20 species listed.

Wainio, E. A. See **Vainio, E. A.**

Wakefield, E. M., Massee, G. and **Cotton, A. D.**

1916. Neucaledonische Pilze. Viert. Naturf. Ges. Zürich **61:** 628–631. Reprinted in Mitt. Bot. Mus. Univ. Zürich **76:** 628–631.

Ten new species described.

Wakefield, E. M.

1920. Fungi of New Caledonia and the Loyalty Islands: in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1:** 87–108.

An enumeration with descriptions of new species.

1922. Fungi [of New Caledonia]. Jour. Linn. Soc. Bot. **46:** 88–93.

An enumeration, including *Clavaria flabellata* and *Encoelia neocaledonica* n. spp.

1931. Fungi exotici. XXVII. Kew Bull. **1931:** 201–206.

Includes *Cercospora didymochitonis* n. sp. from Fiji.

Waldgrave, W.

1833. Extracts from a private journal kept on board of H.M.S. Seringapatam in the Pacific, 1830. Jour. Roy. Geogr. Soc. **3:** 168–196.

Includes data on the floras of Tongatabu, Tahiti, and the Marquesas Islands.

Waldron, G. C.

1927. The pink disease of pineapple fruits. Bishop Mus. Spec. Publ. **12:** 25–26.

A brief abstract.

Walker, E. H.

1945. Natural history in the armed forces; a résumé of some recent literature, mostly botanical, of interest to servicemen. Sci. Monthly **61:** 307–312.

Concerned mostly with the western Pacific; bibliography.

Walker-Arnott, G. A. See **Hooker, W. J.,** and **Walker-Arnott, G. A.**

Wallace, A. R.

1880. Island life, or the phenomena and causes of insular faunas and floras, including a revision and attempted solution of the problem of geological climates. i-xvii, 1–526. *1 map.* 1880; ed. 2, i-xx, 1–563. *illus.* 1892.

Pertains in part to Polynesia.

Walpers, W. G.

1842–47. Repertorium botanices systematicae. **1:** i-iv, 1–947. 1842; **2:** i-viii, 1–1029. 1843; **3:** i-xii, 1–002. 1844–45; **4:** i-viii, 1821. 1844–48; **5:** i-viii, 1–982. 1845–46; **6:** i-viii, 1–834, 1846–47.

Includes redescriptions of various Polynesian species.

1843a. Cruciferas, Capparideas, Calycereas et Compositas quas Meyenius in orbis circumnavigatione collegit, enumerat novasque describit: in Meyen, F. J. F., Observationes botanicas . . . Nova Acta Acad. Leop.-Carol. Nat. Cur. **19:** Suppl. **1:** 247–296.

Includes the description of a few Hawaiian species.

1843b. Dicotyledoneae Thalamiflorae: in Meyen, F. J. F., *op. cit.* 297–424.

Includes some Polynesian species.

1848–71. Annales botanices systematicae. **1:** i-vi, 1–1127. 1848–49; **2:** 1–1125. 1851–52; **3:** 1–1168. 1852–53; **4:** i-viii, 1–959. 1857–58; **5:** i-xiii, 1–966. 1858; **6:** i-viii, 1–1309. 1861–65; **7:** i-viii, 1–960. 1868–71.

A continuation of Walpers 1842–47

Walter, H.

1909. Phytolaccaceae. Pflanzenr. **39**(IV. 83) : 1–154. *f. 1–42.*

Monographic.

Wangerin, W.

1910. Alangiaceae. Pflanzenr. **41**(IV. 220b) : 1–25 *f. 1–6.*

Monographic.

Warburg, O.

1896. Ueber Verbreitung, Systematik, und Verwerthung der polynesischen Steinnuss-Palmen. Ber. Deutsch. Bot. Ges. **14:** 133–144. *pl. 10.*

Includes *Coelococcus carolinensis* Dingl. of the Caroline Islands = *C. amicarum* (Wendl.) Warb.

1897. Monographie der Myristicaceen. Nova Acta Acad. Leop.-Carol. Nat. Cur. **68:** 1–680. *pl. 1–25.*

Includes some Polynesian species.

1899–1900. Monsunia. Beiträge zur Kenntniss der Vegetation des Süd- und Ostasiatischen Monsungebietes. **1:** i–viii. 1–207. *pl. 1–11.*

Includes a list of the Asiatic, Australian, and Polynesian species of *Lycopodium* (pp. 98-99) and scattered references to Polynesian species of plants in other genera.

1900. Pandanaceae. Pflanzenr. **3**(IV. 9) : 1–97. *f. 1–22.*

Monographic.

1902. Nüsse von Parinarium Hahlii Warb. Tropenpfl. **6:** 370–371.

Here described as a new species from Ponape, from detached fruits only. See **Kanehira, R.,** 1940.

1905. Neu-Caledonische Ficus-Arten. Repert. Nov. Sp. **1:** 78–82.

Eight new species described.

1921. Moraceae: in Sarasin, F. & Roux, J., Nova Caledonia Bot. **1:** 245–246.

Includes *Ficus mareënsis* n. sp.

Warnstorf, C.

1891. Beiträge zur Kenntnis exotischer Sphagna. Hedwigia **30**: 127–178. *pl. 14–24.*

Includes *S. vitjianum* Schimp. n. sp. from Fiji.

1895. Beiträge zur Kenntnis exotischer Sphagna. Allg. Bot. Zeitschr. **1**: 115–117.

Includes *Sphagnum recurviforme* n. sp. from Fiji.

1900. Weitere Beiträge zur Kenntniss der Torfmoose. Bot. Centralbl. **82**: 7–14. 39–45, 65–76.

Includes *Sphagnum vulcanicum* n. sp. from Hawaii and notes on a few other Polynesian species.

1911. Sphagnales. Sphagnologia universalis. Pflanzenr. **51**: i–iv, 1–546. *f. 1–85.*

Monographic.

Wasscher, J.

1941. The genus Podocarpus in the Netherlands Indies. Blumea **4**: 359–481. *pl. 4, 5. f. 1–4.*

Includes *P. vitiensis* of Fiji extending to the Bismarck Archipelago and New Guinea.

Watanabe, K.

1941. [A geobotanical opinion on Micronesia.] Hakubut. Zassi **38**: 70–82.

In Japanese.

Watson, W.

1883. The palm, Veitchia Joannis. Gard. Chron. II. **20**: 276.

A general note on this native of Fiji and the New Hebrides.

1884–93. Garden palms. Gard. Chron. II. **22**: 426–427. 1884; **24**: 362, 586–587, 748–750. 1885; **25**: 12–13, 75. 1886; **26**: 652–653. *f. 128–129.* 1886; III. **13**: 332. 1893.

Includes some Polynesian species; for abstracts in French see **André, E.,** 1885-87.

1888. Oxera pulchella. Garden **33**: 510–511. *1 pl.*

A colored plate of this native of New Caledonia, with a brief description.

1890. Kentia Forsteriana. Garden **38**: 197. *1 f.*

Native of Lord Howe Island.

1891a. The wedding flower (with a colored plate of Iris Robinsoniana). Garden **40**: 312–313. *pl. 825.*

Native of Lord Howe Island. German translation in Gartenfl. **40**: 642.

1891b. The genus Cycas. Gard. & For. **4**: 113–114. *f. 22.*

Includes *C. undulata,* native of Fiji.

1891c. Iris Robinsoniana. Gard. & For. **4**: 352. *f. 60.*

Native of Lord Howe Island.

Watt, G.

1907. The wild and cultivated cotton plants of the world. A revision of the genus Gossypium framed primarily with the object of aiding planters and investigators who may contemplate the systematic improvement of the cotton staple. i–xiv, 1–406. *f. 1–53.*

Includes a description, illustration, and remarks on *Gossypium taitense* of Polynesia.

Watts, W. W.

1912. The ferns of Lord Howe Island. Proc. Linn. Soc. N. S. W. **37**: 395–403.

Includes *Polystichum kingii* n. sp. and a new variety of *Asplenium bulbiferum.*

1914. Additional notes on the ferns of Lord Howe Island. Proc. Linn. Soc. N. S. W. **39**: 257–262.

Includes *Polystichum whiteleggei* n. sp.

1915. Two Lord Howe Island Polypodia. Jour. Roy. Soc. N. S. W. **49:** 385–388.
Polypodium pulchellum and *P. howeanum* n. spp.

See also **Brotherus, V. F.,** and **Watts, W. W.**

Wawra, H.

1872–73. Skizzen von der Erdumseglung S. M. Fregatte "Donau" (die Hawaiischen Iseln). Oester. Bot. Zeitschr. **22:** 222-227, 259–265, 297–302, 332–335, 362–368, 397–405. 1872; **23:** 23–29, 60–64, 94–99. 1873.
General notes.

1872–75. Beitrag zur Flora der Hawai'schen Iseln. Flora **55:** 513–517, 529–533, 554–560, 562–569. 1872; **56:** 7–11, 30–32, 44–48, 58–63, 76–80, 107–111, 137–142, 157–160, 168–176. 1873; **57:** 257–265, 273–278, 294–300, 321–331, 362–368, 521–527, 540–543, 545–549, 562–569. 1874; **58:** 145–150, 171–176, 184–192, 225–232, 241–252, 285–288, 416–428, 433–440. 1875.
An enumeration with the descriptions of numerous new species.

1883. Itinera principum S. Coburgi. Die botanische Ausbeute von der Reisen Ihrer Hoheiten der Prinzen von Sachsen-Coburg-Gotha. I. Reise der Prinzen Philipp und August um die Welt (1872–1873). II. Reise der Prinzen August und Ferdinand nach Brasilien (1879). **1:** I-xviii, 1–182. *pl. 1–39.*
Includes *Acacia koa* and *Pittosporum cauliflorum* from Hawaii. For the second volume of this work see **Beck, G. von,** 1888a.

Webb, O.

1896. Le Graptophyllum picturatum Hort. Bull. Rev. Hort. Belge **22:** 157. *1 pl.*
Probably from the "South Sea Islands" but not necessarily from Polynesia.

Weber, F.

1915. Historiae muscorum hepaticorum prodromus. 1–160.
Includes some Polynesian species.

Weber van Bosse, A.

1898. Monographie des Caulerpes. Ann. Jard. Bot. Buitenzorg **15:** 243–401. *pl. 20–34.*
Includes some Polynesian species of *Caulerpa.*

Weber van Bosse, A., and Foslie, M.

1904. The Corallinaceae of the *Siboga* Expedition. Siboga Exped. **61:** 1–110. *pl. 1–16.*
Includes some Polynesian species.

Weber van Bosse, A.

1910. Note sur les Caulerpa de l'île Taiti et sur un nouveau Caulerpa de la Nouvelle-Hollande. Ann. Inst. Oceanogr. **2:** 1–8. *pl. 1–2. f. 1–5.*
Lists some species from Tahiti.

1932. Algues: in Resultats scientifiques du voyage aux Indes Orientales Néerlandaises de L. L. A. A. R. R. le Prince et la Princesse Léopold de Belgique. **6**(1): Algues. 1-27. *pl. 1–5.*
Includes a description of *Ostreobium okamurai* n. sp., native of Caroline and Marianas Islands.

Weddell, H. A.

1854. Revue de la famille des Urticées. Ann. Sci. Nat. IV. Bot. **1:** 173–212.
Includes the Polynesian species.

1856–57. Monographie de la famille des Urticées. Nouv. Arch. Mus. Hist. Nat. Paris **9**: 1–592. *pl. 1–20.*

Includes the Polynesian species.

1869. Urticaceae. DC. Prodr. **16**(1): 32–235[64].

Monographic.

Wegener, G.

1903. Deutschland im Stillen Ozean; Samoa, Karolinen, Marshell-Inseln, Marianen, Kaiser-Wilhelms-Land, Bismarck-Archipel und Salomo-Inseln: in Scovel, A., Land und Leute; Monographien zur Erdkunde. XV. 1–156. *1 folded map. f. 1–140.*

Includes notes on the vegetation.

Weller, D. M. See **Lee, H. A., Martin, J. P., Purdy, H. A., Barnum, C. C., Weller, D. M.,** and **Jennings, W. C.,** and **Martin, J. P., Carpenter, C. W.,** and **Weller, D. M.**

Wendland, H.

1862. Beiträge zur Palmenflora der Südseeinseln. Bonplandia **10**: 190–200.

An enumeration with description of new species.

Wendland, H., and Drude, O.

1875. Palmae Australasicae. Praecedit dissertatio de Arecinarum generibus gerontogeis. Linnaea **39**: 153–237. pl. 1–4.

Includes some Polynesian species.

Wendland, H.

1878. Beiträge zur Kenntniss der Palmen. Bot. Zeit. **36**: 113–118.

Includes *Sagus amicarum* n. sp. from Polynesia.

Wentworth, C. K.

1925. The desert strip of West Molokai. Univ. Iowa Studies Nat. Hist. **11**(4): 41–56. *f. 1–10.*

Ecological.

Wenzig, T.

1874. Pomariae Lindley. Neubearbeitet von Theodor Wenzig. Linnaea **38**: 1–206.

Includes *Osteomeles anthyllidifolia* from Hawaii.

Weston, W. H., Jr.

1929. A new Sclerospora from Fiji. Phytopath. **19**: 961–967. *f. 1.*

S. northi n. sp.

Weymouth, C.

1904. Note on the Hawaiian Islands. Jour. Roy. Hort. Soc. **28**: 552–553.

Brief general notes, chiefly on cultivated species.

Wheeler, H. M.

1935. Studies on Nicotiana II. A taxonomic survey of the Australian species. Univ. Calif. Publ. Bot. **18**: 45–68.

Includes *N. debneyi* from New Caledonia and Lord Howe Island and *N. fragrans* from Tonga.

Wheeler, L. C.

1939. Notes on the genus Aleurites. Bot. Mus. Leafl. Harvard Univ. **7**: 119–122.

Concerns *Aleurites moluccana* Wild. and its varieties.

White, C. T., Wilson, E. H., and Guillaumin, A.

1926. Ligneous plants collected in New Caledonia by C. T. White in 1923. Jour. Arnold Arb. **7**: 74–103.

A list with notes and the descriptions of some new species.

Whitelegge, T.

1892. List of twenty species of mosses collected at Lord Howe Island. Proc. Linn. Soc. N. S. W. II. **7**: 277.

Includes seven new species.

Whitney, L. D., and Hosaka, E. Y.

1936. New species of Hawaiian Panicum and Eragrostis. Occ. Pap. Bishop Mus. **12**(5): 1–6. *f. 1–2.*

Panicum konaense and *Eragrostis niihauensis* n. spp.

Whitney, L. D.

1937a. A new species of Hawaiian Eragrostis. Occ. Pap. Bishop Mus. **13**: 75–76. *f. 1.*

E. fosbergii n. sp. from Oahu.

1937b. A new species of Garnotia from Rarontonga. Occ. Pap. Bishop Mus. **13**: 77–78. *f. 1.*

G. rarotongensis n. sp.

1937c. A new lawn grass for Hawaii. Parad. Pacific **49**(1): 24. *1 f.*

Digitaria henryi, native of Formosa and southern China.

1937d. Some facts about taro, Hawaii's staff of life. Parad. Pacif. **49**(3): 15, 30. Reprint 1–4.

Colocasia esculenta.

1937e. A new species of Trisetum and a new variety of Panicum imbricatum from the Hawaiian Islands. Occ. Pap. Bishop Mus. **13**: 171–173. *f. 1–2.*

Trisetum inaequale n. sp. and *Panicum imbricatum* var. *oreoboloides* n. var.

Whitney, L. D., Bowers, F. A. I., and Takahashi, M.

1939. Taro varieties in Hawaii. Hawaii Agr. Exp. Sta. Bull. **84**: 1–86. *1 pl. f. 1–5.*

Includes descriptions of 84 varieties of *Colocasia esculenta.*

Whitney, L. D., Hosaka, E. Y., and Ripperton, J. C.

1939. Grasses of the Hawaiian ranges. Hawaii Agr. Exp. Sta. Bull. **82**: 1–148. *f. 1–81.*

Includes descriptions of 103 grasses and tabulates 239 as occurring in Hawaii, with botanical and common names, places of origin, and dates of introduction for the exotic species.

See also **Kikuta, K., Whitney, L. D.,** and **Parris, G. K.**

Wilcox, E. V., and Holt, V. S.

1913. Ornamental Hibiscus in Hawaii. Hawaii Agr. Exp. Sta. Bull. **29**: 7–60. *pl. 1–16.*

Largely horticultural.

Wildeman, E. de

1912. Les bananiers: culture, exploitation, commerce, systématique du genre Musa. Ann. Mus. Colon. Marseille II. **10**: 286–362.

Includes some Polynesian species.

Wilder, G. P.

1907. Fruits of the Hawaiian islands in three volumes, Vol. 1. Illustrated by thirty-six half-tone plates with descriptions of same. 1–77. *pl. 1–36.*

Vols. 2 and 3 not published; see next entry.

1911. Fruits of the Hawaiian islands (revised edition, including Vol. 1. 1906 [1907]). Illustrated by one hundred and twenty-one half-tone plates with descriptions of same. 1–247. *pl. 1–121.*

Nearly all the species illustrated and described are of exotic origin; see preceding entry.

1917. Hibiscus development in Hawaii. Hawaiian Annual (Thrum) (1918) **44:** 86–89.

Horticultural.

1928. The breadfruit of Tahiti. Bishop Mus. Bull. **50:** 1–83. *pl. 1–39.*

A detailed consideration of 27 varieties (under local names) of *Artocarpus communis.*

1930. Some observations on the flora of Rarotonga. Bishop Mus. Spec. Publ. **16:** 16. (Proc. Hawaii. Acad. Sci.)

Abstract.

1931. Flora of Rarotonga. Bishop Mus. Bull. **86:** 1–113. *pl. 1–8. f. 1–3.*

A list of the species with notes, and descriptions of a few new ones by St. John, Christophersen, Setchell, and Merrill.

1934. The flora of Makatea. Bishop Mus. Bull. **120:** 1–49. *pt. 1–5. f. 1.*

A descriptive list of plants with native names and uses, including a description of *Planchonella grayana* St. John (*Sapota? vitiensis* A. Gray).

Wilkins, W. H.

1934. Studies in the genus Ustulina with special reference to parasitism. I. Introduction, survey of previous literature and host index. Trans. Brit. Mycol. Soc. **18:** 320–346.

Includes *U. **vulgaris*** and *U. zonata* from Fiji.

Willdenow, C. L.

1797–1830. Caroli a Linné species plantarum exhibentes plantas rite cognitas ad genera relatas cum differentiis specificis . . . Editio quarta . . . **1:** i-xxxi, 1–1568. 1797; **2:** 1–1340. 1799; **3**(1–2): 1–1474. 1800; **3**(3): 1476–2409. 1803; **4:** 1–1157. 1805; **5**(1): i-xxxx, 1–542. 1810; **5**(2): i-xiv, 1–22. (1830); **6**(1): i-xv, 1–128, i-xix. 1824; **6**(2): i–vi, 1–128. 1824.

This is ed. 4 of Linnaeus's "Species Plantarum."

1809–13. Enumeratio plantarum horti regii botanici Berolinensis continens descriptiones omnium vegetabilium in horto dicto cultorum. i-vi. 1–1099. 1809; Supplementum post mortem autoris (editum a von Schlechtendal) i-x, 1–70. 1813.

Includes some Polynesian species.

Wille, N.

1913. Neue Süsswasseralgen von den Samoa-Inseln. Hedwigia **53:** 144–147.

Eleven species described, some new.

1915. Süsswasseralgen von den Samoainseln, Hawaii den Salomoninseln und Ceylon, gesammelt von Dr. K. Rechinger, 1914: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **91:** 141–162. *pl. 1–3.*

A systematic enumeration, including descriptions of several new species.

Williams, B. S.

1868. Select ferns and lycopods: British and exotic. Comprising descriptions of 900 species and varieties accompanied by directions for their management

in the tropical, temperate and hardy fernery; with illustrations. i-viii. 1–343. *15 t.* Ed. 2, i-viii, 1–353. *25 t.* 1873.

Includes some Polynesian and New Caledonian species. The title of the ed. 2 is somewhat different from that of the first.

Williams, F. N.

1896. A revision of the genus Silene, Linn. Jour. Linn. Soc. Bot. **32:** 1–196.

Includes *S. cryptopetala* and *S. alexandri,* natives of Hawaii.

Williams, L. O.

1938a. Orchid studies, IV. The orchids of the Fiji Islands. Bot. Mus. Leafl. Harvard Univ. **5:** 105–142. *1 pl.*

A critical enumeration of all known species, with synonymy, several described as new.

1938b. Orchid studies, IX. Bot. Mus. Leafl. Harvard Univ. **6:** 137–141.

Includes *Malaxis margaretae* n. comb. from the Austral Islands and *Grammatophyllum elegans* and *Sarcanthus nagarensis* from Fiji.

1939. Orchid studies, X. Bot. Mus. Leafl. Harvard Univ. **7:** 137–148.

Includes the descriptions of four new species from Samoa, Ponape, and Fiji, with critical notes on other Polynesian species.

1941a. A new Acanthophippium from Fiji. Am. Orch. Soc. Bull. **10:** 169. *pl. 6.*

Acanthophippium vitiense n. sp.

1941b. A new Liparis from Fiji. Am. Orch. Soc. Bull. **10:** 201. *pl. 7.*

Liparis orbiculata n. sp.

Williams, R. S.

1915. Mosses of the Philippine and Hawaiian islands collected by the late John B. Leiberg. Bull. Torr. Bot. Club **42:** 571–577.

Includes *Hymenostomum ovale* and *Claopodium hawaiense* n. spp. from Hawaii.

Williams, W. L. S.

1920. Pahala blight investigations. Hawaiian Pl. Rec. **23:** 199–207. *9 f.*

Concerns the cause and control of this sugarcane disease; see **Lyon, H. L.,** 1920c.

Willis, J. C.

1919. The floras of the outlying islands of New Zealand and their distribution. Ann. Bot. **33:** 267–293. *2 f. (maps).*

Concerns the floras of Lord Howe and Norfolk Islands.

1936. Some further studies in endemism. Proc. Linn. Soc. **148:** 86–94.

An abstract, including data on the Hawaiian flora tabulated from Hillebrand.

Wilson, E. H. See **White, C. T., Wilson, E. H.,** and **Guillaumin, A.**

Wilson, J.

1799. A missionary voyage to the southern Pacific Ocean, performed in the years 1796, 1797, 1798, in the ship Duff . . . [1–10] i–c. 1–395. *6 pl. 7 maps.*

General narrative; includes notes on plants of Tahiti under their native names (pp. 369-376).

Wilson, J. B.

1882. Report on the present state and future prospects of Lord Howe Island . . .

Vegetation by J. Duff; not seen.

Wilson, W. F.

1919. David Douglas, botanist at Hawaii. 1–83.

Biographical data compiled from various sources.

1920. Hawaii Nei 128 years ago, by Archibald Menzies. i–viii, 1–199. *illus.*

Menzies' journal covering his explorations in Hawaii, 1792-1794, with notes.

1922. With Lord Byron at the Sandwich Islands in 1825; being extracts from the MS. diary of James Macrae, Scottish botanist. 1–75. *illus.*

Narrative of exploration.

Wimmer, E.

1929. Studien zu einer Monographie der Lobelioideen (Lobelioideae IV). Repert. Sp. Nov. **26:** 1–20. *pl. 71–72.*

Includes *Clermontia rockiana* n. sp. from Hawaii.

1943. Campanulaceae-Lobelioideae. Pflanzenr. — (IV. 276b): — —.

Monographic; includes the Polynesian species. Not seen.

Winkler, H. See **Schröter, H.,** and **Winkler, H.**

Witasek, J.

1908. Solani generis species et varietates novae. Repert. Nov. Sp. **5:** 163–166.

Six new species described, mostly from Polynesia.

1910. Solanaceae: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **85:** 342–350. *f. 24.* Reprint **3:** 168–176. *f. 24.*

1913. Solanaceae: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **89:** 601–602. Reprint **5:** 159–160.

A list with notes.

Witt, H. C. D. de

1941. Notes on the genera Intsia and Pahudia (Legum.). Bull. Jard. Bot. Buitenzorg. III. **17:** 139–154. *f. 1, 2.*

Records *Intsia bijuga* as occurring in Fiji and the Marianas Islands.

Witt, O. N.

1873. Bericht über die Untersuchung zweier Diatomaceen-Gemische. Ein Beitrag zur Kenntniss der Flora der Südsee. Jour. Mus. Godeffroy **1**(1): 63–70. *pl. 8.*

Includes a list of Tahitian species, many described as new.

1874. Ueber Südsee-Diatomaceen. II Folge. Jour. Mus. Godeffroy **1**(4): 111–116. *pl. 15.*

Nine species described, some new; supplementary to the preceding entry.

Wocke, E. von

1897. Lycopodium squarrosum Forst. Gartenwelt. **2:** 63–65. *1 f.*

Native of Polynesia.

Wodehouse, R. P.

1935. Pollen grains, their structure, identification and significance in science and medicine. i–xiii, [I], 1–574. *pl. 1–14. f. 1–123.*

Includes references to a few Polynesian species.

Wohltmann, F.

1904. Pflanzung und Siedlung auf Samoa. Beih. Tropenpfl. **5:** i–v, 1–164, *pl. 1–20. 9 f. 2 maps.*

Includes many data on economic plants.

Wolff, H.

1913. Umbelliferae-Saniculoideae. Pflanzenr. **61**(IV. 228): 1–305. *pl. 1 f. 1–42.*

Monographic.

1927. Umbelliferae-Apioideae-Ammineae-Carinae, Ammineae novemjugatae et genuinae. Pflanzenr. **90**(IV. 228): 1–398. *f. 1–26.*

Monographic.

Woodford, C. M.

1895. The Gilbert Islands. Geogr. Jour. **6:** 325–350. *1 map.*

Includes a list of the plants.

Woolnough, W. G.

1903. The continental origin of Fiji. Proc. Linn. Soc. N. S. W. **28:** 457–496. *pl. 22–34.*

Largely geological; bibliography.

Worsdell, W. C.

1941. Index Londinensis to illustrations of flowering plants, ferns and fern allies. Supplement for the years 1921–35; prepared under the auspices of the Royal Horticultural Society of London at the Royal Botanic Gardens, Kew, under the direction of Arthur W. Hill. Part **1** (A–H): [1–4], 1–497; Part **2** (I–Z): 1–515.

A supplement to **Stapf, O.,** 1929-31.

Wright, C. Harold

1918. A list of Fijian plant names. Dep. Agr. Fiji Bull. **9:** 1–10.

A list of aboriginal names with their binomial equivalents. Issued also as Bull. 10 with two additional pages of errata and addenda. See **Parham,** 1935.

Wright, Charles Henry

1910. Xeronema Moorii. Bot. Mag. **136:** *pl. 8342.*

Native of New Caledonia.

1918. Howea Belmoreana. Bot. Mag. **144:** *pl. 8760.*

Native of Lord Howe Island.

1930. Ferns collected in Fiji by Sir Evrard im Thurn, K.C.M.G. Kew Bull. **1930:** 343–348.

A list of about 60 species, none new.

Wulff, E. V.

1932–43. Vvedenie v istoricheskuiû geografiû rastenii. Bull. Appl. Bot. Pl. Breed. Suppl. **52:** 1–356, *f. 1–141.*

In Russian, with an extensive English summary. English translation by Elizabeth Brissenden as: An introduction to historical plant geography. i-xv. 1-223, *f. 1-35.* 1943. Chronica Botanica Co.

1944. Istoricheskaia geografiia rastenii; istoriia flor zemnogo shara. [Historical plant geography; history of the floras of the world.] i–xix, 1–545. *f. 1–64.*

A comprehensive work in Russian, including some data on the history of the flora of Polynesia.

Wycoff, E.

1913. Bibliography relating to the flora of Oceania. Bibl. Contrib. Lloyd Library **1:** 469–490.

A partial bibliography, including Malaysia, the Philippines, Australia, and New Zealand, with comparatively few entries for Polynesia.

Wylie, R. B.

1923a. Botanical notes on Fiji and New Zealand. Proc. Iowa Acad. Sci. **30: 45–54.** *f. 1–4.*

Includes general observations on Fiji plants.

1923b. Notes on introduced plants. Proc. Iowa Acad. Sci. **30:** 333–336.

Observations on introduced plants in the Fiji Islands.

1924. Some experiences of a botanist in Fiji. Univ. Iowa Studies Nat. Hist. **10(5): 142–153.**

General observations; forms chapter 8 of **C. C. Nutting** and others, "Fiji-New Zealand Expedition."

Y

Yamada, Y

1926. The phyto-geographical relation between the Chlorophyceae of the Marianes, Carolines and Marshall Islands and those of the Malay Archipelago, Australia and Japan. Proc. Third Pan-Pacific Sci. Congr. Tokyo **1: 964–966.**

Includes a tabulated list of species with their distribution.

1930. Une nouvelle espèce d'Udotea du Pacifique: Udotea Geppi sp. nov. Rev. Alg. **5: 140–142.** *f. 1–3.*

From the Caroline and Friendly Islands.

1931. Notes on Laurencia, with special reference to the Japanese species. Univ. Calif. Publ. Bot. **16: 185–310.** *pl. 1–30. f. 1–20.*

Includes a few Polynesian species.

1938. The species of Liagora from Japan. Sci. Pap. Inst. Alg. Res. Fac. Sci. Hokkaido Univ. **2: 1–34.** *pl. 1–15, f. 1–22.*

Includes *L. pinnata* from the Palau Islands and some other species extending to Polynesia.

1941. [Species of Halimeda in the South Sea]. Kagaku Nanyō **4: 108–121.** *f. 1–15.*

An enumeration of seven Micronesian species, with one new species and two new forms; Japanese text.

1942. Notes on Sargassum from the southern parts of Japan. (I) Journ. Jap. Bot. **18: 369–381.** *f. 1–8.*

Includes notes on Micronesian species.

1944a. New Caulerpas and Halimedas from Micronesia. Sci. Pap. Inst. Algol. Res. Hokkaido Imp. Univ. **3: 27–29.** *pl. 1–5.*

Includes three new species, one new variety, and two new forms.

1944b. A list of the marine algae from the atoll of Ant. Sci. Pap. Inst. Algol. Res. Hokkaido Imp. Univ. **3: 31–45.** *pl. 6–7.*

An enumeration of 42 species, including 7 new species, from the Ant Atoll near Ponape.

Yamamoto, Y.

1933. Species novae ochidacearum ex insula Ponape (Micronesia). Trans. Nat. Hist. Soc. Formosa **23: 20–23.** *f. 1–2.* Reprinted in Contr. Herb. Taihoku Univ. **28: 20–23.** *f. 1–2.*

Arundina kanehirae and *Vanilla ponapensis n. spp.*

1937. Index Taihokensis III. 1935. Contr. Lab. Syst. Bot. Taihoku Univ. **1: i-vi, 1–60.** *map.*

A list of the names of higher plants published in Japan in 1935, including Micronesian species. Reprinted from "Kudoa-gakkwai."

1938. A phytogeographic view of Menispermaceae (and a list of the eastern Asiatic species of Menispermaceae). Trans. Nat. Hist. Soc. Formosa **28: 303–324.** *2 maps.*

Includes a tabulation of Polynesian species.

Yamamoto, Y., Mori, K., and **Fukuyama, N.**

1939. General index to the scientific and Japanese names of plants recorded in

the 2nd series (No. 41–60) of contributions from the herbarium of Tahoku imperial university. Suppl. Contr. Herb. Taihoku Univ. **2:** 1–35.
Includes the Micronesian names.

Yamamoto, Y.

1940. Materials for a flora of the south-eastern Asia, II. An enumeration of the mangrove plants, excluding herbs, climbers, epiphytes, and the lower forms of plant life, from the Dutch Indies. Jour. Soc. Trop. Agr. **12:** 157–169. *f. 1–7.* Reprinted in Contr. Herb. Taihoku Univ. **63:** 157–169. *f. 1–7.*
Includes *Acrostichum aureum* from Micronesia; abstracted in Japanese, pp. 167-169.

Yates, L. G.

1887. Notes on Hawaiian ferns compiled from the works of Hooker, Baker, Bailey and others. 1–15.
A compiled list of the then-known species.

Yendo, K.

1905. A revised list of Corallinae. Jour. Coll. Sci. Univ. Tokyo **20**(12) : 1–46.
Contains a synoptical key to the genera and a list of species, including *Cheilosporum spectabile* from the Friendly Islands.

Yuncker, T. G.

1932. The genus Cuscuta. Mem. Torr. Bot. Club **18:** 113–331. *f. 1–158.*
Monographic.

1933a. Revision of the Hawaiian species of Peperomia. Bishop Mus. Bull. **112:** 1–131. *f. 1–38.*
Monographic; 33 species recognized.

1933b. A revision of the Hawaiian species of Peperomia. Bishop Mus. Spec. Publ. **21:** 18–19.
Apparently an abstract of the preceding entry.

1934. Some botanical aspects of the Hawaiian islands. Torreya **34:** 29–36.
General and ecological.

Yuncker, T. G., and **Gray, W. D.**

1934. Anatomy of Hawaiian Peperomias. Occ. Pap. Bishop Mus. **10**(20) : 1–19. *f. 1–60.*
Detailed anatomical studies of 14 species and varieties.

Yuncker, T. G.

1937a. Observations on the teratology of the genus Peperomia. Occ. Pap. Bishop Mus. **13:** 5–9. *f. 1–2.*
Brief notes on 23 Polynesian species.

1937b. Three additional species of Peperomia in Hawaii. Occ. Pap. Bishop Mus. **13:** 161–165. *f. 1–2.*
P. pololuana, P. kalihiana, n. spp., and *P. pellucida* (L.) HBK.

1938. Revision of the Micronesian species of Peperomia. Occ. Pap. Bishop Mus. **14:** 7–25. *f. 1–9.*
Thirteen species recognized, with key.

1943a. Botanizing on Niue Island. Torreya **42:** 121–128. *1 pl.*
A general account.

1943b. New Fijian Peperomias. Occ. Pap. Bishop Mus. **17:** 215–220. *f. 1–3.*
Peperomia nandarivatensis, P. nandalana, and *P. nodosa* described as new with notes on other species.

1943c. The flora of Niue Island. Bishop Mus. Bull. **178:** 1–126. *pl. 1–4. f. 1–3.*

In all, 459 species and varieties recognized and provided with brief descriptions, a few described as new. About half of these represent introduced species.

1945. Plants of the Mauna Islands. Bishop Mus. Bull. **184:** 1–73. *map.*

Three small islands, a part of eastern (American) Samoa. A critical list with citations of specimens, notes, etc. In all groups 421 species listed.

Z

Z.

1774. Die Pfianzen der Insel Outahitée, aus der Parkinsonischen Reisebeschreibung gezogen und mit Anmerkungen erläutert. Naturf. **4:** 220–258. *pl. 2–3.*

A German translation of Parkinson's notes on the plants of Tahiti. See **Parkinson,** 1773.

Zahlbruckner, A.

1888. Beitrag zur Flora von Neu-Caledonien, enthaltend die von A. Grunow im Jahre 1894 daselbst gesammelten Pflanzen. Ann. Naturhist. Hofmus. Wien **3:** 271–292. *pl. 12–13.*

An enumeration, including *Argophyllum grunowii, Scaevola beckii,* and *Stenocarpus grunowii* n. spp.

1889. Eine bisher unbeschriebene Sapotacee Neu-Caledoniens. Oester. Bot. Zeitschr. **39:** 287–288.

Lucuma baillonii n. sp.

1891. Ueber einige Lobeliaceen des Wiener Herbariums. Ann. Naturhist. Hofmus. Wien **6:** 430–445. *f.1.*

Includes *Trematocarpus* n. gen. from Hawaii.

1893. [Über die Gattung Trematocarpus]. Verh. Zool.-Bot. Ges. Wien **43:** 6–7.

A short note on this Hawaiian genus.

1896. Lichenes Mooreani. Ann. Naturhist. Hofmus. Wien **11:** 188–196.

Includes *Sticta mooreana* and *Parmelia stramineonitens* n. spp., natives of Lord Howe Island.

1897. Stromatopogon, eine neue Flechtengattung. Ann. Naturhist. Hofmus. Wien. **12:** 99–102. *pl. 2.*

S. baldwinii n. sp., native of Hawaii.

1903–32. Neue Flechten. Ann. Myc. **1:** 354–361. 1903; (VI) **10:** 359–384. 1912; (VII). **12:** 335–345. 1914.

Includes various Polynesian species.

1904–16. Schedae ad "Kryptogamas exsiccitas" editae a Museo Palatino Vindobonensi. Centuria X–XI. Ann. Naturhist. Hofmus. Wien **19:** 379–427. *2 f.* 1904; (Centuria XII–XIII) **20:** 311–358. 1905. Reprint 1–48. 1905; (Centuria XIV) **21:** 204–227. 1906; (Centuria XV–XVI) **22:** 81–123. 1907–08; (Centuria XVII) **23:** 213–236. 1909. (Centuria XVIII) **24:** 269–292. 1910; (Centuria XIX) **25:** 223–252. 1911; (Centuria XXII) **28:** 121–149. 1914; (Centuria XXIII) **29:** 454–481. 1915; (Centuria XXIV) **30:** 197–225. 1916.

Includes various Polynesian species.

1907. Die Flechten der Samoa-Inseln: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **81:** 222–287. *pl. 2.* Reprint **1:** 26–91. *pl. 2.*

A list with notes and descriptions.

1911. Flechten des Neuguinea-Archipels, der Hawaiischen Inseln und der Insel Ceylon: in Rechinger, K., Botanische und zoologische Ergebnisse . . . Denkschr. Akad. Wiss. Wien **88:** 12–31. Reprint **4:** 12–31.

A list with notes and descriptions.

1921–34. Catologus lichenum universalis. **1:** 1–696. 1921–22; **2:** 1–815. 1922–24; **3:** 1–899. 1924–25; **4:** 1–754. 1926–27; **5:** 1–814. 1927–28; **6:** 1–618. 1929–30; **7:** 1–784. 1930–31; **8:** 1–612. 1931–32; **9:** 1–606. 1933–34.

Includes all known species.

1924. Die Flechten der Juan Fernandez Inseln: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island. **2:** Botany 315–408. *pl. 24–25.*

A critical consideration of the known species, some new.

1928. Die Flechten der Osterinsel, nebst einem Nachtrag zu der Flechtenflora von Juan Fernandez: in Skottsberg, C., The natural history of Juan Fernandez and Easter Island **2:** Botany 449–460.

A list with notes and the descriptions of new species.

See also **Magnusson, A. H.**, and **Zahlbruckner, A.**

Zahn, E. von

1909. Davallia. Gartenfl. **58:** 397–404. *f. 29–36,* 420–425. *f. 37–44.*

Includes *D. fijiensis,* native of Fiji, with varieties.

Zaneveld, J. S.

1940. The Charophyta of Malaysia and adjacent countries. Blumea **4:** 1–223. *f. 1–21, 2 folded maps.*

Includes distribution references to the Pacific region.

Zeh, W.

1912. Neue Arten der Gattung Liagora. Notizbl. Bot. Gart. Berlin **5:** 268–273.

Includes *L. nitidula* n. sp. from Fiji.

Zeiller, R.

1889. Note sur quelques empreintes végétales des couches de charbon de la Nouvelle-Calédonie. Bull. Soc. Geol. France III. **17:** 446-447.

Paleobotanical.

Zemann, M.

1907–08. Studien zu einer Monographie der Gattung Argophyllum Forst. Ann. Naturhist. Hofmus. Wien **22:** 270–291. *pl. 8–10. f. 1–4.*

Contains the descriptions of seven species from New Caledonia, including *A. latifolium* n. sp.

Zschokke, T. C.

1930. A manual for the tree planters in the Hawaiian Islands. Univ. Hawaii Ext. Serv. Bull. **9:** 1–50. *illus.*

Not seen.

1933. Poisonous plants now in Hawaii. Univ. Hawaii Agr. Ext. Serv. Bull. **49:** — —.

Not seen; abstracted in Bishop Mus. Spec. Publ. **21:** 19-20. 1933.

Zwaluwenburg, R. H. van

1941. Canton Island. Hawaiian Pl. Rec. **45:** 15–24. *f. 1–9.*

Eighteen plant species listed.

1942. Notes on the temporary establishment of insect and plant species on Canton Island. Hawaiian Pl. Rec. **46:** 49–52. *f. 1.*

Lists a few plant species.

A SUBJECT INDEX TO ELMER D. MERRILL'S "A BOTANICAL BIBLIOGRAPHY OF THE ISLANDS OF THE PACIFIC"

By EGBERT H. WALKER

INTRODUCTION

A worker usually goes to a bibliography to find what has been published on a given subject. Less often does he search there to find what a particular author has written. Since most bibliographies are arranged alphabetically and then chronologically by author, they are thus actually adapted directly to the needs of the fewer consultants. Arrangement of the entries in a large bibliography by subject rather than by author, on the other hand, is difficult, because of the complexity of subjects and the extensive overlapping of treatments. Hence, most extensive bibliographies need supplementary subject indices in order to adapt them to the needs of the greater number of users. The following subject index has been prepared to meet this need, a need that has tremendously increased with the focusing of the world's attention on the western Pacific Islands as a result of the late war.

The foundation of this index is the information given in the titles and annotations in Dr. Merrill's bibliography. The attempt has been made to bring out and to make available, as far as practicable, all the subjects there indicated. However, it does not pretend to be more comprehensive or precise than are those data.

Some of the headings in this index are arranged alphabetically, some geographically, and some systematically. This combination of an alphabetical and nonalphabetical arrangement is adopted in order to direct the user to as much material on a given subject as is possible. Some titles of articles are vague and comprehensive, and the material covered by them is so diverse and inclusive that it cannot all be revealed in a short title and annotation. Other titles are short, clear, and specific or are easily clarified by an annotation. It is easy to index the subject or subjects dealt with in the second type of paper. However, much more complete and exact information on the same subject may be recorded in some work with an indefinite and comprehensive title than in a paper with a precise title. This subject index has, therefore, been designed, in so far as possible, to direct the user toward this hidden information.

An explanation of the general plan of the index will be valuable to the users. The scheme of dividing material into the three Sections, I—

General, II—Regional, and III—Systematic, not only is used in the primary divisions but also is extended to lesser subdivisions. The main headings used under Section I—General are not names of geographic entities or Latin or scientific names of plants or plant groups, as will be seen by scanning the marginal headings in boldface type on pages 326 to 333. The alphabetical arrangement of these headings has a disadvantage in that it dissociates related subjects. For example, **Cultivated plants** is related to **Food plants, Economic plants,** and **Agriculture;** therefore an investigator making an extensive search for material on any given subject must search under related headings in this alphabetical sequence.

Section II—Regional is subdivided into the three generally recognized main divisions of the Pacific Islands—Polynesia, Micronesia, and Melanesia. Island groups and nonassigned separate islands are recognized as seem appropriate, in the absence of any standard or universally adopted arrangement. The subsidiary index beginning on page 403 may be referred to for overcoming the drawbacks of the nonalphabetic arrangement of geographic headings. The degree of subdivision of material dealing with the separate geographic units, such as Cook Islands, the Hawaiian Islands, Fiji, and Loyalty Islands, is not entirely uniform but depends upon the amount and character of the material to be so classified. The great quantity of material on Hawaii necessitates extensive subdivision, in which the main categories General, Regional (or Subdivisions), and systematic are again used. However, there is no need for such subdivision of the material on the Cook Islands, because of the small number of references; the incidental annotations placed in parentheses after the author–date–letter are sufficient. Other variations will be apparent and should cause no confusion.

Section III—Systematic begins with the comprehensive systematic treatments, such as world floras and taxonomic treatments of similar scope, which include references to Pacific botany or are essential in this connection. Following these preliminary references, the material included is subdivided first into the Myxomycetes, Schizomycetes, Algae, Fungi, Lichens, Bryophyta, Pteridophyta, Gymnospermae, and Angiospermae,[1] essentially in accordance with the system presented in the 1936 edition of A. Engler's "Syllabus der Pflanzenfamilien," a guide that has also been followed in preparing this index in other allocations of material. Under each of these main headings the material is again divided according to the headings General, Regional, and Systematic. The subdivisions under the third of these, namely, Systematic, varies in the different groups according to what seems likely to be the most useful. Thus the Fungi are divided into Phycomycetes, Ascomy-

[1] The heading Spermatophyta was omitted as unessential and unnecessarily complicating the matter of typography.

cetes, Basidiomycetes, and Fungi Imperfecti, with the next subordinate category containing an alphabetical sequence of generic and family names combined. The seed-plant references, however, after subdivision into Gymnospermae and Angiospermae, are all assigned to families, these arranged alphabetically. Genera under these families are given marginal recognition following the general works dealing with the family as a whole, if the bulk of material justifies it; otherwise, they are recognized in the parenthetical annotations only.

It is recommended that the user of this index seek for the desired information under the most specific heading first, and then look under progressively less specific headings. Thus, for example, one desiring information on the sweet potato, *Ipomoea batatas,* common throughout this region, must first check the references to that species under *"Ipomoea"* on page 377. Then he must scan successively the references to the genus *Ipomoea* as a whole, to the Convolvulaceae, and to the Angiospermae. One should then go to the still more general headings in Section I—General, since *Ipomoea batatas* is a widely cultivated plant and the desired information might be found in this section, either under **Cultivated plants, Economic plants,** or **Food plants.** Thus one proceeds *from the specific to the general.*

The same method is recommended in using Section II—Regional, where one should proceed *from the smaller geographic unit to the greater.*

A few cautions: The parenthetical annotations in the index appearing after the authors–dates–letters are suggestive only. When in doubt as to their meaning or comprehensiveness, one must naturally consult the references in the body of the bibliography. Limited attention has been paid to synonymy; hence one looking for material on a particular species or genus should also look under the synonyms that have been used by various writers. There are listed in Section II—Regional among the references to a specific island or island group only systematic papers dealing with a specific taxonomic entity in a broad or comprehensive way. For example, O. Degener's paper (1932) containing a key to the Hawaiian species of *Bidens* is included under Section II—Hawaiian Islands—Systematic treatments of specific groups—Angiospermae—Compositae, but E. E. Sherff's paper (1941d), containing a few new species, varieties, or combinations of Hawaiian *Bidens* species, is not included. The latter, however, is found in Section III—Systematic—Angiospermae—Compositae *Bidens.* More care has naturally been given some groups than others, because of their seemingly greater importance. It is impossible, however, to anticipate the needs of all users. Numerous cross references have been added in significant places to guide users to additional sources of information and to avoid unnecessary repetition.

SECTION I—GENERAL

Agriculture: Jeanneney, A., 1894 (New Caledonia).—Parham, W. L., 1937 (Fiji). See also Cultivated plants; Economic plants; Floristic and general descriptions; etc.

Anatomy, wood: See Woods and wood anatomy.

Ant (myrmecophilous) plants: Beccari, O., 1884–86.

Bibliographies: Anonymous, 1944 (s.w. Pacific).—Bailey, E., 1887 (Hawaii)—Bartlett, H. H., 1940 (Wilkes exped.—U. S. Explor. Exped.).—Bay, J. C., 1909 (of bibliographies).—Blake, S. F., & Atwood, A. C., 1942 (floras).—Cheel, E., 1906 (lichens).—Christensen, C., 1905–34 (Pteridophyta).—Collins, F. S., 1912 (Wilkes exped.—U. S. Explor. Exped.).—Hallberg, S., 1940 (Skottsberg).—Hasskell, D. C., 1942 (U. S. Explor. Exped.).—Hyde, C. M., 1885 (Hawaii).—Jackson, B. D., 1881 ("Guide Bot. Lit."); 1882 (econ. bot.).—Krempelhuber, A. von, 1867–72 (lichens).—Lam, H. J., 1934 (New Guinea).—Lemmermann, E., 1903 (phytoplankton).—Levring, T., 1941 (Juan Fernández algae).— McCaughey, V., 1918–19 (Hawaii).—Merrill, E. D., 1924, 1937a, 1945c (Polynesian bot.).—Okamura, K., 1932, 1934 (algae).—Otero, J. J., & Cook, M. T., 1934, 1935–38 (virus diseases).—Parham, B. E. V., 1942a (Fiji).—Pritzel, G. A., 1847–72 ("Thesaurus"); 1855–66 ("Icones.").—Rehder, A., 1911–18 (woody pl.).—Reid, C. F., 1939 (Guam).—Tilden, J., 1920 (algae).—Toni, G. B. de, 1931–32, 1937–39 (algae).—Utinomi, H., 1945 (Micronesia).—Walker, E. H., 1945 (nat. hist. for servicemen).—Wycoff, E., 1913 (Oceania).—Merrill, E. D., 1946 (Merrill).

Biographies: See Collectors, Collections, Explorers, and Expeditions.

Camouflage: Parham, B. E. V., 1942d (climbing plants).

Collections, specific: See next heading.

Collectors, collections, explorers, and expeditions[2]**:** Bryan, E. H. 1933 (early Hawaiian botanists).—Fournier, P., 1932 (French missionary naturalists).—Skottsberg, C., 1941e (depositories of collections).

"Albatross" Voyage: Mann, A., 1907 (diatoms).

"Astrolabe," Voyage of: Hombron, J. B., and Jacquinot, C. H., 1845–55.—Montagne, J. F. C., 1842–45 (enum, cryptogams).—Richard, A., 1833–34.

Aubert de la Rue, E.: Guillaumin, A., 1935, 1937 (New Hebrides).

Banks, J.: Britten, J., 1905.—Parkinson, S., 1773.

Barclay: Bentham, G., 1843.

Bauer, F.: Endlicher, S. L., 1833b (Norfolk Island).

"Beagle," Voyage of: Darwin, C., 1839, 1860.

Beccari, O.: Kanehira, R., 1936a (portrait).

Beechey, Capt. F. W. See "Blossom," Voyage of.

Bertero, M. D.: Colla, L., 1833–36 (Juan Fernández).

"Blossom," Voyage of: Beechey, F. W., 1831 (narrative).—Hooker, W. J., and Walker–Arnott, G. A., 1830–41 (botany).

Bock C.: Skottsberg, C., 1938c (Masatierra in Juan Fernández).

"Bonite," Voyage of: Gaudichaud, C., 1846–66.

"Bounty" Expedition: E., M., 1938.

"Briton" Voyage: L., 1817 (to Pitcairn Island).—Shillibeer, J., 1817.

Campbell, F. A.: Mueller, F. von, 1873 (New Hebrides, Loyalty Islands).

"Challenger" Expedition: Baker, J. G., 1876c (ferns).—Hemsley, W. B., 1885b (report insular floras).—Moseley, H. N., 1879 (notes).

"Cheng Ho": Degener, O., 1943b (Fiji, narrative).—Smith, A. C., 1936–42 (Fiji plants).

Coburg, Prince S.: Beck, G. von, 1888a.—Wawra, H. 1883.

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[2] Those who have written about their own voyages and collections are not usually listed here.

COMPTON, R. H.: Compton, R. H., 1922 (Isle of Pines).—Rendle, A. B., Baker, E. G., and Moore, S. le M., 1921–22 (New Caledonia, Isle of Pines.)
COLLIE, A.: Hooker, W. J., and Walker-Arnott, G. A., 1830–41 ("Bot. Beechey's Voy.").
COOK, CAPT. JAMES: Parkinson, S., 1768–83.
"COQUILLE," VOYAGE OF: Bory de Saint-Vincent, J. B. M., 1827–29 (enum. cryptogams).—Brongiart, A. T., 1829–34.
CUMING, H.: St. John, H., 1940c (itinerary).
CUNNINGHAM, A.: Heward, R., 1842 (biogr.).
DANIKER EXPEDITION (New Caledonia and Loyalty Islands): Christensen, C., 1932.—Däniker, A. U., 1931, 1932–33.—Schinz, H., 1929.
DOUGLAS, D.: Douglas D., 1914 (journal).—Hooker, W. J., 1836 (memoirs).—Wilson, W. F., 1919 (biogr.).
DRAKE DEL CASTILLO: Jouan, H., 1896 (French Polynesia).
"ENDEAVOR," VOYAGE OF: Parkinson, S., 1773 (journal).
"EUGENIE," VOYAGE OF: Ångström, J., 1872, 1873, 1875, 1876 (bryophytes).
FORSTER, G.: Forster, G., 1797.—Forster, J. R., and G., 1776, 1779.
FREYCINET, L. DE: Gaudichaud, C., 1824, 1826–30.
"GAZELLE," VOYAGE OF: Engler, A., 1886, 1889a, 1889b.—"Gazelle" Expedition, 1889.—Kuhn, M., 1889 (ferns).
HATUSIMA, S.: Ohwi, J., 1942a (Cyperaceae Micronesia).
HEDLEY, C.: Hedley C., 1896–1900 (Funafuti, Ellice Isl.).
"HERALD," VOYAGE OF: Milne, W., 1855 (Fiji, New Hebrides).
HILLEBRAND, W.: St. John, H., 1942a.
HINDS, R. B.: Bentham, G., 1843 (Fiji, New Hebrides, New Ireland, New Guinea).
HOCHREUTINER, B. P. G.: Hochreutiner, B. P. G., 1912–43.
JEANNENEY: Guillaumin, A., 1911–44 (pt. II); 1914–45 (pt. LXXIX).
KAJEWSKI, S. F. (New Hebrides, Santa Cruz): Ames, O., 1932a (Orchidac.)—Guillaumin, A., 1931–33 (enum.).
KANEHIRA, R.: Ohwi, J., 1942a (Cyperaceae Micronesia).
KAWAGOE, S.: Kawagoe, S., 1919 (enum.).
KOTZEBUE, O. VON: Chamisso, L. C. A. von, 1821, 1830, 1836.—Chamisso, L. C. A. von, and Schlechtendal, D. von, 1826–35.—Vogel, T., 1836.
KRUSENSTERN, DE (Russian voyage): Langsdorff, G. H. von, and Fischer, F. E. L., 1810–18 (ferns).
LARUE, E. AUBERT DE: See Aubert de La Rue, E.
LAY, G. T.: Hooker, W. J., and Walker-Arnott, G. A., 1830–41 ("Bot. Beechey's Voy.").
LESSON, A.: Richard, A., 1833–34 ("Astrolabe").
LEVAT: Guillaumin, A., 1919–29 (New Hebrides).
LEVIER HERBARIUM: Jatta, A., 1903–05 (lichens).
LINDEN, J.: Linden, J., 1881 (introductions).
MALASPINA, A.: Malaspina, A., 1885.
MARTELLI, U.: Kanehira, R., 1936a.
MERRILL, E. D.: Merrill, E. D., 1946.
MEYEN, F. J. F.: Meyen, F. J. F., 1843.
"NOVARA," VOYAGE OF: Fenzl, E., 1867–70.
PARKINSON, S.: Parkinson, S., 1773.
PARKS, H. E.: Copeland, E. B., 1931b (ferns Rarotonga).—Setchell, W. A., 1926b (Tahiti).
"PHYSICIENNE," VOYAGE OF: Gaudichaud, A., 1826–30.
RECHINGER, K.: Rechinger, K., 1907–15.

REMY, J.: Roumeguère, C., 1882 (cryptogams).
ROMANZOFF EXPEDITION. See Kotzebue, O. von.
SAVATIER: Stapf, O., 1909 (hist. contents herb.)
SEEMANN, B.: Gray A., 1862a (Fiji).
"SERINGAPATAM," VOYAGE OF: Waldgrave, W., 1833 (journal, Tonga Island, Tahiti, Marquesas).
SETCHELL, W. A., and C. B.: Setchell, W. A., 1926b (Tahiti).
SKOTTSBERG, C.: Hallberg, S., 1940 (bibliog.).
SOLANDER, D. C.: Britten, J., 1905.—Parkinson, S., 1773.
"SULPHUR," VOYAGE OF: Bentham, G., 1844-45.
"TUSCAN," VOYAGE OF: Bennett, F. D., 1840.
U. S. EXPLORING EXPEDITION ("Wilkes Expedition"): Bartlett, H. H., 1940 (hist. of reports on coll.).—Brackenridge, W. D., 1854–55 (ferns).—Collins, F. S., 1912 (bibliog.).—Cooley, M. E., 1940 (places visited).— Gray, A., 1854–57; 1861a (Compositae); 1861b (Lobeliac., Goodeniac.); 1861–62; 1877.—Haskell, D. C., 1942 (exped., publ.).
"URANIE," VOYAGE OF: Gaudichaud, C., 1826–30.
"VENUS," VOYAGE OF: Decaisne, J., 1846–64.
VILMORIN, PH. L. DE: Vilmorin, [J. M.] P. L. de, 1905 (cat. coll.).
WILKES EXPEDITION. See U. S. Exploring Expedition.
"ZÉLÉE," VOYAGE OF: Hombron, J. B., and Jacquinot, C. H., 1845–55.—Montagne, J. F. C., 1842–45 (enum. cryptogams).
SEE ALSO History of botany and botanical exploration; and under Section II—Polynesia—Hawaiian Islands—General; Melanesia—Fiji Islands; Melanesia—New Caledonia; and in Section III—Algae—General; Fungi—General; Lichens—General; Bryophytes—Musci—General; and Pteridophyta—General.

Coral reefs or islands: Bryan, E. H., 1941, 1942.—Christophersen, E., 1927b (plant life).—Howe, M. A., 1912.—McCaughey, V., 1916g, 1918n (Hawaii).—Setchell, W. A., 1923 (Tahiti); 1928b (phytogeogr.).

See also Section III—Algae—Systematic—Rhodophyceae—Corallinaceae.

Cultivated plants: Degener, O., 1945a (tropical).—Hemsley, W. B., 1878, 1879a (distrib.).—Merrill, E. D., 1945c.

See also Economic plants; Food plants; etc.; and under Section II—Polynesia—Hawaiian Islands—General.

Diseases. See Hosts and their diseases and Virus diseases.

Drug plants. See Medicinal plants.

Ecology: See Section I—Phytogeography; Section II—Polynesia—Hawaiian Islands—Phytogeography and ecology; and Section III—Algae—General—Phytogeography and ecology.

Economic plants: Anonymous, 1893 (Tahiti).—Bennett, G., 1832b (Hawaii).—Berland, L., and others, 1934 (peopling Pacific Islands).—Bülow, W., von, 1896 (Samoa).—Chase, F. M., 1942 (algae).—Cordemoy, C. J. de, 1899 (gums, resins).—Cox, L. M., 1926 (Guam).—Cuzent, G., 1860, 1861a, (Tahiti).—Daenzer, F. G., 1834 (Euphorbiaceae).—Degener, O., 1945a (tropical).—Duchesne, E. A., 1836.—Finsch, O., 1887, 1893 (Micronesia).—Guillaumin, A., 1923 (French Polynesia).—Harvey, W. H., 1857 (Fiji).—Heckel, E., 1892, 1913 (New Caledonia).—Henry, C., 1922 (Marquesas).—Hill, A. F., 1939a, 1942 (names).—Horne, J., 1881 (Fiji).—Hubert, C., 1912 (fruits).—Jackson, B. D., 1882 (bibliog.).—Jouan, H., 1865 (origin); 1874, 1876 (general); 1882 (pl. introd.); 1884 (peopling Pacif. islands).—Judd, A. F. 1933 (ancient Hawaii).—Jumelle, H., 1901 (general).—Lanessan, J. L. de, 1886 (general).—Lindley, J., 1849 (econ. bot.).—Merrill, E. D., 1920 (origin, distrib.).—Miller, C. D., 1927 (algae).—Müller, W., 1917 (Yap).—Naudin, C., and Mueller, F. von, 1887 (agr. industry).—

Parham, B. E. V., 1942b, 1944 (Fiji).—Parham, H. B. R., 1937, 1943 (Fiji).—Parham, W. L., 1929 (Fiji).—Perret, V., 1893 (New Caledonia).—Pickering, C., 1863–76 (distrib.); 1879 (history).—Reed, M., 1907 (algae).—Reinecke, F. 1895b (Samoa). Sadebeck, R., 1897, 1899 (German colonies).—Safert, E., 1919 (Kusaie).—Safford, W. E., 1905 (Guam); 1921 (origin).—Seemann, B., 1861e, 1862o, 1880 (Fiji).—Setchell, W. A., 1924 (Samoa).—Seurat, L. G., 1905 (French Polynesia).—Soubeiran, J. L., 1870.—Thompson, L., 1940 (s. Lau in Fiji).—Vieillard, E., 1862a (New Caledonia).—Vieillard, E., and Deplanche, E., 1862–63 (New Caledonia).—Virey, J. J., 1843 (Marquesas, Society Islands).—Wohltmann, F., 1904 (Samoa).

See also specific headings as: Agriculture, Cultivated plants, Fiber plants, etc.

Epiphytes: Hosokawa, T., 1943a (Ponape, Micronesia).

Expeditions, specific: See collectors, collections, explorers, and expeditions.

Explorers: See collectors, collections, explorers, and expeditions.

Fiber plants: Blackmann, L. G., 1903 (Hawaii).—Bryan, E. H., 1933 (Hawaii).—Home, E., 1847 (cloth).—McCaughey, V., 1918 (Hawaii).—Parham, B. E. V., 1944 (Fiji).

Floras, enumerations, and list of Pacific or South Sea plants as a whole: Drake del Castillo, E., 1886–92.—Endlicher, S. L., 1837.

For floras, enumerations, and lists of smaller regions see Section II.

Floristic and general descriptions: See Collectors, collections, explorers, and expeditions; Phytogeography; and in Section II under various regional names.

Food plants: Anonymous, 1942a (emergency).—Bennett, G., 1832d (Tahiti).—Bois, D., 1927–37 (monogr.).—Bryan, E. H., 1933 (Hawaii).—Chase, F. M., 1942 (algae).—Coster, S. E. H., 1938 (Fiji).—Chung, H. L., and Ripperton, J. C., 1929 (oriental vegetables in Hawaii).—Cranwell, L. M., and others, 1943 (emergency).—Forster, G., 1786a, 1797.—Henry, C., 1922 (Marquesas).—Harwood, L. W., 1938 (native, Fiji).—Heuze, G., 1899.—Jouan, H., 1875.—Jumelle, H., 1910 (tuberous).—Lepine, J., 1857 (Tahiti).—MacCaughey, V., 1917 l (of ancient Hawaiians).—Merrill, E. D., 1943 (emergency); 1945c (general).—Miller, C. D., 1927 (algae); 1929 (food values).—Milne, W., 1859, 1860b (native, Fiji).—Okabe, M., 1941c (Palao Is.).—Paillieux, A., and Bois, D., 1884, 1899 (monogr.).—Parham, B. E. V., 1944 (introd. Fiji).—Popenoe, W., 1920 (fruits).—Reed, M., 1907 (algae).—Sturtevant, E. L., 1919 (notes).—Surridge, H. R., and Parham, B. E. V., 1941 (vegetables, Fiji).—Wilder, G. P., 1907, 1911 (fruits).

Fossil plants: See Paleobotany.

Forage plants: Jacques, C., 1940a (New Caledonia).—McClelland, C. K., 1915 (Hawaii).—Parham, B.E.V., 1944 (Fiji).—Parham, W. L., 1942 (Fiji).—Ripperton, J. C., Goff, R. A., Edwards, D. W., and Davis, W C., 1933 (Hawaii).—Tothill, J. D., 1929 (Fiji).

Forests and forestry: Baker, J. R., and Baker, L., 1936 (seasons in rain forests in New Hebrides).—Merrill, E. D., 1945c (general).

See also under Section II—Polynesia—Hawaiian Islands—General; Micronesia—General; Melanesia—Fiji.

Galls: Docters van Leeuwen, W. M., 1922 (on *Broussaisia arguta*).—Howard, C., 1916–25, 1921 (New Caledonia); 1922–23 (Oceania, etc.).

Gums: Cordemoy, C. J. de, 1899.

History of botany and botanical exploration: Bryan, E. H., 1928b (Hawaii).—Colby, J. A., 1934 (plant hunting).—Farlow, W. G., 1916 (algae).—Forbes, C. N., 1913c (Hawaii).—Howe, S. E., 1943 (exploration).—MacCaughey, V., 1917o, 1918–19 (Hawaii).—Merrill, E. D., 1941 (man's influence on vegetation); 1945c (general).—Pickering, C., 1863–76; 1879 (chronol. hist. pl.).—Safford, W. E.,

1905a (Guam).—Skottsberg, C., 1941e.—Tilden, J., 1921 (algae).
See also Collectors, collections, explorers, and expeditions.

Hosts and their diseases: Parris, G. K., 1940 (Hawaii).

ARTOCARPUS INTEGER: Parham, B. E. V., 1942f (*Phytophthora hibernalis*).

BANANA (*Musa paradisiaca*) (Musaceae): Carpenter, C. W., 1919 (freckle or black spot disease).

BROUSSAISIA ARGENTEA (Saxifragaceae): Docters van Leeuwen, W. M., 1922 (galls).

CHAETOCHLOA (SETARIA) VERTICILLATA (Gramineae): Kunkel, L. O., 1922 (mosaic disease).

CITRUS (Rutaceae): Parham, B. E. V., 1937a, 1942f (Fiji).

CORN (*Zea mais*) (Gramineae): Kunkel, L. O., 1921 (mosaic disease).

CROPS IN HAWAII, TRUCK: Parris, G. K., 1938a.

CRUCIFERAE: Parham, B. E. V., 1942f (*Albugo candida,* Fiji).

HIBISCUS (Malvaceae): Lyon, H. L., 1915d (*Xylaria*).

INSECTS: Larsen, L. D., 1911b (*Aspergillus* on *Pseudococcus calceolariae*).—Petch, T., 1914, 1921 (*Aschersonia taitensis*); 1931 (*Metarrhizium anisopliae*).—Speare, A. T., 1912a (*M. anisopliae* and *Sterigmatocystis ferruginea* on borer beetle); 1912b (on sugar cane insects).

LEGUMINOSAE: Lyon, H. L., 1911c (resistance to *Fusarium,* etc.); 1913a (diseases of jack bean).—Parris, G. K., 1938b (*Uromyces phaseoli* on beans in Hawaii).

MACROPIPER (PIPER) METHYSTICUM (Piperaceae): Parham, B. E. V., 1935 (wilt disease).

NEMATODES: Linford, M. B., 1937, 1939.

PANDANACEAE: Verona, O., 1931 (*Phoma, Macrophoma*).

PAPAYA (*Carica papaya*) (Caricaeae): Parris, G. K. 1939a.

PENNISETUM PURPUREUM (Gramineae): Parris, G. K., 1942 (*Helminthosporium sacchari*).

PINEAPPLE (*Ananas sativa*) (Bromeliaceae): Carpenter, C. W., 1920b (*Pythium*).—Carter, W., 1939 (distrib. yellow spot).—Cobb, N. A., 1907.—Larsen, L. D., 1910a, 1910c, 1911a.—Lyon, H. L., 1915c.—Waldron, G. C., 1927 (pink disease).

PORTULACA OLERACEA (Portulacaceae): Mehrlich, F. P., and Fitzpatrick, H. M., 1935 (*Dichotomophthora*).

POTATO (*Solanum tuberosum*) (Solanaceae): Carpenter, C. W., 1920a, 1913a (in Hawaii).

SUGARCANE (*Saccharum officinarum*) (Gramineae): Agee, H. P., 1915 (lahaina disease).—Carpenter, C. W., 1921, 1928–34 (root rot); 1940 (streak disease).—Caum, E. L., 1919 (*Phyllosticta hawaiiensis*); 1920; 1921 (checklist).—Cobb, N. A., 1906, 1909.—Doty, R. E., 1920 (yellow stripe).—Edgerton, C. W., 1913 (stem rot).—Kunkel, L. O., 1924a (Fiji disease); 1924b, 1924c (mosaic disease).—Larsen, L. D., 1910; 1912a (eye spot); 1912b (*Cercospora vaginae*); 1913b (ring spot).—Lee, H. A., and Jennings, W. C., 1924 (bacterial red stripe).—Lee, H. A., Martin, J. P., and others, 1924 (red stripe).—Lewton-Brain, L., 1907 (rind disease); 1908 (red rot); 1909a.—Lewton-Brain, L., and Doerr, N., 1909 (bacterial flora).—Lyon, H. L., 1910a, 1910c, 1910d, 1911a, 1911b, 1912a, 1912b, 1913b, 1915a, 1915b, 1919b, 1920b, 1920c, 1921a, 1927b.—Martin, J. P., 1930a, 1930b, 1931.—Martin, J. P., Carpenter, C. W., and Weller, D. M., 1932 (leaf scald).—Masters, M. T., 1921b (Fiji disease).—McGeorge, W. T., 1924 (lahaina disease).—Stevenson, J. A., and Rands, R. D., 1938 (list fungi, bacteria).—Williams, W. L. S., 1920 (pahala blight).

TARO (*Colocasia esculenta*) (Araceae): Parris, G. K., 1941.

TOURNEFORTIA (Boraginaceae): Cummins, G. B., 1937–43.

Illustrations: Anonymous, 1845 (vegetation).—Bois, D., 1896.—Cavanilles, A. J.,

1791–1801.—Delessert, B., 1820–46.—Drake del Castillo, E., 1886–92.—Duchesne, E. A., 1836–46.—Geel, P. C. van, 1828–32.—Harvey, W. H., 1847–49 (algae).—Herder, F. von., 1885.—Hooker, W. J., 1836–1940.—Kittlitz, F. H. von, 1844–45, 1861 (vegetation).—Kützing, F. T., 1845–71 (algae).—Lindley, J., and Paxton, J., 1850–84.—Merrill, E. D., 1945c (common species).—Parkinson, S., 1768–83.—Pritzel, G. A., 1855–66 (index).—Sajö, K., 1906.—Schrank, F. P. von, 1817–22.—Stapf, O., 1929–31 ("Index Londinensis").—Worsdell, W. C., 1941 (index).

See also under Section III—Pteridophyta—General.

Indices and nomenclators: Brigham, W. T., 1900 (Pacific islands).—Christensen, C., 1905–34 ("Index Filicum").—Dalla Torre, C. G. de, and Harms, H., 1900–07 ("Genera Siphonogamarum").—Hobbs, W. H., 1945 (classification of islands).—Hue, A. M., 1899 (lichens).—Jackson, B. D., 1893–1938 ("Index Kewensis").—Lyons, A. B., 1900 ("Plant names").—Pritzel, G. A., 1855–66 ("Iconum botanicarum").—Sprague, T. A., 1928-29 (spelling generic names).—Stapf, O., 1929–31 ("Index Londinensis").—Steudel, E. G., 1821–24, 1840–41 ("Nomenclator botanicus").

Institutions, records or collections of specific: See under Miscellaneous notes and descriptions; Collectors, collections, explorers, and expeditions; and other headings.

Introduced and naturalized plants: See under Section II—Polynesia—Hawaiian Islands; and Melanesia—Fiji.

Introduction or origin of plants: Guillaumin, A., 1942 (New Caledonia).— Jouan, H., 1865, 1882, 1884.—Linden, J., 1881b.—Merrill, E. D., 1937b, 1941.—Mueller, F. von, 1872–95 (to Australia).—Pickering, C., 1863–76.

See also Economic plants; and Phytogeography; and in Section III under individual species, especially Palmae—*Cocos nucifera*—Coconut palm.

Keys for determination of families: Guillaumin, A., 1943b (New Caledonia).—St. John, H., and Fosberg, F. R., 1938, 1940 (Hawaii).

Leaf uses by Hawaiians: Thrum, T. G., 1922.

See also various Floras under Section II.

Leis, plants used in: Brown, E. D. W., 1931.

Mangroves: Kariyone, T., 1927.—MacCaughey, V., 1917k (Hawaii).—Merrill, E. D., 1945c.—Ogura, Y., 1942 (Micronesia).—Slooten, D. F. van, 1937.— Yamamoto, Y., 1940.

Medicinal plants: Daenzer, F. G., 1834 (Euphorbiac.).—Duchesne, E. A., 1836–46.—Forster, G., 1786a.—Handy, E. S. C., Pukui, M. K., and Livermore, K., 1935 (Hawaii).—Jumelle, H., 1901.—Jussieu, A. de, 1824 (Euphorbiaceae).—Kaaiakamanu, D. M., and Akina, J. K., 1922 (Hawaii).—Lindley, J., 1838c, 1849 (medical flora).—Naudin, C. and Mueller, F. von, 1887 (manual).—Neal, M. C., 1934 (Hawaii).—Okabe, M., 1941b (Palao Is.).—Parham, H. B. R., 1943 (Fiji).—Rougier, E., 1923–24 (Fiji).—Stokes, J., 1812.

Miscellaneous notes and descriptions: Anonymous, 1871 (Gt. Brit. 1870); 1892–1939 ("Decades Kew.").—Bailey, L. H., 1916 ("Nomencl. transf.").—Baillon, H., 1868–79.—Blume, C. L., 1849–56 ("Mus. Bot. Lugd.-Bat.").—Brown, F. B. H., 1930a.—Bull, W., 1875.—Degener, O., 1945.—Druce, G. C., 1914, 1917 (nomenclature).—Fedde, F., 1908b, 1908–12.—Forster, G., 1780.—Forster, J. R., and G., 1776, 1779.—Gandoger, M., 1918–19.— Gill, W. W., 1889.—Hornemann, J. W., 1813–19 ("Hort. bot. Hafniensis").—Jardin, É., 1875.—Knuth, P., 1898–1905 ("Handb. Blüthenbiol.").—Link, H. F., 1821–22 ("Enum. pl. hort. bot. Berolin.").—Mathieu, C., 1882–84.—Moore, T., 1881–85, 1883–84.—Mueller, F. von, 1872–95.—Paxton, J., 1836–38.—Presl, K. B., 1851.—Pucci, A., 1895–96.—Rafarin,—, 1877.—Rafinesque, C. S., 1837–38, 1838.—Sajö, K., 1906.—Scheffer, R. H. C. C., 1874.—Seemann, B., 1862g, 1864b.—Smith, J. E., 1802–20.—Sprague, T. A., 1928–29 (spelling generic names).—Sprengel, K., 1813–15, 1820–22.—Thunberg, C. P., 1781–1801

("Nov. gen. pl.").—Ventenat, E. P., 1803–05.—Vos, A. de, 1875–83 ("Enum. method.").—Walpers, W. G., 1842–47 ("Repert. Bot. Syst."); 1848–71 ("Ann. bot. syst.").—Warburg, O., 1899–1900 ("Monsunia").—Willdenow, C. L., 1809–13 ("Enum. pl. hort. bot. Berolin.").

See also Illustrations; and similar headings in Section I; also under various headings in Sections II and III.

Monuments in Hawaii, natural: Miyoshi, M., 1927.

Nomenclators: See Indices and nomenclators.

Organizations and institutions, Polynesian plants or specimens of specific: See under Miscellaneous notes and descriptions; Collectors, collections, explorers, and expeditions; and other headings.

Ornamental plants: See under Section II—Polynesia—Hawaiian Islands—General.

Paleobotany: Crié, L., 1889 (French Polynesia).—Ettinghausen, C. von, 1861 (leaf skeletons); 1864 (ferns).—Guillaumin, A., 1919 (New Caledonia).—Loubière, A., 1936 (*Cedroxylon,* New Caledonia).—Zeiller, R., 1889 (New Caledonia).

Paleogeography: Setchell, W. A., 1934.—Wolff, E. V., 1944.

Photographs: Däniker, A. U., 1939 (New Caledonia).

See also illustrations.

Phytogeography: Andrews, E. C., 1941 (origin of flora).—Anonymous, 1892 (origin of flora).—Balansa, B., 1873 (New Caledonia).—Berg, L. S., 1930 (northern elements).—Brown, E. D. W., 1932 (Malayan elements in ferns in se. Polynesia).—Brown, F. B. H., and Brown, E. D. W., 1933.—Campbell, D. H., 1916 (problems); 1943 (continental drift).—Christ, H., 1910 (ferns).—Christensen, C., 1920 (number of species).—Copeland, E. B., 1939b, 1941a (ferns from Antarctica).—Drude, O., 1884, 1890, 1897 (handbook).—Engler, A., 1882 (monogr.).—Grisebach, A. H. R., 1872, 1877–78, 1880 (monogr.).—Guillaumin, A., 1921a, 1928, 1929a, 1934a, 1934b.—Guillemard, F. H. H., 1894.—Gulick, A., 1932.—Hallier, H., 1912.—Harris, J. A., 1938 (plant sap).—Hayek, A., 1926 (monogr.).—Heckel, E., 1892 (zones, New Caledonia).—Hemsley, W. B., 1885c (dispersal).—Hill, A. W., 1929 (problems).—Hochreutiner, B. P. G., 1928.—Hooker, J. D., 1867.—Hosokawa, T., 1934c, 1935b (Marianas, Bonin Islands).—Kanehira, R., 1935d, 1941 (Micronesia).—Kny, L. 1867.—Merrill, E. D., 1928 (problems); 1936 (Malaysia–Polynesia); 1945c.—Mueller, F. von, 1873 (Loyalty Islands and New Hebrides).—Munro, G. C., 1932.—Reinecke, F., 1903a (Samoa); 1906 (Polynesia).—Ridley, H. N., 1930 (dispersal).—Schlechter, R., 1905 (New Caledonia).—Schouw, J. F., 1835.—Setchell, W. A., 1928a, 1928b, 1934, 1935c.—Simmons, H. G., 1905 (algae).—Skottsberg, C., 1928d, 1936a, 1938b, 1940c, 1941b.—Tashiro, Y., 1890 (voyage).—Tate, R., 1893 (New Hebrides).—Virot, R., 1939 (New Caledonia).—Wallace, A. R., 1880 ("Island life").—Watanabe, K., 1941 (Micronesia).—Woolnough, W. G., 1903 (continental origin of Fiji).—Wulff, E. V., 1932–43, 1944 (historical).—Yamada, Y., 1926 (Chlorophyceae).

See also under Section II—Polynesia—Hawaiian Islands—General.

Plankton: Lemmermann, E., 1899, 1901, 1903.

PALAU ISLAND: Matue, Y., 1942.—Motoda, S., 1941.—Tokioka, T., 1941a, 1942b.

Poisonous plants: Arnold, H., 1931, 1944 (Hawaii).—Chevalier, A., 1937 (fish poisons, insecticides).—Duchesne, E. A., 1836–46.—Merrill, E. D., 1943.—Parham, B. E. V., 1937b (Fiji).—Powell, T., 1877 (Samoa).—Radlkofer, L., 1887 (fish poisons).—Rock, J. F., 1920c (Hawaii).—Seemann, B., 1861d (Fiji).—Stokes, J. F. G., 1921 (fish poisons, Hawaii).—Tattersfield, F., Martin, J. P., and Howes, F. N., 1940 (fish poisons).—Zschokke, T. C., 1933a, 1933b (Hawaii).

Pollen: Wodehouse, R. P., 1935.

Preservation (Conservation) of plants in Hawaii: Munro, G. C., 1933.

Quarantine in Hawaiian Islands, plant: Ehrhorn, E. M., 1921.
Resins: Cordemoy, C. J. de, 1899.
Rubber: Jumelle, H., 1898.—Poisson, J., 1900 (New Caledonia).
Scented woods: Metcalfe, C. R., 1935 (structure).
Seed dispersal: Guppy, H. B., 1903–06.—Judd, C. S., 1936 (Hawaii).—Ridley, H. N., 1930.—Skottsberg, C., 1930b (Juan Fernandez).
Systematic treatments of a world-wide nature, comprehensive: See introductory references at beginning of Section III.—Systematic.
Tanning plants: Voronov, G. N., 1937.
Trees: See under Section II—Polynesia—Hawaiian Islands—General; Micronesia—General; and Melanesia—Fiji.
Vernacular names: Beaglehole, E., and P., 1938 (Pukapuka—Danger Islands).—Christian, F. W., 1897 (Ponape).—Christophersen, E., 1935 (Samoan).—Duchesne, E. A., 1836–46 (French).—Fagerlund, G. O., and Mitchell, A. L., 1914 Hawaiian).—Guillaumin, A., 1911–44 (part XXI) (French, New Caledonia).—Guillaumin, A., Camus, A., and Tardieu-Blot, M. L., 1936 (Easter Island).—Guppy, H. B., 1897 (Polynesian).—Hambruch, P., 1932 (Ponape).—Judd, A. F., 1933 (Hawaiian).—Krämer, A., 1929 (Palau).—Lyons, A. B., 1900 ("Plant names").—Merrill, E. D., 1937b (significance), 1943 (food and poisonous pl.); 1945c (significance).—Parham, B. E. V., 1942a (Fijian).—Parham, H. B. R., 1935, 1943 (Fijian).—Parham, W. L., 1929 (Fijian).—Powell, T., 1868a (Samoan).—Record, M., 1945 (Melanesian woody pl.).—Rock, J. F., 1913b (Hawaiian).—Safford, W. E., 1921 (cult. pl. Polynesia).—Seurat, L. G., 19—? (Polynesia).—Tuyama, T., 1941a, 1941b (Palau Is., Carolines, Micronesia).—Wright, C. Harold, 1918 (Fijiian).

See also under Section III—Fungi—General.

Virus diseases: Cook, M. T., 1935 (host index).—Lyon, H. L., 1921b (Fiji disease).—Otero, J. J., and Cook, M. T., 1934, 1935–38 (bibliography).—Parris, G. K., 1939b (papaya); 1940 (check list, Hawaii).
Voyages: See Collectors, collections, explorers, and expeditions.
Weeds: Barnes, A. C., 1930 (Fiji).—Greenwood, W., 1943, 1944 (Fiji).—Lever, R. J. A. W., 1946 (Fiji).—Merrill, E. D., 1945c (general).—Parham, B. E. V., 1938–40, 1942e, 1945a (Fiji).—Parham, W. L., 1942 (Fiji).—St. John, H., and Hosaka, E. Y., 1928a, 1928b, 1932a, 1932b (Hawaii).—Simmonds, H. W., 1931–32 (Fiji); 1932b (control).
Woods and wood anatomy: Auld, W., and Baldwin, D. D., 1890 (Hawaiian woods).—Brown, F. B. H., 1922 (Hawaiian trees).—Burgerstein, A., 1908 (Samoan woods).—Loubière, A., 1936 (silicified wood, *Cedroxylon,* New Caledonia).—Lydgate, J. M., 1882–83 (Hawaiian).—MacCaughey, V., 1916d (Hawaiian).—Metcalfe, C. R., 1935 (sandalwood, scented woods).—Mezger, K., 1926 (New Caledonia).—Rehder, A., 1911–18 ("Bradley bibliog.").—Sebert, H., [and Pancher, I.] [1874] (New Caledonia).
Woody plants, bibliography of: Rehder, A., 1911–18 ("Bradley bibliog.").

SECTION II—REGIONAL

POLYNESIA

Bartram, E. B., 1940 (enum. Musci se. Polynesia).—Brown, E. D. W., 1932 (Indo-Malayan ferns in Polynesia).—Brown, E. D. W., and Brown, F. B. H., 1931a, 1931b (syst. treat. ferns).—Brown, F. B. H., 1932 (Dicotyledons).—Bryan, E. H., 1941, 1942 (veg. Amer. Polynesia).—Bureau, E., 1895 (notes French Poly-

nesia).—Copeland, E. B., 1938a (enum. ferns).—Diels, L., 1921–30 (lists, etc.).—Drake del Castillo, E., 1891 (general); 1893 (flora French Polynesia).—Forster, G., 1786b (flora).—Fosberg, F. R., 1937a (enum. Rubiaceae se. Polynesia).—Guillaumin, A., 1923 (econ. pl.).—Hosokawa, T., 1943b (general).—Jouan, P., 1896 (Drake del Castillo in French Polynesia).—Patouillard, N., 1906a (fungi French Polynesia).—Privat-Deschanel, P., 1930 (general).—Reinecke, F., 1902b (general); 1906 (phytogeogr.).—Schnee, H., 1920 (encyclopaedic).—Schumann, K., 1888 (crit.).—Seurat, L. G., 1905 (econ. pl.).—Sparhawk, W. N., 1944 (forests, trees, centr. and sw. Pacific).—Veitch, J. G., 1866 (journal).

Austral Islands = Tubuai Islands.

Cook Islands: Luerssen, C., 1873b (list ferns).

MANGAIA: Dickie, G., 1875 (list algae).

MANIKIKI: Cranwell, L. M., 1933 (list).—Linton, A. M., 1933 (veg.).

RAROTONGA: Cheeseman, T. F., 1903 (flora).—Christensen, C., 1920 (phytogeogr.).—Copeland, E. B., 1931b (Park's fern coll.).—Hemsley, W. B., 1884 (list).—Jatta, A., 1903–05 (lichens Levier coll.).—Martelli, U., 1933c (Pandanaceae).—Sbarbaro, C., 1939 (lichens).—Skottsberg, C., 1933c (*Myoporum*).—Wilder, G. P., 1930 (notes); 1931 (flora).

Danger Islands—PUKAPUKA: Beaglehole, E., and Beaglehole, P., 1938 (local names).

Easter Island: Börgesen, F., 1924 (marine algae).—Brotherus, V. F., 1924a, 1924b (enum. Musci).—Christensen, C., and Skottsberg, C., 1920b (list ferns).—Fries, T. C. E., 1922 (Gasteromycetes).—Fuentes, F., 1913 (list).—Guillaumin, A., Camus, A., and Tardieu-Blot, M. L., 1936 (list).—Hemsley, W. B., 1885b (general).—Herzog, T., 1942 (list foliose Hepaticae).—Hicken, C. M., 1913 (ferns).—Knoche, W., 1919 (cult. pl.).—Levring, T., 1943b (Corallinaceae).—Looser, G., 1932 (descr. veg.).—Métraux, A., 1940 (ethnology).—Petersen, J. B., 1926 (Cyanophyceae).—Skottsberg, C., 1920–43 (nat. hist.); 1922 (enum.); 1927b (list); 1928a (ecol.); 1934c (phytogeogr.).—Strom, K. M., 1922 (freshwater algae).—Thériot, J., 1937 (list Musci).—Zahlbruckner, A., 1924, 1928 (lichens).

Ellice Islands: Howe, M. A., 1912 (coral reefs).

FUNAFUTI: Barton, E. S., 1900 (crit. algae).—Foslie, M., 1900a (calcareous algae).—Hedley, C., 1896–1900 (notes).—Luerssen, C., 1871 (enum. ferns).—Maiden, J. H., 1904 (enum.).

Equatorial Islands. See Line Islands.

Friendly Islands. See Tonga Islands.

Hawaiian Islands:

HAWAIIAN ISLANDS

GENERAL

Bibliographies: Bailey, E., 1887.—Hyde, C. M., 1885.—MacCaughey, V., 1918–19.

Collectors, collections, explorers, and expeditions: Bryan, E. H., 1933 (pioneer botanists).

BEECHEY'S VOYAGE. See "Blossom," Voyage of.

BERGGREN, SVEN: Skottsberg, C., 1943b (enum.).

"BLOSSOM," VOYAGE OF: Hooker, W. J., and Walker-Arnott, G. A., 1830–41 (enum.).

"DONAU": Wawra, H., 1872–73 (general descr.).

DOUGLAS, D.: Douglas, D., 1914 (journal).—Hooker, W. J., 1836.

FREYCINET, L. DE: Gaudichaud, C., 1824 (n. gen., n. spp.).

"HERALD," VOYAGE OF: Seeman, B., 1853c (narrative).

HILLEBRAND, W.: Lydgate, J. M., 1919–21 (narrative).

HOCHREUTINER, B. P. G.: Hochreutiner, B. P. G., 1912–43 (enum. coll.).

KOTZEBUE, O. VON: Chamisso, L. C. A. von, 1821, 1830 (crit.).

MACRAE, J.: Wilson, W. F., 1922 (narrative).
MENZIES, A.: Wilson, W. F., 1920 (journal).
MEYEN, F. J. F.: Meyen, F. J. F., 1834–35 (narrative); 1843 (enum.).
ROMANZOFF EXPEDITION: Chamisso, L. C. A. von, and Schlechtendal, D. von, 1826–35 (enum.).
U. S. EXPLORING EXPEDITION: Gray, A., 1857 (n. gen., n. spp.); 1877.

Coral reefs: MacCaughey, V., 1916g, 1918 n.

Cultivated plants: Beaumont, J. H., 1939 (fruits, nuts).—Brigham, W. T., 1906 (fruits).—Crawford, D. L., 1937 (crops).—Handy, E. S. C., 1940 ("Hawaiian planter").—Miller, C. D., and Bazore, D., 1937 (fruits).—Neal, M. C., 1928.—Rock, J. F., 1916d.—Stubbs, W. C., 1910.—Weymouth, C., 1904.

Economic plants: Bennett, G., 1832b.—Judd, A. F., 1933 (ancient).

Fiber plants: Blackman, L. G., 1903.—Bryan, E. H., 1933.—MacCaughey, V., 1918l.

Floras, enumerations, and lists (exclusive of those of specific collections, for which see Collectors, collections, explorers, and expeditions): Brigham, W. T., 1868b (summary).—Bryan, E. H., 1928a (guide to groups); 1934 (statistics).—Caum, E. L., 1930a (list Molokini); 1936 (list Lehua, Kaula Islands).—Christophersen, E., and Caum, E. L., 1931a (enum. Leeward Islands).—Degener, O., 1932–40, 1937 ("Flora Hawaiiensis") (also 1926, 1930a, 1932a, 1932b).—Fagerlund, G. O., and Mitchell, A. L., 1944 (checklist Hawaii Nat. Pk.).—Forbes, C. N., 1913a (list, Kahoolawe, Molokini); 1913b (enum., Niihau).—Heller, A. A., 1897 (enum.).—Hillebrand, W., 1888a (flora).—Judd, C. S., 1921b (trees, Kilauea Nat. Pk.).—Kraebel, C. J., 1922 (list, Mauna).—MacCaughey, V., 1916e (list, woody pl. Konahuanui); 1916f (list, Waianae Mtns.); 1917f (list, trees).—Mann, H., 1866–71 (flora, incomplete); 1867b (enum.); 1869a (list); 1869b (crit.).—Pope, W. T., 1929 (manual, wayside pl.).—Rock, J. F., 1911b (synopsis).—Skottsberg, C., 1926–36 (enum.).—St. John, H., and Fosberg, F. R., 1938, 1940 (keys to families).—Skottsberg, C., 1944b (bog survey).—Wawra, H., 1872–75 (enum.).

Floristic and general descriptions: Anonymous, 1920.—Brigham, W. T., 1868c.—Bryan, E. H., 1933.—Bryan, W. A., 1915, 1921.—Campbell, D. H., 1892–93.—Chamisso, L. C. A. von, 1862.—Degener, O., 1930b (Hawaii Nat. Pk.).—Ellis, W., 1829–31.—Farquhar, J. K. M. L., 1900.—Forbes, C. N., 1921.—Hemsley, W. B., 1885b.—Hitchcock, A. S., 1917a, 1917b, 1919.—Hoffmann, E. G., 1931.—Jouan, H., 1873.—Langkavel, B., 1894.—Lyons, A. B., 1896 (native plants).—Mann, H., 1866a (denudation).—Marcuse, A., 1894.—Morrison, G., 1903.—Robyns, W., 1938.—Schröter, C., 1922–23.—Seemann, B., 1852.—Skottsberg, C., 1939b, 1940b.—Weymouth, C., 1904.—Yuncker, T. G., 1934.
See also Phytogeography and ecology.

"Flowers," popular treatments of: Frear, M. D., 1938.—Inn, H., 1944.—Kuck, L. E., and Tongg, R. C., 1943.—MacCaughey, V., 1916l.

Food plants: Bryan, E. H., 1933.—Chung, H. L., and Ripperton, J. C., 1929 (oriental vegetables).—MacCaughey, V., 1917l (of ancient Hawaiians).—Wilder, G. P., 1907, 1911 (fruits).

Forage plants: McClelland, C. K., 1915.—Ripperton, J. C., Goff, R. A., Edwards, D. W., and Davis, W. C., 1933.

Forests and forestry: Bryan, L. W., 1932 (Hilo forest reserve); 1939 (forestry).—Clarke, F. L., 1875 (decadence).—Giffard, W. M., 1918 (water supply).— Hall, W. L., 1904, 1916 (descr.).—Judd, C. S., 1919b (forestry); 1927a, 1927b, 1929b, 1941.—Law, J. S., and Judd, C. S., 1927 (locations).—Lewton-Brain, L., 1909b, (problems in Maui).—Lyon, H. L., 1909 (diseases); 1919c (forest problems); 1923 (Oahu); 1929 (forestry).—MacCaughey, V., 1916h (general); 1917a (rain forests); 1920 (tapestry forests).—McEldowney, G. A., 1930 (Oahu).

History of botanical exploration: Bryan, E. H., 1928b.—Forbes, C. N., 1913c.—MacCaughey, V., 1917o, 1918–19.

Introduced and naturalized plants: Babbitt, S. C., 1940 (trees Honolulu).—Bryan, W. A., 1915.—Bryan, L. W., 1939 (trees).—Forbes, C. N., 1911a.—Fosberg, F. R., 1937b (immigrant).—Léveillé, H., 1912–13b.—Morris, P. C., 1931 (early records).

Leaf uses: Thrum, T. G., 1922.

Mangroves: MacCaughey, V., 1917k.

Medicinal plants: Handy, E. S. C., Pukui, M. K., and Livermore, K., 1935.—Kaaiakamanu, D. M., and Akina, J. K., 1922.—Neal, M. C., 1934.

Miscellaneous notes and descriptions of plants: Bishop, M. B., 1940.—Brackenridge, W. D., 1886.—Caum, E. L., 1930b.—Forbes, C. N., 1909–20.—Fosberg, F. R., 1936–42.—Léveillé, H., 1911, 1912–13a.—Lyon, H. L., 1927c.—Radlkofer, L., and Rock, J. F., 1911.—Rock, J. F., 1911a, 1913c, 1913d, 1914, 1916e.—Sherff, E. E., 1946.—St. John, H., 1940a.

Monuments, natural: Miyoshi, M., 1927.
Ornamental plants: Frear, M. D., 1929 (trees).—Hoffmann, E. G., 1931.—Lydgate, J. M., 1881 (indigenous).—Lyons, A. B., 1899.—Sinclair, I., 1885 (colored drawings).—Pope, W. T., 1910.—Rock, J. F., 1917a (trees).—Thrum, T. G., 1914 (trees).
Phytogeography and ecology: Baldwin, P. H., 1940 (floral zones).—Brown, F. B. H., 1921 (origin).—Campbell, D. H., 1918, 1919 (origin); 1920; 1928 (Australian element); 1932; 1933.—Christensen, C., 1920 (tabulation spp.).—Egler, F. E., 1939a (veg. zones); 1942 (arid veg.).—Forbes, C. N., 1911b, 1914 (pl. invasion of lava).—Fosberg, F. R., and Hosaka, E. Y., 1938 (bog).—Harris, J. A., 1934 (plant sap).—Hartt, C. H., and Neal, M. C., 1940 (Mauna Kea).—Hillebrand, W. 1888b (pl. formations).—Hosaka, E. Y., 1937b (Kipapa Gulch); 1937c (phytogeog. Oahu).—Judd, C. S., 1931a, 1931b (endemic flora).—Lydgate, J. M., 1910 (endemic flora).—MacCaughey, V., 1916b (summit bogs); 1917d (land flora); 1917e (lava flows); 1918c (strand).—Mann, H., 1869a (range).—Muir, F., 1921 (origin).—Ripperton, J. C., and Hosaka, E. Y., 1942 (veg. zones).—Robyns, W., and Lamb, S. H., 1939 (ecol. survey).—Rock, J. F., 1915a.—Selling, O. H., 1942 (post-glacial hist.).—Skottsberg, C., 1925a; 1931a, 1931c (flora of volcanoes); 1938b (isolation); 1941a (bogs); 1941b; 1941d (lava flows).—Wentworth, C. K., 1925 (desert, W. Molokai).—Willis, J. C., 1936 (endemism).
See also Floristic and general descriptions.
Poisonous plants: Arnold, H. L., 1931, 1944.—Rock, J. F., 1920c.—Stokes, J. F. G., 1921 (fish poisons).—Zschokke, T. C., 1933.
Preservation of plants: Munro, G. C., 1933.
Quarantine, plant: Ehrhorn, E. M., 1921.
Seed dispersal: Judd, C. S., 1936.
Trees: Anonymous, 1930 (common); 1938 (list, Hawaii Nat. Pk.).—Auld, W., and Baldwin, D. D., 1890 (indigenous).—Babbitt, S. C., 1940 (imported, Honolulu).—Bryan, L. W., 1939 (introduced).—Frear, M. D., 1929 (cultivated).—Hoffmann, E. G., 1931.—Hosmer, R. S., 1912 (street trees).—Judd, C. S., 1921 (Kilauea Nat. Pk.); 1923 (familiar); 1933 (ancient).—Lamb, S. H., 1936 (Hawaii Nat. Pk.).—Lydgate, J. M., 1882–83 (forest).—MacCaughey, V., 1915b (common).—Morris, P. C., 1931 (records of introduction).—Neal, M. C., 1937b ("bean trees").—Rock, J. F., 1913a (indigenous); 1917a (ornamental); 1918d (for planting).—Thrum, T. G., 1914 (flowering).—Zschokke, T. C., 1930 (manual for planters).
Vernacular names: Fagerlund, G. O., and Mitchell, A. L., 1944.—Judd, A. F., 1933.—Rock, J. F., 1913b.
Weeds: Speare, A. T., 1915–16.—St. John, H., and Hosaka, E. Y., 1932a, 1932b (of pineapple fields).
Woods: Auld, W., and Baldwin, D. D., 1890.—Brown, F. B. H., 1922.—Lydgate, J. M., 1882–83.—MacCaughey, V., 1916d.

SUBDIVISIONS

Hawaii, Island of: Bryan, L. W., 1932 (Hilo for. res.).—Forbes, C. N., 1911b (ecol. lava, Mauna Loa).—Judd, C. S., 1921b (trees Kilauea Nat. Pk.).—Menzies, A., 1909 (Mt. Hualalai).—Neal, M. C., 1937a (veg. S. Point); 1939d (Lake Waiau).—Robyns, W., and Lamb, S. H., 1939 (ecol. survey).—Skottsberg, C., 1941d (ecol. lava).
HAWAII NATIONAL PARK: Anonymous, 1938 (list).—Baldwin, P. H., 1940 (floral zones).—Degener, O., 1930b (guide).—Fagerlund, G. O., and Mitchell, A. L., 1944 (checklist).—Lamb, S. H., 1936 (trees); 1938 (wildlife).
MAUNA KEA: Hartt, C. H., and Neal, M. C., 1940 (ecol.).—Kraebel, C. J., 1922 (list); Neal, M. C., 1939a, 1939e (lists).
Kahoolawe: Forbes, C. N., 1913a (list).
Lanai: Fosberg, F. R. 1936c (plant collecting).
Leeward Islands: Christophersen, E., and Caum, E. L., 1931 (enum. etc.).
LAYSAN ISLAND: Bitter, G., 1900 (list).—Schauinsland, H., 1899 (descr.).
MIDWAY ISLAND: Anonymous, 1942b.—St. John, H., 1935 (additions to flora).
Maui: Alexander, J. M., 1883 (west).—Mann, H., 1867a (east).
Molokai: Schauinsland, H., 1900 (descr.).—Wentworth, C. K., 1925 (desert strip).
Molokini: Caum, E. L., 1930a (list).—Forbes, C. N., 1913a (list).
Niihau: Forbes, C. N., 1913b (enum.).—St. John, H., 1931b (additions).
KAULA ISLAND: Caum, E. L., 1936 (list).
LEHUA ISLAND: Caum, E. L., 1936 (list).

Oahu: Egler, F. E., 1939a (veg. zones).—Fosberg, F. R., & Hosaka, E. Y., 1938 (bog).—Hosaka, E. Y., 1937a, 1937b, 1939 (Kipapa Gulch, list); 1937c (ecol.).—Judd, C. S., 1929a (map).—Lyon, H. L., 1923 (forestry).—MacCaughey, V., 1915a (survey); 1915b (woody pl.); 1916e (list, Konahuanui); 1916f (list, Waianae Mts.); 1917a (rain forest); 1917c (phytogeogr. Manoa valley).—McEldowney, G. A., 1930 (forestry).—Seemann, B., 1853a, 1853b (notes).
HONOLULU: Babbitt, S. C., 1940 (imported trees).—Hosmer, R. S., 1912 (street trees).—Judd, C. S., 1923 (familiar trees).—Lyons, A. B., 1899 (popular notes). Neal, M. C., 1928 (gardens), 1927 (flowering).—Rock, J. F., 1916d (Foster's garden).—Thrum, T. G., 1914 (flowering trees).

SYSTEMATIC TREATMENTS OF SPECIAL GROUPS

Myxomycetes: Davis, W. C., and Allen, O. N., 1932 (Oahu).
Algae: See under Section III—Algae—Regional.
Fungi: See under Section III—Fungi—Regional.
Lichens: See under Section III—Lichens—Regional.
Bryophyta: See under Section III—Bryophytes—Regional; Hepaticae—Regional; Musci—Regional.
Pteridophyta: See under Section III—Pteridophyta—Regional—Polynesia.
Gymnospermae: St. John, H., and Fosberg, F. R., 1940 (key).
Angiospermae: Fosberg, F. R., 1934 (key to Monocotyledonae).—St. John, H., and Fosberg, F. R., 1938 (key to fam. Dicotyledonae); 1940 (key to fam. Monocotyledonae).
ANNONACEAE: MacCaughey, V., 1917n.
ARALIACEAE: Krajina, V., 1931 (*Cheirodendrum*).
BROMELIACEAE: Collins, T. L., 1937 (wild pineapples).
CARICACEAE: Jones, W. W., 1941 (papaya).
CARYOPHYLLACEAE: Mann, C., 1866c (*Schiedea*).
COMPOSITAE: Degener, O., 1932c (*Bidens*).—Forbes, C. N., 1918 (*Lagenophora*).—Keck, D. D., 1936a, 1936b (*Argyroxiphium*).—Skottsberg, C., 1927c (*Artemisia*).
CYPERACEAE: Reichardt, H. W., 1878 (list).
EUPHORBIACEAE: Sherff, E. E., 1938a (*Euphorbia*).
GERANIACEAE: Fosberg, F. R., 1936a (*Geranium*).
GESNERIACEAE: Rock, J. F., 1917b, 1918a, 1919a, 1919b (*Cyrtandra*).
GOODENIACEAE: Skottsberg, C., 1927c (*Scaevola*).
GRAMINEAE: Gilmore, A. B., 1939 (sugar manual).—Hitchcock, A. S., 1922 revis.).—Hosaka, E. Y., and Ripperton, J. C., 1939 (of ranges).—Reichardt, H. W., 1878 (list).—Hosaka, E. Y., and Ripperton, J. C., 1939 (of ranges).
HALORAGIDACEAE: Krajina, V., 1930a (*Gunnera*).
LEGUMINOSAE: Hosaka, E. Y., and Ripperton, J. C., 1944 (of ranges).—Lyon, H. L., 1910b (cult.).—Rock, J. F., 1919c (arborescent); 1920a (revis.).
LOBELIACEAE: Rock, J. F., 1919e (monogr.).
MALVACEAE: Lewton, F. L., 1912 (*Kokia*).—Rock, J. F., 1919d (*Kokia*).—Wilcox, E. V., and Holt, V. S., 1913 (*Hibiscus*).—Wilder, G. P., 1917 (*Hibiscus*).
MORACEAE: MacCaughey, V., 1917m (*Artocarpus*).
MUSACEAE: MacCaughey, V. 1919a.
MYRTACEAE: MacCaughey, V., 1916j (*Eugenia*); 1917g (*Psidium*).—Rock, J. F., 1917c (*Metrosideros*).
NYCTAGINACEAE: Skottsberg, C., 1936b (arboreous).
PALMAE: Judd, C. S., 1916 (introd.).—Taylor, W., 1900 (list).
PASSIFLORACEAE: MacCaughey, V., 1916k (*Passiflora*).
PIPERACEAE—*Peperomia*: Candolle, C. de, 1913a.—Yuncker, T. G., 1933a, 1933b.—Yuncker, T. G., and Gray, W. D., 1934.
PLANTAGINACEAE: Rock, J. F., 1920b (*Plantago*).
RHIZOPHORACEAE: MacCaughey, V., 1917k (mangroves).
RUTACEAE: Mann, H., 1866c.
SANTALACEAE—*Santalum*: Bennett, G., 1832b.—Rock, J. F., 1916a, 1917f.—Skottsberg, C., 1927c.
VACCINIACEAE: Skottsberg, C., 1927c (*Vaccinium*).
VIOLACEAE—*Viola*: Becker, W., 1916.—MacCaughey, V., 1918i.—Skottsberg, C., 1940a (taxon.).

Horne Islands—FUTUNA ISLAND: Burrows, E. G., 1938 (econ. pl.).

Johnson Island: Christophersen, E., 1931c (descr., enum.).

Juan Fernández: Anonymous, 1894b (sandalwood).—Bertero, C. J., 1830 (general).—Christensen, C., 1920 (phytogeogr.).—Colla, L., 1833–36 (rare pl.); 1833–37 (misc.).—Douglas, D., 1914 (author's coll.).—Gay, C., 1833 (notes).—Goodspeed, T. H., 1941 (general).—Hutchinson, J., 1917 (general).—Johow, F. R. A., 1893b (cult. pl.).—Jussieu, A. L., de, 1833 (general).—Looser, G., 1927b, 1935 (notes).—Philippi, R. A., 1857–65, 1872–73 (n. spp.).—Ramirez, F., 1936 (notes).—Skottsberg, C., 1910b (illustr. veg.); 1914, 1917a, 1917b, 1918a, 1918b (notes); 1920–43 (nat. hist.); 1924 (notes); 1925a (phytogeogr.); 1925b (alpine pl.); 1928b, 1930b (pollination, seed dispersal); 1929a (recent coll.); 1929b (ecol.); 1930c (reservation); 1932c (general); 1934c (phytogeogr.); 1935b (ecol.); 1936c (notes); 1938b (phytogeogr.); 1938c (Bock's coll.); 1945b (ecol.).

FLORAS, ENUMERATIONS AND LISTS: Gay, C., 1845–54 (flora).—Hemsley, W. B., 1884 (list).—Hooker, W. J., and Walker-Arnott, G. A., 1832–41 (contr. fl.).—Johow, F. R. A., 1896 (enum. etc.).—Philippi, R. A., 1856a (list).— Reiche, K., 1894–1911 (flora).—Steudel, E. G., 1856 (contr. fl.).

SYSTEMATIC AND GENERAL TREATMENTS OF SPECIAL GROUPS:

CELLULAR CRYPTOGRAMS: Montagne, J. F. C., 1835, 1850–52.

MYXOMYCETES: Fries, R. E., 1920.

ALGAE: See under Section III—Algae—Regional.

FUNGI: See under Section III—Fungi—Regional.

LICHENS: Zahlbruckner, A., 1924, 1928.

BRYOPHYTA: Brotherus, V. F., 1924, 1926b (enum. Musci).—Evans, A. W., 1930 (list thallose Hepaticae).—Herzog, T., 1942 (list foliose Hepaticae).—Thériot, J., 1927 (Looser's coll.)

PTERIDOPHYTA: Christensen, C., 1910b (Skottsberg's coll.).—Christensen, C., and Skottsberg, C., 1920a (list).—Johow, F. R. A., 1893a (list, crit.).

SPERMATOPHYTA: Clarke, C. B., 1900 (Cyperaceae).—Pilger, R., 1920 (Gramineae).

Kermadec group: Cheeseman, T. F., 1888 (enum.).—Gepp, A., and Gepp, E. S., 1911b (enum. algae).—Hooker, J. D., 1857 (Raoul Island).—Oliver, W. R. B., 1910 (ecol., list); 1911 (lichens, fungi).

Line Islands: Christophersen, E., 1927a (veg. lists, Equatorial Islands).—Fosberg, F. R., 1936b (Vostok Island).—Hemsley, W. B., 1884 (report Fanning Island), 1885b (Malden Island).—Linton, A. M., 1933 (Penrhyn).—Rock, J. F., 1916c Palmyra Island).—Rougier, E., 1917 (Christmas Island).—St. John, H., and Fosberg, F. R., 1936, 1937 (descr., list, Flint Island).—Trelease, W., 1884 (list, Caroline Island).

Marquesas Islands: Bescherelle, É., 1895a (bryophytes, Nukahiva); 1898c (Hepaticae).—Bonaparte, R., 1918b (Henry's fern coll.).—Brown, E. D. W., 1930 (note on ferns).—Brown, E. D. W., and Brown, F. B. H., 1931a, 1931b (taxon. ferns).—Brown, F. B. H., 1928 (Cornaceae); 1930 (monocots); 1931, 1935 (flora).—Drake del Castillo, E., 1893 (flora).—Henry C., 1918, 1922 (notes).—Jardin, É., 1857, 1858, 1862 (enum.).—L., 1817 ("Briton's" voy.).—Seurat, L. G., 19—? (vernacular names).—Stancliff, J. O., 1924 (taro).—Virey, J. J., 1843 (econ. pl.).—Waldgrave, W., 1833 (observations).

Niuafoou Island (between Samoa and Fiji): Howe, M. A., 1932 (list algae).

Niue Island: Yuncker, T. G., 1943a (general); 1943c (flora).

Pascua Island = Easter Island.

Paumotu Archipelago = Tuamotu Islands.

Phoenix Islands: Bryan, E. H., 1939.—Zwaluwenburg, R. H. van, 1941, 1942 (Canton Island).

Pitcairn Island: Barrow, J., 1833 (list).—E., M., 1938 ("Bounty" exped.).—Hemsley, W. B., 1855 (general).—L., 1817 ("Briton's" voy.).—Maiden, J. H., 1901a (list, notes).—Shillibeer, J., 1817 ("Briton's" voy.).

Rotuma Island: Bennett, G., 1832a (notes).

Samoa: Anonymous, 1917 (vegetation, literature).—Betche, E., 1881 (vegetation).—Bulow, W. von, 1896 (econ. pl.).—Burgerstein, A., 1908 (anat. woods).—Christophersen, E., 1934b (exploration).—Cretzoiu, P., 1934 (misc. spp.).—Finsch, O., 1887 (econ. pl.).—Guilfoyle, W. R., 1869 (narrative).—Krämer, A. F., 1902–03 (monogr.).—Lauterbach, K., 1909 (exploration).—Lloyd, C. G., and Aiken, W. H., 1934 (descr. illustr.).—Mayor, A. G., 1921 (Rose Atoll).—Powell, T., 1868a (notes, vernacular names); 1827 (plant poisons).—Rechinger, K., 1907–09 (n. spp.); 1908a (exploration); 1908b (illustrations).—Rechinger, K., and Rechinger, L., 1906 (journey).—Reinecke, F., 1895a, 1895b (econ. pl.); 1902a, 1902b, 1903a, 1903b (vegetation, phytogeography, etc.).—Sparhawk, W. N., 1944 (forests, trees).—Vaupel, F., 1910 (vegetation).—Veitch, J. G., 1866 (journal).—Wegener, G., 1903 (general).—Wohltmann, F., 1904 (econ. pl.).—Yuncker, T. G., 1945 (list, Mauna Island).

FLORAS, ENUMERATIONS, AND LISTS: Christophersen, E., 1935–38 (flowering pl.).—Hochreutiner, B. P. G., 1912–43 (author's coll.).—Lauterbach, K., 1908 (enum.).—Rechinger, K., 1907–15 (results of expedition).—Reinecke, F., 1896–98 (enum.).—Schumann, K., and Lauterbach, K., 1901 (flora).—Setchell, W. A., 1924 (enum., Amer. Samoa, Rose Atoll, Tutuila Island).

SYSTEMATIC AND GENERAL TREATMENTS OF SPECIAL GROUPS:

ALGAE: See under Section III—Algae—Regional—Polynesia.

FUNGI: See under Section III—Fungi—Regional—Polynesia.

LICHENS: See under Section III—Lichens—Regional Polynesia.

BRYOPHYTA: See under Section III—Bryophyta—Hepaticae—Regional; and Musci—Regional.

PTERIDOPHYTA: See under Section III—Pteridophyta—Regional.

SPERMATOPHYTA: Martelli, U., 1934c (Pandanaceae).—Mueller, F., von, 1881b (Orchidaceae).—Schlechter, R., 1910–11 (Orchidaceae).—Summerhayes, V. S., 1939 (*Ficus*).

Society Islands: Ångström, J., 1873, 1875 (Andersson's bryophyte coll. Eimeo).—Bartram, E. B., 1931 (list Musci Raiatea Island).—Bescherelle, É., 1898c (enum. Hepaticae).—Copeland, E. B., 1932a (enum.).—Drake del Castillo, E., 1887a (phytogeogr.); 1893 (flora).—Ellis, W., 1829–31 (descr.).—Guillemin, J. B. A., 1836–37 (enum.).—Henry, T., 1928 ("flora").—Hooker, W. J., and Walker-Arnott, G. A., 1830–41 (bot. Beechey voy.).—Martelli, U., 1932d (Pandanaceae).—Moore, J. W., 1933, 1934 (crit., Raiatea).—Nadeaud, J., 1897c (*Hernandia*); 1899 (n. spp.).—Solander, D.C., 1769–82 (enum. pl. various islands).—Virey, J. J., 1843 (econ. pl.).

TAHITI: Ångström, J., 1873, 1875 (Andersson's bryophyte coll.).—Anonymous, 1893 (econ. pl.).—Bennett, G., 1832d (edible, timber pl.).—Bescherelle, É., 1895a, 1898a, 1901 (Bryophyta).—Bonaparte, R., 1918a (list ferns).—Brotherus, V. F., 1924c (Setchell's and Parks' Musci coll.).—Butteaud, E., 1891 (enum.).—Cuzent, G., 1857, 1860, 1861a (general, econ. pl.).—Darwin, C., 1860 (observations).—Delessert, B., 1848 (narrative voy.).—Fries, E., 1851 (fungi).—Guillemin, J. B. A., 1836–37 (enum.).—Henry, T., 1928 (ancient).—Jardin, É., 1860 (suppl. to Guillemin).—Lépine, J., 1857 (food pl.).—Lloyd, C. G., 1925 (fungi).—Martelli, U., 1933b (Pandanaceae).—Maxon, W. R., 1924 (enum. ferns).—Montagne, J. F. C., 1848 (Fungi, Musci).—Moore, J. W., 1940 (n.

spp.).—Mueller, J., 1884a, 1884b (lichens Brunaud's coll.).—Nadeaud, J., 1864 (common pl.); 1873 (enum.); 1874 (notes); 1897a (crit.).—Parkinson, S., 1773 (journal of voy.).—Parks, H. E., 1926 (Setchell's and Parks' fungi).—Potier de la Varde, R., 1912 (list Musci).—Reichardt, H. W., 1866, 1870 (fungi Novara exped.).—Setchell, W. A., 1923 (veg. reefs, etc.); 1926a, 1926b (enum. Setchell and Parks coll.); 1926c, 1926d (phytogeogr.).—Seurat, L. G., 19—? (vernacular names).—1906 (general).—Solander, D. C., 1769–82 (enum.).—Stancliff, J. O., 1923 (popular notes); 1924 (taro).—Viguier, R., 1930 (general).—Waldgrave, W., 1833 (journal).—Weber van Bosse, A., 1910 (*Caulerpa*).—Wilson, J., 1799 (general).—Vainio, E. A., 1924 (lichens Setchell and Parks' coll.).—Z., 1774 (econ. pl.).

Tokelau or Union Islands: Macgregor, G., 1937 (ethnology).

Tonga or Friendly Islands: Anonymous, 1917 (notes, literature).—Burkill, I. H., 1901 (enum. Vavau Island).—Christensen, C., 1920 (phytogeogr.).—Grunow, A., 1873 (algae Graffe coll.).—Guilfoyle, W. R., 1869 (bot. tour).—Hemsley, W. B., 1894 (flora).—Luerssen, C., 1871 ("Filices Graeffeanae").—Martelli, U., 1930b (Pandanaceae).—Setchell, W. A., Hoffmeister, J. E., and Ostergaard, J. M., 1926 (notes).—Veitch, J. G., 1866 (journal).—Waldgrave, W., 1833 (notes, Tongatabu).

Tuamotu Islands: Bescherelle, É., 1895a (bryophytes Mangareva).—Drake del Castillo, E., 1893 (flora Gambier Islands).—Henry, T., 1928 (flora).—Patouillard, N., 1904 (fungi).—Seurat, L. G., 1903 (lists Timoe or Crescent Island); 1904 (South Marutea); 19–? (vernacular names, Tuamotan, Mangarevan).—Wilder, G. P., 1934 (flora Makatea).

Tubuai Islands—RAPA ISLAND: Riley, L. A. M., 1926 (crit.).

Wallis Islands: Burrows, E. G., 1938 (econ. pl. Uvea).—Drake del Castillo, E., 1893 (flora).

MICRONESIA

GENERAL

Bibliography: Utinomi, H., 1945.

Economic plants: Finsch, O., 1887, 1893.

Floras, enumerations, and lists: Diels, L., 1921–30 (contr. to flora).—Hosakawa, T., 1934–44 (contr. to flora).—Kanehira, R., 1931a, 1931b (enum. woody pl.); 1932 (forest trees); 1933 (flora); 1935c (enum.).—Schumann, K., and Lauterbach, K., 1901, 1905 (enum.).—Tuyama, T., 1940a (enum.).—Volkens, G., 1914 (enum.).—Yamamoto, Y., 1937 (lists).

Floristic and general descriptions: Hayata, B., 1926.—Hosokawa, T., 1943b.—Privat-Deschanel, P., 1930.—Schnee, H., 1920 (encyclopaedic).

Forests: Kanehira, R., 1915.—Sparhawk, W. N., 1944.

See also Trees.

Miscellaneous notes and descriptions of plants: Kanehira, R., 1932–38 (trees); 1935a, 1935b.—Kanehira, R., and Hatusima, S., 1939–40 (trees).—Koidzumi, G., 1916–17.—Schumann, K., 1888.—Yamamoto, Y., Mori, K., and Fukuyama, N., 1939 (index to contr. Taihoku Univ.).

Phytogeography: Kanehira, R., 1935d, 1941.—Watanabe, K., 1941.

Trees: Kanehira, R., 1931a, 1931b, 1932, 1932–38.—Kanehira, R., and Hatusima, S., 1939–40.—Sparhawk, W. N., 1944.

SUBDIVISIONS

Caroline Islands: Anonymous, 1885 (general).—Cabeza Pereiro, A., 1895–96 (general, enum., Ponape).—Chamisso, L. C. A. von, 1821, 1830 (voyage).—Christian,

F. W., 1897 (general, Ponape); 1899 (general).—Fukuyama, N., 1939 (Orchidaceae of Kusaie).—Gulick, L. H., 1858a, 1858b (general, econ. pl. Ponape).—Hambruch, P., 1932 (general, vernacular names Ponape).—Hemsley, W. B., 1885b (general).—Hosokawa, T., 1935d, 1937a (syst.); 1937b (enum., phytogeogr. Truk); 1943a (epiphytes Ponape).—Kanda, C., 1942, 1944 (marine algae).—Krämer, A., 1929 (local names, Palau).—Lam, H. J., 1919 (Verbenaceae).—Lütje, O., 1906 (general).—Luetke, F. P., 1835–36 (voyage).—Markgraf, F., 1930 (Apocynaceae Palau Islands).—Mertens, K. H., 1835 (voyage).—Matue, Y., 1942 (diatoms Palau).—Miguel, D. G., 1887 (general).—Motoda, S., 1941 (plankton Palau).—Müeller, W., 1917 (econ. pl. Yap).—Nishiyama, S., 1941 (fungi Palau).—Okabe, M., 1941b (drugs Palau); 1941c (food pl. Palau); 1941d (veg. Palau); 1942 (list east Carolines).—Safert, E., 1919 (econ. pl. Kusaie).—Schumann, K., and Lauterbach, K., 1901 (flora).—Semper, K., 1873 (descr. Palau Islands).—Tokioka, T., 1942a, 1942b (plankton Palau).—Tuyama, T., 1941a, 1941b (vernacular names Palau).—Volkens, G., 1901a (voyage); 1901b (descr. Yap); 1901c (descr. enum., espec. Yap); 1901d (voyage).—Wegener, G., 1903 (general).—Yamada, Y., 1926 (Chlorophyceae, phytogeog.); 1944b (marine algae Ant Atoll near Ponape).

Gilbert Islands: Dixon, H. N., 1927 (bryophytes).—Woodford, C. M., 1895 (descr., list).

Marcus Island: Bryan, W. A., 1903 (notes).—Tuyama, T., 1938b (lists).

Marianas Islands: Chamisso, L. C. A. von, 1821, 1830 (voyage).—Cavanilles, A. J., 1801–02 (enum. collection, Malaspina exped.).—Gaudichaud, C., 1824 (n. gen. Freycinet's exped.).—Hemsley, W. B., 1885b (general).—Hosokawa, T., 1934b (hist., phytogeogr., list); 1934c, 1935b (phytogeog.).—Kanehira, R., 1934 (voyage n. part); 1936c (Rota Island); 1936b (palms).—Lam, H. J., 1919 (Verbenaceae).—Markgraf, F., 1930 (Apocynaceae).—Meyen, F. J. F., 1843 (enum. Meyen Coll.).—Presl, K. B., 1825–36 (crit.).—Schumann, K., and Lauterbach, K., 1901, 1905 (floral).—Volkens, G., 1901a, 1901d, 1904 (descr.).—Wegener, G., 1903 (general).—Yamada, Y., 1926 (Chlorophyceae, phytogeog.).

GUAM: Ames, O., 1914 (Orchidaceae).—Bryan, E. H., 1931 (pl. assoc.); 1936–41 (taxon.).—Chamisso, L. C. A. von, and Schlechtendal, D. von, 1826–35 (crit.).—Cox, L. M., 1926 (econ. pl.).—Linsley, L. N., 1935 (popular notes).—Merrill, E. D., 1914, 1919 (enum.).—Merrill, E. D., and Perry, L. M., 1946 (additions to flora).—Reid, C. F., 1939 (bibliog.).—Safford, W. E., 1902, 1904 (observations, introduced pl.); 1905a (useful pl.); 1905b, 1910 (nat. hist. notes).—Sherman, J., 1935 (useful trees).

Marshall Islands: Betche, B., 1884 (general).—Engler, A., 1897 (list).—Hager, C., 1885 (general).—Hemsley, W. B., 1885b (general).—Koidzumi, G., 1915 (enum. Jaluit Island).—Okabe, M., 1941a (enum.).—Schumann, K., and Lauterbach, K., 1901, 1905 (flora).—Steinbach, E., 1895 (general).—Volkens, G., 1903 (list, notes).—Wegener, G., 1903 (general).—Yamada, Y., 1926 (Chlorophyceae, phytogeogr.).

Wake Island: Christophersen, E., 1931c (enum.).

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Algae. See under Section III—Algae—Regional.

Fungi: See under Section III—Fungi—Regional.

Lichens: See under Section III—Lichens—Regional.

Bryophyta—MUSCI: Brotherus, V. F., 1901 (Caroline Islands).—Dixon, H. N., 1927 (Gilbert Islands); 1943 (records Caroline Islands, Marianas Islands).—Sakurai, K., 1943.

Pteridophyta: See under Section III—Pteridophyta—Regional.

Spermatophyta:

ANACARDIACEAE: Lauterbach, K., 1921d.
APOCYNACEAE: Markgraf, F., 1930.
ASCLEPIADACEAE: Schlechter, R., 1921c.
BALANOPHORACEAE: Hosokawa, T., 1934d.
COMPOSITAE: Kitamura, S., 1941.
CONNARACEAE: Schellenberg, G., 1924a.
CYPERACEAE: Kükenthal, G., 1924.—Ohwi, J., 1942a.
GESNERIACEAE: Schlechter, R., 1921e.
GRAMINEAE: Hosokawa, T., 1935c.—Ohwi, J., 1941.
HIPPOCRATEACEAE: Loesener, T., 1930b.
LECYTHIDACEAE: Lauterbach, K., 1921f.
MORACEAE: Diels, L., 1938.
MYRISTICACEAE: Markgraf, F., 1938.
MYRSINACEAE: Mez, C., 1921.
MYRTACEAE: Diels, L., 1921c.
ORCHIDACEAE: Ames, O., 1914 (Guam).—Fukuyama, N., 1939 (Kusaie Island in Carolines).—Schlechter, R., 1921a.
PALMAE: Kanehira, R., 1936b.
PANDANACEAE: Martelli, U., 1934b.
RHAMNACEAE: Lauterbach, K., 1921e.
RUBIACEAE: Fosberg, F. R., 1940b.
RUTACEAE: Lauterbach, K., 1921a.
SCROPHULARIACEAE: Schlechter, R., 1921d.
VERBENACEAE: Lam, H. J., 1919, 1924.
VITACEAE: Lauterbach, K., 1930.

MELANESIA, NEW GUINEA, ETC.[3]

Finsch, O., 1887 (econ. pl.).—Fosberg, F. R., 1940a (enum.).—Record, M., 1945 (enum. woody pl., vernacular names).—Reinecke, F., 1902b (descr.).—Schumann, K., 1888 ("Fl. deutsch. Schutzgeb.").—Schumann, K., and Lauterbach, K., 1901, 1905 (flora).

Admiralty Islands: Hemsley, W. B., 1884 (enum.).
Bismarck Archipelago: Finsch, O., 1893 (notes).—Lam, H. J., 1919 (Verbenaceae).
Fiji Islands:

AGRICULTURE: Parham, W. L., 1937.
BIBLIOGRAPHY: Parham, B. E. V., 1941a.
COLLECTORS, COLLECTIONS, EXPLORERS, AND EXPEDITIONS: Askenasy, E., 1889 (algae "Gazelle" exped.).—Bentham, G., 1843 (Hind's coll.).—Degener, O., 1943b ("Cheng-Ho" exped.).—Gray, A., 1857 (U. S. Explor. Exped.); 1861c, 1862a (Seemann's coll.).—Milne, W., 1855 (voy. "Herald").—Smith, A. C., 1936–42 (voy. "Cheng Ho").—Storck, J., 1862 (letter).—Veitch, J. G., 1866 (journal).
CORAL REEFS: Howe, M. A., 1912 (algae).
ECONOMIC PLANTS: Harvey, W. H., 1857.—Horne, J., 1881.—Parham, B. E. V., 1942b, 1944, 1946.—Parham, H. B. R., 1937, 1943.—Parham, W. L., 1929.—Seemann, B., 1861e, 1862o, 1880.—Thompson, L., 1940 (southern Lau).
FLORAS, ENUMERATIONS, AND LISTS: Bentham, G., 1843 (Hinds and Barclay coll.).—Gibbs, L. S., 1909 (montane fl.).—Horne, J., 1881 (list).—Parham, B. E. V., 1942a (list of spp., synopsis of families).—Record, M., 1945 (woody pl.).—

[3] Not all Melanesia is covered in this bibliography. See the introduction to the bibliography, page 2. The references here listed to excluded regions appear in the bibliography because of their incidental references to the included area.

Seemann, B., 1861–62, 1862a, 1862b (lists); 1865–73 ("Fl. Vitiensis"); 1880 (list).—Smith, A. C., 1936–42 ("Cheng Ho" voy.).—Thurston, J. B., 1886 (catalogue trees, shrubs).—Turrill, W. B., 1915c (enum.).

FLORISTIC AND GENERAL DESCRIPTIONS: Graeffe, E., 1869.—Guilfoyle, W. R., 1869.—Guppy, H. B., 1903–06 (Vanua Levu).—Harvey, W. H., 1857.—Hinds, R. B., 1842.—Horne, J., 1881.—Im Thurn, E., 1912.—Mead, J. P., 1933.—Milne, W., 1855; 1857 (Naviti Levu).—Seemann, B., 1861c.—Smith, A. C., 1934, 1935a, 1935b.—St. John, H., 1939c (jungles).—Wylie, R. B., 1923a, 1924.—Veitch, J. G., 1866.

FOOD PLANTS: Coster, S. E. H., 1938.—Harwood, L. W., 1938 (native).—Milne, W., 1859, 1860b (used by natives).—Parham, B. E. V., 1944 (introduced).—Surridge, H. R., and Parham, B. E. V., 1941 (vegetables).

FORAGE: Tothill, J. D., 1929 (pasture pl.).

FORESTS AND FORESTRY: Mead, J. P., 1928a, 1928b, 1933.—Sparhawk, W. N., 1944.—Sykes, R. A., 1931. 1933.

INTRODUCED PLANTS: Jack, H. W., 1936 (mahogany).—Harvey, C., 1941b (in 1939–40).—Parham, B. E. V., 1939a (by Howard and Wallace), 1942c, 1944.—Wylie, R. B., 1923b.

MEDICINAL PLANTS: Parham, H. B. R., 1943.—Rougier, E., 1923–24.

MISCELLANEOUS NOTES AND DESCRIPTIONS OF PLANTS: Anonymous, 1886c, 1887.—Baker, J. G., 1883.—Engler, A., 1889b.—Gillespie, J. W., 1930–32.—Gray, A., 1857, 1861c, 1862a.—Parham, B. E. V., 1942c, 1946.—Smith, A. C., 1941–46.

ORIGIN: Woolnough, W. G., 1903 (continental).

POISONOUS PLANTS: Parham, B. E. V., 1937b.—Seeman, B., 1861d.

SYSTEMATIC AND GENERAL TREATMENT OF SPECIAL GROUPS:

ALGAE: Grunow, A., 1873 (list marine).—Schmidt, O. C., 1928 (enum.).

FUNGI: Parham, B. E. V., 1942f.—Smith, W. G., 1871.—Thümen, F. von, and Mueller, J., 1889.

LICHENS: Crombie, J. M., 1871 (enum.).

BRYOPHYTA: Bartram, E. B., 1936, 1944 (enum., Musci).—Dixon, H. N., and Greenwood, W., 1930 (enum. Musci).—Jack, J. B., and Stephani, F., 1894 (enum. Hepaticae).—Mitten, W., 1861–62, 1871 (Bryophyta).—Mueller, K., 1873 (Graeffe's coll.); 1889 ("Gazelle" voy.).

PTERIDOPHYTA: Baker, J. G., 1879 (Horne's coll.); 1886m (Thurston's coll.).—Carruthers, W., 1869 (flora).—Copeland, E. B., 1929a (manual).—Luerssen, C., 1871 (enum.).—Smith, A. C., 1944 (notes).—Wright, Charles Henry, 1930 (Im Thurn's coll.).

SPERMATOPHYTA: Burret, M., 1935 (Palmae).—Martelli, U., 1930a (Pandanaceae).—Milne, W., 1860a (Palmae).—Parham, B. E. V., 1945b ("blue" grasses).—Stuchbery, H. M., 1937 (Gramineae).—Summerhayes, V. S., and Hubbard, C. E., 1927, 1930 (Gramineae).—Williams, L. O., 1938a (Orchidaceae).

TREES: Goodser, W. E., 1937.—Sparhawk, W. N., 1944.—Surridge, H. R., 1937b.

VERNACULAR NAMES: Parham, B. E. V., 1942a.—Parham, H. B. R., 1935, 1943.—Parham, W. L., 1929.—Wright, C. Harold, 1918.

WEEDS: Barnes, A. C., 1930.—Greenwood, W., 1943, 1944.—Lever, R. J. A. W., 1946.—Parham, B. E. V., 1938–40, 1942e, 1945a.—Simmonds, H. W., 1931–32.

Isle of Art (near New Caledonia): Montrousier, X., 1860 (enum.).

Isle of Pines: Compton, R. H., 1922 (enum. author's coll.).—Guillaumin, A., 1911a (list); 1911–44 (enum. Jeanneney's coll.).—Macgillivray, J., 1854 (notes).—Mialaret, T., 1897 (general).—Paris, E. G., 1910 (list bryophytes).—Rendle, A. B., Baker, E. G., and Moore, S. le M., 1921–22 (enum. Compton's coll.).

Lord Howe Island:

FLORAS, ENUMERATIONS, AND LISTS: Hemsley, W. B., 1896.—Maiden, J. H., 1914.—Moore, C., and Betche, E., 1893.—Mueller, F. von, 1875a.—Oliver, W. R. B., 1917 (ecol. list).

FLORISTIC AND GENERAL DESCRIPTIONS: Macgillivray, J., 1854.—Maiden, J. H., 1898, 1899.—Moore, C., 1869a, 1869b, 1870, 1872.—Mueller, F. von, 1858–81.—Willis, J. C., 1919.—Wilson, J. B., 1882.

PHYTOGEOGRAPHY: Tate, R., 1893.

SYSTEMATIC AND GENERAL TREATMENTS OF SPECIAL GROUPS: Brotherus, V. F., and Watts, W. W., 1915b (enum. Musci).—Cheel, S., 1912–14 (Lichens—Stictaceae).—Lucas, A. H. S., 1935 (marine algae).—Watts, W., 1912, 1914 (enum. ferns).—Whitelegge, T., 1892 (list Musci).

Loyalty Islands: Becherer, A., 1937 (Bergeret's fern coll.).—Bonaparte, R., 1914a, 1915b (enum. ferns).—Christensen, C., 1932 (ferns Däniker exped.).—Däniker, A. U., 1931, 1932–33 (enum. author's coll., descr. veg.).—Guillaumin, A., 1911a (list).—Hackel, E., and Schinz, H., 1914 (Gramineae).—Harmand, J., 1914 (enum. lichens).—Kränzlin, F., 1914 (Orchidaceae).—Mueller, F. von, 1873 (phytogeog.).—Sarasin, F., 1917 (descr.).—Sarasin, F., and Roux, J., 1914–21 (revisions.)—Schinz, H., 1929 (Däniker's coll.).—Thériot, J., 1914 (Musci).—Wakefield, E. M., 1920 (enum. fungi).

New Caledonia:

AGRICULTURE: Jeanneney, A., 1894.

COLLECTORS, COLLECTIONS, EXPLORERS, AND EXPEDITIONS: Guillaumin, A., 1911–44 (various collectors in pts. XIX, XXVII, XXXII–XXXIII, XLI–XLIII, XLV, XLIX, LIII, LIX, LXII, LXVI, LXVIII, LXXI, LXXV–LXXXI, LXXXIII–LXXXV).

BOUGIER: Guillaumin, A., 1911–44 (pt. XVI).

COMPTON, R. H.: Compton, R. H., 1922.—Rendle, A. B., Baker, E. G., and Moore, S. le M., 1921–22.

CRIBS: Guillaumin, A., 1911–44 (pt. XII).

DANIKER, A. U.: Däniker, A. U., 1931, 1932-33.—Schinz, H., 1929.

FETSCHERIN: Guillaumin, A., 1911–44 (pt. VI).

FRANC, I.: Guillaumin, A., 1911–44 (pts. XX, XXII, XXXI, XXXIV, XXXVII-XXXIX, XLIV, XLVIII, L, LII, LV-LVI, LX, LXI, LXV, LXIX, LXXII).

GODEFROY: Guillaumin, A., 1911–44 (pts. LVIII, LXXXII).

GRUNOW, A.: Zahlbruckner, A., 1888.

JEANNENEY, A.: Guillaumin, A., 1911–44 (pt. II), 1914–45 (pt. LXXIX).

KIENER: Guillaumin, A., 1911–44 (pt. III).

LEENHARDT: Guillaumin, A., 1911–44 (pts. LXXIII-LXXIV).

LEQUERRÉ: Guillaumin, A., 1911–44 (pt. XXV).

LE RAT: Guillaumin, A., 1911–44 (pts. VII, [XVIII], XXVI, XXX, XL, XLVII, LI, LVII, LXIII-LXIV, LXVII).

MEZGER: Guillaumin, A., 1911–44 (pt. XLVI).

MONTROUZIER: Beauvisage, G., 1894, 1901.—Guillaumin, A., and Beauvisage, G., 1913.

PENNEL: Guillaumin, A., 1911–44 (pt. I).

SAVÈS, T.: Guillaumin, A., 1911–44 (pt. V).

VIROT: Guillaumin, A., 1911–44 (pt. LXX).

WHITE, C. T.: White, C. T., Wilson, E. H., and Guillaumin, A., 1926.

ECONOMIC PLANTS: Heckel, E., 1892, 1913.—Perret, V., 1883.—Poisson, J., 1900 (rubber).—Soubeiran, J. L., 1870.—Vieillard, E., 1862a.—Vieillard, E., and Deplanche, E., 1862–63.

FLORAS, ENUMERATIONS, AND LISTS: Guillaumin, A., 1911a (catalogue).—Mezger, K., 1926 (woody pl.).—Montrousier, X., 1860 (Isle of Art).—Sarasin, F., and Roux, J., 1914–21.—Schlechter, R., 1907–08.—Sebert, H., [and Pancher, I.], [1874] (woody pl.).

See also Collectors, collections, explorers, and expeditions.

FLORISTIC AND GENERAL DESCRIPTIONS: Abbay, R., 1877.—Balansa, B., 1872a (Mount Humboldt).—Bernard, A., 1895.—Boothby, M. R., 1944 (lowlands).—Brongniart, A., 1865a.—Cornu, M., 1865.—Däniker, A. U., 1929.—Guilfoyle, W. R., 1869.—Heckel, E., 1892 (Prony Bay).—Jeanneney, A., 1894 (agriculture).—Lang, M., 1925.—Macgillivray, J., 1854.—Naudin, C., 1857, 1866a.—Palacky, J., 1882.—Pancher, I., 1881.—Sarasin, F., 1917.—Vieillard, E., and Deplanche, E., 1862–63.

FORAGE: Jacques, C., 1940a.

FORESTS: Sparhawk, W. N., 1944.

GALLS: Houard, C., 1916–25, 1921.

INTRODUCED PLANTS: Guillaumin, A., 1942.

KEYS FOR DETERMINATION OF FAMILIES: Guillaumin, A., 1943b.

MISCELLANEOUS NOTES AND DESCRIPTIONS OF PLANTS: Barillet, F., 1873.—Bonati, G., and Petitmengin, M., 1907.—Brongniart, A., and Gris, A., 1864–71, 1868–71.—Brongniart, A., 1874a.—Cretzoiu, P., 1934.—Frauenfeld, G. von, 1867.—Guillaumin, A., 1909–13, 1921b, 1943b—Heckel, G., 1912.—Hochreutiner, B. P. G., 1910.—Labillardière, J. J. H. de, 1824–25.—Lindley, J., 1851.—Rafarin, ——, 1877.—Vieillard, E., 1865a, 1865b, 1866.

PALEOBOTANY: Guillaumin, A., 1919 (summary).—Loubière, A., 1936 (*Cedroxylon pancheri*).—Zeiller, R., 1889.

PHOTOGRAPHS: Däniker, A. U., 1939.

PHYTOGEOGRAPHY: Balansa, B., 1873.—Guillaumin, A., 1921a, 1929b.—Heckel, E., 1892 (zones).—Schlechter, R., 1905.—Virot, R., 1939.

SYSTEMATIC AND GENERAL TREATMENTS OF SPECIAL GROUPS:

MYXOMYCETES: Lister, G., 1922.

ALGAE: See under Section III—Algae—Regional—Melanesia.

FUNGI: See under Section III—Fungi—Regional—Melanesia.

LICHENS: See under Section III—Lichens—Regional—Melanesia.

BRYOPHYTA: See under Section III—Bryophyta—Regional; Hepaticae—Regional; Musci—Regional—Melanesia.

PTERIDOPHYTA: See under Section III—Pteridophyta—Regional—Melanesia.

SPERMATOPHYTA: Baillon, H., 1890–91 (Sapotaceae); 1891b (Aquifoliaceae—*Phelline*).—Balansa, B., 1872b (Gramineae).—Beccari, O., 1920, 1921b (Palmae).—Bitter, G., 1921a (Solanaceae).—Brongniart, A., 1861 (Violaceae—*Agation*); 1873, 1874b (Palmae); 1875 (Pandanaceae).—Brongniart, A., and Gris, A., 1861a (Umbelliferae—*Myodocarpus*); 1862 (Saxifragaceae, Cunoniaceae); 1864a (Epacridaceae); 1865b (Myrtaceae); 1866a (Coniferae); 1866b (*Symplocos*); 1869, 1871a (Coniferae); 1872 (*Cunonia*).—Bureau, E., 1862 (Bignoniaceae); 1869–72 (Artocarpaceae).—Candolle, C. de, 1920 (Piperaceae).—Dubard, M., 1906a (Nepenthaceae).—Guillaumin, A., 1911 (*Citrus*); 1914–45, 1946 (revis, nearly 50 fam. and gen.); 1916 (*Eugenia*).—Heckel, E., and Schinz, H., 1914 (Gramineae).—Heckel, E., 1911a (*Lantana*).—Jacques, C., 1939 (*Paspalum*).—Kerchove de Denterghem, O. de, 1877 (*Araucaria*).—Kränzlin, F., 1914, 1928b, 1929b (Orchidaceae).—Martelli, U., 1920 (Pandanaceae).—Poisson, J., 1876 (*Casuarina*).—Pynaert, C., 1905a (*Araucaria*).—Steenis, C. G. G. J. van, 1927 (Bignoniaceae).—Vieillard, E., 1873 (Palmae).—Viguier, B., 1912 (Epacridaceae), 1925

(Araliaceae).—Viguier, R., and Guillaumin, A., 1912 (Araliaceae).—Warburg, O., 1921 (Moraceae).

VERNACULAR NAMES (French): Guillaumin, A., 1911–44 (part XXI).

WOODS: Mezger, K., 1926.—Sebert, H., [and Pancher, I.], [1874].

New Guinea: Bentham, G., 1843 (enum. Hinds and Barclay's coll.).—Brause, G., 1920 (Ledermann's fern coll.).—Burret, M., 1928a (Palmae).—Diels, L., 1922 (Myrtaceae).—Finsch, O., 1893 (descr., econ. pl.).—Harms, H., 1920–21 (Araliaceae).—Hinds, R. B., 1842 (fl. descr.).—Lam, H. J., 1934 (discussion, bibliog.).—Martelli, U., 1912 (Pandanaceae).—Rechinger, K., 1907–15 (enum. author's coll.).—Scheffer, R. H. C. C., 1876a (enum.).—Schellenberg, G., 1923a (Opiliaceae, Olacaceae, Icacinaceae); 1923b (Connaraceae).—Sleumer, H., 1942 (Ericaceae).—Valeton, T., 1914a (Nyctaginaceae).—Zahlbruchner, A., 1911 (lichens Rechinger exped.).

New Hebrides: Ames, O., 1931, 1932 (Orchidaceae).—Aubert de la Rue, E., 1937 (general).—Baker, J. R., and Baker, I., 1936 (seasons).—Bentham, G., 1843 (enum. Hinds, Barclay coll. from Tanna).—Biehler, J. F. T., 1807 (n. spp.).—Brotherus, V. F., and Watts, W. W., 1915a (list Musci).—Copeland, E. B., 1932b (enum. ferns).—Cretzoiu, P., 1934 (n. spp.).—Danser, B. H., 1934 (Loranthaceae).—Davillé, E., 1895 (general).—Guilfoyle, W. R., 1869 (descr.).—Guillaumin, A., 1919–29 (enum. Levat's coll.); 1929a (phytogeogr.); 1931–33 (enum. Kajewski's coll.); 1934a (phytogeogr.); 1935, 1937 (enum. Aubert de la Rue's coll.); 1938 (fl. Espiritu Santo Island).—Hinds, R. B., 1842 (descr.).—Hitchcock, A. S., 1932 (Gramineae).—Jeanpert, E., 1911 (list ferns).—Kajewski, S. F., 1930 (descr.).—Kuhn, M., 1869b (enum. ferns).—Manguin, E., 1938 (diatoms).—Martelli, U., 1931, 1932a (Pandanaceae).—Milne, W., 1855 (voy. "Herald").—Morrison, A., 1897, 1902 (general).—Mueller, F. von, 1873 (list, phytogeogr.).—Schlechter, R., 1906 (Orchidaceae).—Sparhawk, W. N., 1944 (forests).—Sprengel, K., 1807 (n. spp.).—Summerhayes, V. S., 1932 (Artocarpaceae).—Thériot, J., 1938 (list Musci).

See also Santa Cruz.

New Ireland: Bentham, G., 1843 (enum.).—Hinds, R. B., 1842 (descr.).

Norfolk Island: Backhouse, J., 1843 (notes).—Carne, J. E., 1885 (list).—Cunningham, A., 1842 (notes, list).—Downing, C. T., 1862 (econ. pl.).—Endlicher, S. L., 1833b (flora, Bauer coll.).—Laing, R. M., 1901, 1906 (list marine algae); 1915 (list seed pl.); 1916 (ferns).—Maiden, J. H., 1903 (enum.).—Moore, C., and Betche, E., 1893 (handbook).—Mueller, F. von, 1875b, 1884, 1885 (lists, notes).—Reinbold, T., 1900 (list marine algae).—Tate, R., 1893 (phytogeogr.).—Willis, J. C., 1919 (descr. flora).

Philip Island (San Cristoval, Solomon Islands): Cunningham, A., 1842 (notes, list).

Santa Cruz Islands: Ames, O., 1932a, 1933 (enum. Orchidaceae).—Copeland, E. B., 1931 (Kajewski's fern coll. Vanikoro Island).—Fosberg, F. R., 1940a (enum.).—Setchell, W. A., 1935d (marine algae).

Solomon Islands: Beck, G. von, 1888b (enum. Stewart atolls).—Hemsley, W. B., 1894 (notes).—Keissler, K. von, 1909 (fungi).—Rechinger, K., 1907–15 (enum. author's coll.); 1908a (descr. voyage).—Rechinger, K., and Rechinger, L., 1906 (descr. voyage).—Stockmayer, S., 1915 (enum. algae).—Wille, N., 1915 (enum. algae).

SECTION III—SYSTEMATIC

COMPREHENSIVE TREATMENTS

Baillon, H., 1867–95 ("Hist. pl.").

Bentham, G., and Hooker, J. D., 1862–83 ("Gen. pl.").

Candolle, A., and Candolle, C. de, 1878–96 ("Monogr. phan. prodr.").
Candolle, A. P., de, 1818–21 ("Reg. veg. syst. nat.").
Candolle, A. P., Candolle, A., and Candolle, C. de, 1824–74 ("Prodr. syst. nat. reg. veg.").
Dietrich, A., 1831–33 ("Linné sp. pl.").
Dietrich, D. N. F., 1839–52 ("Synop. pl.").
Don, G., 1831–38 ("Gen. hist. dichlamyd. pl.").
Endlicher, S. L., 1836–50 ("Gen. pl.").
Engler, A., 1892–1936 ("Syllabus . . .").
Engler, A., 1900 ("Pflanzenreich").
Engler, A., and Prantl, K., 1887–1908, 1892–1936, 1924–40 ("Pflanzenfamilien").
Gmelin, J. F., 1791 ("Linné syst. nat.").
Kunth, K. S., 1833–50 ("Enum. pl.").
Kuntze, O., 1891–98 ("Revis. gen. pl.").
Lamarck, J. B. A. P. M. de, 1783–1817 ("Encycl. méth. bot."); 1791–1823 ("Tab. encycl. méthod.").
Lemée, A., 1929–39 ("Dict. descr. syn. gen. pl. phanerog.").
Linnaeus, C., 1753 ("Sp. pl."); 1754 ("Gen. pl."); 1758–59 ("Syst. nat.").
Linnaeus, C., (fil.), 1781 ("Suppl. pl. syst. veg.").
Meisner, C. F., 1836–43 ("Pl. vasc. gen.").
Murray, J. A., 1784 (Linnaeus' "Syst. reg.", ed. 14).
Persoon, C. H., 1805–07 ("Synop. pl.").
Pfeiffer, K. G. L., 1873–74 ("Nomencl. bot.").
Presl, K. B., 1834 ("Repert. bot. syst.").
Richter, H E., 1835-40 ("Linn. syst. gen. sp. pl.").
Roemer, J. J., and Schultes, J. A., 1817–30 ("Syst. veg.").
Sprengel, A., 1828 ("Tent. suppl. syst. veg. Linn.").
Sprengel, K., 1825–28 ("Linn. syst. veg.").
Vahl, M., 1790–94 ("Symb. bot."); 1805–06 ("Enum. pl.").
Willdenow, C. L., 1797–1830 ("Linn. sp. pl.").

CELLULAR CRYPTOGAMS

Bory de Saint-Vincent, J. B. M., 1827–29 (enum. "Coquille" voy.).—Keissler, K. von, 1923 (misc. descr.).—Montagne, J. F. C., 1835 (Juan Fernández); 1842–45 ("Astrolabe" and "Zélée" voy.); 1843 (misc. descr.); 1850–52 (Juan Fernández); 1856 ("Sylloge gen. sp. . . .").—Roumeguère, C., 1882 (Remy coll.).—Schkuhr, C., 1809 (monogr.).—Zahlbruckner, A., 1904–16 ("Sched. ad Kryptog. exsicc.").

SCHIZOMYCETES

Lewton-Brain, L., and Derr, N., 1909 (on Hawaiian sugars).—Martin, J. P., 1930a (gumming disease of sugar cane—*Bacterium vascularum*).—Parris, G. K., 1940 (check list).—Stevenson, J. H., and Rands, R. D., 1938 (associated with sugar cane).

MYXOMYCETES (Slime molds)

Davis, W. C., and Allen, O. N., 1932 (Oahu, Hawaii).—Fries, R. E., 1920 (Juan Fernández).—Lister, A., 1894–1925 (monogr.).—Lister, G., 1922 (New Caledonia).—Macbride, T. H., 1926 (*Stemonitis,* Fiji).—Macbride, T. H., and Martin, G. W., 1934 (monogr.).—Rendle, A. B., Baker, E. G., and Moore, S. le M., 1921–22 (Compton's New Caledonia, Isle of Pines coll.).—Rostabinski, J. T., 1874–75, 1876 (monogr.).

ALGAE

GENERAL

Bibliographies: Lemmermann, E., 1903 (phytoplankton).—Levring, T., 1941 (Juan Fernández).—Okamura, K., 1932, 1934.—Tilden, J., 1920.—Toni, G. B. de, 1931–32, 1937–39.

Calcareous algae: Utinomi, H., 1942. See also Coral reefs.

Collectors, collections, expeditions and voyages:

"ALBATROSS": Mann, A., 1907 (diatoms).

"BONITE": Montagne, J. F. C., 1846.

"CHALLENGER": Dickie, G., 1876a, 1876b.

GALTSOFF, P. S.: Howe, M. A., 1934 (Hawaii).

"GAZELLE": Askenasy, E., 1889.

GRAEFFE, E.,: Grunow, A., 1873.

MOSELEY, H. N.: Dickie, G., 1876b, 1877.

"NOVARA" EXPEDITION: Grunow, A., 1867, 1872.

PARKS, H. E. (See Setchell).

PRUSSIAN EXPEDITION: Martens, G. von, 1866.

"PHYSICIENNE": Agardh, K. A., 1827.

RECHINGER EXPEDITION: Stockmayer, S., 1915.—Wille, N., 1915.

SCHAUINSLAND, H.: Lemmermann, E., 1899, 1901, 1905.—Reinbold, T., 1899.

SETCHELL and PARKS: Setchell, W. A., 1926a.

"SIBOGA" EXPEDITION: Weber van Bosse, A., and Foslie, M., 1904.

U. S. EXPLORING EXPEDITION: Bailey, J. W., and Harvey, W. H., 1862.—Harvey, W. H., 1860.

"URANIE": Agardh, K. A., 1827.

"VETTOR PISANI": Piccone, A., 1885, 1886a, 1886b, 1889.

WOLLE, FRANCIS: Drouet, F., 1939 (Myxophyceae).

Coral reefs: Christophersen, E., 1927b (plant life).—Howe, M. A., 1912.—MacCaughey, V., 1916g (Hawaii).—Setchell, W. A., 1923 (Tahiti); 1928b (phytogeogr.). See also Algae—Systematic—Rhodophyceae—Corallinaceae.

Distribution: See Phytogeography.

Ecology. See Phytogeography and ecology.

Economic and edible algae: Chase, F. M., 1942.—Miller, C. D., 1927.—Reed, M., 1907.

Edible: See preceding entry.

Exploration and study in Pacific: Farlow, W. G., 1916.—Tilden, J., 1921.

Illustrations: Harvey, W. H., 1847–49.—Kützing, F. T., 1845–71.

Miscellaneous notes and descriptions: Foslie, M., 1907b.—Mazza, A., 1905–25 ("Saggio Alg. Ocean.").—Schmidle, W., 1897a.—Toni, G. B. de, 1937–39 ("Diagn. alg. nov.").

Phytogeography and ecology: Kanda, C., 1944 (near Palau).—Okamura, K., 1932, 1934 (distrib.).—Setchell, W. A., 1934 (paleogeogr.).—Simmons, H. G., 1905.—Skottsberg, C., 1941f, 1943a (marine communities Juan Fernández).—Svedelius, N., 1924.—Tilden, J., 1928 (distrib.).—Yamada, Y., 1926 (Chlorophyceae).

Plankton algae: Lemmermann, E., 1899, 1901, 1903.—Matue, Y., 1942.—Motoda, S., 1941.—Tokioka, T., 1941a, 1941b.

Systematic treatments, lists, etc.: See under Algae—General—Collectors, collections, explorers, and expeditions; and at the beginning of Algae—Systematic.

Textbooks: Kützing, F. T., 1843.—Tilden, J., 1935.

REGIONAL

POLYNESIA

Cook Islands—MANGAIA: Dickie, G., 1875 (list).
Easter Island: Börgesen, F., 1924 (list, marine).—Levring, T., 1943b (Corallinaceae).—Petersen, J. B., 1926 (Cyanophyceae).—Ström, K. M., 1922 (freshwater).
Ellice Islands: Howe, M. A., 1912 (coral reefs).
FUNAFUTI: Barton, E. S., 1900 (crit.).—Foslie, M., 1900a (calcareous).
Hawaiian Islands: Braun, A., 1849 (Characeae).—Chamberlain, J. E., 1880 (list).—Chase, F. M., 1942 (edible).—Howe, M. A., 1934 (list, Galtsoff coll.).—Lemmermann, E., 1905 (enum. Schauinsland coll.).—MacCaughey, V., 1916c (seaweeds); 1916g (coral reefs); 1917h, 1918a (list).—Neal, M. C., 1930 (ecol., marine).—Nordstedt, O., 1878 (fresh-water and Characeae).—Piccone, A., 1889 (n. spp.).—Reed, M., 1907 (economic).—Reichardt, H. W., 1877 (Wawra's coll.).—Reinbold, T., 1899 (list Schauinsland coll.).—Setchell, W. A., 1905 (Hawaiian names).—Stockmayer, S., 1915 (fresh-water).—Tilden, J., 1901, 1902, 1904 (lists, accounts); 1910 (Myxophyceae).—Wille, N., 1915 (fresh-water).
Juan Fernández: Levring, T., 1941 (marine algae); 1943a (Corallinaceae).—Setchell, W. A., 1937 (*Codium*).—Skottsberg, C., 1941f, 1943a (marine algal communities).—Ström, K. M., 1922 (fresh-water).
Kermadec Islands: Gepp, A., and Gepp, E. S., 1911b (enum.).
Niuafoou (between Samoa and Fiji): Howe, M. A., 1932 (list).
Samoa: Esmarch, F., 1910–11 (Cyanophyceae).—Grunow, A., 1873 (list Graeffe coll.).—Reinbold, T., 1899 (Schauinsland coll.).—Schmidle, W., 1897c ("Baumalgen").—Stockmayer, S., 1915 (enum.).—Wille, N., 1913 (fresh-water); 1915 (enum.).
Society Islands—TAHITI: Brand, F., 1911a (crit.).—Setchell, W. A., 1923 (coral reefs); 1926a (list Setchell and Parks coll.); 1926d (phytogeogr.).—Weber van Bosse, A., 1910 (*Caulerpa*).
Tonga or Friendly Islands: Grunow, A., 1873 (list Graeffe coll.).

MICRONESIA

Caroline Islands: Kanda, C., 1942 (Palau).—Okamura, K., 1904, 1916 (lists).—Reinbold, T., 1901 (list, mostly Yap).—Schmidle, W., 1901 (lists).—Schmidt, O. C., 1928 (enum.).—Yamada, Y., 1926 (Chlorophyceae); 1944b (list Ant Atoll).
Marianas Islands: Braun, A., 1849 (Characeae).—Groves, J., 1921 (Guam Charophyta).—Okamura, K., 1916 (list).—Schmidt, O. C., 1928 (enum.).—Yamada, Y., 1926 (Chlorophyceae).
Marshall Islands: Schmidt, O. C., 1928 (enum.).—Yamada, Y., 1926 (Chlorophyceae).

MELANESIA

Fiji Islands: Askenasy, E., 1889 ("Gazelle" exped.).—Grunow, A., 1873 (list, marine).—Howe, M. A., 1912 (coral reefs).—Schmidt, O. C., 1928 (enum.).
Isle of Pines: Rendle, A. B., Baker, E. G., and Moore, S. le M., 1921–22 (enum. Compton's coll.).
Lord Howe Island: Lucas, A. H. S., 1935 (marine).
New Caledonia: Carter, N., 1922 (freshwater).—Gepp, A., 1922 (marine).—Groves, J., 1922 (Charophyta).—Rendle, A. B., Baker, E. G., and Moore, S. le M., 1921–22 (enum. Compton's N. Cal., Isle of Pines coll.).
New Hebrides: Manguin, E., 1938 (diatoms).

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Norfolk Island: Laing, R. M., 1901, 1906 (list, marine).—Reinbold, T., 1900 list, marine).
Santa Cruz Island: Setchell, W. A., 1935d (marine).
Solomon Islands: Stockmayer, S., 1915 (enum.).—Wille, N., 1915 (enum.).

SYSTEMATIC

Agardh, J. G., 1848–76 ("Spec. gen. and ord."); 1880–90 ("Till alg. syst.") 1891–99 ("Anal. alg.").—Kützing, F. T., 1843 ("Phycol. gen."); 1849 ("Spec. alg.").—Okamura, K., 1932 (list.).—Schmidt, O. C., 1928 (enum. W. Pacif.).—Toni, G. B. de, 1889–1924 ("Sylloge alg.").

CHLOROPHYCEAE

Yamada, Y., 1926 (phytogeogr.).
Avrainvillea (CODIACEAE): Howe, M. A., 1907.
Characeae: Allen, T. F., 1887 (*Nitella muthnatae*).—Braun, A., 1849 (Marianas, Hawaii).—Groves, J., 1921 (Guam), 1922 (New Caledonia).—Nordstedt, O., 1878 (Hawaii); 1888 (Berlin herb.).—Zaneveld, J. S., 1940 (monogr.)
Chlorodesmis tahitensis (CODIACEAE): Brand, F., 1911b.
Cladophoraceae: Brand, F., 1905 (n. spp. Hawaii).
Codiaceae: Gepp, A., and Gepp, E. S., 1911a ("Siboga" exped.).—Schmidt, O. C., 1923 (*Codium*).—Setchell, W. A., 1937 (*Codium* in Juan Fernández); 1940 (*C. phasmaticum*).
Desmidiaceae: Nordstedt, O., 1896, 1908 (index).
Dictyosphaeria (VALONIACEAE): Crosby, C. M., 1903 (Hawaii).
Flabellarieae: Gepp, A., and Gepp, E. S., 1911a (monogr.).
Halimeda (CODIACEAE): Barton, E. S., 1900 (*laxa*), 1901 (revis.).—Howe, M. A., 1907 (*discoidea*).—Yamada, Y., 1941 (enum. Micronesia); 1944a (n. spp.).
Macrodictyon: (VALONIACEAE): Gray, J. E., 1866b (n. gen.).
Microdictyon (VALONIACEAE): Gray, J. E., 1866a, 1866b (*velleyanum, montagnei*). Setchell, W. A., 1925–35 (crit.); 1929 (revis.); 1935a (crit.).
Nitella: See under Characeae.
Ostreobium *okamurai* (PHYLLOSIPHONIACEAE): Weber van Bosse, A., 1932.
Phycopeltis (CHROOLEPIDACEAE): Printz, H., 1940 (monogr.).—Santesson, R., 1944 (*nigra*).
Trentepohliaceae: Printz, H., 1940 (monogr.).
Udota (CODIACEAE): Gepp, A. and Gepp, E. S., 1911a (monogr.).—Yamada, Y., 1930 (*geppii*).

BACILLARIACEAE (Diatoms)

Allen, W. E., 1936 (surface plankton N. Pacific).—Bailey, J. W., 1853 (list, U. S. Exploring Exped.).—Castracane degli Antelminelli, F., 1886 ("Challenger" exped.).—Greville, R. K., 1863, 1863–66, 1866 (new, crit. spp.).—Grunow, A., 1872 ("Novara" exped.).—Harvey, W. H., and Bailey, J. W., 1853–55 (n. spp. U. S. Exploring Exped.).—Hustedt, F., 1942 (freshwater, Hawaii).—Kitton, F., 1888 (n. spp. *Biddulphia,* Fiji).—Manguin, E., 1938 (New Hebrides).—Mann, A., 1907 ("Albatross" exped.).—Matue, Y., 1942 (list Palau).—Mereschkowsky, C., 1902 (Samoa, Tahiti, Hawaii, etc.).—Mills, F. W., 1933–35 (index gen., spp.).—Peragallo, H., and Peragallo, M., 1911 (Rechinger exped., Samoa, Solomons, Hawaii).—Witt, O. N., 1873, 1874 (n. spp. Tahiti, etc.).

EUGLENINEAE

Trachelomonas: Deflandre, G., 1926–27 (monogr.).

PHAEOPHYCEAE

Grunow, A., 1873 (Phaeosporeae, Fucoideae).
Caulerpa (CAULERPACEAE): Trevisan, V. B. A., 1849.—Weber van Bosse, A., 1898 (monogr.); 1910 (Tahiti).—Yamada, Y., 1944a (n. spp. micronesia).
Padina *variegata* (DICTYOTACEAE): Papenfuss, G. F., 1943.
Pocockiella (DICTYOTACEAE): Papenfuss, G. F., 1943.
Sargassum (FUCACEAE): Grunow, A., 1915–16 (n. spp.).—Kuntze, O., 1880 (revis.).—Sjöstedt, L. G., 1924 (*skottsbergii*).—Yamada, Y., 1942 (notes).
Sphacelariaceae: Sauvageau, C., 1900–14 (monogr.).

RHODOPHYCEAE

Grunow, A., 1873 (Florideae).
Astrochaetium (CERAMIACEAE?): Papenfuss, G. F., 1945 (review).
Bostrychia (RHODOMELACEAE): Post, E., 1936 (taxon.); 1938–39 (*radicans*); 1939 (*kelanensis.*)—Tokida, J., 1941 (Palau, Carolines).
Botryocladia *skottsbergii* (RHODYMENIACEAE): Papenfuss, G. F., 1944a.
Caloglossa (DELESSERIACEAE): Post, E., 1936 (taxon., distrib.); 1938–39 (*ogasawaraensis*).
Cheilosporum *spectabile* (CORALLINACEAE): Yendo, K., 1905.
Chondriella (CHONDRIELLACEAE): Levring, T., 1941.
Chrysymenia *skottsbergii* (RHODYMENIACEAE): Papenfuss, G. F., 1944a.
Corallina *chinensis:* Harvey, W. H., 1847–49.
Corallinaceae: Decaisne, J., 1842 (Hawaii).—Foslie, M., 1900a (Funafuti); 1907a (Samoa).—Howe, M. A., (coral reef formation).—Levring, T., 1943a (Juan Fernández); 1943b (Easter Island).—Weber van Bosse, A., and Foslie, M., 1904 ("Siboga" exped.).—Yendo, K., 1905 (list).
Dictyotopsis *propagulifera* (INCERT. SED.): Post, E., 1938–39.
Fernandosiphonia (RHODOMELACEAE): Levring, F., 1941.
Galaxaura (CHAETANGIACEAE): Butters, F. K., 1911.—Chou, R. C.-Y., 1945.
Gelidiella acerosa (GELIDIACEAE): Feldmann, J., and Hamel, G., 1934.
Goniotrichum *alsidii* (BANGIACEAE): Tanaka, Takesi, 1944a.
Griffithsia (CERAMIACEAE): Abbott, I. A., 1946 (Hawaii).
Halarachnion *calcareum* (NEMASTOMACEAE): Okamura, K., 1916.
Helminthocladiaceae: Papenfuss, G. F., 1946 (crit.).
Hypnea (HYPNACEAE): Tanaka, Takesi, 1941 (Japan).
Laurencia (RHODOMELACEAE): Yamada, Y., 1931.
Liagora (HELMINTHOCLADIACEAE): Abbot, I. A., 1945 (Hawaii).—Butters, F. K., 1911.—Zeh, W., 1912.—Yamada, Y., 1938 (*pinnata,* etc.).
Lithothamnion (CORALLINACEAE): Dickie, G., 1877 (*imbricatum, mamillare*).—Hedrich, F., 1901 (Paris Mus.).
Marchesettia *spongioides* (SPHAEROCOCCACEAE): Hauck, F., 1882.
Melobesieae: Foslie, M., 1900b (n. spp. *Lithophyllum*), 1900c (revis.).—Hedrich, F., 1901 (*Melobesia pacifica*).
Protoflorideae (section of Florideae): Tanaka, Takesi, 1944a, 1944b.
Rhodochorton (CERAMIACEAE?): Papenfuss, G. F., 1945 (review).
Scinaia (CHAETANGIACEAE): Setchell, W. A., 1914.
Taenioma (DELESSERIACEAE): Papenfuss, G. F., 1944b (taxon.).—Tseng, C. K., 1944 (*perpusillum*).
Trematocarpus (SPHAEROCOCCACEAE): Zahlbruckner, A., 1893.
Trichogloea (HELMINTHOCLADIACEAE): Butters, F. K., 1903.—Papenfuss, G. F., 1946 (*requienii*).

MYXOPHYCEAE (Blue-green algae)

Drouet, F., 1939 (Wolle's coll. Hawaii).—Esmarch, F., 1910–11 (n. spp. Samoa).—Petersen, J. B., 1926 (Easter Island).—Tilden, J., 1910 (Hawaii).—Toni, G. B. de, 1937–39 (n. spp.).

Calothrix *sandvicense* (RIVULARIACEAE): Schmidle, W., 1897b.

Entophysalis *samoensis* (ENTOPHYSALIDACEAE): Gardner, N. L., 1927.

Lyngbya (OSCILLATORIACEAE): Schmidle, W., 1897a (*distincta*).—Toni, G. B. de, 1939 (*putealis*).

Mastigocoleus *obtusus* (STIGONEMATACEAE): Geitler, L., 1925.

Oscillatoriaceae: Gomont, M., 1892 (monogr.).

Rosaria *ramosa* (STIGONEMATACEAE): Geitler, L., 1925.

Skujaella (OSCILLATORIACEAE): Fremy, P., 1941 (revis.).

Stigonema (STIGONEMATACEAE): Mirande, R., 1920 (n. spp., New Caledonia).

Trichodesmium (OSCILLATORIACEAE): Fremy, P., 1941 (revis.).

CLASS UNCERTAIN

Hydracanthus *fistulosus:* Kützing, F. T., 1847 (Marianas Islands).

FUNGI

GENERAL

Aquatic: Indô, K., 1941.

Collectors, collections, expeditions and voyages:

"CHALLENGER" EXPEDITION: Berkeley, M. J., 1877.

CHAMISSO, L. C. A. VON: Ehrenberg, C. G., 1820.

COMPTON, R. H.: Rendle, A. B., Baker, E. G., and Moore, S. le M., 1921–22 (New Caledonia, Isle of Pines).

DARWIN, C.: Berkeley, M. J., 1842a.

GAUDICHAUD, C.: Léveillé, J. H., 1846–49.—Persoon, C. H., 1827.

"GAZELLE" EXPEDITION: Thümen, F. von, and Mueller, J., 1889 (Fiji).

LEDERMANN, C.: Sydow, H., and Sydow, P., 1921 (Micronesia).

MEYEN, F. J. F.: Klotzsch, J. F., 1843.

"NOVARA" EXPEDITION: Reichardt, H. W., 1866, 1870.

PARKS, H. E.: Parks, H. E., 1926 (Tahiti).

RECHINGER, K.: Keissler, K. von, 1910.

SAVÈS, T.: Mueller, J., 1887a (Nouméa, New Caledonia).

SETCHELL, W. A.: Parks, H. E., 1926 (Tahiti).

SEURAT: Patouillard, N., 1906a (French Polynesia).

U. S. EXPLORING EXPEDITION (WILKES EXPEDITION): Berkeley, M. J., and Curtis, M. A., 1851.—Curtis, M. A., and Berkeley, M. J., 1862.

WAWRA, H.: Reichardt, H. W., 1877.

Hosts: See Section I—Hosts and their diseases.

Luminous: Haneda, Y., 1942.

Miscellaneous notes and descriptions: Lloyd, C. G., 1912–15, 1924b.—Macbride, T. H., 1926.—Patouillard, N., 1896–1908, 1902.

Names proposed by C. G. Lloyd: Stevenson, J. A., and Cash, E. K., 1936.

Nematodes, capture of: Linford, M. B., 1937 (Hawaii); 1939.

REGIONAL

POLYNESIA

Patouillard, N., 1906a (French Polynesia).

Easter Island: Arwidsson, T., 1940 (parasitic).—Fries, T. C. E., 1922 (Gasteromycetes).

Hawaiian Islands: Bessey, E. A., 1943 (crit.).—Burt, E. A., 1923 (list higher fungi).—Ellis, J. B., and Everhart, B. M., 1895 (n. spp.).—Fries, E., 1851 (n. spp.).—Keissler, K. von, 1910 (micromycetes); 1920–27 (n. spp.).—Léveillé, J. H., 1846–49 (Gaudichaud exped.).—Parris, G. K., 1940 (check list).—Reichardt, H. W., 1877 (Wawra's coll.).—Stevens, F. L., 1925a, 1925b (enum.)

Juan Fernández: Arwidsson, T., 1940 (parasitic).—Berkeley, M. J., 1839–41.—Fries, T. C. E., 1922 (Gasteromycetes).—Keissler, K. von, 1928a, 1928b.—Romell, L., 1928 (Basidiomycetes).

Kermadec Islands: Oliver, W. R. B., 1911 (list).

Samoa: Bresadola, G., and Patouillard, N., 1901—Höhnel, F. von, 1907.—Keissler, K. von, 1909, 1910.

Society Islands—TAHITI: Fries, E., 1851.—Lloyd, C. G., 1925.—Montagne, J. F. C., 1848.—Parks, H. E., 1926 (Setchell and Parks coll.).—Reichardt, H. W., 1866 ("Novara" exped.).

Tuamotu Islands—GAMBIER ISLANDS: Patouillard, N., 1904.

MICRONESIA

Graff, P. W., 1917 (Guam).—Hennings, P., 1897 (Marshall Islands); 1901 (Caroline Islands).—Imazeki, R., 1941 (enum. higher fungi).—Keissler, K. von, 1920–27 (Marianas Islands).—Kobayasi, Y., 1937c (hist. investigations); 1937–39 (enum.).—Nishiyama, S., 1941 (Palau, Carolines).—Sydow, H., and Sydow P., 1921 (Ledermann's coll.).

MELANESIA

Fiji Islands: Parham, B. E. V., 1942f.—Smith, W. G., 1871.—Thümen, F. von, and Mueller, J., 1889.

Loyalty Islands: Wakefield, E. M., 1920 (enum.).

New Caledonia: Crié, L., 1874.—Hariot, P., and Patouillard, N., 1903.—Patouillard, N., 1887–1915.—Vouaux, L., 1910.—Wakefield, E. M., 1920, 1922.—Wakefield, E. M., Massee, G., and Cotton, A. D., 1916.

Solomon Islands: Keissler, K. von, 1909.

SYSTEMATIC

Clements, F. E., and Shear, C. L., 1931 (genera).—Saccardo, P. A. 1882–1931 ("Sylloge fungorum").

MYXOMYCETES

See before ALGAE

PHYCOMYCETES

Naumov, N. A., 1939 (key to Mucorinaceae).

Albugo candida: Parham, B. E. V., 1942f (on Cruciferae, Fiji).

Allomyces: Emerson, R., 1941 (taxon.).

Chytridineae: Lyon, H. L., 1919b.—Carpenter, C. W., 1940.

Mortierella *elasson:* Naumov, N. A., 1939.

Phytophthora *hibernalis:* Parham, B. E. V., 1942f (on *Citrus,* Fiji).

Plasmodiophora *brassicae:* Lyon, H. L., 1910d (cane disease in Fiji).

Pythium: Carpenter, C. W., 1920b; 1921 (*butleri*); 1928–34 (root of sugarcane).—Middleton, J. T., 1943 (taxon. distrib.).

Rheosporangium *aphanodermatus:* Carpenter, C. W., 1921 (root rot of Hawaiian sugarcane).

Rhizopus artocarpi: Parham, B. E. V., 1942f (Fiji).

Sclerospora: Lyon, H. L., 1915a (*sacchari* sugarcane disease in Fiji).—Weston, W. H., jr., 1929 (*northi* n. sp., Fiji).

ASCOMYCETES

Cash, E. K., 1938 (New Hawaiian Discomycetes).—Keissler, K. von, 1928a (Juan Fernández).—Kobayasi, Y., 1941 (monogr. *Cordyceps* and allies).
Asterina: Ellis, J. B., and Everhart, B. M., 1897 (*sphaerelloides*).—Theissen, F., 1919 (*samoensis*).
Asterineae: Arnaud, G., 1918, 1921–23, 1925, 1930, 1931.
Atichia: Cotton, A. D., 1914.
Botryosphaeria *ribis:* Stevens, N. E., and Shear, C. L., 1929.
Capnodium *anonae:* Theissen, F., and Sydow, H., 1917.
Cordyceps: Kobayasi, Y., 1941 (monogr.).
Corynelia *uberata:* Arnaud, G., 1930.
Daldinia: Child, M., 1932 (revis.).
Dimerosporium *samoense:* Hennings, P., 1894.—Theissen, F., 1919.
Dimorphomycetae: Thaxter, R., 1920.
Dothideales: Theissen, F., and Sydow, H., 1915 (monogr.).
Dothidella *yapensis:* Hennings, P., 1902.
Euthrypton *globiferum:* Theissen, F., 1917.
Gnomonia: Lyon, H. L., 1910c, 1912b (sugar cane disease).
Haplophyse *oahuensis:* Theissen, F., 1916.
Hypocrea: Lloyd, C. G., 1924a (*peltata*).—Patouillard, N., and Heriot, P., 1906 (*incarnata*).
Hypomyces *caledonicus:* Patouillard, N., 1887.
Laboulbeniaceae: Thaxter, R., 1896–1931 (monogr.) ; 1902 (n. spp.).
Lembosia *tenella:* Léveillé, J. H., 1845.
Leptosphaeria *sacchari:* Larsen, L. D., 1913b.
Lophodermium: Lyon, H. L., 1913b (*sacchari*).—Tehon, L. R., 1935 (monogr.).
Meliola: Bornet, E., 1851 (*moerenhoutiana*).—Gaillard, A., 1892 (monogr.).—Léveillé, J. H., 1846 (*moerenhoutiana*).
Meliolineae: Stevens, F. L., 1927–28 (monogr.).
Mycosphaerella *striatiformans:* Cobb, N. A., 1906.
Montagnella *alyxiae:* Patouillard, N., and Hariot, P., 1912.
Physalospora: Stevens, N. E., and Shear, C. L., 1929 (*fusca, malorum*).
Sphaerella *trichomanes:* Cooke, M. C., 1885.
Sphaeria *feejeensis:* Berkeley, M. J., 1842b.
Squamotubera: Hennings, P., 1903 (n. gen.).
Trichothallus *hawaiiensis:* Santesson, R., 1944.
Ustulina: Wilkins, W. H., 1934 (*vulgaris, zonata*).
Xylaria: Lyon, H. L., 1915d (Hibiscus disease).—Rehm, H., 1911 (*morchelliformis*).
Yoshinagella *polymorpha:* Petrak, F., 1927.

BASIDIOMYCETES

Imazeki, R., 1941 (enum. higher fungi Micronesia).—Lloyd, C. G., 1912 (synop. polyporoids).—Romell, L., 1928 (Juan Fernández).—Singer, R., 1945 (Laschia-complex).
Agaricus: Berkeley, M. J., 1842b (n. spp. Fiji, Tahiti).
Calocera: Kobayasi, Y., 1939b (monogr.).
Campanella: Singer, R., 1945.
Clathrus *trilobatus:* Cobb, N. A., 1906.

Clavaria *flabellata:* Wakefield, E. M., 1922.
Clavariopsis: Kobayasi, Y., 1937b.—Patouillard, N., and Hariot, P., 1912 (*pulchella*).
Corticium *subsphaerosporum:* Keissler, K. von, 1928b.
Crinipellis: Singer, R., 1943 (monogr.).
Dacrymyces: Kobayasi, Y., 1939a (monogr.).
Dictyophora: Fischer, E., 1914 (New Caledonia).
Encoelia *neo-caledonica:* Wakefield, E. M., 1922.
Favolaschia: Singer, R., 1945.
Femsjonia: Kobayasi, Y., 1939b (monogr.).
Filoboletus: Singer, R., 1945.
Fomes: Imazeki, R., 1941 (n. sp.).—Lloyd, C. G., 1915b (synopsis).
Ganoderma: Patouillard, N., 1889b (syst.).
Gasteromycetes: Fries, T. C. E., 1922.—Kobayasi, Y., 1937a (distrib.).
Geaster: Lloyd, C. G., 1902.
Guepinia: Kobayasi, Y., 1939b (monogr.).
Hemileia: Massee, G., 1906a (revis.).
Hexagona: Berkeley, M. J., 1842a (*fasciata*).—Lloyd, C. G., 1910a (synop.).
Holtermannia: Kobayasi, Y., 1937b (crit.).
Ithyphallus *coralloides:* Cobb, N. A., 1906.
Lepiota *xylophila:* Peck, C. H., 1907.
Lloydella: Bresadola, G., and Patouillard, N., 1901.
Lycoperdaceae: Lloyd, C. G., 1905 (Australia, New Zealand, etc.).
Mitremyces: Patouillard, N., 1906b (New Caledonia).
Nidulariaceae: Lloyd, C. G., 1906a (syst.).
Phallales: Lloyd, C. G., 1906–07 (crit.) ; 1909 (synop.).
Pleurotus *lux:* Hariot, P., 1892.
Polyporus: Cooke, M. C., 1878 (enum.).—Lloyd, C. G., 1915a (synop. sect. *Apus*).
—Patouillard, N., 1889a (*pachyphloeus*).
Polystictus: Lloyd, C. G., 1910b (synop.).
Puccinia: Cummins, G. B., 1935 (*parksiana*) ; 1937–43 (*molokaiensis*).
Sphacelotheca *monilifera:* Clinton, G. P., 1902.
Stereum: Lloyd, C. G., 1913 (synop. stipitate spp.).
Thelephoreae: Massee, G., 1889–90.
Tremella *samoensis:* Lloyd, C. G., 1919.
Tylostoma *leveilleanum:* Lloyd, C. G., 1906b.
Uredineae: Keissler, K. von, 1928a (Juan Fernández).—Sydow, P., and Sydow, H., 1902–24 (monogr.).
Uredinopsis: Faull, J. H., 1938 (taxon., distrib.).
Uredo: Cummins, G. B., 1937–43 (*wakensis*).
Uromyces *phaseoli:* Parris, G. K., 1938b (on beans).
Volvaria *bresadolae:* Imai, S., and Aizawa, T., 1942.

FUNGI IMPERFECTI

Keissler, V. von, 1928a (Juan Fernández).
Arcothecium *lunatum:* Larsen, L. D., 1913b.
Aposphaeria *canavaliae:* Massee, G., 1906b.
Aschersonia *taitensis:* Petch, T., 1914, 1921.
Aspergillus: Larsen, L. D., 1911b (on cane mealy bug).—Thom, C., and Raper, K. B., 1945 (manual).
Cercospora: Larsen, L. D., 1912a (*sacchari*) ; 1912b (*vaginae*).—Wakefield, E. M., 1931 (*didymochitonis*).
Depazea *celastrina:* Léveillé, J. H., 1845.
Dichotomophthora *portulacae:* Mehrlich, F. P., and Fitzpatrick, H. M., 1935.

Diplodia *cacaoicola:* Lyon, H. L., 1912a.
Fusarium: Lyon, H. L., 1911c (on Leguminosae in Hawaii).
Fusicoccum *canavaliae:* Lyon, H. L., 1913a.
Gibellula *suffulta:* Speare, A. T., 1912c.
Gloeosporium *canavaliae:* Lyon, H. L., 1913a.
Helminthosporium *sacchari:* Parris, G. K., 1942.
Macrophoma *pandani:* Verona, O., 1931.
Melanconium: Lewton-Brain, L., 1907 (*sacchari*).—Lyon, H. L., 1910c (*iliau, sacchari*).
Metarrhizium *anisopliae:* Petch, T., 1931.—Speare, A. T., 1912a.
Phoma *pandani*: Verona, O., 1931.
Phyllosticta *hawaiiensis:* Caum, E. L., 1919.
Sclerotia *rolfsi:* Larsen, L. D., 1913a.
Septoria *canavaliae:* Lyon, H. L., 1913a.
Spegazzinia *ornata:* Lyon, H. L., 1913b.
Sterigmatocystis *ferruginea:* Speare, A. T., 1912a.
Thielaviopsis: Larsen, L. D., 1910a.
Thyrsidium *botryosporium:* Keissler, K. von, 1922.

LICHENS

GENERAL

Bibliographies: Cheel, E., 1906.—Krempelhuber, A. von, 1867–72.
Collectors, collections, explorers, and expeditions:
BALANSA, B.: Mueller, J., 1893 (New Caledonia).
"BONITE": Montagne, J. F. C., 1846.
BRUNAUD, G.: Mueller, J., 1884a, 1884b (Tahiti).
"CHALLENGER" EXPEDITION: Crombie, J. M., 1877.
COMPTON, R. H.: Rendle, A. B., Baker, E. G., and Moore, S. le M., 1921–22 (New Caledonia, Isle of Pines).
"GAZELLE" EXPEDITION: Mueller, J., 1883a.—Thümen, F. von, and Mueller, J., 1889 (Fiji).
HILLEBRAND, W.: Mueller, J., 1889 (Hawaii).
HOCHREUTINER, B. P. G.: Hochreutiner, B. P. G., 1912–43.
HOOKER, W. J.: Taylor, T., 1847.
LEVIER: Jatta, A., 1903–05.
MEYEN, F. J. F.: Meyen, J., and Flotow, J., 1843.—Mueller, J., 1883b.
"NOVARA" EXPEDITION: Krempelhuber, A. von, 1870.
PARKS, H. E.: Vainio, E. A., 1924 (Tahiti).
PIONNIER: Harmand, J., 1911–12 (New Caledonia).
SAVÈS, T.: Mueller, J., 1887a (Nouméa, New Caledonia).
SETCHELL, W. A.: Vainio, E. A., 1924 (Tahiti).
U. S. EXPLORING EXPEDITION (Wilkes Expedition): Tuckerman, E., 1862.
WAWRA, H.: Krempelhuber, A. von, 1877 (Hawaii).
Index: Hue, A. M., 1899.
Miscellaneous notes and descriptions: Bouly de Lesdain, M., 1909–37.—Gyelnik, V., 1935.—Hue, A. M., 1890–92, 1898–1901, 1906–12.—Krempelhuber, A. von, 1873.—Mueller, J., 1881–90; 1892–95.—Rechinger, K., 1940.—Zahlbruckner, A., 1903–32.

REGIONAL

POLYNESIA

Cook Islands: Jatta, A., 1903–05 (Levier coll. Rarotonga).—Sbarbaro, C., 1939 (crit. Tonga, Rarotonga, Tongatabu, Eua).

Easter Island: Knowlton, F. H., 1888 (n. spp.).—Zahlbruckner, A., 1924, 1928 (crit., list).

Hawaiian Islands: Keissler, K. von, 1920–27.—Krempelhuber, A. von, 1877 (Wawra coll.).—MacCaughey, V., 1917j.—Magnusson, A. H., 1942 (enum. Nihoa, Necker Islands).—Magnusson, A. H., and Zahlbruckner, A., 1943–45 (syst.).—Montagne, J. F. C., 1846 ("Bonite" exped.).—Mueller, J., 1889 (Hillebrand coll.).—Tuckerman, E., 1867 (enum.).—Zahlbruckner, A., 1911 (Rechinger exped.).

Juan Fernández: Zahlbruckner, A., 1924, 1928 (crit. list).

Kermadec Islands: Oliver, W. R. D., 1911 (list).

Samoa: Cheel, E., 1912–14 (Stictaceae).—Jatta, A., 1903–05 (Levier's coll.).—Zahlbruckner, A., 1907 (Rechinger exped.).

Society Islands—Tahiti: Mueller, J., 1884a, 1884b (Brunaud coll.).—Vainio, E. A., 1924 (Setchell and Parks coll.).

MICRONESIA

Graff, P. W., 1917 (list, Guam).—Jatta, A., 1903–05 (Levier coll. Ponape).—Keissler, K. von, 1920–27 (crit. Marianas Islands).—Vainio, E. A., 1921–23 (crit. Marianas).

MELANESIA

Fiji Islands: Crombie, J. M., 1871 (enum.).

Lord Howe Island: Cheel, S., 1912–14 (Stictaceae).

Loyalty Islands: Harmand, J., 1914 (enum.).

New Caledonia: Cheel, E., 1912–14 (Stictaceae).—Cotton, A. D., 1920 (crit.).—Harmand, J., 1911–12 (Pionnier coll.); 1914 (enum.).—Mueller, J., 1887a (list Nouméa); 1893 (enum.).—Nylander, W., 1859b, 1861, 1867, 1868 (list, enum. synop.).—Smith, A. L., 1922 (crit.).—Vainio, E. A., 1929 (n. spp.).

New Guinea: Zahlbruckner, A., 1911 (Rechinger exped.).

SYSTEMATIC

Acharius, E., 1810 ("Lichenographia universalis"); 1814 ("Synop. method. Lichenum").—Lettau, G., 1932 (monogr. various fam.).—Nylander, W., 1857 (enum. gen. lichens); 1858–63 ("Synop. method. Lichenum"); 1859a ("Lichenes in reg. exot.").—Räsänen, V., 1943 ("Syst. Flechten").—Sambo, M. C., 1941 (key fam., gen.).—Zahlbruckner, A., 1921–34 ("Cat. lichenum univ.").

Cladonia (CLADONIACEAE): Magnusson, A. A., 1941 (n. spp. Hawaii).—Mattic, F., 1940 (synop.).—Sandstede, H., 1938 (monogr.).—Santesson, R., 1942a (*C. pycnoclada*).—Vainio, E. A., 1887–97 (monogr.).

Cladoniaceae: Sandstede, H., 1938–39 (monogr.).

Coccocarpia *pellita* (PANNARIACEAE): Mueller, J., 1896.

Coenogonium (COENOGONIACEAE): Nylander, W., 1862 (synop.).

Collema *amphiurum* (COLLEMACEAE): Nylander, W., 1859b.

Cora *nitida* (HYMENOLICHENES): Mueller, J., 1884a.

Crocynia (CHRYSOTHRIEACEAE): Hue, A. M., 1924 (monogr.).

Cyanisticta *sandwicensis* (STICTACEAE): Gyelnik, V., 1931b.

Enterographa (CHIODECTONACEAE): Rechinger, K., 1938 (revis.).

Goniothecium *subglobosum:* Cooke, M. C., 1889.[4]

Lecanora (LECANORACEAE): Stizenberger, E., 1867 (crit.).

Lecidea (LECIDEACEAE): Stizenberger, E., 1867 (*cyrtelloides*).—Vainio, E. A., 1929 (*epiochracea*).

[4] Although stated to be a "fungus," this genus is based on a lichen, according to Nannfeldt.

Leptogium (COLLEMACEAE): Nylander, W., 1858a.
Lichenoconium (Fam.?): Keissler, K. von, 1933.
Menegazzania (PARMELIACEAE): Santesson, R., 1942b (crit.).
Nephroma (PELTIGERACEAE): Gyelnik, V., 1931a (crit.).—Inumaru, S., 1939 (*tomentellus*).
Myxodictyon (LECANORACEAE): Massalongo, A. B., 1863.
Parmelia (PARMELIACEAE): Gyelnik, V., 1938 (n. forms).—Hillmann, J., 1939 (*reticulata*); 1940 (*tinctoria, nigrociliata*).—Magnusson, A. H., 1941 (n. spp. Hawaii).—Montagne, J. F. C., 1842 (*papulosa*).—Nylander, W., 1885 (n. spp.).—Santesson, R., 1942b (transfers).—Zahlbruckner, A., 1896 (*stramineonitens*).
Pertusaria (PERTUSARIACEAE): Erichsen, C. F. E., 1936 (*havaiiensis*).
Pilophorus (CLADONIACEAE): Fries, T. M., 1857, 1858 (monogr.).
Pseudocyphellaria (STICTACEAE): Magnusson, A. H., 1940 (crit., n. spp.).
Pyrenocarpus (PYRENOPSIDACEAE): Nylander, W., 1858b (synop.).
Ramalina (USNEACEAE): Asahina, Y., 1939 (*pacifica*).—Nylander, W., 1870 (monogr.).
Sclerophyton (CHIODECTONACEAE): Rechinger, K., 1938 (revis.).
Stereocaulon (CLADONIACEAE): Dodge, C. W., 1929 (revis.).—Fries, T. M., 1857, 1858 (monogr.).
Sticta (STICTACEAE): Mueller, J., 1887b (*quercizans*).—Nylander, W., 1865, 1868b (synop., enum.).—Stizenberger, E., 1895 (crit. geogr.).—Vainio, E. A., 1929 (*ignambensis*).
Stictaceae: Cheel, E., 1912–14 (n. spp.).
Stromatopogon (ARTHONIACEAE): Zahlbruckner, A., 1897.
Usnea (USNEACEAE): Mueller, J., 1883b (*barbata*).—Vainio, E. A., 1929 (*spinosissima*).

BRYOPHYTA

GENERAL

Horikawa, Y., 1934–35, 1936 (enum., e. Asia).—Mueller. K., 1898 (enum. Australia).—Reichardt, H. W., 1870 ("Novara" exped.).—Renault, F., and Cardot, J., 1905 (descr. by Stephani).—Rendle, A. B., Baker, E. G., and Moore, S. le M., 1921–22 (Compton's coll. New Caledonia, Isle of Pines).—Salmon, E. S., 1902 (crit.).—Weber, F., 1915 (prodromus).

REGIONAL

Fiji Islands: Mitten, W., 1861–62 (general); 1871 (list).
Hawaiian Islands: Ångström, J., 1872 (Andersson's coll. voy. "Eugenies").—Baldwin, D. D., 1876 (list).—Levier, E., 1904 (Baldwin's coll., etc.).—Mueller, K., 1896, 1897 (enum., n. spp.).—Stephani, F., and Mueller, K., 1897 (crit.).
Isle of Pines: Paris, E. G., 1910 (list).—Rendle, A. B., Baker, E. G., and Moore, S. le M., 1921–22 (Compton's coll.).
Marquesas Islands—NUKAHIVA ISLAND: Bescherelle, É., 1895a.
Micronesia: Sakurai, K., 1943.
New Caledonia: Bescherelle, É., 1873 (enum.).—Brotherus, V. F., 1905–10 (enum.).—Cardot, J., 1908 (crit.).—Rendle, A. B., Baker, E. G., and Moore, S. le M., 1921–22 (Compton's coll.).
Society Islands—TAHITI: Ångström, J., 1873 (enum. Andersson's coll.).—Bescherelle, É., 1895a, 1898a, 1901 (enum.).
Tuamotu Islands—MANGAREVA ISLAND: Bescherelle, É., 1895a.

HEPATICAE

GENERAL

[Britton, E. G.], 1907 (Mitten coll.).—Gottsche, K. M., 1857 (Paris herb.).—Horikawa, Y., 1944 (crit.).—Montagne, J. F. C., 1846 ("Bonite" exped.).—Schiffner, V., 1889 ("Gazelle" exped.).—Stephani, F., 1885–86, 1889, 1893–96.—Taylor, T., 1846.

REGIONAL

Easter Island: Herzog, T., 1942 (list, foliose).

Fiji Islands: Jack, J. B., and Stephani, F., 1894 (enum.).—Schiffner, V., 1889 (n. spp.).

Hawaiian Islands: Austin, C. F., 1869 (n. spp.); 1874a (Mann and Brigham coll.); 1874b (Hillebrand coll.); 1876 (n. spp.); 1879 (crit.).—Campbell, D. H., 1927 (collecting).—Cooke, J. C. M., 1907 (taxon. Trigonantheae).—Evans, A. W., 1891 (enum.); 1899–1900 (taxon. Jubuloideae).—Montagne, J. F. C., 1846 ("Bonite" exped.).—Nicholson, W. E., 1942 (various coll.).—Reichardt, H. W., 1877 (Wawra's coll.).—Stephani, F., 1912 (n. spp.).

Juan Fernández: Evans, A. W., 1930 (list thallose spp.).—Herzog, T., 1942 (list foliose spp.).

Marquesas Islands: Bescherelle, É., 1898c (list).—Bescherelle, É., and Spruce, R., 1889 (n. spp.).

New Caledonia: Bescherelle, É., and Spruce, R., 1889 (n. spp.).—Paris, E. G., 1906–10, 1909 (list).—Pearson, W. H., 1922 (enum.).—Stephani, F., 1914, 1920 (n. spp.).

Samoa: Jack, J. B., and Stephani, F., 1894 (enum.).—Stephani, F., 1907, 1910, 1911, 1915 (enum., n. spp.).

Society Islands: Bescherelle, É., 1898c (enum.).

SYSTEMATIC

Lindenberg, J. B. W., and Gottsche, K. M., 1840–51 ("Species Hepaticarum").—Lindenberg, J. B. W., 1844–47 ("Synopsis Hepaticarum").—Stephani, F., 1900–24 ("Species Hepaticarum").—Underwood, L. M., 1893 ("Index Hepaticarum").—Verdoorn, F., 1937 (crit. Jubuleae).

Acolea *caledonica* (JUNGERMANNIACEAE): Stephani, F., 1914.

Acromastigum (JUNGERMANNIACEAE): Evans, A. W., 1900 (n. gen.); 1934 (revis.).

Aneura *viridissima* (JUNGERMANNIACEAE): Stephani, F., 1914.

Drepanolejeunea (LEJEUNEACEAE): Herzog, T., 1939 (crit.).

Dumortiera (MARCHANTIACEAE): Evans, A. W., 1919 (revis.).

Fimbriaria *drummondii* (MARCHANTIACEAE): Stephani, F., 1920.

Frullaniaceae: Verdoorn, F., 1930a (revis. Indomalayan Islands); 1930b (Oceania spp.); 1934a (revis. Jubuleae).

Frullania (FRULLANIACEAE): Bescherelle, É., 1898c (*jacquinoti*).—Verdoorn, F., 1928 (revis. subgen. *Homotropantha*).

Hymenophytum (JUNGERMANNIACEAE): Evans, A. W., 1925 (taxon.).

Jubuloideae (tribe) (JUNGERMANNIACEAE): Evans, A. W., 1899–1900 (Hawaii).—Verdoorn, F., 1934a (Jubuleae); 1937 (crit.).

Jungermannia (JUNGERMANNIACEAE): Austin, C. F., 1879 (*mauii*).—Lehmann, J. G. C., 1834–39 (n. spp.).

Lejeuneaceae: Verdoorn, F., 1934b (revis. Holostipae).

Lejeunea (LEJEUNEACEAE): Stephani, F., 1890 (Lindenberg herb.).

Marchantia (MARCHANTIACEAE): Hooker, W. J., 1837e (*trichocephala*).—Stephani, F., 1920 (*pileata*).
Madotheca *rockii* (JUNGERMANNIACEAE): Keissler, K. von, 1923.
Megaceros (ANTHOCEROTACEAE): Khanna, L. P., 1944 (crit.).
Microlejeunea *ponapensis* (JUNGERMANNIACEAE): Horikawa, Y., 1934–35.
Physiotium (JUNGERMANNIACEAE): Jack, J. B., 1886 (monogr.).
Plagiochila (JUNGERMANNIACEAE): Carl, H., 1931 (monogr.).—Dugas, M., 1929 (taxon.).—Herzog, T., 1938 (n. spp. Fiji).
Radula (JUNGERMANNIACEAE): Castle, H., 1937–39 (revis.).—Stephani, F., 1884 (taxon.).
Ricciella *linearis* (RICCIACEAE): Schiffner, V., 1889.
Scapania *grossidens* (JUNGERMANNIACEAE): Mueller, K., 1901.
Steetzia *baldwini* (JUNGERMANNIACEAE): Austin, C. F., 1879.
Taxilejeunea (LEJEUNEACEAE): Eifrig, H., 1937 (monogr. Indomalayan).
Trigonantheae (tribe) (JUNGERMANNIACEAE): Cooke, J. C. M., 1907 (Hawaii).

MUSCI

GENERAL

Collectors, collections, explorers, and expeditions:
ANDERSSON, N. J.: Ångström, J., 1875, 1876 (Tahiti, Eimeo).
AUBERT DE LA RUE, A.: Thériot, J., 1938 (New Hebrides).
BALDWIN, D. D.: Brotherus, V. F., 1904 (Hawaii).
BISHOP MUSEUM: Bartram, E. B., 1933b (Polynesia).
BRIGHAM, W. T.: Sullivant, W. S., 1874 (Hawaii).
"BONITE" EXPEDITION: Montagne, J. F. C., 1846.
COMBE, Dr. de la: Thériot, J., 1904 (New Caledonia).
DANIKER, A. U.: Thériot, J., 1904 (New Caledonia).
"GAZELLE" EXPEDITION: Mueller, K., 1889 (Fiji).
GRAEFFE, E.: Mueller, K., 1873 (Fiji, Samoa).
HOCHREUTINER, B. P. G.: Cardot, J., 1912 (Hawaii).
LEIBERG, J. B.: Williams, R. S., 1915 (Hawaii, Philippines).
LOOSER, G.: Thériot, J., 1927 (Juan Fernández).
MANN, H.: Sullivant, W. S., 1874 (Hawaii).
MITTEN, W.: [Britton, E. G.], 1907 (Polynesia).
PARKS, H. E.: Brotherus, V. F., 1924c (Tahiti).
POWELL, T.: Mitten, W., 1868 (Samoa).
RECHINGER, K.: Brotherus, V. F., 1908a, 1908b, 1913 (Samoa, Hawaii).
SCHAUINSLAND, H.: Mueller, K., and Brotherus, V. F., 1900.
SETCHELL, W. A.: Brotherus, V. F., 1924c (Tahiti).
U. S. EXPLORING EXPEDITION (WILKES EXPEDITION): Sullivant, W. S., 1859.
WAWRA, H.: Reichardt, H. W., 1877 (Hawaii).
Geography: Herzog, T., 1926.
Miscellaneous notes and descriptions: Bartram, E. B., 1945.—Duby, J. E., 1875.—Fleischer, M., 1905.—Hooker, W. J., 1818–20.—Mitten, W., 1882.—Mueller, K., 1857.—Roth, G., 1913.—Sullivant, W. S., 1857.

REGIONAL

POLYNESIA

Bartram, E. B., 1940 (enum., se. Polynesia).
Easter Island: Brotherus, V. F., 1924a, 1924b (enum.).—Thériot, J., 1937 (list).

Hawaiian Islands: Bartram, E. B., 1933a, 1939 (manual); 1942 (enum. bog survey).—Brotherus, V. F., 1904 (Baldwin's coll.); 1913 (Rechinger exped.); 1927 (enum.).—Montagne, J. F. C., 1846 ("Bonite" exped.).—Neal, M. C., 1939a, 1939e (Mauna Kea).—Reichardt, H. W., 1877 (Wawra's coll.).—Sullivant, W. S., 1874 (Mann and Brigham's coll.).—Williams, R. S., 1915 (Leiberg's coll.).

Juan Fernández: Brotherus, V. F., 1924, 1926b (enum.).—Thériot, J., 1927 (Looser's coll.).

Samoa: Brotherus, V. F., 1908a, 1908b (Rechinger's coll.).—Mitten, W., 1868 (Powell's coll.).—Mueller, K., 1873 (Graeffe's coll.).

Society Islands—RAIATEA: Bartram, E. B., 1931 (list).

Tahiti: Ångström, J., 1875 (Andersson's coll.).—Brotherus, V. F., 1924c (Setchell and Park's coll.).—Montagne, J. F. C., 1848 (crit.).—Potier de la Varde, R., 1912 (list, n. spp.).—Reichardt, H. W., 1868b (n. spp.).

MICRONESIA

Brotherus, V. F., 1901 (Caroline Islands).—Dixon, H. N., 1927 (Gilbert Islands); 1943 (records Caroline, Marianas Islands).—Sakurai, K., 1943 (crit.).

MELANESIA

Fiji Islands: Bartram, E. B., 1936 (enum.); 1944 (additions).—Dixon, H. N., and Greenwood, W., 1930 (enum.).—Mueller, K., 1873 (enum. Graeffe's coll.); 1889 ("Gazelle" exped.).

Isle of Pines: Compton, R. H., 1922.

Lord Howe Island: Brotherus, V. F., and Watts, W. W., 1915b (enum.).—Hampe, E., 1869–74 (n. spp.).—Whitelegge, T., 1892 (list).

Loyalty Islands: Thériot, J., 1914.

New Caledonia: Compton, R. H., 1922 (enum.).—Dixon, H. N., 1929 (crit.).—Naveau, R., 1928 (crit.).—Paris, E. G., 1909 (n. spp.).—Thériot, J., 1904 (Combe's coll.); 1907, 1908–11 (n. spp.); 1914, 1922 (enum.); 1929 (Däniker's coll.).

New Hebrides: Brotherus, V. F., and Watts, W. W., 1915a (list).—Thériot, J., 1938 (list).

SYSTEMATIC

Bartram, E. B., 1933b (enum. coll. in Bishop Mus.).—Bridel, S. E., 1797–1819 ("Muscologia recentiorum"); 1826–27 ("Bryologia universa").—Fleischer, M., 1914–22 ("revis . . . Mueller's Laubmoos-Gattungen").—Hedwig, J., 1801–42 ("Species muscorum").—Jaeger, A., and Sauerbeck, F., 1870–80 ("Genera et species muscorum").—Mueller, C., 1901 ("Genera muscorum").—Mueller, K., 1849–51, 1858–62, 1859 ("Synopsis muscorum").—Paris, E. G., 1893–98, 1900, 1903–06 ("Index bryologicus").—Schwaegrichen, C. F., 1830 ("Species muscorum").

Acrocladiopsis (PLAGIOTHECIACEAE): Cardot, J., 1914 (taxon.).

Bescherellia *elegantissima* (CYRTOPODACEAE): Duby, J. E., 1873.

Bryineae: Kindberg, N. C., 1888–91 (enum.).

Bryum (BRYACEAE): Brotherus, V. F., 1931 (*samoanum*).—Potier de la Varde, R., 1912 (*larminati*).

Calomnion (CALOMNIACEAE): Bescherelle, É., 1898e (reduction of *Nadeaudia*).

Calymperes (CALYMPERACEAE): Bescherelle, É., 1895b (revis.).—Roth, G., 1911 (review).

Campylopus *tubulosus* (DICRANACEAE): Bartram, E. B., 1942.

Claopodium *hawaiense* (THUIDIACEAE): Williams, R. S., 1915.

Cryphaea *schleinitziana* (CRYPHAEACEAE): Mueller, K., 1889.

Dicranella *subpycnoglossa* (DICRANACEAE): Brotherus, V. F., 1931.

Euptychium (PTEROBRYACEAE): Schimper, W. P., 1865.
Fissidentaceae: Jaeger, A., 1869 (enum.).
Floribundaria *samoana* (METEORIACEAE): Brotherus, V. F., 1931.
Funariaceae: Lindberg, S. O., 1864 (revis.).
Holomitrium: (DICRANACEAE): Thériot, J., 1911 (*vaginatum* et aff.).
Homalia *densa* (NECKERACEAE): Boswell, H., 1892.
Hymenostomum *ovale* (POTTIACEAE): Williams, R. S., 1915.
Hylophila *beruensis* (POTTIACEAE): Dixon, H. N., 1927.
Hypopterygiaceae: Kindberg, N. C., 1901 (revis.).
Isopterygium *longipes* (HYPNACEAE): Thériot, J., 1936.
Macromitrium (ORTHOTRICHACEAE): Mueller, K., 1845 (synop.); 1864 (*owahiense*).
Microdus *picquenoti* (DICRANACEAE): Thériot, J., Dixon, H. N., and Buch, H., 1934.
Nadeaudia (CALOMNIACEAE): Bescherelle, É., 1898d (*schistostegiella*): 1898e (reduced to *Calomnion*).
Orthorrhynchium (PTEROBRYACEAE): Reichardt, H. W., 1868a.
Pterobryella (PTEROBRYACEAE): Bescherelle, É., 1878a, 1878b (n. spp.).—Potier de la Varde, R., 1928 (*vagapensis*).
Pterobryopsis *urvilleanum* (PTEROBRYACEAE): Dixon, H. N., 1937.
Ptychomitrium *neocaledonicum* (PTYCHOMITRIACEAE): Thériot, J., 1932.
Raphidostegium *tegeticula* (SEMATOPHYLLACEAE): Boswell, H., 1892.
Rhacopilum *pacificum* (RHACOPILACEAE): Bescherelle, É., 1898b.
Rigodium *looseri* (LEMBOPHYLLACEAE): Thériot, J., 1927.
Sphagnales: Warnstorf, C., 1911 (monogr.).
Sphagnum (SPHAGNACEAE): Cardot, J., 1897 (catalogue).—Mueller, K., 1887 (*wheeleri*).—Warnstorf, C., 1891 (*vitjianum*); 1895 (*recurviforme*): 1900 (*vulcanicum*).
Spiridens (SPIRIDENTACEAE): Dixon, H. N., 1938 (revis.).—Greville, R. K., 1850a (*balfouriana*).—Schimper, W. P., 1865, 1867 (revis.).—Scherrin, W. R., 1938 revis.).
Splachnobryum *pacificum* (SPLACHNACEAE): Dixon, H. N., 1928.
Taxithelium (HYPNACEAE): Renualt, F., and Cardot, J., 1901.
Thamnium (NECKERACEAE): Kindberg, N. C., 1902.
Thysanomitrium *umbellatum* (DICRANACEAE): Dixon, H. N., 1922.
Trichostomaceae: Hilpert, F., 1933 (revis.).
Trichostomum *aduncum* (TRICHOSTOMACEAE): Paris, E. G., 1909.
Weisia *clavinervis* (POTTIACEAE): Potier de la Varde, R., 1912.
Zygodon (ORTHOTRICHACEAE): Malta, N., 1926 (monogr.).

PTERIDOPHYTA

GENERAL

Anatomy, stem: Posthumus, A., 1924, 1936.
Bibliography: Christensen, C., 1905–34.
Coconut trees, ferns on: Wagner, W. H., Jr., 1945.
Collectors, collections, explorers, and expeditions:
BERGERET: Becherer, A., 1937 (New Caledonia, Loyalty Islands).
CAVANILLES: Christensen, C., 1937a (revis.).
"CHALLENGER" EXPEDITION: Baker, J. G., 1876c.
CHAMISSO, L. C. A. VON: Kaulfuss, G. F., 1824.
COBURG, S.: Luerssen, C., 1876a, 1876b (Polynesia).
COMPTON, R. H.: Rendle, A. B., Baker, E. G., and Moore, S. le M., 1921–22 (New Caledonia, Isle of Pines).

CRIBS, M.: Jeanpert, E., 1912 (New Caledonia).
DANIKER, A. U.: Christensen, C., 1929a (New Caledonia); 1932 (New Caledonia, Loyalty Islands).
FAURIE, U.: Bonaparte, R., 1915a (Hawaii).—Copeland, E. B., 1914 (Hawaii).
FRANC, I.: Bonaparte, R., 1915c (New Caledonia).—Rosenstock, E., 1910, 1911 (New Caledonia).
"GAZELLE" VOYAGE: Kuhn, M., 1889.
GERMAIN: Christ, H., 1899a (New Caledonia).
GRAEFFE, E.: Luerssen, C., 1871 (Fiji, Samoa, Tonga, Ellice Islands).
HENRY, C.: Bonaparte, R., 1918b (Marquesas).
HOCHREUTINER, B. P. G.: Christ, H., 1912.
HORNE, J.: Baker, J. G., 1879 (Fiji).
IM THURN, E.: Wright, Charles Henry, 1930 (Fiji).
KAJEWSKI, S. F.: Copeland, E. B., 1931a (Santa Cruz Islands).
KRUSENSTERN, DE: Langsdorff, G. H. von, and Fischer, F. E. L., 1810–18 (illustr.).
LEDERMANN, C.: Brause, G., 1920 (Papua).
METTENIUS, G.: Kuhn, M., 1868–69 ("Reliq. Metten.").
MEYEN, F. J. F.: Goldmann, I., 1843 (Hawaii).
NIGHTINGALE, G. T.: Hooker, W. J., 1835.—Nightingale, G. T., 1835.
PARKE, DAVIS & Co. HERBARIUM: Farwell, O. A. 1931.
PARKS, H. E., AND PARKS, S. T.: Copeland, E. B., 1931b (Rarotonga).—Maxon, W. R., 1924 (Tahiti).
RAT, LE: Jeanpert, E., 1911 (New Caledonia, New Hebrides).—Rosenstock, E., 1910 (New Caledonia).
ROCK, J. F.: Copeland, E. B., 1916 (Hawaii).
SARASIN, F.: Bonaparte, R., 1915d (New Caledonia, Loyalty Islands).
SETCHELL, W. A.: Maxon, W. R., 1924 (Tahiti).
SKOTTSBERG, C.: Christensen, C., 1910b (Juan Fernández).
SMITH, JAMES, HERBARIUM OF: Alston, A. H. G., 1933.
SWARTZ, O., HERBARIUM OF: Christensen, C., 1910a.
THURSTON, J. B.: Baker, J. G., 1886m (Fiji).
U. S. EXPLORING EXPEDITION (WILKES EXPEDITION): Brackenridge, W. D., 1854–55.
VIEILLARD, M.: Bonaparte, R., 1918a (Tahiti).—Mettenius, G., 1861 (New Caledonia).
WAWRA, H.: Luerssen, C., 1876a, 1876b (Polynesia).
WHITMEE, S. J.: Baker, J. G., 1876a, 1876b (Samoa).

Fossil: Ettinghausen, C. von, 1864.

Illustrations, works consisting mainly of: Hooker, W. J., and Greville, R. K., 1829–31 ("Icones filicum").—Hooker, W. J., 1844–64 ("Species filicum"); 1854a ("Century of ferns"); 1859 ("Filices exotica"); 1860–61 ("Second century"); 1861–62 ("Gard. ferns").—Kunze, G., 1837 ("Anal. pterid."); 1840–51 (colored illustr.).—Langsdorff, G. H. von, and Fischer, F. E. L., 1810–18 (Krusenstern exped.).

Indexes and nomenclators: Christensen, C., 1905–34 ("Index filicum").—Moore, T., 1857–62 ("Index filicum").

Miscellaneous notes and descriptions: Baker, J. G., 1891 (n. spp. since 1874).—Bernhardi, J. J., 1801.—Bonaparte, R., 1915–21 ("Océanie").—Bryan, E. H., 1933 (tree ferns).—Christensen, C., 1925b (New Caledonia).—Copeland, E. B., 1931c (n. spp.).—Hieronymus, G., 1918–19 (crit.).—Houlston, J., and Moore, T., 1851 (cult.).—Kuhn, M., 1869a (crit.).—Lowe, E. J., 1864–65 ("new and rare").—Moore, T., 1881c (new garden spp.).—Presl, K. B., 1851 ("Epimel. bot.").—

Rosenstock, E., 1917 (New Caledonia).—Smith, J., 1857, 1866 (cult. spp.); 1875 ("Hist. filicum").—Williams, B. S., 1868 (select).

Phytogeography: Brown, E. D. W., 1932 (Malayan element in s. e. Polynesia).—Christ, H., 1910 ("Geogr. Farne").—Copeland, E. B., 1939b, 1941a (from Antarctica).

REGIONAL

POLYNESIA

SOUTHEASTERN POLYNESIA: Brown, E. D. W., 1932 (Indo-Malayan element).—Brown, E. D. W., and Brown, F. B. H., 1931a, 1931b (syst. treat.).—Copeland, E. B., 1938a (enum.).

Cook or Hervey Islands: Copeland, E. B., 1931b (Parks' coll. Rarotonga).—Luerssen, C, 1873b (list).

Easter Island: Christensen, C., and Skottsberg, C., 1920b (list).—Hicken, C. M., 1913 (crit.).

Ellice Islands: Luerssen, C., 1871 (enum.).

Hawaiian Islands: Bailey, E., 1883 (synop.).—Bonaparte, R., 1915a (Faurie's coll.).—Bryan, E. H., 1933 (tree).—Chaney, G. L., 1880 (notes).—Christensen, C., 1925a (list).—Copeland, E. B., 1914 (Faurie's coll.); 1916 (Rock's coll.).—Derby, C., 1875 (list).—Fosberg, F. R., 1942 (uses).—Fowler, R. L., 1940a, 1940b (key, enum., Kilauea—Mauna Loa).—Goldman, I., 1843 (Meyen's coll.).—Heller, A. A., 1897 (enum.).—Luerssen, C., 1875, 1876b (enum.).—Lydgate, J. M., 1873 (synop.).—Lyons, A. B., 1890 (key).—MacCaughey, V., 1916a (tree ferns); 1918e (ecol. survey); 1918j (*Gleichenia*).—Nichols, C. F., 1893 (popular).—Robinson, W. J., 1912–14 (syst. treatment).—Rock, J. F., 1913e (notes).—Skottsberg, C., 1942 (coll. on bog survey).—Yates, L. G., 1887 (list).

Juan Fernández: Christensen, C., 1910b (Skottsberg's coll.).—Christensen, C., and Skottsberg, C., 1920a (list).—Johow, F. R. A., 1893a (list, crit.).

Marquesas Islands: Bonaparte, R., 1918b (Henry's coll.).—Brown, E. D. W., 1930 (note).—Brown, E. D. W., and Brown, F. B. H., 1931a, 1931b (syst.).

Samoa: Alston, A. H. G., 1943 (revis. *Selaginella*).—Baker, J. G., 1876a, 1876b (Whitmee's coll.).—Brause, G., 1922 (n. spp.).—Christensen, C., 1941, 1943 (revis).—Luerssen, C., 1871 ("Filices Graeffeanae"); 1874 (enum.).—Powell, T., 1868b (list).—Vaupel, F., 1908 (general notes).

Society Islands: Bonaparte, R., 1918a (list, Tahiti).—Copeland, E. B., 1932a (enum.).—Maxon, W. R., 1924 (enum. Tahiti coll.).

Tonga Islands: Luerssen, C., 1871 ("Filices Graeffeanae").

MICRONESIA

Christensen, C., 1937a (revis. Cavanille's coll., Marianas Islands).—Hosokawa, T., 1935–36 (enum.).—Ito, H., 1938 (list, Caroline Islands); 1941 (enum. *Humata* spp.).—Luerssen, C., 1873a (list Palau Island).

MELANESIA

Fiji Islands: Baker, J. G., 1879 (J. Horne's coll.); 1886m (Thurston's coll.).—Carruthers, W., 1869 (flora).—Copeland, E. B., 1929a (manual).—Luerssen, C., 1871 (enum.).—Smith, A. C., 1944 (reminiscences).—Wright, Charles Henry, 1930 (Im Thurn's coll.).

Isle of Pines: Compton, R. H., 1922 (enum.).

Lord Howe Island: Watts, W., 1912, 1914 (enum.).

Loyalty Islands: Becherer, A., 1937 (Bergeret's coll.).—Bonaparte, R., 1914a, 1915b (enum.).—Christensen, C., 1932 (Däniker, exped.).

New Caledonia: Becherer, A., 1937 (Bergeret's coll.).—Bonaparte, R., 1914a (enum. Filicales); 1914b (Lycopodiales); 1915b (list); 1915c (I. Franc's coll.); 1915d (Sarasin's coll.).—Bosch, R. B. van den, 1861a (Hymenophyllaceae).—Christ, H., 1899a (Germain's coll.).—Christensen, C., 1925b (crit.); 1929a, 1932 Däniker's coll.).—Compton, R. H., 1922 (author's coll.).—Copeland, E. B., 1929b (crit.).—Fournier, E., 1869, 1873a (enum.); 1873b (general); 1874 (phytogeogr.).—Hieronymus, G., 1914a (Selaginellaceae).—Jeanpert, E., 1911 (le Rat's coll.); 1912 (Crib's coll.).—Mettenius, G., 1861 (Vieillard's coll.).—Rosenstock, E., 1910, 1911 (Franc's and le Rat's coll.); 1917 (n. spp.).

New Guinea—PAPUA: Brause, G., 1920 (Ledermann coll.).

New Hebrides: Copeland, E. B., 1932b (enum.).—Jeanpert, E., 1911 (list.)—Kuhn, M., 1869b (enum.).

Norfolk Island: Laing, R. M., 1916.

Santa Cruz Islands—VANIKORO: Copeland, E. B., 1931 (Kajewski's coll.).

SYSTEMATIC

Christ, H., 1897 ("Farnkräuter der Erde").—Christensen, C., 1905–34 ("Index filicum"); 1929b (revis. Cochlidiinae, "Drymoglossinae").—Desvaux, A. N., 1827 ("Prodr. fougères").—Ettinghausen, C. von, 1864 (taxon., geol., venation, etc.).—Feé, A. L. A., 1844–66 ("Mém . . . fougères").—Greville, R. K., and Hooker, W. J., 1831–33 ("Enum. filicum").—Hedwig, J., 1799–1803 ("Filicum gen. et sp.").—Hooker, W. J., 1838–42 ("Gen. filicum"); 1844–64 ("Sp. fil.").—Hooker, W. J., and Baker, J. G., 1865–74 ("Synop. fil.").—Link, H. F., 1841a (in Berlin garden).—Lowe, E. J., 1856–72 ("Ferns: Brit. and exot.").—Moore, T., 1857–62 ("Index filicum").—Presl, K. B., 1836b, 1845 ("Tent. pterid.").—Swartz, O., 1801–05 ("Gen. et sp. filicum"); 1806 ("Synop. filicum").

CERATOPTERIDACEAE

Ceratopteris: Benedict, R. C., 1909 (revis.).

CYATHEACEAE

Bommer, J. E., 1873 (review taxon.).—Delchevalerie, G., 1868 (crit.).—Keyserling, A., 1873 (in Bunge's herb.).—MacCaughey, V., 1916a (tree ferns, Hawaii).—Ogura, Y., 1930 (tree, ferns, Hawaii).

Alsophila: Anonymous, 1903c (*excelsa, lunulata*).—Delchevalerie, G., 1868 (*excelsa*).

Balantium *thyrsopteroides:* Fournier, E., 1876f.

Cibotium: Krajina, V., 1938b (*st.-johnii*).—Moore, T., 1879f (Hawaii).—Ogura, Y., 1930 (*hawaiense*).

Cyathea: Anonymous, 1903c (*medullaris*).—Baker, J. G., 1874 (*macarthuri*).—Copeland, E. B., 1911 (n. spp. Samoa); 1939a (n. spp.).—Domin, K., 1930 (list).—Fournier, E., 1876d (*nigra*).

Dicksonia: Baker, J. G., 1886c (*chamissoi*).—Looser, G., 1933 (Juan Fernández).

Fourniera *funebris:* Fournier, E., 1876f.

Hemitelia: Baker, J. G., 1872 (*moorei*).—Hölscher, J., 1898 (*samoënsis*).

Lophosoria: Looser, G., 1933 (Juan Fernández).

Thrysopteris: Boodle, L. A., 1915 (*elegans*).—Kunze, G., 1834 (*elegans*).—Looser, G., 1933 (Juan Fernández).—Moore, T., 1856 (*elegans*).

EQUISETACEAE

Baker, J. G., 1887a (handbook).—Mettenius, G., 1870 ("Novara" voy.).

Equisetum: Becherer, A., 1929 (*debile*).—Schaffner, J. H., 1931 (*ramosissimum, debile*); 1932 (key).—Schinz, H., 1914 (*ramosissimum*).

GLEICHENIACEAE

St. John, H., 1942b (enum. Pacific).
Dicranopteris: Ching, R. C., 1940b.—St. John, H., 1945c.
Gleichenia: Baker, J. G., 1886a (*moniliformis*); 1886b (*milnei*).—Becherer, A., 1936 (crit.).—Ching, R. C., 1940b (subdivision into genera).—Judd, S. C., 1937 (*linearis*).—MacCaughey, V., 1918j (Hawaii).—Salomon, C., 1877a (crit.).
Stromatopteris: Underwood, L. M., 1907 (key).

HYMENOPHYLLACEAE

Bosch, R. B., van den, 1859 (synop.); 1861a (New Caledonia); 1861b, 1861c (crit.); 1861–63 (n. spp. suppl. synop.).—Copeland, E. B., 1938c (taxon.).—G., 1904 (cult.).—Goddijn, W. A., 1913–19 (synop).—Presl, K. B., 1843 (taxon.).
Gonocormus *samoensis:* Copeland, E. B., 1940.
Hemiphlebium: Luerssen, C., 1882 (*bimarginatum*).
Hymenophyllum: Baker, J. G., 1886e (*baldwinii*).—Copeland, E. B., 1938b (revis.).—Eaton, D. C., 1879a (*baldwinii*).—Lowe, E. J., 1864–65 (n. spp.).—Rosenstock, E., 1912a (*subdimidiatum*).
Trichomanes: Baker, J. G., 1867 (n. spp.); 1886f (*powellii*).—Copeland, E. B., 1933 (monogr.).—Hooker, W. J., 1845b (*polyanthos*).—Lowe, E. J., 1864–65 (n. spp.).—Luerssen, C., 1882 (*bimarginatum*).

LYCOPODIACEAE

Baker, J. G., 1887a (handbook).—Bonaparte, R., 1914b (New Caledonia, Loyalty Islands).—Greville, R. K., and Hooker, W. J., 1832 (enum.).—Herter, W., 1912 (list).—Kuhn, M., 1889 ("Gazelle" voy.).—Nessel, H., 1939 (monogr.).—Spring, A. F., 1842–50 (monogr.).—Williams, B. S., 1868 (misc.).
Lycopodium (incl. **Urostachys**): Brown, N. E., 1881 (*squarrosum*).—Herter, W., 1908 (*haeckelii*); 1909 (revis. *Urostachys*).—Krasser, F., 1898 (*cernuum, capillaceum*).—Nessel, H., 1934, 1935, 1940 (n. spp.).—Pampanini, R., 1908a, 1908b (*pseudosquarrosum, squarrosum*).—Schinz, H., 1920 (*phlegmaria*).—Spring, A. F., 1838 (*capillaceum*); 1846 (Gaudichaud voy.).—Warburg, O., 1899–1900 (list).—Wocke, E. von, 1897 (*squarrosum*).

MARATTIACEAE

Vriese, W. H. de, and Harting, P., 1853 (monogr.).
Angiopteris: Becherer, E., 1936 (crit.).—Hieronymus, G., 1919b (crit.).—Hoffman, G. F., 1796 (*evecta*).
Marattia: Fournier, E., 1876g (*attenuata*).—MacCaughey, V., 1919b (*douglasii*).

MARSILEACEAE

Baker, J. G., 1886n (synop. Rhizocarpeae); 1887a (handbook Rhizocarpeae).
Marsilea *villosa:* Forbes, C. N., 1920.

OPHIOGLOSSACEAE

Clausen, R. T., 1938a (monogr.).—Mettenius, G., 1870 ("Novara" voy.).—Prantl, K., 1883, 1884 (taxon.).—St. John, H., 1940b.
Botrychium *daucifolium:* Hooker, W. J., 1862b.—Underwood, L. M., 1898.
Ophioglossum: Clausen, R. T., 1938b (*petiolatum*).—St. John, H., 1940b (*falcatum*); 1943a (distrib.).

OSMUNDACEAE

Leptopteris: Milde, J., 1870b (crit.).

Todea: André, E., 1875d (*wilkesiana*).—Anonymous, 1894a (*moorei*).—Baker, J. G., 1873a (n. sp.); 1887c (*moorei*).—Gower, W. H., 1887b (*wilkesiana*).—Milde, J., 1870b (crit.).—Moore, T., 1870a, 1870c (*wilkesiana*).

POLYPODIACEAE

Benedict, R. C., 1911 (genera of Vittarieae).—Bernhardi, J. J., 1802 (crit. gen. aff. *Asplenium*).—Ching, R. C., 1940a (classification).—Copeland, E. B., 1929c (oriental genera); 1941b (classification).—Keyserling, A., 1873 (in Bunge's herb.).—Kuhn, N., 1882b (revis. Chaetopterides).—Pérez Arbelaez, E., 1928 (crit. "Davalliaceae").—Posthumus, O., 1936 (stem anatomy).

Acrostichum: Baker, J. G., 1887b (*thomsoni*).—Yamamoto, Y., 1940 (*aureum*).

Adiantum: Anonymous, 1882d, 1895 (*aneitense*).—Baker, J. G., 1886h (*monosorum*).—Christensen, C., 1937b (*palaoense*).—Keyserling, A., 1875 (monogr.).—Kuhn, M., 1882a (revis.).—Moore, T., 1883c (*novae-caledoniae*); 1887 (n. spp.).—Smith, J., 1846 (*setulosum*).

Alcicornium: Underwood, L. M., 1905 (revis.).

Antrophyum: Greville, R. K., 1850b (*grevillii*).—Hieronymus, G., 1916a (*novae-caledoniae*).

Aspidium: André, E., 1880b (*obliquum*).—Eaton, D. C., 1879b (*boydiae*).—Hölscher, J., 1898 (*leuzeanum*).—Köhler, E., (*moorei*).—Mettenius, G., 1856–59 (revis.).

Aspleniopsis *decipiens:* Kuhn, M., 1882b.

Asplenium: Anonymous, 1881a (*baptisti*).—Baker, J. G., 1873a (n. sp.); 1886j (*pteridoides*).—Bernhardi, J. J., 1802 (crit.).—Brown, N. E., 1887 (*falcatum*).—Hieronymus, G., 1919a (crit., n. spp.).—Hooker, W. J., 1831 (*nidus*); 1854b (*novae-caledoniae*); 1854f (*obtusilobum*).—Koch, K., 1870 (*fernandezianum*).—Mettenius, G., 1856–59 (revis.).—Milde, J., 1870a (crit.).—Moore, T., 1861 (*obtusilobum*); 1871d (*schizodon*).—Mueller, F. von, 1884 (*robinsonii*).—Pynaert, E., 1886a (*horridum*).—Rafarin, 1875 (*schizodon*).—Rosenstock, E., 1909 (*tenuiculum*).—Watts, W. W., 1912 (*bulbiferum*).

Athyrium: Copeland, E. B., 1939a (n. spp.).—Hemsley, W. B., 1879b (*scandicinum*).—Milde, J., 1866, 1870a (crit.).

Blechnum: Christensen, C., 1939 (*phanerophlebium*).—Hooker, W. J., 1837g (*pubescens*).—Rosenstock, E., 1912b (*francii*).

Campium: Copeland, E. B., 1928 (crit.).

Cheilanthes *lidgatii:* Baker, J. G., 1886i.

Cionidium *moorii:* Moore, T., 1853.

Coniogramme *pilosa:* Hieronymus, G., 1916b.

Cyclophorus: Wagner, W. H., 1945 (*adnascens* = *lanceolatus*).

Cyrtomium: Christensen, C., 1930 (revis.).

Cystopteris *douglasii:* Hooker, W. J., 1854b.

Davallia: Anonymous, 1878a (*fijiensis*).—Baker, J. G., 1886g (*botrychioides*); 1886o (*hymenophylloides*); 1886p (*pallida*).—Gower, W. H., 1887a (*foeniculacea*).—Lydgate, J. M., 1873 (*alexandri*).—Masters, M. T., 1869, 1872a (*mooreana*).—Stappaert, de, 1883 (*fijiensis*).—Zahn, E. von, 1909 (*fijiensis*).

Deparia: Anonymous, 1852 (*moorii*).—Baker, J. G., 1872, 1886d (*nephrodioides*).—Hooker, W. J., 1852b, 1852d (*moorii*).—Moore, T., 1853 (*moorii*).

Dicksonia *berteroana:* Moore, T., 1880b.

Diellia: Smith, F. G., 1934 (crit.).

Doodia: Christensen, C., and Skottsberg, C., 1920b (*paschalis*).—Moore, T., 1868 (*duriuscula*).

Doryopteris: Tryon, R. M., Jr., 1942 (revis.).
Dryopteris: Ballard, F., 1937 (*parksii, microsora*).—Ching, R. C., 1936–38 (crit.).—Hicken, C. M., 1913 (*espinosai*).—St. John, H., 1945a (crit.).
Elaphoglossum: Christ, H., 1899b (monogr.).—Krajina, V., 1938a (n. spp.).—Skottsberg, C., 1942 (*parvisquameum*).
Goniophlebium: Copeland, E. B., 1939a (n. spp.).
Grammitis (Selliguea) *caudiformis:* Copeland, E. B., 1939a (n. spp.) ; 1940 (*fcei*).—Hooker, W. J., 1862a.
Histiopteris: Looser, G., 1936 (Juan Fernández).
Humata: Alston, A. H. G., 1933 (*banksii*).—Itô, H., 1941 (*trukensis*).
Hymenolepis: Becherer, A., 1936 (crit.).
Lastrea: Guilmot, C., 1880 (*richardsii*).—Moore, T., 1881b (*richardsii*) ; 1882b (*hopeana*).
Lepisorus *elongatus:* Ching, R. C., 1933.
Leptogramma *africana:* Ching, R. C., 1936.
Lomagramma: Holttum, R. E., 1937b (monogr.).
Lomaria: Christensen, C., 1939 (*phanaerophlebium*).—Fournier, E., 1876b (*gigantea*) ; 1876f (spp. from New Caledonia) ; 1876i (*neo-caledonica*) 1876j (*ciliata*).—Moore, T., 1866, 1869b (*ciliata*).
Lomariopsis: Holttum, R. E., 1932 (n. spp.) ; 1937a (*brackenridgei*).
Lygodictyon *forsteri:* Anonymous, 1882.
Microlepia *hirta:* Brückner, V., 1880.—Moore, T., 1878c, 1878f, 1879d.
Nephrodium: Baker, J. G., 1886k (*prenticei*) ; 1886l (*tripartitum*).—Gower, W. H., 1888 (*rodigasianum, cyatheoides*).—Moore, T., 1882a, 1883a (*rodigasianum*).
Nephrolepis *rufescens:* Pynaert, C., 1889.—Regel, E. von, 1888.
Niphobolus: Giesenhagen, K., 1901 (monogr.).
Nothochlaena: Gower, W. H., 1887c (*distans*) ; 1893 (enum.).—Hooker, W. J., 1854e (*distans*).
Oleandra: Alderwerelt van Rosenburgh, C. R. W. K. van, 1922 (*whitmeei*).—Greville, R. K., 1848 (*sibbaldii*).—Kunze, G., 1851 (*sibbaldii*).
Panicularia *berteri:* Moore, T., 1856.
Phegopteris: Mettenius, G., 1856–59 (revis.).
Plagiogyria: Mettenius, G., 1856–59 (revis.).
Pleocnemia *leuzeana:* Moore, T., 1874f.
Pleopeltis *elongata:* Ching, R. C., 1933.
Polybotrya: Holttum, R. E., 1938 (crit.).
Polypodium: Copeland, E. B., 1940 (*lepidum*).—Hicken, C. M., 1913 (*fuentesi*).—Hieronymus, G., 1905 (crit. n. spp.).— Hooker, W. J., 1854c (*pellucidum*) ; 1837b (*myriocarpum*).—Maxon, W. R., 1912 (*saffordii, minimum*).—Mettenius, G., 1856–59 (revis.).—Takeda, H., 1915 (*lineare*).—Watts, W. W., 1915 (*pulchellum, howeanum*).
Polystichum: Ching, R. C., 1934 (revis.).—Christ, H., 1893 (*aculeatum*).—Espinosa, M. R., 1934 (*fuentesii*).—Watts, W. W., 1912 (*kingii*) ; 1914 (*whiteleggei*).
Pteridium: Tryon, R. M., Jr., 1941 (revis.).
Pteris: Agardh, J. G., 1839 (revis.).—Copeland, E. B., 1939a (n. spp.).—Hieronymus, G., 1914c, 1914d (crit.).—Hooker, W. J., 1854g (*endlicheriana*) ; 1860a (*quadriaurita*) ; 1860b (*cretica*).—Laing, R. M., 1916 (Norfolk Island).—Looser, G., 1936 (Juan Fernández).—Mettenius, G., 1856–59 (revis.).
Sadleria *cyatheoides:* Geert, A. van, 1879.—Moore, T., 1877c, 1878a.
Selliguea: See *Grammitis.*
Sphenomeris: Maxon, W. R., 1913 (n. gen.).
Stenochlaena: Underwood, L. M., 1906 (revis.).

Tapeinidium: Copeland, E. B., 1939a (n. spp.).
Tectaria: Maxon, W. R., 1923 (crit., n. spp.).
Teratophyllum: Holttum, R. E., 1938 (crit.).
Trichogramme: Kuhn, M., 1882b (n. spp.).

PSILOTACEAE

Psilotum: Mueller, K., 1856 (monogr.).

SALVINIACEAE

Baker, J. G., 1886n, 1887a (synop., handbook Rhizocarpeae).
Azolla *caroliniana:* Svenson, H. K., 1944 (Hawaii).

SCHIZAEACEAE

Ligodictyon *forsteri:* Anonymous, 1882e.
Lygodium: Anonymous, 1905 (cult.).—Diels, L., 1905 (*hians*).
Schizaea *melanesica:* Selling, O. H., 1944.
Ugena: Canavilles, A. J., 1801 (crit.).

SELAGINELLACEAE

Baker, J. G., 1887a (handbook).—Hieronymus, G., 1913 (Samoa); 1914a (New Caledonia).—Kuhn, M., 1889 ("Gazelle" voy.).—Spring, A. F., 1846 (Gaudichaud voy.).
Selaginella: Alston, A. H. G., 1934 (*kanehirae*); 1943 (Samoa).—Baker, J. G., 1868 (*wallichii*); 1883–85 (synop.).—Hieronymus, G., 1902, 1912, 1914b (n. spp.).—Moore, T., 1878e, 1879e (*victoriae*); 1884b (*viridangula*); 1886 (*gracilis*).—Schmidt, O. C., 1924, 1930 (n. spp.).—Spring, A. F., 1841–43 (*laxa*); 1870 (*viridangula*).

GYMNOSPERMAE

Compton, R. H., 1922 (New Caledonia, Isle of Pines).—Merrill, E. D., 1934a (phytogeogr.).

CYCADALES

Candolle, A. de, 1868a (monogr.).—Miquel, F. A. W., 1843a (living spp.); 1861 (monogr.).—Schuster, J., 1932 (monogr.).
Cycas: B., Z., 1881 (*undulata*).—Braun, A., 1876 (*seemannii*).—Kanehira, R., 1938b (Micronesia).—Lemaire, C., 1864 (*circinalis*).—Watson, W., 1891b (*undulata*).

CONIFERAE

Brongniart, A., & Gris, A., 1866a, 1869, 1871a (New Caledonia).—Brown, R. 1869; 1872, 1875 (distrib.).—Endlicher, S. L., 1847 (synop.).—Gordon, G., 1858 (monogr.).—Masters, M. T., 1892.—Lemaire, C., 1852a (list cult. spp.).—Pardé, L., 1937 (monogr.).—Parlatore, F., 1868 (monogr.).—Studt, W., 1926 (distr.).

ARAUCARIACEAE

Araucaria: André, E., 1875a (*balansae*); 1875b (*rulei*).—Anonymous, 1861 (*rulei*); 1884 (*mülleri*); 1888 (*excelsa, cooki*).—Barsali, E., 1909 (New Caledonia).—Ben-

net, H., 1888 (*excelsa*).—Don, D., 1841 (crit.).—Heckel, E., 1901.—Hooker, W. J., 1852a.—Kerchove de Denterghem, O. de, 1877 (New Caledonia).—Lambert, A. B., 1803–24 (*excelsa*).—Lemaire, C., 1852b (*cookii*); 1853 (*columnaris*).—Moore, T., 1877a (*goldieana*).—Naudin, C., 1852 (*columnaris*).—Nicholson, G., 1885 (*cooki*).—Pardé, L., 1937 (*excelsa, cooki*).—Planchon, J. E., 1852 (*columnaris*); 1877b (*excelsa*).—Pynaert, C., 1905a (New Caledonia); 1905b (*niepraschki, rulei*); 1906 (*cooki, columnaris*).—Pynaert, E., 1878 (*excelsa*).—Raffill, C., 1906 (notes).—Rodigas, E., 1882 (*mülleri*).—Sprenger, C., 1898 (*cooki*).—Verlot, B., 1855 (*excelsa*).

Eutacta [=Araucaria]: Carrière, E. A., 1866a, 1866b.—Link, H. F., 1841b (New Caledonia).

CUPRESSACEAE

Callitris: Dümmer, R. A., 1914.

Callitropsis *araucarioides:* Schmid, W., 1937.

Agathis (Dammara):

lanceolata: Anonymous, 1891b.

macrophylla: Hooker, W. J., 1852c.—Lemaire, C., 1852c.

obtusa: Lindley, J., 1852.—Morrison, A., 1897.—Naudin, E., 1852.

vitiensis: Anonymous, 1914.—Clark, J. J., 1913.—Goodser, W. E., 1937.—Osborn, A., 1831.—Smith, J. S., 1940.

Dammara. See *Agathis.*

PODOCARPACEAE

Masters, M. T., 1892 (list cult. spp.).—Pilger, R., 1903 (monogr.).

Acmopyle: Florin, R., 1940.—Kubart, B., 1922.

Podocarpus: Anonymous, 1886a (*vitiensis*).—Goeze, E., 1886 (*vitiensis*).—Hooker, J. D., 1902 (*pectinata*).—Orr, M. Y., 1944 (leaf anatomy).—Seemann, B., 1862m (*dulcamara*); 1863a (*vitiensis*).—Wasscher, J., 1941 (*vitiensis*).

TAXACEAE

Masters, M. T., 1892 (list cult. spp.).—Pilger, R., 1903 (monogr.).

GNETALES

Brown, R., 1869, 1872, 1875 (distrib.).

ANGIOSPERMAE

Brown, F. B. H., 1930b (Marquesas, monocots).—Fosberg, F. R., 1934 (Hawaii monocots fam. key).—Guillaumin, A., 1914–45 (New Caledonia Fluviales—pt. XLVI, monocots—pt. LXXVII).

ACANTHACEAE

Nees von Esenbeck, C. G., 1847 (monogr.).

Dianthera: Baillon, H., 1890 (crit.).

Diforstera: Baillon, H., 1890 (crit.).

Dicliptera: Britten, J., 1907 (*frondosa*).—Moore, S. le M., 1927 (*whitmeei*).

Eranthemum: André, E., 1879e (*schomburgkii*).—Brown, N. E., 1890.—Dombrain, H. H. 1864 (*tuberculatum*).—Hooker, J. D., 1896a (*reticulatum*).—Hooker, W. J. 1863 (*tuberculatum*); 1864b (*cooperi*).—Oliver, D., 1877 (*laxiflorum*).—Planchon, J. E., 1883 (*cooperi*).

Graptophyllum *picturatum:* Pucci, A., 1896.—Webb, O., 1896.
Pseuderanthemum: Bailey, L. H., 1940b (*atropurpureum*).—Lindau, G., 1915 (*jaluitense*).

AIZOACEAE

Fenzl, E., 1836, 1839 (monogr. "Mollugineen").
Tetragonia *expansa:* Anderson, J., 1822.—Anonymous, J., 1908b.—Meunier, E., 1917.—Sims, J., 1823b.

ALANGIACEAE

Bloembergen, S., 1939 (revis. *Alangium*).—Wangerin, W., 1910 (monogr.).

AMARANTHACEAE

Fosberg, F. R., 1941 (crit. *Amaranthus tricolor*).—Moquin-Tandon, A., 1849b (monogr.).—Suessenguth, K., 1936 (sw. Polynesia); 1938 (*Charpentiera obovata*).

AMARYLLIDACEAE

Baker, J. G., 1878 (synop. Hypoxidaceae); 1888 (handb.).—Herbert, W., 1837 (monogr.)
Campynemanthe: Baillon, H., 1893.
Crinum: Ancona, C. d', 1886 (*pedunculatum*).—Baker, J. G., 1881 (synop.).—Tuyama, T., 1939a (*octobris*).—Uphof, J. C. T., 1942 (taxon.)
Tecophilaea *cyanocrocus:* Anonymous, 1882a.—Poisson, J., 1883.—Regel, E. von, 1872.

ANACARDIACEAE

Andrews, H. C., 1810a (*Schinus dentata*).—Barkley, F. A., 1942 (key to genera); 1944 (monogr. *Schinus*).—Beaumont, J. H., 1939 (*Mangifera,* Hawaii).—Candolle, A. P. de, 1825d (monogr. Terebinthaceae).—Engler, A., 1881 (morphol., distrib. *Rhus,* etc.); 1883a (monogr.).—Field, B. L., 1938 (*Anacardium occidentale*).—Judd, C. S., 1918 (*Rhus semialata*).—Lauterbach, K., 1921d (Micronesia).—Lindley, J., 1824 (*Spondias cytherea*).—MacCaughey, V., 1918k (*Rhus semialata*).—Marchand, V., 1869 (revis.).—Sonnerat, P., 1782 (*Spondias cytherea*).

ANNONACEAE

Baillon, H., 1867–68 (*Oxymitra obtusata*).—Candolle, A. P. de, 1824c (monogr.).—Gray, A., 1852b (*Richella*).—Guillaumin, A., 1914–45 (pts. XXXI, LVI) (New Caledonia).—MacCaughey, V., 1917n (*Anona,* Hawaii).

APOCYNACEAE

Candolle, A. de, 1844d (monogr.).—Guillaumin, A., 1914–45 (pts. LIX, LXXXIII) (revis. New Caledonia).—Heurck, H. van, and Mueller, J., 1871 (n. spp.).—Markgraf, E., 1930 (Micronesia); 1936 (revis. Tabernaemontanoideae).—Tsiang, Y., 1934 (revis. Apocynales).
Alstonia: Bennett, G., 1867 (*edulis*).—Brown, R., 1811–47 (*costata*).—Mueller, J., 1870 (New Caledonia).—Record, S. J., 1932 (*spathulata*).—Schlechter, R., 1903 (*dürckheimiana*).
Alyxia: Cunningham, A., 1834 (*daphnoides*); 1835 (synop.).
Bleekeria (=Ochrosia): Koidzumi, G., 1923.
Gynopogon: Baillon, H., 1889a (New Caledonia).

Huerckia: Mueller, J., 1870 (n. gen.).
Kentrochrosia: Merrill, E. D., and Perry, L. M., 1941 (summary).
Kopsia *carolinensis:* Merrill, E. D., and Perry, L. M., 1941.
Melodinus: Baillon, H., 1889b (New Caledonia).—Rolfe, R. A., 1883 (*vitiensis*).
Parsonsia: Merrill, E. D., 1933, 1934b (crit.).
Podochrosia *balansae:* Baillon, H., 1888b.
Lepinia: Decaisne, J., 1849, 1852b (*taitensis*).—Hosokawa, T., 1943a (conspectus).
Pteralyxia: Caum, E. L., 1933a (n. spp. Hawaii).
Thenardia: Baillon, H., 1888c (crit.).

AQUIFOLIACEAE

Baillon, H., 1875 (*Sphenostemon*); 1891a (*Oncotheca*[5]); 1891b (*Phelline*).—Guillaumin, A., 1914–45 (pt. LI) (revis. Ilicaceae, New Caledonia).—Loesener, T., 1901–08 (monogr.); 1921 (Micronesia).

ARACEAE

Engler, A., 1879 (monogr.); 1905, 1908, 1911, 1912–13, 1920 (monogr.).—Guillaumin, A., 1914–45 (pt. XLV) (New Caledonia).—Hatusima, S., 1939 (n. spp. Micronesia).—Schott, H. W., 1856, 1860 (syst.); 1861–62 (n. spp. Fiji).
Anthurium *aralifolium:* Regel, E. von, 1870.—Regel, E. von, and others, 1870.
Colocasia: Coster, S. E. H., 1938 (Fiji).—Harwood, L. W., 1938 (Fiji).—Hill, A. F., 1939b (nomenclature).—Hooker, J. D., 1894d (*antiquorum*).—Kikuta, K., Whitney, L. D., and Parris, G. K., 1938 (seeds, seedlings).—MacCaughey, V., and Emerson, J. S., 1913–14 (cult. Hawaii).—Miller, C. D., 1927, 1929 (food value).—Parham, B. E. V., 1941 (varieties, Rotuma Island, Fiji names).—Parris, G. K., 1941 (diseases of taro).—Stancliff, J. O., 1924 (taro, Tahiti, Marquesas).—Whitney, L. D., Bowers, F. A. I., and Takahashi, H., 1939 (Hawaii).—Whitney, L. D., 1937d (Hawaii).
Cyrtosperma *merkusii:* Nadeaud, J., 1897b.
Epipremnum *mirabile:* Anonymous, 1882c.—Brown, N. E., 1882a, 1882b, 1882c.—J[ackson], J. R., 1882.—Meehan, T., 1884.—Rodigas, E., 1882c.
Rhaphidophora: Anonymous, 1882b (*vitiensis*).—Engler, A., and Krause, K., 1921 (*palauensis*).
Spathiphyllum *funereum:* Tuyama, T., 1940d (reduced, *micronesicum*).

ARALIACEAE

Baillon, H., 1878a (n. spp. New Caledonia).—Candolle, A. P. de, 1830b (monogr.).—Decaisne, J., and Planchon, J. E., 1854 (crit.).—Fedde, F., 1908c (crit.).—Gray, A., 1855a (n. genera).—Guillaumin, A., 1912 (New Caledonia).—Harms, H., 1913a (Samoa); 1920–21 (Papua).—Seemann, B., 1864–68, 1868a (revis. Hederaceae).—Viguier, R., 1905a (new entities); 1906 (anatomy); 1909 (crit.); 1925 (New Caledonia).—Viguier, R., and Guillaumin, A., 1912 (crit. New Caledonia).
Aralia:[6] André, E., 1875c (*veitchii*); 1877a (*elegantissima, gracillima*); 1879a (*reginae*); 1898 (*balfouriana*).—B., 1865 (*guilfoylei*).—Carrière, E. A., 1874a (*veitchii*).—Duren, E. de, 1876 (*elegantissima*).—Fournier, E., 1876a (*elegantissima*); 1876c (*filicifolia*); 1876h (*veitchii*).—Grilli, M., 1886 (*reginae*).—Linden, J., 1883 (*gemma*).—Meehan, T., 1881 (*elegantissima*).—Moore, T., 1874a (*elegantissima*); 1877b (*filicifolia*); 1883b (*chabrieri*).—Pancher, I., 1873 (*tenui-*

[5] The exact position of *Oncotheca* is uncertain. See discussion in Loesener, T., 1901-08, p. 517.
[6] None of these actually represent *Aralia;* most of the species belong in *Nothopanax.*—E. D. Merrill.

folia).—Rodigas, E., 1884 (*monstrosa*).—Truffaut, G., 1891 (notes 15 spp.).—Veitch, J. H., 1875 (*elegantissima*).

Botryodendron: Seemann, B., 1862k (=*Mertya*).

Cheirodendron: Krajina, V., 1931 (Hawaii).

Delarbrea (?) *spectabilis:* André, E., 1878b.

Dizygotheca: Oliver, D., 1894b (*nilssoni*).—Viguier, R., 1905b (*plerandroides*).

Meryta:[7] André, E., 1879c (*sonchifolia*).—Borzi, A., 1906 (*denhami*).—Harms, H., 1936 (crit.).—Hemsley, W. B., 1903b (*denhami*).—Hooker, J. D., 1871 (*latifolia*).—Riccobono, V., 1915 (*denhami*).—Seemann, B., 1862 (=*Botryodendron*).

Panax: Brown, N. E., 1883 (*fruticosum*).—Carrière, E. A., 1874b (*sessiliflorum*).—Decaisne, J., and Planchon, J. E., 1854 (*forsteri*).—Hooker, J. D., 1885 (*murrayi*). Moore, T., 1880a (*plumatum*).

Polyscias *pinnata:* Decaisne, J., and Planchon, J. E., 1854.

Schefflera *kraemeri:* Harms, H., 1908.

ARISTOLOCHIACEAE

Duchartre, P., 1864 (monogr.).

ARTOCARPACEAE

See Moraceae

ASCLEPIADACEAE

Baillon, H., 1889c (*Stephanotis,* New Caledonia).—Britten, J., 1898 (crit., *Hoya*).—Decaisne, J., 1844 (monogr.).—Guillaumin, A., 1914–45 (pt. XXIV) (New Caledonia).—Schlechter, R., 1908 (crit.); 1921c (Micronesia).—Tsiang, Y., 1934 (revis. Apocynales).

AVICENNIACEAE

Bakhuizen van den Brink, R. C., 1921 (revis.).—Moldenke, H. N., 1942a (list); 1942b (collections); 1942c, 1945 (distrib.).

BALANOPHORACEAE

Eichler, A. W., 1873 (monogr.).—Fedde, F., 1909b (n. spp. New Caledonia).—Hosokawa T., 1934d (Micronesia).—Richard, L. C., 1822 (taxon.).—Tieghem, P. van, 1907 (crit.).

Acroblastum: Fawcett, W., 1886 (*pallens*).—Setchell, W. A., 1935b (crit.).

Balanophora: Fawcett, W., 1886 (*hillebrandtii*).—Hooker, J. D., 1856 (crit.).—Hosokawa, T., 1934d (*mariannae*).—Setchell, W. A., 1935b (crit.).

Hachettea: Baillon, H., 1880a (n. gen.).

Polyplethia: Setchell, W. A., 1935b (crit.).

BALANOPSIDACEAE

Baillon, H., 1871c (n. spp., *Balanops,* New Caledonia).

BALSAMINACEAE[8]

Impatiens *hawkeri:* Anonymous, 1886b.—B., T., 1887.—Carrière, E. A., 1887.—H., E., 1886.—Pucci, A., 1887.—Pynaert, É., 1886b.

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[7] These mostly belong in *Nothopanax.*—E. D. MERRILL.

[8] This family is represented in the area covered by this bibliography only by the introduced and cultivated *Impatiens balsamina* Linn. In horticultural literature *I. hawkeri* is credited to the "South Sea Islands." It came from New Guinea, or neighboring islands, and does not occur in Micronesia or in Polynesia.—E. D. MERRILL.

BARRINGTONIACEAE

Guillaumin, A., 1914–45 (pt. LIV) (New Caledonia).—Knuth, R., 1939 (monogr. Barringtoniaceae only).—Lauterbach, K., 1921f (Micronesia).—Miers, J., 1875 (monogr. Barringtoniaceae).

Barringtonia: Blume, C. L., 1851 (*speciosa, racemosa*).—Heckel, E., 1885 (*intermedia*).—Hooker, J. D., 1894a (*samoensis*).—Lemaire, C., 1848 (*speciosa*).—Paxton, J., 1843 (*speciosa*).—Tattersfield, F., Martin, J. P., and Howes, F. N., 1940 (*asiatica*).

BEGONIACEAE

Anonymous, 1908a.—Hooker, J. D., 1887b.—MacCaughey, V., 1918h (*Hillebrandia sandwicensis*).—Oliver, D., 1866 (*Hillebrandia*).

BIGNONIACEAE

Andrews, H. C., 1800a (*Bignonia pandorana*).—Anonymous, 1878b (*Campsidium filicifolium*).—Bureau, E., 1862 (New Caledonia); 1864 (monogr.).—Guillaumin, A., 1914–45 (pt. XXXVIII) (New Caledonia).—Moore, T., 1874e (*Campsidium filicifolium*).—Neal, M. C., 1939b (*Tecoma pentaphylla*).—Seemann, B., 1870b (*Pandorea austro-caledonica*).—Sprague, T. A., 1919 (*Dolichandrone, Markhamia*).—Stennis, C. G. A. J. van, 1927 (revis., Malaya).—Vieillard, E., 1862b (*Deplanchea*).

BIXACEAE

Guillaumin, A., 1914–45 (pt. VI) (New Caledonia).—Parham, W. L., 1938b (*Bixa orellana*).

BOERLAGELLACEAE

Lam, H. J., 1925 (revis., Dutch E. Indies).

BOMBACACEAE

Baillon, H., 1871b (*Maxwellia*).—Lyon, H. L., 1920a (silk cotton tree).

BORAGINACEAE

Candolle, A. P. de, 1845–46 (monogr.).—Cummins, G. B., 1937–43 (rusts on *Tournefortia*).—Jacques, C., 1940b (*Tournefortia argentea*).—Johnston, I. M., 1935 (*Messerschmidia argentea*); 1937 (*Heliotropium anomalum*).

BROMELIACEAE

Baker, J. G., 1889 (monogr.).

Ananas: Collins, T. L., 1937 (wild spp. Hawaii). See also in Index I Hosts and their diseases—Pineapple.

BURMANNIACEAE

Jonker, F. P., 1938 (monogr.).—Tuyama, T., 1940b (*Gymnosiphon okamotoi*).

BURSERACEAE

Blackie, W. J., 1932b (*Canarium vitiense*).—Engler, A., 1883b (monogr.).—Guillaumin, A., 1914–45 (pt. XLIX) (New Caledonia).—Lam, H. J., 1932a morphol.); 1932b (Malaya).—Lauterbach, K., 1921c (Micronesia).

CACTACEAE

Britton, N. L., 1919–23 (monogr.).

CALYCERACEAE

Walpers, W. G., 1843a (n. spp. Hawaii).

CAMPANULACEAE

Candolle, A. P. de, 1830 (monogr. Campanulaceae); 1839a (monogr. Lobeliaceae).—Gray, A., 1861b (U. S. Explor. Exped.).—Nuttall, T., 1843 (n. spp. Hawaii). Presl, K. B., 1836a (monogr. Lobeliaceae).—Rock, J. F., 1913c (n. spp. Campanulaceae); 1917d, 1919e (crit. monogr. Hawaii Lobeliaceae).—St. John, H., 1939a, 1939b (n. spp. Hawaii).—Vatke, W., 1874 (crit. Hawaii Campanulaceae).—Wimmer, E., 1943 (monogr. Lobeliaceae).

Apetahia *raiateensis:* Baillon, H., 1882.

Brighamia: Mann, H., 1869b (n. gen.).

Clermontia *rockiana:* Wimmer, E., 1929.

Cyanea: Forbes, C. N., and Munro, G. C., 1920 (*baldwinii*).—Rock, J. F., 1915b, 1918c (n. spp.).—Skottsberg, C., 1927a (*hortella*).

Lobelia: Croizat, L., 1941a (*gaudichaudii*).—Fosberg, F. R., and Hosaka, E. Y., 1938 (*gaudichaudii*).—Rock, J. F., 1918c (*oahuensis*).—St. John, H., and Hosaka, E. Y., 1935, 1938 (crit. Hawaii).—Hosaka, E. Y., and Degener, O., 1938 (n. vars.).—Skottsberg, C., 1928c (arborescent spp. trop. Asia).

Rollandia: Rock, J. F., 1918c (*angustifolia*).—St. John, H., and Hosaka, E. Y., 1935 (crit. Hawaii).—St. John, H., 1940b (*humboldtiana*).

Trematocarpus: Hemsley, W. B., 1892a (crit.).—Zahlbruckner, A., 1891 (n. gen.).

Wahlenbergia: Hooker, J. D., 1875.—Philippi, R. A., 1895 (*tuberosa*).

CANNACEAE

Kränzlin, F., 1912 (monogr.).

CAPPARIDACEAE

Candolle, A. P. de, 1824e (monogr.).—Guillaumin, A., 1914–45 (pt. XLII) (New Caledonia).—Kurz, S., 1874 (*Crataeva religiosa*).—Walpers, W. G., 1843a (n. spp.)

CARICACEAE

Carica *papaya:* Beaumont, J. H., 1939 (Hawaii).—Jones, W. W., and others, 1941 (Hawaii).—Parris, G. K., 1939a (disease).—Pope, W. T., 1926b (variations).

CARYOPHYLLACEAE

Mann, H., 1869b (crit.).—Rohrbach, P., 1871–73 (Juan Fernández).

Alsinodendron: Mann, H., 1866b (revis.).—Sherff, E., 1944a (n. spp. Hawaii).

Schiedea: Caum, E. L., and Hosaka, E. Y., 1936 (*kealiae*).—Endlicher, S. L., 1833a.—Fenzl, E., 1839 (*ligustrina*).—Hooker, W. J., 1844 (*nuttallii*).—Mann, H., 1866b (revis.).—Sherff, E. E., 1942a (*haleakalensis*); 1943, 1944a (n. spp.); 1945 (revis.); 1946 (*sarmentosa*).

Sagina *hawaiiensis:* Pax, F., 1893.

Silene: Sherff, E. E., 1946 (*degneri*).—Williams, F. N., 1896 (revis.).

Spergularia: Rossbach, R. P., 1940 (monogr.).

CASUARINACEAE

Guillaumin, A., 1914–45 (pt. LXVII) (New Caledonia).—Hosokawa, T., 1934e (*equisetifolia*).—Miquel, F. A. W., 1848 (revis.); 1865 (synop.); 1868 (monogr.).—Poisson, J., 1876 (crit.).

CELASTRACEAE

Candolle, A. P. de, 1825a (monogr.).—Ettinghausen, C. von, 1857 (*Elaeodendron curtipendulum*).—Guillaumin, A., 1914–45 (pt. XXI) (New Caledonia).—Loesener, T., 1897 (distrib.); 1911 (*Gymnosporia samoensis*); 1930a (*G. palauica*).—Seemann, B., 1870a (*Phocea*).

CHENOPODIACEAE

Aellen, P., 1929, 1933 (crit.).—Bunge, A., 1880 (phytogeogr.).—Moquin-Tandon, A., 1840 (monogr. *Chenopodium*); 1849a (monogr. *Salsolaceae*).

CHLORANTHACEAE

Cordemoy, C. J. de, 1862–63 (monogr.).—Solms-Laubach, H., 1869 (monogr.).

COMBRETACEAE

Candolle, A. P. de, 1828a (monogr.).—Exell, A. W., 1936 (n. spp. *Terminalia*).—Lyon, H. L., 1927a (*Terminalia myriocarpa*).—Magenc, P., 1914 (pharmacol. *Terminalia*).—Slooten, D. F. van, 1924 (revis., Dutch East Indies); 1937 (distrib. *Lumnitzera*).

COMMELINACEAE

Clarke, C. B., 1881 (monogr.).

COMPOSITAE

Candolle, A. P. de, 1836–38 (monogr.).—Gray, A., 1849 (n. spp. Hawaii); 1861a (U. S. Explor. Exped.).—Guillaumin, A., 1914–45 (pt. LXIII) (New Caledonia).—Kitamura, S., 1941 (Micronesia).—Lessing, C., 1831 (Synantherae Romanzoff exped.).—Schultz, K. H., 1856 (Cassiniaceae coll. E. Jardin).—Sherff, E. E., 1925–35, 1934c, 1946a (crit., n. spp. Hawaii).

Acanthospermum: Blake, S. F., 1921 (revis.).

Ageratum *conyzoides:* Robinson, B. L., 1913.

Argyautia: Sherff, E. E., 1944a (n. gen.).

Argyroxiphium: Gray, A., 1849 (*macrocephalum*); 1852a (revis.).—Hooker, J. D., 1837a (*sandwicense*).—Keck, D. D., 1936a (monogr.); 1936b (popular).—McFarland, J. H., 1935 (*macrocephalum*).—Smith, S. C., 1943 (popular).

Artemisia: Skottsberg, C., 1927c (revis. Hawaii); 1937b (crit.).

Aster *sandwicensis:* Hieronymus, G., 1900.

Balbisia: Candolle, A. P. de, 1833 (n. gen.).—Decaisne, J., 1834 (monogr.).

Bidens: Degener, O., 1929 (note); 1932c (key Hawaii).—Sherff, E. E., 1920–32 (crit. Hawaii); 1936, 1937a (crit.); 1937c (monogr.); 1941a 1941b, 1944b (n. spp. Hawaii).

Centaurodendron: Bock, C., 1936 (flowers).—Skottsberg, C., 1938c.

Coreopsis: Sherff, E. E., 1936b (revis.); 1937a (n. spp.).

Cosmos: Sherff, E. E., 1932 (revis.); 1937a (n. spp.).

Dendroseris *macrophylla:* Don, D., 1832.—Hooker, J. D., 1878b.

Dubautia: Fosberg, F. R., 1938–43 (n. spp.).—Keck, D. D., 1936 (transfers).—Rock, J. F., 1910 (*waialealae*).—Sherff, E. E., 1933 (n. spp.); 1935a (revis.); 1939c (n. spp.).—St. John, H., 1945a (crit.).
Elephantopus *mollis:* Parham, B. E. V., 1942e.
Emilia: Garabedian, S., 1924 (revis.).
Fitchia: Drake del Castillo, E., 1887b, 1898 (crit.).—Hooker, J. D., 1845 (n. gen.).—Nadeaud, J., 1898 (Tahiti).—Seemann, B., 1862j (crit.).
Helianthus *tuberosus:* Parham, W. L., 1939.
Hesperomannia: Brigham, W. T., 1868a.—Mann, H., 1869b.
Lagenophora: Forbes, C. N., 1918 (synop., Hawaii).
Lipochaeta: Sherff, E. E., 1935a (revis.); 1939c, 1941a (n. spp.).
Mikania *micrantha:* Caum, E. L., 1940.—Lever, R. J. A. W., 1944.
Oparanthus: Sherff, E. E., 1937a (n. gen.).
Pluchea: St. John, H., 1933 (crit, Hawaii).
Raillardia: Hooker, J. D., 1865 (*ciliolata*).—Keck, D. D., 1936a (transfers).—Sherff, E. E., 1933 (n. spp.); 1935a (revis.); 1941a (n. spp.).
Rea: Decaisne, J., 1833 (n. gen.).
Remya: Drake del Castillo, E., 1887b (n. gen.).
Robinsonia: Candolle, A. P. de, 1833 (n. gen.).—Decaisne, J., 1834 (monogr.).
Senecio *lautus:* Kloos, A. W., Jr., 1940.
Tetramolopium: Sherff, E. E., 1934a, 1935a (revis. Hawaii).
Wilkesia *gymnoxiphium:* Gray, A., 1849, 1852a.
Xanthium: Lever, R. J. A. W., 1944 (*italicum*).—Parham, B. E. V., 1940 (*pungens*).
Youngia: Babcock, E. B., and Stebbins, G. L., 1937 (monogr.).
Yunquea *tenzii:* Looser, G., 1935.

CONNARACEAE

Schellenberg, G., 1923b (Papua); 1924a (Micronesia); 1938 (monogr.).

CONVOLVULACEAE

Choisy, J. D., 1833, 1837, 1845 (monogr.).—Guillaumin, A., 1914–45 (pt. LXIV) (revis. New Caledonia).—Hallier, H., 1897–99 (general).—Ooststroom, S. J. van, 1938 (Malaya).
Calonyction *bona-nox:* House, H. D., 1904.
Convolvulus: Caum, E. L., 1918, 1933b (*arvensis*).—Lyon, H. L., 1919a (*arvensis*). Sims, J., 1819 (*turpethum*).
Cuscuta: Choisy, J. D., 1841 (*sandwicensis*).—Engelmann, G., 1859, 1860 (monogr.).—Ooststroom, S. J. van, 1938 (*campestris*).—Yuncker, T. G., 1932 (monogr.).
Evolvulus: Ooststroom, S. J. van, 1934 (monogr.).
Ipomoea:
batatas (sweet potato): Coster, S. E. H., 1938.—Courtet, H., 1909.—Dixon, R. B., 1932.—Friederici, G., 1936.—Harwood, L. W., 1938.—Hornell, J., 1946 (origin in Oceania).
gracilis: House, H. D., 1907.
pendula: Lindley, J., 1838b.
Merremia: Ooststroom, S. J. van, 1939 (n. spp. Fiji).

CORNACEAE

Brown, F. B. H., 1928 (Marquesas and vicinity); 1926, 1928 (*Lautea=Corokia*).—Gray, A., 1855b, 1862b (*Rhytidandra*). See also Alangiaceae.

CORYNOCARPACEAE

Hemsley, W. B., 1903a (revis. *Corynocarpus*).

CRUCIFERAE

Brown, F. B. H., and Brown, E. D. W., 1926 (*Lepidium bidentoides*).—Candolle, A. P. de, 1824d (monogr.).—Montin, D. L., 1778 (*Lepidium bidentatum*).—Schulz, O. E., 1903 (monogr. *Cardamine*); 1919–23 (monogr. Brassicaceae); 1921 (*Brassica integrifolia*); 1924 (monogr. Sisymbrieae); 1927 (monogr. *Draba, Eriophila*).—St. John, H., 1945b (revis. *Cardamine, Nasturtium,* Hawaii).—Thellung, A., 1906 (monogr. *Lepidium*).—Walpers, W. G., 1843a (n. spp.).

CUCURBITACEAE

Cogniaux, A., 1881 (monogr.); 1908 (n. spp. *Melothria,* Samoa); 1910 (Samoa, New Guinea, Solomon Islands); 1916 (monogr.).—Cogniaux, A., and Harms, H., 1924 (monogr.).—Dodge, E. S., 1943.—Eames, A. J., and St. John, H., 1943 (*Lagenaria siceraria*).—Guillaumin, A., 1914–45 (pt. XLIV) (New Caledonia).—Hutchinson, J., 1942 (*Alsomitra, Neoalsomitra*).—Naudin, C., 1858 (*Bryonia pancheri*); 1859a (monogr. *Cucumis*); 1859b (*Cucumis pancheri, Bryonia pancheri*); 1862a (*Cucumis pancheri, Luffa cylindrica*); 1862b (*Melothria pentaphylla*); 1866b (n. spp.).—St. John, H., 1934 (crit. *Sicyos,* Hawaii).—Seemann, B., 1864a (tropical Polynesia).

CUNONIACEAE

André, E., 1880a (*Geissois racemosa*).—Brongniart, A., and Gris, A., 1862 (New Caledonia); 1872 (*Cunonia,* New Caledonia).—Don, D., 1830 (monogr.).—Engler, A., 1870 (monogr. *Belangera, Weinmannia*).—Guillaumin, A., 1914–45 (pt. LVI) (revis. New Caledonia); 1921c (*Vesselowskya serratifolia*).—Pampanini, R., 1904, 1905 (n. spp. New Caledonia).—Turrill, W. B., 1916 (*Geissois imthurnii*).—Voronov, G. N., 1937 (tanning, distrib.).

CYPERACEAE

Beetle, A. A., 1944 (crit. Scirpeae).—Böckeler, O., 1868–77 (Berlin herb.); 1875 (n. spp. Samoa and Tongatabu); 1878 (n. spp. Hawaii, New Caledonia).—Clarke, C. B., 1898 (distrib.); 1901 (Juan Fernández); 1908 (n. spp.); 1909 (illus.).—Guillaumin, A., 1914–45 (pt. L) (New Caledonia).—Kükenthal, G., 1909 (monogr. Caricoideae); 1920 (n. spp. Hawaii); 1924 (Micronesia); 1935–36 (monogr. Cypereae); 1938–40 (monogr. Rhynochosporoideae).—Nees von Esenbeck, C. G., 1843a (n. spp. Hawaii).—Palla, E., 1908 (Samoa).—Ohwi, J., 1942a (enum. Micronesia).—Pfeiffer, H., 1925 (monogr. Mapanieae).—Reichardt, H. W., 1878 (Hawaii).—Steudel, E. G., 1854–55 (synop.).

Carex: Boott, F., 1846 (*paleata*); 1858–67 (illus.).—Kükenthal, G., 1909 (monogr.).—Nelmes, E., 1938 (crit.).—Ohwi, J., 1930–31, 1939 (crit.).—Palla, E., 1907 (*rechingeri*).

Cyclocampe *arundinacea:* Hooker, J. D., 1883b.

Cyperus: Böckeler, O., 1875–80 (n. spp. Hawaii).—Clarke, C. B., 1884 (crit.).—Parham, B. E. V., 1938–40, 1940 (*rotundus*).

Eleocharis: Blake, S. T., 1939 (monogr. Australia, N. Zealand).—Pfeiffer, H., 1921–22 (conspectus).—Svenson, H. K., 1929, 1939 (monogr.).

Fimbristylis: Beck, G. von, 1888b (*faulensis*).—Ohwi, J., 1939 (*hatusimae*).

Gahnia: Benl, G., 1940a (revis.); 1940b (crit.).—Pfeiffer, H., 1927 (*affinis*).
Hypolytrum *latifolium:* Hooker, J. D., 1877a.—Miquel, F. A. W., 1870–71.
Isolepis: Beetle, A. A., 1945 (crit.).
Lophoschoenus *neocaledonicus:* Pfeiffer, H., 1927.
Mariscus: Fernald, M. L., 1923 (crit.).
Oreobolus: Pfeiffer, H., 1927 (revis.).
Pandanophyllum: Kurz, S., 1869a, 1869b (crit.).
Scirpodendron *ghaeri:* Boerlage, J. G., 1895.
Scirpus: Beetle, A. A., 1941–42 (crit.).
Thoracostachyum: Uittien, H., 1936 (revis.).
Uncinia *douglasii:* Clarke, C. B., 1883b.

DEGENERIACEAE

Bailey, I. W., and Smith, A. C., 1942 (n. fam. Degeneriaceae, n. gen. *Degeneria*).

DILLENIACEAE

Brongniart, A., and Gris, A., 1864e (n. spp. New Caledonia).—Candolle, A. P. de, 1824b (monogr.).—Guillaumin, A., 1914–45 (pt. IX) (New Caledonia).—Hooker, J. D., 1873a (*Hibbertia baudouinii*).

DIOSCOREACEAE

Dioscorea: Burkill, I. H., 1923 (Tahitian yams).—Caum, E. L., and Martin, J. P., 1936–37 (cult. Hawaii).—Harwood, L. W., 1938 (cult. Fiji).—Jumelle, H., 1910 (edible).—Knuth, R., 1924 (monogr.); 1936 (*hebridensis*).—Parham, W. L., and Dakui, M., 1938 (yams).—Prain, D., and Burkill, I. H., 1914 (synop.); 1936, 1939 (taxon.).

DROSERACEAE

Diels, L., 1906 (monogr.).—Hamet, R., 1906 (*Drosera neo-caledonica*); 1907 (crit.).

EBENACEAE

Bakhuizen van den Brink, R. C., 1936–38 (revis. Malaya).—Candolle, A. de, 1844c (monogr.).—Fosberg, F. R., 1939d (*Diospyros ferrea*).—Guillaumin, A., 1914–45 (pts. XIII, XIV) (*Diospyros, Maba,* New Caledonia).—Hiern, W. P., 1873 (monogr.); 1877 (*Maba samoensis*).—MacCaughey, V., 1917i (*Diospyros ebenaster*).

ELAEOCARPACEAE

Baillon, H., 1861 (*Antholoma*).—Brongniart, A., and Gris, A., 1861b, 1863c, 1865e (New Caledonia).—Guillaumin, A., 1914–45 (pts. VIII, XLI) (New Caledonia).—Kanehira, R., 1916 (*Elaeocarpus kanehirae*).—Knuth, R., 1940 (n. spp. New Caledonia).—Mueller, F. von, 1880, 1938 (*Aristotelia braithwaitei*).—Poisson, J., 1874 (New Caledonia).—Schlechter, R., 1921b (Micronesia).—Smith, A. C., 1941–44 (crit.).—Sprague, T. A., 1907 (revis. *Dubouzetia*).

EPACRIDACEAE

Brongniart, A., and Gris, A., 1864a, 1865e (n. spp. New Caledonia).—Candolle, A. P. de, 1839c (monogr.).—Fosberg, F. R., and Hosaka, E. Y., 1938 (*Styphelia tameiameiae*).—Guillaumin, A., 1914–45 (pt. LXVII) (revis. New Caledonia).—

Nuttall, T., 1843 (crit.).—Oliver, W. R. B., 1929 (revis. *Dracophyllum*).—St. John, H., 1942b (n. comb. *Styphelia*).—Viguier, R., 1912 (New Caledonia).

ERICACEAE (excl. VACCINIACEAE)

Decaisne, J., 1855 (*Pernettya rigida*).—Skottsberg, C., 1938a (se. Polynesia).—Sleumer, H., 1935 (*Pernettya rigida*); 1939a (revis. *Agapetes*).

ERIOCAULACEAE

Lecomte, H., 1913 (*Eriocaulon longipeduculatum*).—Moldenke, H. N., 1946 (list, distrib.).—Ruhland, W., 1903 (monogr.).

ERYTHROXYLACEAE

Schulz, O. E., 1907 (monogr.).

ESCALLONIACEAE

Engler, A., 1870 (monogr. *Escallonia*).

EUCRYPHIACEAE

Bausch, J., 1938 (revis.).

EUPHORBIACEAE

Baillon, H., 1858 (monogr.); 1861–62a (Phyllantheae New Caledonia); 1861–62b (New Caledonia); 1873–74 (crit.).—Croizat, L., 1941b (revis. Plukenetiinae); 1944 (crit. Fiji).—Daenzer, F. G., 1834 (economic spp.).—Guillaumin, A., 1914–45 (pt. XXVI) (New Caledonia).—Jablonszky, E., 1915 (monogr.).—Jussieu, A. de, 1824 (medicinal spp.).—Klotzsch, J. F., 1860 (crit.).—Mueller, J., 1863–65 (syst.); 1864 (n. spp.); 1866 (monogr.).—Pax, F., 1910a, 1910b.—Pax, F., and Hoffmann, K., 1911, 1912a, 1912b, 1914, 1919a, 1919b, 1922, 1924 (monogr.).—Sherff, E. E., 1939b (crit. Hawaii).

Acalypha: Croizat, L., 1944 (*insulana*).—Hooker, J. D., 1899 (*hispida*).—Jumelle, H., 1897 (*vedeliana*).—Moore, T., 1867 (*tricolor*); 1875d (*wilkesiana*).—Nitschke, R., 1923 (distrib.).—Schneider, N., 1907 (cult. spp.).

Aleurites: Blackie, W. J., 1936.—Judd, C. S., 1919a (*moluccana*).—Langeron, M., 1902 (monogr.).—Sherff, E. E., 1939b (crit.).—Wheeler, L. C., 1939 (*moluccana*).

Antidesma: Beck, G. von, 1888a (*wawraeanum*).—Sherff, E. E., 1939b (crit. Hawaii).—Tulasne, L. R., 1851 (crit.).

Claoxylon: Sherff, E. E., 1937b, 1939b (crit., n. spp.).

Cleidion: Croizat, L., 1944 (*leptostachyum*).—Pax, F., and Lingelsheim, A. von, 1906 (*lutescens*).

Cleistanthus *micranthus:* Croizat, L., 1945a.

Codiaeum. See Croton.

Croton (including *Codiaeum* of horticulturists and *Croton,* sensu stricto): André, E., 1867, 1872a, 1872c, 1872d (cult. spp.).—Anonymous, 1881b, 1881c (cult. spp.).—Croizat, L., 1945a (*Croton! parhamii*).—Dombrain, H. H., 1868 (*maximus*).—Falkoner, W., 1873a (cult. spp.).—Geiseler, E. F., 1807 (monogr. *Croton!*).—Houtte, L. van, 1873a, 1873b (*variegatum*).—Madelain, E., fils, 1873.—Moore, T., 1869a, 1870b, 1871b, 1872c, 1872d, 1873a, 1874c, 1874d, 1875a, 1876a, 1876b, 1879a, 1879b, 1879c (various cult. spp.).—Smith W. G., 1874a, 1874c, 1875a (cult. spp.).

Drypetes: Sherff, E. E., 1939b, 1942c (crit.).
Endospermum: Raiqiso, F. C., 1936 (Fiji).
Euphorbia: Boissier, E., 1860 (descr. spp.); 1862 (monogr.); 1866 (illustr.).—Croizat, L., 1938, 1941c (crit.).—Forbes, C. N., 1913b (*stokesii*).—Johnston, I. M., 1923 (*deppeana*).—Sherff, E. E., 1936a (n. spp.); 1938a, 1939b, 1941b (revis. Hawaii).—Skottsberg, C., 1944b (enum. Hawaii).
Fontainea *pancheri:* Heckel, E., 1872.
Glochidion: Croizat, L., 1943 (crit.).—Mueller, J., 1865 (enum.).
Longetia: Baillon, H., 1865–66 (descr.).
Macaranga: Jumelle, H., 1897 (*videliana*).—Pax, F., and Hoffmann, K., 1928 (*graeffeana*).—Pax, F., and Lingelsheim, A. von, 1906 (*alchorneoides*).—Turrill, W. B., 1924 (*grandiflora, magna*).
Manihot: Harwood, L. W., 1938 (Fiji).—Poisson, J., 1900 (*glaziovii*).
Neoguillauminia: Croizat, L., 1938, 1941c (n. gen., crit.).
Neowawraea: Judd, C. S., 1932b.—Russ, G. W., 1932 (distrib.).
Phyllanthus: André, E., 1878c (*nivosus*).—Baillon, E., 1861–62a (New Caledonia).—Croizat, L., 1943 (crit.).—Moore, T., 1878b (*roseo-pictus*).—Puvilland,—.,1879 (*seemannianus*).—Sheriff, E. E., 1939b (crit. Hawaii).—Smith, W. G., 1874b (*nivosus*).
Ramelia *codonostylis:* Croizat, L., 1941b.
Securinega: Croizat, L., 1945b (*samoana*).—Lindley, J., 1821–24 (*nitida*).
Stillingia *pacifica:* Croizat, L., 1944.

FLACOURTIACEAE

Briquet, A., 1898a (n. spp. New Caledonia).—Candolle, A. P. de, 1825c (monogr. Samydeae).—Clos, D., 1855 (monogr.); 1857 (revis.).—Guillaumin, A., 1914–45 (pt. LXVI) (revis. New Caledonia).—Oliver, D., 1881 (*Erythrospermum polyandrum*).—Sherff, E. E., 1942c (*Xylosma hawaiiense*).—Sleumer, H., 1938a (*Flacourtia mollipila*); 1938b (taxon. *Xylosma*).—Tieghem, P. van, 1900a (*Erythrospermum*).

FLAGELLARIACEAE

Brongniart, A., and Gris, A., 1861c (crit.).—Christophersen, E., 1930, 1931b (*Joinvillea*).—Hooker, J. D., 1855 (crit.); 1883a (*Flagellaria gigantea*).—Surridge, H. R., 1938a (*Flagellaria indica*).

GENTIANACEAE

Grisebach, A. H. R., 1838, 1845 (monogr.); 1853 (*Schenkia*).

GERANIACEAE

Fosberg, F. R., 1936a (Hawaii).—Hooker, W. J., 1837f (*Geranium cuneatum*).—Knuth, R., 1912 (monogr.).

GESNERIACEAE

Baillon, H., 1888a (*Periomphale*).—Candolle, A. P. de, 1845.—Clarke, C. B., 1883a (monogr. Cyrtandraceae).—Schlechter, R., 1921e (Micronesia).
Cyrtandra: Hosokawa, T., 1935a (distrib.).—Kränzlin, F., 1928c (*futunae*).—Rock, J. F., 1917b, 1918a, 1919a, 1919b (Hawaii).—Seemann, B., 1861a (*pritchardii*).—Vatke, W., 1876 (*hillebrandii*).

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GOODENIACEAE

Candolle, A. P. de, 1839b (monogr. Goodenovieae).—Gray, A., 1861b (U. S. Explor. Exped.).—Guillaumin, A., 1914–45 (pt. II) (New Caledonia).—Krause, K., 1912 (monogr.).—Vriese, W. H. de, 1849–50, 1854 (monogr. Goodenovieae).

Scaevola: Diels, L., 1921d (*frutescens*).—Nuttall, T., 1843 (n. spp. Hawaii).—Rock, J. F., 1909a, 1909b (*swezeyana*).—St. John, H., 1933 (crit., Hawaii).—Skottsberg, C., 1927c (revis. Hawaii).—St. John, H., 1940b (*mollis*).—Zahlbruckner, A., 1888 (*beckii*).

GRAMINEAE

Andersson, N. J., 1856 (monogr. Andropogoneae).—Balansa, B., 1872b (cat. New Caledonia).—Camus, A., 1922 (crit.).—Camus, E. G., 1913 (monogr. Bambusaceae). Flügge, J., 1810 (monogr.).—Fosberg, F. R., 1939b (crit.).—Guillaumin, A., 1914–45 (pt. LXVIII) (revis. New Caledonia).—Hackel, E., 1889a (monogr. Andropogoneae); 1907, 1913 (Samoa).—Hackel, E., and Schinz, H., 1914 (New Caledonia, Loyalty Islands).—Harvey, C., 1941a (pasture, Fiji).—Henrard, J. T., 1940–41 (crit.).—Hitchcock, A. S., 1922 (revis. Hawaii); 1932 (New Hebrides).—Hosaka, E. Y., and Ripperton, J. C., 1939 (Hawaiian ranges).—Hosokawa, T., 1935c (enum. Micronesia).—Kunth, K. S., 1829–35 (revis.).—McClelland, C. K., 1915 (grasses, forage, Hawaii).—Munro, W., 1868 (monogr. Bambusaceae).—Nees von Esenbeck, C. G., 1829 (Brazil); 1843b (Hawaii).—Ohwi, J., 1941 (enum. Micronesia).—Parham, B. E. V., 1944 (introd. Fiji); 1945b ("blue" grasses, Fiji).—Pilger, R., 1920 (Juan Fernández).—Reichardt, H. W., 1878 (Hawaii).—Ripperton, J. C., Goff, R. A., Edwards, W. D., and Davis, W. C., 1933 (range, Hawaii).—Scribner, F. L., 1899 (Marianas).—Steudel, E. G., 1854–55 (synop.).—Stuchbery, H. M., 1937 (Fiji).—Summerhayes, V. S., and Hubbard, C. E., 1927, 1930 (Fiji).—Trinius, C. B., 1824 (Agrostideae); 1826 (Paniceae); 1828–36 (illus., descr.); 1830 (n. spp.); 1832 (Andropogoneae); 1834 (genera, Paniceae); 1840 (genera).—Whitney, L. D., Hosaka, E. Y., and Ripperton, J. C., 1939 (Hawaiian ranges).

Agrostis *rockii:* Hackel, E., 1911–12.

Amphilopis: Parham, B. E. V., 1945b (Fiji).

Andropogon: Hackel, E., 1885 (*obliquiberbis*).—Parham, B. E. V., 1945b (Fiji).

Aristida: Henrard, J. T., 1926–33 (revis.); 1929–33 (monogr.).—Swallen, J. R., 1936 (n. spp.).

Axonopus *affinis:* Chase, A., 1938 (Hawaii).

Brachiaria *reptans:* Gardner, C. A., and Hubbard, C. E., 1938.

Capillipedium *spicigerum:* Blake, S. T., 1944.

Chaetochloa *verticillata:* Kunkel, L. O., 1922 (descr., mosaic disease).

Chloris *divaricata:* Hosaka, E. Y., 1936.

Cymbopogon *refractus:* Camus, A., 1928.

Cyrtococcum *trigonum:* Stapf, O., 1922.

Deschampsia: St. John, H., 1945a (Hawaii).

Dicanthium: Parham, B. E. V., 1945b (Fiji).

Digitaria: Hackel, E., 1901 (crit.).—Henrard, J. T., 1930, 1934 (n. spp.).— Mez, C., 1924 (*marianensis*).—Ohwi, J., 1942b (*subhorizontalis*).—Tuyama, T., 1942a (crit.).—Whitney, L. D., 1937c (*henryi* Hawaii).

Eragrostis: Fosberg, F. R., 1939b (crit.).—Jedwabnick, E., 1924 (conspectus).—Swallen, J. R., 1936 (n. spp.).—Whitney, L. D., and Hosaka, E. Y., 1936 (*niihauensis*).—Whitney, L. D., 1937a (*fosbergii*).

Erianthus *maximus:* Grassl, C. O., 1946.

Eulalia: Camus, A., 1922 (crit.).

Garnotia: Swallen, J. R., 1936 (n. spp.).—Whitney, L. D., 1937b (*rarotongensis*).

Isachne: Hackel, E., 1889b (*comata*).
Ischaemum: Parham, B. E. V., 1945b (Fiji).—T., C. R., 1937 (*aristatum, rugosum*).
Lepturus: Camus, A., 1923 (crit.).
Ophiuros *monostachyus:* Hubbard, C. E., 1936.
Oplismenus: Houtte, L. van, 1867 (*imbecillis*).—Schlechtendal, D. F. L. von, 1861–62a (revis.).
Panicum: Gardner, C. A., and Hubbard, C. E., 1938 (*reptans*).—Hackel, E., 1901 (subgen. *Solitaria*).—Hitchcock, A. S., 1933 (*ramosius*).—Hosaka, E. Y., 1942 (*carteri*).—Mez. C., 1917 (n. spp. Hawaii).—Parham, B. E. V., 1940 (*maximum*).—St. John, H., 1934 (Hawaii).—St. John, H., and Hosaka, E. Y., 1935 (Hawaii).—Stapf, O., 1922 (transfers).—Whitney, L. D., and Hosaka, E. Y., 1936 (*konaense*).—Whitney, L. D., 1937e (*imbricatum*).
Paspalum: Jacques, C., 1939 (New Caledonia).
Pennisetum: Parris, G. K., 1942 (disease of *purpureum*).—Trinius, C. B., 1821 (*articulare*).
Pholiurus: Camus, A., 1923 (crit.).
Poa *siphonoglossa:* Hackel, E., 1911–12.
Saccharum: Andersson, N. J., 1855.—Gilmore, A. B., 1939 (Hawaii sugar manual).—Grassl, C. O., 1946 (*robustum*).—Miller, C. D., 1929 (food, sugar cane).—Surridge, H. R., 1938a (*spontaneum*). See also Index I—Hosts and their diseases—Sugarcane.
Schizachyrium: Camus, A., 1924 (*New Caledonia*).—Schlechtendal, D. F. L. von, 1861–62b (syst.).
Sorghum: Hubbard, C. E., 1938 (*leiocladum,* etc.).—Snowden, J. D., 1935, 1936 (cult. spp.).
Spartina: Surridge, H. R., 1937a (Fiji).
Thaumastochloa: Hubbard, C. E., 1936 (n. gen.).
Tragus *australianus:* Blake, S. T., 1941.
Trisetum *inaequale:* Whitney, L. D., 1937e.
Zea *mais:* Kunkel, L. O., 1921 (mosaic disease).

GUTTIFERAE

Candolle, A. P. de, 1824k (monogr.).—Lauterbach, K., 1924 (Micronesia).—MacCaughey, V., 1918d (*Calophyllum inophyllum*).—Merrill, E. D., 1945a (*Ochrocarpus glaucus, odoratus*).—Pierre, L., 1883 (revis.. *Garcinia*).—Planchon, J. E., and Triana, J., 1860–62 (revis.).—Smith, A. C., 1941–44 (*Calophyllum vitiense*).—Triana, J., 1860–62 (revis.).—Vesque, J., 1889 (*Garcinia, Calophyllum*); 1893 (monogr.).

HALORRHAGACEAE

Candolle, A. de, 1868b (monogr. *Gunnereae*).—Krajina, V., 1930a (*Gunnera* in Hawaii).—MacCaughey, V., 1917b (*G. petaloidea*).— Schindler, A. K., 1905 (monogr.).—Tuyama, T., 1940c (*Halorragis,* Micronesia).

HERNANDIACEAE

Hooker, J. D., 1870a (*Hernandia moerenhoutiana*).—Meisner, C. F., 1864b (monogr.).—Nadeaud, J., 1897c (*Hernandia,* Society Islands).—Tuyama, T., 1943 (*labyrinthica*).

HIPPOCRATEACEAE

Guillaumin, A., 1914–45 (pt. XIX) (New Caledonia).—Loesener, T., 1930b (Micronesia).—Smith, A. C., 1941 (crit. *Salacia, Dicarpellum*).

HYDROCHARITACEAE

Ascherson, P., 1867–68, 1871, 1875a, 1875b, 1876a, 1876b ("sea grasses").—Balfour, I., 1878b (*Halophila*).—Guillaumin, A., 1914–45 (pt. XLVI) (Fluviales, New Caledonia).—Setchell, W. A., 1934 (distrib.).

HYDROPHYLLACEAE

Brand, A., 1913 (monogr.).—Choisy, J. D., 1846 (monogr. Hydroleaceae).—Gray, A., 1870 (*Nama sandwicensis*).

ICACINACEAE

Baillon, H., 1874 (*Lasianthera austro-caledonica*).—Handa, T., 1940 (*Lophopyxis pentaptera*).—Howard, R. A., 1940–43 (crit., revis. *Citronella, Medusanthera*).—Reissek, S., 1842 (monogr. *Pennantia*).—Schellenberg, G., 1923a (New Guinea); 1924b (*Urandra elliptica*).—Sleumer, H., 1940 (*Merrilliodendron megacarpum*).

IRIDACEAE

Baker, J. G., 1877a, 1892 (monogr.).

Iris ***robinsoniana:*** Anonymous, 1891a.—Bennett, G., 1872.—Carpentier, —, 1872.—Hooker, J. D., 1892a.—Perring, W., 1885.—Watson, W., 1891a, 1891c.

JUNCACEAE

Buchenau, F., 1906 (monogr.).

LABIATAE

Bentham, G., 1831 (Romanzoff exped.); 1832–36 (monogr.).—Briquet, J., 1898b (monogr.).—Epling, C., 1935 (synop. S. Amer.); 1941 (crit. Hawaii, Juan Fernández).—Guillaumin, A., 1914–45 (pt. LXI) (New Caledonia).—Junell, S., 1934 (morphol.).—Sherff, E. E., 1934b, 1934c, 1946a (crit. Hawaii).

Amethystea: Bocquillon, M. H., 1861 (crit.).

Coleus: Dombrain, H. H., 1867a (*gibsonii*); 1867b (*veitchii*).

Haplostachys: Sherff, E. E., 1935b (revis.).

Hyptis: Epling, C., 1936 (distrib.).—Parham, B. E. V., 1942e (*pectinata*).

Leonurus ***intermedius:*** Schouw, J. F., 1850.

Lepechinia ***hastata:*** Epling, C., 1941.

Ocimum ***scutellarioides:*** Sims, J., 1812.

Phyllostegia: Bitter, G., 1900 (*variabilis*).—Hosaka, E. Y., and Degener, O., 1938 (*yamaguchii*).—Sherff, E. E., 1935b (revis.); 1939c (crit.); 1941a (n. spp. Hawaii).

Stenogyne: Bentham, G., 1877 (*rotundifolia*).—Degener, O., 1943a (*sherffii*).—Hooker, J. D., 1877b (*rotundifolia*).—St. John, H., 1945a (crit. Hawaii).—Sherff, E. E., 1935b (revis.); 1939c, 1941a, 1941b (crit.).

LACTORIDACEAE

Philippi, R. A., 1865a, 1865b (*Lactoris fernandeziana*).

LAURACEAE

Guillaumin, A., 1914–45 (pt. XVII) (New Caledonia).—Maiden, J. H., 1902 (*Cryptocarya*).—Meisner, C. F., 1864a (monogr.).—Parham, W. L., 1938b (*Persea americana*).

LECYTHIDACEAE

See Barringtoniaceae

LEGUMINOSAE

Bazilevskaja, N. A., 1930 (syst. Sophoreae).—Bentham, G., 1875 (revis. Mimoseae).—Candolle, A. P. de, 1825e (monogr.).—Desvaux, A. N., 1826 (revis. Coronillieae).—Guillaumin, A., 1914–45 (pt. XL) (New Caledonia).—Harms, H., 1911 (New Caledonia).—Hosaka, E. Y., and Ripperton, J. C., 1944 (of Hawaiian ranges).—Lyon, H. L., 1910b (for Hawaiian fields); 1911c (disease resistance).—Neal, M. C., 1937b (trees Hawaii).—Rock, J. F., 1919c, 1920a (Hawaii).—Vogel, T., 1836 (Romanzoff exped.); 1843 (Meyen exped.).

Acacia: Judd, C. S., 1920a (*koa*).—Smith, J. C., 1906 (*decurrens*).—Wawra, H., 1885 (*koa*).

Albizzia: Fournier, E., 1860–61, 1865 (crit.).—Parham, W. L., 1941 (*falcata*).—Smith, J. S., 1941 (*falcata*).

Aniotum: Fosberg, F. R., 1939e (=*Inocarpus*).

Arthroclianthus: Baillon, H., 1870 (*sanguineus*).—Hochreutiner, B. P. G., 1909 (monogr.).

Cajanus *indicus:* Lyon, H. L., 1917 (Hawaii).

Canavalia: Piper, C. V., 1917 (*microcarpa*).—Piper, C. V., and Dunn, S. T., 1922 (revis.).

Cassia: Bentham, G., 1871 (revis.).—Judd, C. S., 1932b (*gaudichaudii*).

Clianthus: Lindley, J., 1841 (*carneus*).—Naudin, C., 1854 (*puniceus*).— Planchon, J. E., 1853 (*puniceus*).

Colvillea *racemosa:* Lyon, H. L., 1927a.

Crotalaria: Senn, H. A., 1939 (N. Amer.).

Cynometra *grandiflora:* Scheffer, R. H. C. C., 1876a.

Dalbergia: Prain, D., 1904 (revis.).

Derris: Blackie, W. J., 1932a (*uliginosa*).—Lever, R. J. A. W., 1938b (Melanesia).—Tattersfield, F., Martin, J. P., and Howes, F. N., 1940 (*trifoliata*).

Desmodium: Bentham, G., 1865 (*pycnostachyum*).—Desvaux, A. N., 1826 (revis.).—Harms, H., 1931b (*polycarpum*).—Meyer, E., 1850 (*sandwicense*).—Schindler, A. K., 1924, 1925–27 (segregated genera); 1928 (crit.).

Edwardsia: Ker, J. B., 1823 (*chrysophylla*).—Philippi, R. A., 1873 (Juan Fernández).—Salisbury, R. C., 1808 (*chrysophylla*).

Erythrina: Anonymous, 1874b (*parcellii*).—Dombrain, H. H., 1873b (*parcellii*).—Judd, C. S., 1920b (*monosperma*).—Krukoff, B. A., 1939 (crit.).—Planchon, J. E., 1880b (*marmorata*).

Flemingia *strobilifera:* Li, H. L., 1944.

Inocarpus: Fosberg, F. R., 1939e (crit.); 1941 (*fagiferus*).—Lever, R. J. A. W., 1938a (*edulis*).—Oliver, D., 1889 (*edulis*).

Intsia *bijuga:* Meyer Drees, E., 1938.—Witt, H. C. D. de, 1941.

Kingiodendron *platycarpum:* Burtt, B. L., 1936a.

Leucaena *glauca:* Parham, W. L., 1938a.

Lupinus: St. John, H., 1945a (crit. Hawaii).

Maniltoa *grandiflora:* Harms, H., 1902.—Scheffer, R. H. C. C., 1876a.

Mimosa *simplex:* Sparrman, A., 1780.

Moghania *strobilifera:* Li, H. L., 1944.

Pachyrrhizus: Clausen, R. T., 1945 (monogr.).
Pterocarpus *australis:* Ettinghausen, C. von, 1854 (leaf nervation).
Pueraria *thunbergiana:* Agee, H. P., 1920.
Sophora *chrysophylla:* Ker, J. B., 1823.
Storkiella: Baillon, H., 1869 (crit.).—Seemann, B., 1861d (*vitiensis*).
Tephrosia *purpurea:* Chevalier, A., 1937.

LEMNACEAE

Hegelmaier, F., 1868 (monogr.).

LILIACEAE

Baker, J. G., 1875 (revis. Asparagaceae); 1876d (revis. Anthericeae, Eriospermeae).—Candolle, A. de, 1878 (monogr. Smilaceae).—Skottsberg, C., 1937c (crit. se. Polynesia).
Arthropodium *neo-caledonicum:* Baker, J. G., 1877b, 1877d.
Astelia: Skottsberg, C., 1934b, 1934d, 1935a, 1937c, 1937d.
Collospermum: Skottsberg, C., 1937d (distrib.).
Cordyline (See also **Dracaena**): André, E., 1874e (*densicoma*).—Baker, J. G., 1873b (synop.).—Hooker, J. D., 1860 (cult. spp.).—Regel, E. von, 1859, 1864 (cult. spp.).
Dianella: Skottsberg, C., 1937c (n. varieties).
Dracaena (See also **Cordyline**): Anonymous, 1903a, 1903b.—André, E., 1872a, 1872b, 1872e, 1874b, 1874d, 1878a.—Delaire, L., 1872.—Dombrain, H. H., 1872a, 1872b, 1873a.—Hooker, W. J., 1828b.—Koch, K., 1867 (revis.).—Lindley, J., 1835a.—Moore, T., 1871c, 1872b, 1873b, 1874b, 1875b.—Planchon, J. E., 1880a.—Regel, E. von, 1859.
Phormium *tenax:* Faujas-de-Saint-Fond, B., 1812.—Hooker, W. J., 1832b.—Lemaire, C., 1866.—Sprenger, C., 1890.
Pleiosmilax: Seemann, B., 1868b.
Smilax *trukensis:* Hosokawa, T., 1937b.
Xeronema *moorii:* André, E., 1877d.—Brongniart, A., and Gris, A., 1864g.—Masters, M. T., 1878.—Puvilland, —, 1878.—Wright, Charles Henry, 1910.

LINACEAE

Guillaumin, A., 1914–45 (pt. XXXII) (New Caledonia).—Stapf, O., 1906 (*Durandea*).

LOBELIACEAE

See Campanulaceae.

LOGANIACEAE

Baillon, H., 1880b, (n. spp. *Geniostoma*); 1880c (Labordieae); 1880d (New Caledonia).—Bentham, G., 1856 (*Geniostoma crassifolium*).—Candolle, A. de, 1845 (monogr.).—Gilg, E., 1934 (n. spp. Marianas).—Gilg, E., and Benedict, C., 1921 (revis. Micronesia, Polynesia).—Gray A., 1860b (crit.).—Guillaumin, A., 1914–45 (pt. XXV) (New Caledonia).—Hill, A. W., 1911, 1917 (revis. *Strychnos*).—Hosokawa, T., 1937b (*Fagraea sair*).—Klett, W., 1924 (revis. genera).—St. John, H., 1933, 1936b (crit. revis. Hawaii).—Sherff, E. E., 1938b, 1939a, 1944a (crit. Hawaii).—Valeton, T., 1902 (revis. *Geniostoma*).

LORANTHACEAE

Baillon, H., 1862 (syst.).—Candolle, A. P. de, 1830c (monogr.).—Danser, B. H., 1929 (taxon.); 1931 (Neth. E. Indies); 1933, 1934, 1936 (crit. revis.).—Skottsberg,

C., 1944b (Hawaii).—Tieghem, P. van, 1894b, 1895, 1896b (crit.).
Aciella: Tieghem, P. van, 1894a (n. spp.).
Amyema: Danser, B. H., 1931 (*bamleri*) ; 1934 (*samoensis*).
Korthalsella: Lecomte, H., 1916 (crit.).—Tieghem, P. van, 1896a (n. gen.).
Loranthus: Tieghem, P. van, 1894c (crit.).
Treubella: Tieghem, P. van, 1894d (n. spp.).

LYTHRACEAE

Bacigalupi, R., 1931 (taxon. *Cuphea*).—Candolle, A. P. de, 1828b (monogr.).—Koehne, E., 1880–85 (monogr.) ; 1903 (monogr.).—Merrill, E. D., 1934b (*Cuphea* vs. *Parsonsia*).—Parham, B. E. V., 1938–40 (*Lythrum hyssopifolium*).

MAGNOLIACEAE

Baillon, H., 1866–67b (*Zygogynum*).—Guillaumin, A., 1914–45 (pt. LXIX) (New Caledonia).

MALPIGHIACEAE

Guillaumin, A., 1914–45 (pt. XXX) (New Caledonia).—Niedenzu, F., 1915–24 (crit.) ; 1928 (monogr.).—Sprague, T. A., 1910 (*Tristellateia australis*).

MALVACEAE

Baker, E. G., 1890–93 (synop.).—Candolle, A. P. de, 1824f (monogr.).—Guillaumin, A., 1914–45 (pt. XXII) (New Caledonia).—Hochreutiner, B. P. G., 1902 (n. spp.).
Abutilon: Christophersen, E., 1934a (n. spp.).
Gossypium: Chevalier, A., 1939 (*taitense*).—Dass, C. M., 1937 (hybrid, Fiji).—Roberty, G., 1937 (*taitense, purpurascens*) ; 1942 (revis.).—Watt, G., 1907 (revis.).
Hibiscus: Hochreutiner, B. P. G., 1900 (revis.).—Hooker, J. D., 1891 (*venustus*).—Lyon, H. L., 1915d (*Xylaria* disease).—MacCaughey, V., 1916m (*tiliaceus*).—Merrill, E. D., 1920 (*tiliaceus*).—Neal, M. C., 1939c (popular, Hawaii).—Sprague, T. A., 1914a (*waimeae*) ; 1914b (*arnottianus*).—T., W., 1915 (*waimeae*).—Wilcox, E. V., and Holt, V. S., 1913 (ornamental Hawaii).—Wilder, G. P., 1917 (development in Hawaii).
Kokia: Lewton, F. L., 1912 (n. gen.).—Rock, J. F., 1919d (taxon.).
Sida: Gandoger, M., 1924 (key).
Urena *lobata:* Parham, B. E. V., 1938–40 (weed Fiji).

MARANTACEAE

Rolfe, R. A., 1907 (*Donax, Schumannianthus*).—Körnicke, F. A., 1862 (monogr., *Phrynium dichotomum*).—Schumann, K., 1902 (monogr.).

MELASTOMACEAE

Candolle, A. P. de, 1828c (monogr.).—Cogniaux, A., 1891 (monogr.).—Naudin, C., 1849–53 (monogr.).—Triana, J., 1871 (monogr.).
Astronia: Moore, S. le M., 1880 (n. spp.).
Astronidium: Markgraf, F., 1934 (revis.).
Clidemia *hirta:* Kermack, J., 1928.—Lever, R. J. A. W., 1931.—Paine, R. W., 1934.—Simmonds, H. W., 1932a, 1933, 1934, 1937, 1938.—Taylor, T. H. C., 1928 (control, Fiji).

Medinilla: Mansfeld, R., 1930 (*blumeana*).—Moore, S. le M., 1880 (n. spp.).—Paine, R. W., 1940 (*waterhousei*).
Melastoma: Bois, D., 1910 (*normale*).—Hooker, W. J., 1856 (*denticulatum*).

MELIACEAE

Candolle, A. P. de, 1824m (monogr.).—Candolle, C. de, 1878 (monogr.); 1903 1906 (n. spp.); 1912 (Samoa).—Gray, A., 1855b (*Vavaea*).—Guillaumin, A. 1914–45 (pt. XXXV) (New Caledonia).—Hemsley, W. B., 1907b (*Dysoxylum pachyphyllum*).—Jack, H. W., 1935 (mahogany, Fiji).—Jussieu, A. L. de, 1830 (syst.).—Oliver, D., 1896b (*Vavaea megaphylla*).—Ridley, H. N., 1938 (*Xylocarpus granatum*).

MENISPERMACEAE

Diels, L., 1910 (monogr.); 1913 (Samoa); 1920 (New Caledonia); 1921a (*Pachygone ledermannii*).—Miers, J., 1864–71 (monogr.).—Yamamoto, Y., 1938 (phytogeogr., list).

MONIMIACEAE

Baillon, H., 1868 (*Hedycarya*); 1873 (*Nemuaron*).—Candolle, A. de, 1868c (monogr.).—Gray, A., 1866 (*Hedycarya*).—Guillaumin, A., 1914–45 (pt. XXIII) (New Caledonia).—Perkins, J., and Gilg, E., 1901 (monogr.).—Perkins, J., 1911 (suppl. monogr.).

MORACEAE (including ARTOCARPACEAE)

Bureau, E., 1869–72 (New Caledonia); 1873 (monogr.).—Diels, L., 1938 (Micronesia).—Fosberg, F. R., 1940a (Melanesia).—Guillaumin, A., 1914–45 (pt. LXXV) (crit. New Caledonia).—Summerhayes, V. S., 1932 (New Hebrides).—Trécul, A., 1847 (revis.).—Warburg, O., 1921 (New Caledonia).
Antiaris *bennettii:* Seemann, B., 1862c, 1862d.
Artocarpus: André, 1879d (*cannoni*).—Chevalier, A., 1940 (*communis*).—Christian, F. W., 1897 (varieties of breadfruit).—Forster, G., 1784a, 1784b (*incisa*).—Fosberg, F. R., 1939e (crit.); 1941 (*communis, incisa*).—Hooker, W. J., 1828 (*incisa*).—Houtte, L. van, 1875 (*cannoni*).—MacCaughey, V., 1917m (Hawaii).—Miller, C. D., 1929 (food value of breadfruit).—Moore, T., 1875c (*cannoni*).—Panzer, G. W. F., 1785 (breadfruit).—Smith, W. G., 1875b (*cannoni*).—Solereder, H., 1903 (*laciniata*).—Veitch, J. H., 1875 (*laciniata*).—Wilder, G. P., 1928 (breadfruit, Tahiti).
Broussonetia *papyrifera:* Ruiz, H., 1940 (introduction, Tahiti to Peru).—Sims, J., 1823a (Tahiti).
Ficus: Brown, N. E., 1888 ("*cannoni*").—Diels, L., 1938 (Micronesia).—Jumelle, H., 1898 (*prolixa*).—Lyon, H. L., 1922 (for Hawaii).—Miquel, F. A. W., 1847–48 (monogr.); 1867 (crit.).—Moore, T., 1881a (*exsculpta*).—Poisson, J., 1900 (*prolixa*).—Solereder, H., 1903 (*cannonii*).—Summerhayes, V. S., 1933a (*glandifera*); 1933b (*nasuta*); 1939 (syst. Samoa); 1940 (se. Polynesia).—Warburg, O., 1905, 1921 (n. spp. New Caledonia).
Sitodium: Fosberg, F. R., 1939e (= *Artocarpus*).

MUSACEAE

Baker, J. G., 1893 (synop.).—Joret, H., 1888 (ornamental, economic).—Schumann, K., 1900 (monogr.).
Musa: Anonymous, 1890b (*seemanni*).—Auld, W., and Jaeger, A., 1889 (Hawaiian varieties).—Baker, J. G., 1894 (crit.).—Carpenter, C., 1919 (diseases).—Coster,

S. E. H., 1938 (agr. notes).—Hooker, J. D., 1901b (*oleracea*).—MacCaughey, V., 1918f, 1919a (Hawaii).—Mills, W., 1850 (*cavendishii*).—Naudin, C., 1850 (*cavendishii*).—Parham. B. E. V.. 1938a (Fiji).—Pope, W. T., 1926a (Hawaii).—Pucci, A., 1906 (crit.).—Sagot, P., 1886 (*fehi*).—Wildemann, E. de, 1912 (monogr.).

MYOPORACEAE

Bennett, G., 1832b (*Myoporum tenuifolium*).—Guillaumin, A., 1914–44 (pt. LXII) (New Caledonia).—Kränzlin, F., 1910 (*M. cuneifolium, tubiflorum*); 1929a (monogr.).—Skottsberg, C., 1933c (Rarotonga).

MYRICACEAE

Canacomyrica: Guillaumin, A., 1914–45 (pt. LVII) (n. gen. New Caledonia).

MYRISTICACEAE

Candolle, A. de, 1857a (monogr.).—Markgraf, F., 1938 (Micronesia).—Warburg, O., 1897 (monogr.).

MYRSINACEAE

Candolle, A. de, 1834, 1841, 1844a, (monogr.).—Guillaumin, A., 1914–45 (pt. LX) (revis. New Caledonia).—Hosaka, E. Y., 1940 (revis. *Myrsine, Suttonia, Rapanea* Hawaii).—Mez, C., 1902, 1920 (monogr.); 1921 (Micronesia).—Oliver, D., 1894a (*Ardisia megaphylla*).—Sprague, T. A., 1944 (*Rapanea mccomishii*).

MYRTACEAE

Berg. O., 1854 (revis. C. Amer. spp.).—Brongniart, A., and Gris, A., 1864c, 1865b, 1865e, 1866c (crit. n. spp. New Caledonia).—Candolle, A. P. de, 1828d, 1841 (monogr.).—Diels, L., 1921c (Micronesia); 1922 (Papua).—Guillaumin, A., 1914–45 (pts. XXXIV, LIII) (New Caledonia).

Acicalyptus: Gray, A., 1855a (n. gen.).—Merrill, E. D., and Perry, L. M., 1937 (revis.).

Baeckia: Andrews, H. C., 1810b (*virgata*).—Regel, E. von, 1876 (*parvula*).

Cleistocalyx: Merrill, E. D., and Perry, L. M., 1937 (revis.).

Cloëzia: Brongniart, A., and Gris, A., 1863d.

Eugenia: Guillaumin, A., 1916 (revis. New Caledonia).—Kanehira, R., 1916 (*ponapense*).—MacCaughey, V., 1916j (Hawaii).

Fremya: Brongniart, A., and Gris, A., 1863b (New Caledonia).—Houllet, E., 1865 (*aurantiaca*).

Leptospermum *ciliatum:* Gugerli, K., 1939.

Metrosideros: MacCaughey, V., 1918m (*polymorpha*).—Rolfe, R. A., 1920 (*collina*).—Rock, J. F., 1917c (revis.).—Smith, J. E., 1797 (*villosa*).—St. John, H., and Hosaka, E. Y., 1935 (n. spp.).

Nelitris (Decaspermum) *jambosella:* Lindley, J., 1821–24.

Paraeugenia *imthurnii:* Turrill, W. B., 1915a.

Pleurocalyptus: Brongniart, A., and Gris, A., 1867b (New Caledonia).

Psidium: MacaCughey, V., 1917g (Hawaii).—Simmonds, H. W., 1934.

Purpureostemon: Gugerli, K., 1939.

Schizocalyx: Heckel, E., 1911b (New Caledonia).

Spermolepis: Brongniart, A., and Gris, A., 1863d, 1867a (crit.).—Heckel, E., 1911b (New Caledonia).

Tristaniopsis: Brongniart, A., and Gris, A., 1863b (New Caledonia).
Xanthomyrtus *pergracilis:* Diels, L., 1922.
Xanthostemon: Pampanini, R., and Pampaloni, L., 1905–06 (crit.).

NAJADACEAE

Braun, A., 1864 (revis. *Najas*).—Guillaumin, A., 1914–45 (pt. XLVI) (Fluviales, New Caledonia).—Rendle, A. B., 1899 (revis. *Najas*); 1901 (monogr.).

NEPENTHACEAE

B., 1904 (*Nepenthes vieillardii*).—Dubard, M., 1906a (New Caledonia); 1828 (Neth. E. Indies).—Hemsley, W. B., 1906 (*N. phyllamphora*).—Hooker, J. D., 1873b (monogr.).—MacFarlane, J. M., 1908 (monogr.).

NYCTAGINACEAE

Brongniart, A., and Gris, A., 1861d (*Vieillardia austro-caledonica*).—Choisy, J. D., 1849 (monogr.).—Heimerl, A., 1913a (*Calpidia*); 1913b (*Calpidia, Rockia*); 1913c (Samoa); 1937 (Polynesia).— Seemann, B., 1863c (*Coedes* vs. *Pisonia*).—Skottsberg, C., 1936b (arboreous spp. Hawaii); 1941c (*Heimerlia, Heimerliodendron*).—Valeton, T., 1914a (Papua).

OLACACEAE

Candolle, A. P. de, 1824i (monogr.).—Schellenberg, G., 1923a (New Guinea).—Valeton, T., 1886 (revis.).

OLEACEAE

Candolle, A. P. de, 1844 (monogr. Jasmineae).
Jasminum: Andrews, H. C., 1800b (*gracile*).—B., 1905 (*didymum, simplicifolium*).—Bailey, L. H., 1940a (crit.).—Guillaumin, A., 1914–45 (pt. III) (New Guinea).—Hooker, J. D., 1878a (*didymum*).—Ker, J. B., 1822 (*gracile*); 1824 (*simplicifolium*).—Knoblauch, E., 1936 (n. spp. New Caledonia).—Mueller, F. von, 1881a (*betchei*).—Sims, J., 1807a (*simplicifolium*).
Linociera *sessiliflorum:* Lingelsheim, A. von, 1930.
Notelaea: Guillaumin, A., 1914–45 (pt. LXXII) (New Caledonia).—Knoblauch, E., 1936 (crit.).
Osmanthus: Guillaumin, A., 1914–45 (pt. LXXII) (New Caledonia).—Knoblauch, E., 1936.—Nakai, T., 1930 (crit.).

ONAGRACEAE

Fuchsia *cyrtandroides:* Munz, P. A., 1943.

OPILIACEAE

Schellenberg, G., 1923a (New Guinea).

ORCHIDACEAE

Ames, O., 1914 (Guam); 1932a, 1933 (New Hebrides, Santa Cruz).—Atherton, F. C., 1933 (cult. Hawaii).—Fleischmann, H., and Rechinger, K., 1910 (Samoa).—Fosberg, F. R., 1940a (Melanesia).—Fukuyama, N., 1939 (n. spp. Kusaie Island).—Guillaumin, A., 1914–45 (pt. LXV) (key New Caledonia).—Hemsley, W. B.,

1885a (distrib.).—Horaninow, P., 1862 (crit.).—Kränzlin, F., 1886 ("Gazelle" exped.); 1893 (crit.); 1901–04 (monogr.); 1909 (n. spp. Samoa); 1910–11, 1911 (monogr.); 1914, 1928a, 1928b, 1929b, 1932 (New Caledonia, Loyalty Islands).—Lindley, J., 1830–40 (gen., spp.); 1852–59 (enum.).—MacCaughey, V., 1916i (Hawaii).—Mueller, F. von, 1881b (Samoa).—Pfitzer, E., and Kränzlin, F., 1907 (monogr. Coelogyninae).—Reichenbach, H. G. (fil.), 1847–76, 1858–1900 (n. spp.); 1868 (Fiji); 1878–81 (Wilkes exped.).—Rolfe, R. A., 1893–1922 (n. spp.).—Schlechter, R., 1900 (monogr. Podochilinae); 1906, 1906–12 (n. spp.); 1910–11 (revis. Samoa); 1921a (Micronesia).—Schuster, K., 1931–36 (index illus.).—Tuyama, T., 1939, 1941d (crit. Micronesia).—Williams, L. O., 1938a (enum. Fiji); 1939 (n. spp. Samoa, Ponape, Fiji).

Acanthophippium *vitiense:* Williams, L. O., 1941a.

Acianthus: Guillaumin, A., 1914–45 (pt. XV) (revis. New Caledonia).—Kränzlin F., 1894–95 (*cymbalariaefolius*).

Acriopsis: Fukuyama, N., 1938 (n. sp.).

Aeranthus *sphenochilus:* Kränzlin, F., 1928a.

Aërides: Morren, E., 1876 (enum. cult. spp.).—Reichenbach, H. G. (filius), 1866 (*thibautianum*).

Agrostophyllum *drakeanum:* Kränzlin, F., 1903.

Anectochilus: Fosberg, F. R., 1938–43 (n. spp.).

Arundina *kanehirae:* Yamamoto, Y., 1933.

Bulbophyllum: Ames, O., 1922 (*nigroscapum*).—Smith, J. J., 1912a (sect. *Cirrhopetalum*).

Calanthe: Finet, E. A., 1899 (*balansae*).—Mueller, F. von, 1885b (*langei*).—Reichenbach, H. G. (filius), 1882a, 1882b (*bracteosa*); 1883–86 (*anchorifera*).

Chiloschista: Diels, L., and Mansfeld, R., 1932 (n. spp.).

Cirrhopetalum: Hooker, J. D., 1892b (*thouarsii*).—Hooker, W. J., 1846 (*thouarsii*).—Kränzlin, F., 1894–95 (*layardi*).—Lindley, J., 1838a, 1843b (*thouarsii*).—Smith, J. J., 1912a (sect. of *Bulbophyllum*).

Coelogyne *lycastroides:* Kränzlin, F., 1894–95.

Corybas: Schlechter, R., 1923.

Corysanthes: Schlechter, R., 1923.

Cymbidium *triste:* Hooker, W. J., 1839.

Cystopus: Smith, J. J., 1934.

Dendrobium: Finet, E. A., 1903a, 1903b (enum. Paris herb.).—Fukuyama, N., 1937a (n. spp. Micronesia).—Hooker, W. J., 1861 (*linguaeforme*).—Kränzlin, F., 1894–95 (*mooreana*); 1922 (*vitiense*).—Lindley, J., 1835b (*biflorum*); 1843a (*macranthum*); 1844 (enum.); 1857–58 (n. spp.).—Reichenbach, H. G. (filius), 1862 (*mohlianum*); 1877a (*tipuliferum*); 1877b (*petri*); 1877d (*dactylodes*); 1883–86, 1886 (*inauditum*).—Rolfe, R. A., 1889 (*fairfaxii*); 1912 (*imthurnii*).—Swartz, O., 1799, 1800, 1805a (crit.); 1805b (*crispatum*).—Tuyama, T., 1941c (spurless).

Dipodium *freycinetioides:* Fukuyama, N., 1937c.

Epipactis: Eaton, A. A., 1908 (crit.).

Eria *acutissima:* Reichenbach, H. G., (filius), 1876.

Etoeria. See **Hetaeria.**

Galeola *ponapensis:* Tuyama, T., 1940d.

Grammatophyllum *elegans:* Reichenbach, H. G. (filius), 1882c.—Williams, L. O., 1938b.

Hetaeria: Reichenbach, H. G. (filius), 1877d (*whitmeei*).—Tuyama, T., 1938c (*raymundi*).

Liparis: Finet, E. A., 1908 (*chalandei*).—Fukuyama, N., 1938 (n. sp.).—Mueller, F. von, 1885c (*layardi*).—Ridley, H. N., 1886 (monogr.).—Williams, L. O., 1941b.

Luisia *teretifolia:* Tuyama, T., 1944.
Malaxis: Ridley, H. N., 1888 (revis.).—Swartz, O., 1805b (***rheedii***).—Williams, L. O., 1938b (*margaretae*).
Microstylis: Fukuyama, N., 1938 (n. sp.).—Krãnzlin, F., 1922 (*platychila*).—Ridley, H. N., 1888 (revis.).
Microtatorchis: Fukuyama, N., 1937a (n. sp.).
Nervilia: Fukuyama, N., 1937b, 1940 (n. spp.).
Notiophrys *commelynae:* Lindley, J., 1857–58.
Oberonia *iridifolia:* Hooker, W. J., 1850.
Odontochilus *upoluensis:* Kränzlin, F., 1922.
Pelma *neo-caledonicum:* Finet, E. A., 1909.
Phajus *robertsii:* Mueller, F., 1886a.
Phreatia *tahitensis:* Lindley, J., 1857–58.
Pomatocalpa *vaupelii:* Smith, J. J., 1912b.
Pristiglottis: Smith, J. J., 1934 (crit.).
Pseuderia *smithiana:* Schweinfurth, C., 1943.
Saccolabium *mimus:* Reichenbach, H. G., (filius), 1878.
Sarcanthus *nagarensis:* Smith, J. J., 1912b.—Williams, L. O., 1938b.
Serapias: Eaton, A. A., 1908 (crit.).
Serapiastrum: Eaton, A. A., 1908 (crit.).
Spathoglottis: Hooker, J. D., 1878c (*petri*); 1888a (*vieillardii*).—Reichenbach, H. G., (filius), 1877c (*petri*); 1883 (*pacifica*).
Taeniophyllum: Fukuyama, N., 1937a (n. spp.).
Trichochilus *neo-ebudicus:* Ames, O., 1932b.
Vanilla: Suckling, J. J. C., 1939 (*planifolia*).—Tuyama, T., 1940d (*ponapensis*).—Yamamoto, Y., 1933 (*ponapensis*).

OROBANCHACEAE

Lyon, H. L., 1920b (*Aeginetia indica*).

OXALIDACEAE

Oxalis: Calder, C. C., 1919 (*corymbosa* or *martiana*).—Knuth, R., 1919 (*novae-caledoniae*); 1930 (monogr.).—Tuyama, T., 1942b (*bahiensis*).

PALMAE

André, E., 1885–87 (cult.).—Beccari, O., 1914 (n. spp. Samoa, Fiji); 1918 (Lepidocaryeae); 1920 (New Caledonia); 1921a (Corypheae); 1921b (New Caledonia); 1924 (n. spp. Micronesia); 1931 (Corypheae).—Brongniart, A., 1873, 1874b (New Caledonia).—Burret, M., 1928a (crit.); 1935a (n. spp. Fiji); 1935b (crit.); 1940 (in Bishop Mus.).—Hooker, J. D., 1884 (cult. Kew).—Judd, C. S., 1916 (algaroba, royal palm, Hawaii).—Kanehira, R., 1936b (Micronesia).—Kerchove de Denterghem, O. de, 1878 (monogr.).—MacCaughey, V., 1912 (Honolulu).—Martelli, U., 1934a, 1935a, 1935b (crit. Areceae).—Martius, K. F. P. von, 1831–50 (monogr.).—Milne, W., 1860a (Fiji).—Rock, J. F., 1917e (crit.).—Roster, G., 1913–15 (cult. Italy); 1920–21 (frost resistant).—Salomon, C., 1877b (enum. cult.).—Seemann, B., 1856, 1857 (history).—Taylor, W., 1900 (list Hawaii).—Tuyama, T., 1941b (vernacular names Palau).—Vieillard, E., 1873 (New Caledonia).—Watson, W., 1884–93 (cult.).—Wendland, H., 1862 (enum. crit.).—Wendland, H., and Drude, O., 1875 (enum., crit.).
Areca: Buyssens, A., 1898 (*ilsemanni*).—Hooker, J. D., 1868 (*baueri*).—Jack, H. W., 1936 (*catechu*).—Jan, S. R., 1937 (*catechu*).—Lemaire, C., 1856 (*catechu*);

1860 (*sapida, baueri*) ; 1868 (*baueri*).—Ostinelli, V., 1921 (*sapida*).—Pynaert, C., 1904 (*ilsemanni*).

Balaka: Bailey, L. H., 1935 (n. spp.).

Basselinia: Vieillard, E., 1873 (New Caledonia).

Calamus *vitiensis:* Beccari, O., 1908.

Chambeyronia: Vieillard, E., 1873 (New Caledonia).

Carpoxylon: Burret, M., 1932 (crit.).

Clinostigma: Beccari, O., 1910 (n. spp.).

Cocos *nucifera:* Beccari, O., 1917b (origin).—Chiovenda, E., 1923 (origin).—Edmondson, C. H., 1941 (viability).—Mayuranathan, P. V., 1938 (origin).—Miller, C. D., 1929 (food value).

Coelococcus *carolinensis:* Dingler, H., 1887.—Sadebeck, R., 1899.—Warburg, O., 1896.

Colpothrinax: Bailey, L. H., 1940c (crit.).

Cyphokentia: André, E., 1879b (*robusta*).—Brongniart, A., 1873 (New Caledonia).—Eepoel, A. van, 1895 (*lindeni*).

Cyphosperma: Beccari, O., 1910 (n. spp.).

Denea: Cook, O. F., 1926 (n. gen.) ; 1927 (crit.).

Drymophloeus *filifera:* Scheffer, R. H. C. C., 1876b.

Eupritchardia: Bailey, L. H., 1933, 1940c (crit.).—Cook, O. F., 1915 (crit.).

Exorrhiza *wendlandiana:* Hooker, J. D., 1901a.

Goniocladus: Burret, M., 1940 (n. gen.).

Goniosperma: Burret, M., 1935 (n. gen.).

Gulubia: Beccari, O., 1910 (n. spp.).

Howea (see also **Kentia**): André, E., 1897 (*belmoreana*).—Anonymous, 1890a (*belmoreana*).—Bailey, L. H., 1939 (*belmoreana, forsteriana*).—Beccari, O., 1913 (revis.).—Cook, O. F., 1927 (crit. cult.).—Hooker, J. D., 1888b (*belmoreana*).—Riccobono, V., 1906 (*belmoreana*).—Wright, Charles Henry, 1918 (*belmoreana*).

Juania: Drude, O., 1878 (n. gen.).—Pynaert, E., 1896 (*australis*).

Kajewskia: Burret, O., 1932 (crit.).

Kentia (see also **Howea**): Ancona, C. d', 1884 (*belmoreana*).—André, E., 1877b (*lindeni*).—Beccari, O., 1913 (revis.).—Brongniart, A., and Gris, A., 1864f (New Caledonia).—Brongniart, A., 1873 (New Caledonia).—Cook, O. F., 1926 (*forsteriana*) ; 1927 (cult. California).—D., A., 1873 (*canterburyana, forsteriana*).—Edwart, A., 1872 (*forsteriana*).—Eepoel, A. van, 1895 (*lindeni*).—Fournier, E., 1876e (*gracilis*).—Geert, A. van, 1887 (Lord Howe Island).—Houtte, L. van, 1873c (*canterburyana*).—Kerchove de Denterghem, O. de, and Pynaert, E., 1885 (cult.).—Moore, T., 1872e (*canterburyana*) ; 1884a (*lindeni*).—Pynaert, E., 1884 (*belmoreana*).—Rodigas, E., 1882b (*luciana*).—Vieillard, E., 1873 (New Caledonia).—W., 1885 (crit.).—Watson, W., 1890 (*forsteriana*).

Kentiopsis: André, E., 1884b (*macrocarpa*).—Brongniart, A., 1873 (n. spp. New Caledonia).—Linden, J., 1881a (*divaricata*).—Rodigas, E., 1882b (*luciani*).

Licania: Guillaumin, A., 1914–45 (pt. XII) (n. spp. New Caledonia).

Metroxylon *vitiensis:* Parham, B. E. V., 1939b.

Pelagodoxa: Bois, D., 1917, 1919, 1924 (*henryana*).—Burret, M., 1928b (*mesocarpa*).—Cuny, L., 1924 (*henryana*).—Martelli, U., 1932c (*henryana*).

Pinanga *micronesica:* Kanehira, R., 1936b.

Pritchardia: André, E., 1874a (*pacifica*) ; 1874c (*grandis*) ; 1879f (*macrocarpa*) ; 1883 (*vuylstekeana*).—Anonymous, 1874a (*grandis*).—Bailey, L. H., 1933 (crit.).—Beccari, O., 1889, 1907, 1913 (syst.).—Beccari, O., and Rock, J. F., 1921 (monogr.).—Caum, E. L., 1930b (n. spp. Hawaii).—Cook, O. F., 1915 (crit.).—Devansaye, A. de la, 1876 (*grandis*).—Drude, O., 1887 (*thurstoni*).—MacCaughey,

V., 1918h (Hawaii).—Planchon, J. E., 1877a (*pacifica*).—Rock, J. F., 1916b (*beccariana*).—Seemann, B., 18621 (*pacifica*).—St. John, H., 1932 (crit.).

Pritchardiopsis: Beccari, O., 1910 (n. spp.).

Rhopalostylis: Beccari, O., 1917a (crit.).—Ostinelli, V., 1921 (*sapida*).

Sagus *amicarum:* Wendland, H., 1878.

Styloma: Bailey, L. H., 1933 (crit.).—Cook, O. F., 1915 (crit.).

Taveunia: Burret, M., 1935 (n. gen.).

Veitchia: André, E., 1883b, 1884a (*joannis*).—Anonymous, 1883a, 1883b, 1897 (*joannis*).—Houtte, L. van, 1873c (*canterburyana*).—Watson, W., 1883 (*joannis*).

PANDANACEAE

Brongniart, A., 1875 (New Caledonia).—Martelli, U., 1910–13 (enum.); 1912 (Caroline Islands); 1913 (Samoa); 1914 (n. spp.); 1920 (New Caledonia); 1930a (Fiji); 1930b (Tonga); 1931, 1932a (New Hebrides); 1932b (Marquesas); 1932d (Society Islands); 1933a (distrib.); 1933b (Tahiti); 1933c (Rarotonga); 1934b (Micronesia); 1934c (Samoa).—Solms-Laubach, H., 1879 (monogr.).—Verona, O., 1931 (new diseases).—Warburg, O., 1900 (monogr.).

Barrotia *pancheri:* André, E., 1877c.

Freycinetia: Gouas, L., 1857 (cult.).—Martelli, U., 1910 (n. spp.).

Hombronia *edulis:* Mueller, F. von, 1891.

Pandanus: Balfour, I., 1883 (*jaskei*); 1878a (enum.).—G., 1872 (enum.).—Hosokawa, T., 1937b (*fatyanion*).—Kanehira, R., 1935e, 1936a, 1936–38 (Micronesia).—Kayser, P. A., 1934 (Naauru).—Koch, K., 1870 (*decorus*).—Martelli, U., 1904 (New Caledonia); 1905 (*whitmeeanus*); 1907 (n. spp.); 1926 (Fanning Island); 1929 (*odoratissimus* vs. *tectorius*); 1930c (*odoratissimus* Hawaii).—Moore, T., 1871a (*veitchii*).

PAPAVERACEAE

Fedde, F., 1909a (monogr.).—Friedel, J., 1933, 1934 (*Oceanopapaver neo-caledonicum*).—Guillaumin, A., 1914–45 (pt. XXVIII) (New Caledonia).

PASSIFLORACEAE

Masters, M. T., 1871 (crit.).

Disemma: Hooker, W. J., 1845a (*aurantia*).—Seemann, B., 1862n (*caerulescens*).

Murucuja *baueri:* Lindley, J., 1821–24.

Passiflora: Andrews, H. C., 1803 (*aurantia*).—Exell, A. W., 1925 (*samoensis*).—Ker, J. B., 1817 (*adiantifolia*).—MacCaughey, V., 1916k (Hawaii).—Lawrance, M., 1799–1800 (*adiantifolia*).

PHILYDRACEAE

Caruel, T., 1881 (monogr.).—Hooker, J. D., 1873e (*Philydrum glaberrimum*).

PHYTOLACCACEAE

Walter, H., 1909 (monogr.).

PIPERACEAE

Candolle, C. de, 1866 (n. spp.); 1869 (monogr.); 1898 (n. spp. Tahiti, Hawaii); 1910, 1913a (Samoa); 1916, 1920 (New Caledonia); 1921 (n. spp.); 1923 (key).

—Fosberg, F. R., 1940a (Melanesia).—Kunth, K. S., 1839 (crit.); 1843–44 (revis.); 1846 (illus.).—Skottsberg, C., 1944b (Hawaii).

Macropiper: See Piper.

Methysticum *methysticum:* Farwell, O. A., 1917–19.

Peperomia: Candolle, C. de, 1908 (n. spp. New Hebrides); 1912 (n. spp. Hawaii); 1913a (revis. Hawaii); 1917 (*subpallescens*).—Hooker, W. J., 1837d (*margaritifera*).—Miquel, F. A. W., 1843b (n. spp. Hawaii).—St. John, H., 1943b (crit. Hawaii).—Yuncker, T. G., 1933a, 1933b (revis. Hawaii).—Yuncker, T. G., and Gray, W. D., 1934 (anat. Hawaii spp.).—Yuncker, T. G., 1937a (teratology); 1937b (n. spp. Hawaii); 1938 (revis. Micronesia); 1943b (n. spp. Fiji).

Piper: Bennett, G., 1832c (*methysticum*).—Farwell, O. A., 1917–19 (*esculentum*).—Home, E., 1847 (*methysticum*).—Jan, S. R., 1937 (*betle*).—Kunth, K. S., 1840 (*latifolium*).—Moore, J. W., 1934 (*methysticum*).—Parham, B. E. V., 1935 (disease of *methysticum*); 1938–40 (*aduncum*).—Smith, A. C., 1941–46 (crit.).

PITTOSPORACEAE

Guillaumin, A., 1914–45 (pt. LVIII) (New Caledonia).

Pittosporum: Brongniart, A., and Gris, A., 1864d (n. spp. New Caledonia).—Burkill, I. H., 1898 (*spathaceum*).—Dubard, M., 1911a (*heckeli*).—Guillaumin, A., 1914–45 (pt. LVIII) (revis. New Caledonia).—Putterlick, A., 1839 (synop.).—Rock, J. F., 1910 (*hosmeri*).—Sherff, E. E., 1941a, 1941b (crit.); 1942b (revis.).—Skottsberg, C., 1944b (Hawaii).—Wawra, H., 1883 (*cauliflorum*).

PLANTAGINACEAE

Barnéoud, F. M., 1845 (monogr.).—Decaisne, J., 1852a (monogr.).—Pilger, R., 1923 (crit. *Plantago* Hawaii); 1922 (*P. major*); 1936 (n. spp. *Plantago*); 1937 (monogr.).—Rock, J. F., 1920b (*Plantago* Hawaii).

PLATANACEAE

Platanus *otahetianus:* Ruiz, H., 1940 (=*Broussonetia papyrifera*—Moraceae).

PLUMBAGINACEAE

Boissier, E., 1848 (monogr.).

POLYGALACEAE

Chodat, R., 1890–93 (monogr.).

POLYGONACEAE

Danser, B. H., 1927 (Neth. E. Indies).—Guillaumin, A., 1914–45 (pt. XLVII) (New Caledonia).—Meisner, C. F., 1857a (monogr.).—Rechinger, K. H. (filius), 1934 (*Rumex* Juan Fernández).

PORTULACACEAE

Candolle, A. P. de, 1828e (monogr.).—Fenzl, E., 1836, 1839 (monogr.).—Mehrlick, F. P., and Fitzpatrick, H. M., 1935 (pathogene).

Portulacca: Egler, F. E., 1937 (*cyanosperma*); 1938 (*caumii, villosa*).—Poellnitz, K. von, 1933 (*samoensis*); 1934b (monogr.); 1936 (list se. Polynesia).

Talinum: Poellnitz, K. von, 1934a (monogr.).

POTAMOGETONACEAE

Ascherson, P., 1867–68, 1871, 1875a, 1875b, 1876a, 1876b ("sea-grasses").—Ascherson, P., and Graebner, P., 1907 (monogr.).—Guillaumin, A., 1914–45 (pt. XLVI) (Fluviales New Caledonia).—St. John, H., and Fosberg, F. R., 1939 (*Ruppia maritima*).—Setchell, W. A., 1934 (distrib.).

PRIMULACEAE

Duby, J. E., 1844 (monogr.).—Pax, F., and Knuth, R., 1905 (monogr.).—Rock, J. F., 1910 (*Lysimachia glutinosa*).—St. John, H., 1933 (crit. *Lysimachia* Hawaii).

PROTEACEAE

Brongniart, A., and Gris, A., 1863a, 1865a, 1871c (New Caledonia).—Brown, R., 1810 (New Caledonia).—Guillaumin, A., 1914–45 (pt. XXXIX) (New Caledonia).—Meisner, C. F., 1857b (monogr.).

Garniera: Brongniart, A., and Gris, A., 1871b.

Grevillea: Hooker, W. J., 1855b (*gillivrayi*).—Macgillivray, J., 1854 (*gillivrayi*).—Sleumer, H., 1939b (*micronesica*).

Kermadecia *vitiensis:* Turrill, W. B., 1915b.

Lomatia *milnei:* Hooker, W. J., 1855b.

Macadamia: Beaumont, J. H., 1939 (introd. Hawaii).

Stenocarpus: Brown, R., 1810 (*forsteri*).—Macgillivray, J., 1854 (*milnei*).—Zahlbruckner, A., 1888 (*grunowii*).

RAFFLESIACEAE

Hooker, J. D., 1873c (monogr. "Cytinaceae").—Solms-Laubach, H., 1901 (monogr.).

RANUNCULACEAE

Candolle, A. P. de, 1824a (monogr.).—Kuntze, O., 1885 (monogr. *Clematis*).

RHAMNACEAE

Braid, K. W., 1925 (revis. *Alphitonia*).—Candolle, A. P. de, 1825b (monogr.).—Fosberg, F. R., 1938–43 (n. spp. *Gouania*).—Guillaumin, A. 1914–45 (pt. XX) (New Caledonia).—Lauterbach, K., 1921e (Micronesia).—Seemann, B., 1862f (*Smythea pacifica*).—Sprague, T. A., 1915 (*Emmenosperma pancherianum*).—Summerhayes, V. S., 1928 (*Smythea pacifica, lanceolata*).

RHIZOPHORACEAE

Bentham, G., 1859 (synop. Legnotideae).—Brongniart, A., and Gris, A., 1861e (crit. *Crossostylis*).—Guillaumin, A., 1914–45 (pt. I) (New Caledonia).—Kariyone, T., 1927 (mangroves).—MacCaughey, V., 1917k (*Rhizophora,* Hawaii).—Salvoza, F. M., 1936 (monogr. *Rhizophora*). See also in Section I—Mangroves.

ROSACEAE

Candolle, A. P. de, 1825f (monogr.).

Acaena: Bitter, G., 1911, 1912 (monogr.).

Fragaria *sandwicensis:* Vilmorin, [J. M.] P. L. de, 1905.

Osteomeles *anthyllidifolia:* Hooker, J. D., 1894c.—Lindley, J., 1821.—Preston, F. G., 1923.—Wenzig, T., 1874.

Phaleria).—Gray, A., 1865 (n. spp.).—Knuth, P., 1898–1905 (*Phaleria acuminata*). —Meisner, C. F., 1857c (monogr.).—Meyer, K. A., 1843a, 1843b (crit. Daphnaceae).

TILIACEAE

Baillon, H., 1871a (*Solmsia*).—Burret, M., 1926–36 (syst.); 1940 (Bishop Mus. coll.).—Candolle, A. P. de, 1824h (monogr.).—Jussieu, A. L. de, 1804 (revis. *Grewia*).—Szyszylowicz, I. von, 1885–86a, 1885–86b (monogr.).

TRIURIDACEAE

Giesen, H., 1938 (monogr.).
Andruris *palawensis:* Tuyama, T., 1938a.
Sciaphila: Fedde, F., 1908a (*aneitensis*).—Hemsley, W. B., 1907a (*aneitensis*).—Schinz, H., 1914 (*dolichostyla*).

TYPHACEAE

Graebner, P., 1900 (monogr.).

ULMACEAE

Lauterbach, K., 1913 (Papua).—Planchon, J. E., 1848 (syst.); 1873 (monogr.).
Trema: Lauterbach, K., 1913 (revis.).

UMBELLIFERAE

Baillon, H., 1878a (crit.).—Brongniart, A., and Gris, A., 1861a (*Myodocarpus*); 1865d (n. spp. New Caledonia).—Buwalda, F., 1936 (*Hydrocotyle vulgaris*).—Domin, K., 1908 (monogr. *Centella*).—Nannfeldt, J. A., 1924 (revis. *Centella*).—Sprague, T. A., 1923 (*Apium leptophyllum*).—St. John, H., and Hosaka, E. Y., 1935 (*Sanicula* Hawaii).—Wolff, H., 1913, 1927 (monogr.).

URTICACEAE

Blume, C. L., 1849–56 (taxon.).—Guillaumin, A., 1914–45 (pt. LXXVI) (New Caledonia).—Planchon, J. E., 1848 (syst.).—Steudel, E. G., 1850 (n. spp.).—Weddell, H. A., 1854 (review); 1856–57, 1869 (monogr.).
Elatostema: Robinson, C. B., 1911 (*sessile*).—Schröter, H., and Winkler, H., 1935–36 (monogr.).
Fleurya *glaberrima:* Beck, G. von, 1888b.
Leucosyke: Unruh, M., 1943 (monogr.).
Pilea *bisepala:* St. John, H., 1931a.
Pipturus: Krajina, V., 1930b (n. spp.).—Skottsberg, C., 1931b, 1932a (n. spp.); 1932b, 1933a (crit.); 1934b (Hawaii).
Procris: Schröter, H., 1938 (monogr.).
Pseudopipturus: Skottsberg, C., 1933a.
Touchardia *latifolia:* MacCaughey, V., 1918l.

VACCINIACEAE

Candolle, A. P. de, 1839d (monogr.).—Guillaumin, A., 1914–45 (pt. LXXX) (*Vaccinium* New Caledonia).—Hooker, W. J., 1837c (*V. cereum*).—Klotzsch, J. F., 1851 (n. spp. Hawaii).—Mueller, F. von, 1875c (*V. whitmeei*).—Nuttall, T., 1843 (n. spp.).—Skottsberg, C., 1927c (revis. Hawaii); 1933b (*V. cereum*); 1934a, 1937a (crit.).—Sleumer, H., 1942 (revis. *Vaccinium* Papua).

VERBENACEAE

Guillaumin, A., 1914–45 (pt. XXXIII) (New Caledonia).—Junell, S., 1934 (morphol.).—Lam, H. J., 1919 (revis.); 1924 (Micronesia).—Lam, H. J., and Bakhuizen van den Brink, R. C., 1921 (Neth. E. Indies and vicinity).—Moldenke, H. N., 1942a (names); 1942b (collections); 1942c, 1945 (distrib.).—Schauer, J. C., 1847 (monogr.).

Clerodendron: Seemann, B., 1862h (*amicorum*).

Faradaya: Seemann, B., 1865.

Lantana *camara* (*crocea*): Fosberg, F. R., 1937d.—Heckel, E., 1911a.—Kermack, J., 1928.—Lever, R. J. A. W., 1931, 1944.—Parham, B. E. V., 1940.—Simmonds, H. W., 1932a, 1934.—Turbet, C. R., 1929, 1931.

Nesogenes *euphrasioides:* Hemsley, W. B., 1913.

Oxera: Bocquillon, M. H., 1861 (crit.); 1861–63 (revis.).—Carrière, E. A., 1890 (*pulchella*).—Credner, A. von, 1888 (*pulchella*).—Dubard, M., 1906b (revis.); 1907 (crit.).—Fenzl, E., 1843 (crit.)—Hooker, J. D., 1887a (*pulchella*).—Jarry-Desloges, R., 1940 (*pulchella*).—Rodigas, E., 1889 (*pulchella*).—Vieillard, E., 1862b (crit.).—Watson, W., 1888 (*pulchella*).

Petrea: Moldenke, N. H., 1938 (monogr.).

Premna *taitensis:* Anonymous, 1882b.

Rhaphithamnus: Miers, J., 1870 (*longiflorus*).—Moldenke, H. N., 1937 (monogr.).

Stachytarpheta: Lever, R. J. A. W., 1944 (*urticaefolia*).—Simmonds, H. W., 1934 (*jamaicensis*).

Tectona *grandis:* Surridge, H. R., 1938b (germination, Fiji).

Verbena *nudiflora:* Turczaninow, N., 1863.

Vitex: Lam, H. J., 1922 (crit.).

VIOLACEAE

Becker, W., 1916 (*Viola* Hawaii).—Brongniart, A., 1861 (*Agation* New Caledonia, Fiji).—Cretzoiu, P., 1941 (*Hybanthus caledonicus*).—Gingens [Lassaraz, F. C. J.] de, 1826 (*Viola chamissoniana, tracheliifolia*).—Gray, A., 1852b (*Agatea, Isodendron*).—Guillaumin, A., 1914–45 (pt. LXX) (crit. New Caledonia).—MacCaughey, V., 1918i (Hawaii).—Rock, J. F., 1911a (n. varieties).—Schulze, G. K. von, 1934 (*Hybanthus agateoides*).—Skan, S. A., 1918 (*Melicytus ramiflorus*).—Skottsberg, C., 1939a (*luciae*); 1940a (Hawaii).

VITACEAE

Lauterbach, K., 1930 (Micronesia).—Planchon, J. E., 1887 (monogr. Ampelidaceae).

WINTERACEAE

Burtt, B. L., 1936b (crit. *Bubbia, Drimys*).—Dandy, J. E., 1934 (transfers).—Hutchinson, J., 1921 (taxon.).—Miers, J., 1858 (crit.).—Smith, A. C., 1943 (crit.).—Tieghem, P. van, 1900b (crit.).—Vickery, J. W., 1937 (crit. *Drimys, Bubbia*).

ZINGIBERACEAE

Anonymous, 1873 (*Alpinia vittata*).—Burvenich, F., 1877 (*A. vittata*).—Gagnepain, F., 1913 (Samoa).—Horaninow, P., 1862 (monogr.).—Jan, S. R., 1938 (*Curcuma longa*).—Schumann, K., 1904 (monogr.).

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FROM THE
UNITED STATES NATIONAL HERBARIUM

VOLUME 30, PART 2

SMITHSONIAN INSTITUTION
MAR 13 1943

OBSERVATIONS ON THE GRASS FLORA OF CERTAIN PACIFIC ISLANDS

By L. T. BURCHAM

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
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OBSERVATIONS ON THE GRASS FLORA OF CERTAIN PACIFIC ISLANDS

By L. T. Burcham

INTRODUCTION

The grasses discussed in this paper were collected on islands of the South and Western Pacific between November 1942 and July 1945, while I was on duty with the United States Marine Corps. Areas represented include Guadalcanal, British Solomon Islands; Goodenough Island, Territory of Papua; New Britain, Bismarck Archipelago; Pavuvu Island, Russell Islands; Peleliu Island, Palau Islands; Okinawa Shima, Ryukyu Archipelago; and two species from New Caledonia. Although a reasonable attempt was made to obtain a complete representation of grasses from each locality, collecting was done during periods when active combat operations were in progress, except for Goodenough and Pavuvu Islands. This handicap, together with the difficulty of obtaining driers and caring for specimens at such times, at least partly explains why the collections from some areas were not more extensive.

This collection of 104 numbers includes representatives of 9 tribes, 45 genera, and 72 species. The species were identified by Mrs. Agnes Chase, research associate, division of grasses, U. S. National Herbarium, whose suggestions and assistance in the preparation of this paper are gratefully acknowledged. A complete set of the specimens is deposited in the National Herbarium. Isotypes of the new species are in the herbarium of the University of California.

All localities and altitudes were determined, on the ground, from the best military topographic maps available; local place names used are as given on those maps. The areas of occurrence are condensations of the "known range" as determined from specimens in the National Herbarium, supplemented in a few instances by statements of qualified authorities.

GUADALCANAL, BRITISH SOLOMON ISLANDS

The island of Guadalcanal, located in latitude 10° S., longitude 160° E., is the second largest of the British Solomon Islands. The name Guadalcanal is a corruption of the original Guadalcanar, meaning "a dry river bed," from the city of that name in Spain, for which the island was named.

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The Kavo Range, with the highest peak just over 8,000 feet, forms a mountainous backbone dominating the southern half of the island; from this range the land slopes abruptly toward the south and more gently toward the north, here forming a relatively broad coastal plain. Generally, the topography is steep, and coral outcrops along much of the northern shoreline indicate a relatively recent rise above sea level.

The climate is that typical of the hot, humid tropics—an average annual temperature of 82° F., and annual rainfall ranging between 94 and 180 inches. Although the period between January and March is considered the rainy season, and from June through August the dry season, there is really but little difference between monthly rainfall records of these periods on much of the island.[1]

Soils personally examined were mostly in coastal areas, over coral outcrops; they were shallow and texture varied from sand to adobe clay, and in several instances clayey soils had an appreciable amount of peaty material in the upper 3 or 4 inches. There was no opportunity to investigate soils farther than about 5 miles inland.

The original vegetation of this island consisted of tropical rainforest on the uplands, extending down to the seacoast in most of the ravines, particularly on south and west slopes of ridges. These forests contain several varieties of teak, two or three so-called "mahoganies," and a species of ebony, which are of some commercial importance.[1] There are some swamps along the coasts where mangrove (*Rhizophora* sp.) is dominant. In recent years much of the coastal plain has been cleared for coconut plantations.

In all I spent 11 days on Guadalcanal in 1942, during which time the collection was made, but combat conditions then prohibited an extensive examination of terrain and vegetation. During 1944 and 1945 I spent about 15 additional days on the island and was able to make more extensive observations, but no further collections. A considerable portion of the northwest coast I observed from a plane at low altitude.

GRASSES COLLECTED

Eleusine indica (L.) Gaertn. Fruct. et Sem. **1:** 8. 1788.

Cynosurus indicus L. Sp. Pl. 72. 1753. India.

Common throughout tropics and subtropics of both hemispheres. East bank Lunga River, about half a mile from mouth; altitude 5 to 10 feet; *Burcham* 73, December 8, 1942. In silty river overwash. Annual, in open clumps; associated with *Echinochloa colonum*, *Paspalum conjugatum*, and other grasses. Occasional in this vicinity.

---

[1] Personal conversation with Maj. Martin Clemens, A. I. F., formerly assistant district officer at Aola, Guadalcanal.

Paspalum conjugatum Berg. Act. Helv. Phys. Math. **7**: 129. *pl. 8*. 1762. Surinam.

Warm regions of America; introduced in Eastern Hemisphere; common in East Indies, Philippines, and Pacific Islands.

East bank Lunga River, about half a mile from mouth; altitude 5 to 10 feet; *Burcham* 72, December 8, 1942. In silty river overwash. Stoloniferous perennial; flowering culms suberect, to 2 feet tall; associated with *Echinochloa colonum*, *Eleusine indica*, and other grasses. Occasional to common; economic value uncertain, apparently grazed to some extent locally by plantation cattle.

Panicum cambogiense Balansa, Journ. de Bot. **4**: 142. 1890. Cambodia.

Panicum reticulatum Thwaites, in Trimen, Journ. Bot. **23**: 271. 1885. Not *P. reticulatum* Torr. 1852 or Griseb. 1857. Ceylon.

Panicum cruciabile Chase, Journ. Arnold Arb. **20**: 309. 1939. Based on *P. reticulatum* Thwaites.

Ceylon, Burma, Cambodia, Philippines, and New Guinea.

South side Henderson Field; altitude 20 feet; *Burcham* 74, December 8, 1942. Margin of rain-forest, one-fourth mile east of Lunga River; east slope, adobe-clay soil underlain with coral at shallow depths. Coarse, erect perennial, to 6 feet tall; culms and sheaths hirsute with coarse white hairs, irritating to the skin, associated with bamboos, Convolvulaceae, and trailing herbs. Rare to occasional.

Echinochloa colonum (L.) Link, Hort. Berol. **2**: 209. 1833.

Panicum colonum L. Syst. Nat. ed. 10. **2**: 870. 1759. Jamaica.

Tropics and subtropics of both hemispheres.

East bank Lunga River, about half a mile from the mouth; altitude 5 to 10 feet; *Burcham* 71, December 8, 1942. Decumbent annual, growing with *Paspalum conjugatum*, *Eleusine indica*, and other grasses, along banks of river, in silty river overwash. Common; apparently grazed by plantation cattle.

Imperata exaltata (Roxb.) Brongn. in Duperrey, Bot. Voy. *Coquille* **2** (2): 101. 1831.

Saccharum exaltatum Roxb. Fl. Ind. **1**: 249. 1820. India.

India, Malay Peninsula, Philippines, Borneo, New Guinea.

South side Henderson Field; altitude 25 feet; *Burcham* 69, December 8, 1942. Grassland, one-fourth mile east of Lunga River; on moist, peaty clay, underlain with coral fragments at 10 to 12 inches. Robust, erect perennial with stout, scaly rhizomes; leaves mostly in a basal tuft; appears to reproduce primarily by vegetative means. Associated with *Themeda australis* and trailing herbaceous plants. Moderately abundant and widespread, this and the following being the two dominant species throughout the majority of grasslands at low elevations. Economic use here not known.

Themeda australis (R. Br.) Stapf, in Prain, Fl. Trop. Afr. **9:** 420. 1919.
Anthistiria australis R. Br. Prodr. Fl. Nov. Holl. **1:** 200. 1810. Australia.

Australia; New Guinea.

South side Henderson Field; altitude 25 feet; *Burcham* 68, December 7, 1942. Grassland, one-fourth mile east of Lunga River; clay loam, underlain with coral at 4 to 6 inches. Perennial, in clumps to 5 feet tall; associated with *Imperata exaltata*, trailing herbs, and sometimes with small shrubs or in borders of rain forests. Widely distributed and abundant in low-elevation grasslands, growing under a wide variety of soil and moisture conditions.

Polytoca macrophylla Benth. Journ. Linn. Soc. Bot. **19:** 52. 1881. Louisiade Archipelago.

New Guinea and adjacent islands; introduced in Hawaii.

South side Henderson Field; altitude 30 feet; *Burcham* 70, December 8, 1942. Margin of rain-forest, one-fourth mile east of Lunga River; peaty clay underlain with coral at 6 to 8 inches. Coarse, erect perennial, in clumps to 6 feet tall; with *Themeda australis*, bamboos, and trailing herbs. Occasional, in margins of rain-forest in part shade.

Although this collection comprises only a portion of the grass flora of Guadalcanal, it does include representative species of two characteristic habitats.

Open spots along river margins are characterized by such grasses as *Echinochloa colonum* and *Eleusine indica* and by such moisture-loving species as *Paspalum conjugatum*, which are presumably accidental introductions since the advent of white men there. Though not represented in the collection, *Dactyloctenium aegyptium* (L.) Beauv. was also observed along streams, as well as in several other areas where it formed almost pure stands on sandy soils, particularly near the coast.

Dominant species of low-altitude grasslands are *Themeda australis* and *Imperata exaltata*, in varying proportions. On exposed, stony, and well-drained slopes, where soils are generally of coarser texture, *Themeda australis* tends to form almost pure stands; in flatter areas, where soils are less well-drained and more clayey, *Imperata exaltata* is the dominant species, with *Themeda australis* definitely a subordinate. *Panicum cambogiense* and *Polytoca macrophylla* represent species observed associated with these grassland dominants along borders of the rain forest, where they appear restricted to habitats of part shade. A species of *Stenotaphrum* was observed but not collected; it was locally abundant in rain-forest margins, in vicinity of the coast just east of Cape Esperance.

Grasslands tend to be restricted to north and east slopes of ridges, here in the Southern Hemisphere the slopes of higher insolation; to

EAST COAST OF GOODENOUGH ISLAND

The mountain summits are clothed with "moss" forest above the line of cloud formation. Below are rain-forests extending down to the seacoast along many of the stream valleys; on exposed slopes these give way to savanna or grassland. (Official U. S. Marine Corps photo.)

HAIWALI VILLAGE, GOODENOUGH ISLAND

Native houses are thatched with grasses from the immediate vicinity, principally *Manisuris rottboellioides*. Natives were evacuated from areas occupied by troops. Many of the specimens obtained on Goodenough Island were collected in this locality. (Official U. S. Marine Corps photo.)

NATIVE LABORERS, GOODENOUGH ISLAND

The dominant grasses are *Manisuris rottboellioides*, *Imperata* sp., and *Themeda* sp. The white-barked, sparse-foliaged leguminous trees occur invariably in the savanna type, giving its characteristic aspect. Here native laborers are cutting grass for thatchin huts to be used as offices by the United States Marines. (Official U. S. Marine Corps photo.)

PLATE 4

SAVANNA, GOODENOUGH ISLAND

Areas in which grasses are dominant are invariably habitats of full sun, for the most part well drained. Here *Themeda* sp. is the dominant one, with lesser proportions of *Manisuris rottboellioides* and *Imperata* sp. The white-barked, sparse-foliaged trees are characteristic of the savanna. (Official U. S. Marine Corps photo.)

flatter areas which are the seaward extensions of ridges; and to rocky, well-drained slopes. Soils of grassland areas are much shallower than under rain-forests. These factors of soil, insolation, and drainage appear to be the principal determinants between rain-forest and grassland in any given area.

GOODENOUGH ISLAND, TERRITORY OF PAPUA

The Territory of Papua comprises the southeastern part of the island of New Guinea together with the adjacent offshore island groups. Goodenough Island is one of three principal islands of the D'Entrecasteaux group, located off the northeast coast of the mainland of New Guinea and separated from it by Ward Hunt Strait; it lies about 20 miles northeast of Cape Vogel, in approximately latitude 9°15″ S. and longitude 150°15″ E. Goodenough is also known as Morata Island.

The island is of volcanic origin with high mountains located about two-thirds of the distance from northeast to southwest. The tallest peak, Mount Whyalla, has an elevation of 8,419 feet; this is also the highest island mountain in the Territory of New Guinea. Mount Nimadao, Mount Stella, and at least five other peaks in this backbone reach above 7,000 feet. From this rugged chain the terrain falls off sharply to the coastline on the north, west, and south sides. On the northeast an undulating, well-drained plain extends 4 to 5 miles from the base of the mountains to the coast. Mountain canyons are geologically rather young, being very narrow and V-shaped as well as having steep gradients. As soon as streams reach the coastal plain they tend to meander to a considerable extent; some of them have made marked changes of course in the recent past. Heavy rains in the hills, which are practically of daily occurrence, often manifest themselves in abrupt rises in the streams—the north branch of Malauna Creek was observed to rise 2 feet in less than 15 minutes at a point approximately 3 miles from its source in the hills.

The climate is humid-tropical, characterized by average annual temperatures of about 80° F. and by an annual rainfall of 100 to 150 inches. December to April are the rainiest months, but high mountains and the small size of the island minimize usual "wet" and "dry" season distinctions.

Virtually all the area of the northeast coastal plain is covered with boulders of all sizes, up to many tons. These rocks are chiefly basaltic, with considerable amounts of quartz intruded—and the whole strongly metamorphosed. Soils weathered from these are almost invariably shallow, sandy to loamy in texture, and with much organic matter in the first few inches; in some grasslands the surface layer is almost peaty.

The vegetation pattern is very similar to that found on other tropical islands throughout the Southwest Pacific. Mountain summits are clothed with "moss" forest above the line of cloud formation. Below are rain-forests extending down to the seacoast along many stream valleys (pl. 1). On much of the coastal plain, and on exposed north and east slopes to about 3,000 feet elevation, these forests give way to savanna or grassland. Much of the coastline has a narrow fringe of mangrove (*Rhizophora* sp.). A relatively insignificant area in vicinity of the coast has been cleared for coconut plantations, but for the most part this island had been scarcely touched by white men before the war.

I was on Goodenough Island from October 21 to December 15, 1943, and during this time explored much of the northeast portion of the island on foot.

GRASSES COLLECTED

Eragrostis distans Hack. [Publ.] Bur. Gov. Lab. Philippine Islands **35**: 81. 1906. Luzon, Philippine Islands.

Okinawa and Philippine Islands to New Guinea.

Haiwali village; altitude 100 feet; *Burcham* 123, November 14, 1943. Grassland, 2 miles inland on coastal plain; well-drained sandy loam, with much organic matter. Tufted annual with shallow roots, to 2 feet tall, associated with *Digitaria microbachne*, *Paspalum scrobiculatum* var. *bispicatum*, *Apluda mutica*, *Manisuris rottboellioides*, *Sorghum nitidum*, *Imperata* sp., *Themeda* sp., and other grasses. Occasional in this locality.

Centotheca latifolia (Osbeck) Trin. Fund. Agrost. 141. 1820. Presumably based on *Holcus latifolius* Osbeck; *Cenchrus lappaceus* L. cited as synonym.

Holcus latifolius Osbeck, Dagbok 247. 1757. China.

Cenchrus lappaceus L. Sp. Pl. ed. 2. 1488. 1762. India.

Centotheca lappacea Desv. Journ. de Bot. Desv. **1**: 71. 1813.

Tropical Asia, East Indies, South Pacific Islands; Queensland, Australia; west tropical Africa.

Near Haiwali village; altitude 100 feet; *Burcham* 118, November 12, 1943. Margin of tropical rain-forest, 2 miles inland on coastal plain; among metamorphic boulders, on thin soil containing much leaf mold. An erect, broad-leaved perennial, to 3 feet tall; occasional, in forest glades and along forest margins.

Garnotia mezii Janowski in Mez, Repert. Sp. Nov. Fedde **17**: 86. 1921; **18**: 27. 1922. Kaiser Wilhelmsland, New Guinea.

Previously known only from the mainland of New Guinea.

Malauna Creek; altitude 100 feet; *Burcham* 127, November 27, 1943. Between boulders and bordering banks of creek, 2 miles inland; soil shallow, sandy, moist to wet. An erect, tufted perennial

with slender culms, simple or branching from the lower nodes, to 30 inches tall; associated with *Paspalum cartilagineum*, *P. orbiculare*, *Panicum nodosum*, and *Alloteropsis semialata*. Occurs sparingly.

Arundinella lasiostoma Schum. in Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 174. 1901. New Guinea.

New Guinea; Bismarck Archipelago.

Near Nubuali village; altitude 80 feet; *Burcham* 132, December 5, 1943. Savanna; light sandy soil with much organic matter in the first 4 inches, underlain with sand and gravel somewhat stratified by water deposition. A coarse, tufted perennial without rhizomes, arising from a woody rootstock; erect, to 5 feet tall; associated with *Manisuris rottboellioides*, *Sorghum nitidum*, *Imperata* sp., *Themeda* sp., trailing herbs, and occasional trees—these being typical savanna plants in this area. Fairly common.

Digitaria microbachne (Presl) Henr. Med. Rijks Herb. Leiden **61:** 13. 1930.
Panicum microbachne Presl, Rel. Haenk. **1:** 298. 1830. Source unknown, probably Philippines.

India and Malay Peninsula to China, Japan, Philippines, and Melanesia.

Haiwali village; altitude 100 feet; *Burcham* 120, November 14, 1943. Grassland, 2 miles inland on coastal plain; well-drained sandy loam. Perennial, in spreading clumps to 2½ feet tall, or creeping and rooting at the nodes. For associated grasses see *Eragrostis distans*, above; occurs occasionally in clearings and grasslands.

Paspalum cartilagineum Presl, Rel. Haenk. **1:** 216. 1830. Luzon, Philippines.

India and Malay peninsula to Philippines, Guam, New Guinea, Samoa, and Tahiti.

Malauna Creek; altitude 100 feet; *Burcham* 129, November 27, 1943. Between boulders and along stream banks, 2 miles inland; soil scanty, sandy, moist to wet. An erect, robust perennial; culms few or solitary, to 5 feet tall. Associated with *Garnotia mezii*, *Paspalum orbiculare*, *Panicum nodosum*, and *Alloteropsis semialata*. Occasional along stream beds and banks; economic value unknown.

Paspalum orbiculare G. Forst. Fl. Ins. Austr. Prodr. 7. 1786. Society Islands.
Paspalum scrobiculatum var. *orbiculare* Hack. Bot. Jahrb. Engler **6:** 233. 1885.

Malay Peninsula and China to Formosa, East Indies, New Guinea, New Caledonia, and Polynesia.

Malauna Creek; altitude 100 feet; *Burcham* 130, November 27, 1943. Stream bed and banks. Robust perennial, in compact bunches, leaves mostly basal, ascending. Occasional, in grasslands and in forest along streams; economic value not known.

Paspalum paniculatum L. Syst. Nat. ed. 10. **2:** 855. 1759. Jamaica.

American tropics; widely introduced in Old World tropics.

Two miles west of Haiwali village; altitude 700 feet; *Burcham* 134, December 11, 1943. Scanty soil among boulders in dense secondary growth near village; occasional. Coarse perennial with hirsute sheaths, rather broad flat blades, and a many-flowered panicle with minute spikelets.

Paspalum scrobiculatum L. var. **bispicatum** Hack. in Merrill, Publ. Bur. Sci. Manila No. **5:** 86. 1912. Luzon, Philippines.

New Guinea and Goodenough Island.

Haiwali village; altitude 100 feet; *Burcham* 122, November 14, 1943. Grassland, 2 miles inland on coastal plain. Rather slender tufted perennial, about 15 inches tall, with two racemes of brownish spikelets.

Panicum nodosum Kunth, Rev. Gram. **1:** Suppl. IX. 1830.

Panicum multinode Presl, Rel. Haenk. **1:** 303. 1830. Not *P. multinode* Lam. 1798. Luzon, Philippines.

Hemigymnia multinodis Stapf, in Prain, Fl. Trop. Afr. **9:** 742. 1920. Based on *P. multinode* Presl.

Ottochloa nodosa Dandy, Journ. Bot. **69:** 55. 1931. Based on *Panicum nodosum* Kunth.

India to southern China, Philippines, East Indies, and New Guinea.

Malauna Creek; altitude 100 feet; *Burcham* 128, November 27, 1943. Shallow sandy soil between boulders along banks of stream, 2 miles inland. Creeping perennial, rooting at nodes; culms slender, mostly simple; inflorescence a spreading terminal panicle. Associated with *Garnotia mezii*, *Paspalum cartilagineum*, *P. orbiculare*, and *Alloteropsis semialata*. Occasional.

Cyrtococcum patens (L.) A. Camus, Bull. Mus. Hist. Nat. (Paris) **27:** 118. 1921.

Panicum patens L. Sp. Pl. 58. 1753. India.

Panicum radicans Retz. Obs. Bot. **4:** 18. 1786. Canton, China.

Panicum carinatum Presl, Rel. Haenk **1:** 309. 1830. Luzon, Philippines.

Throughout tropical Asia, East Indies, Philippines, and New Guinea.

Dense secondary growth, 2 miles west of Haiwali village; altitude 700 feet; *Burcham* 135, December 11, 1943. Trailing perennial, rooting at nodes; here associated with *Paspalum paniculatum*, *Rhaphis aciculata*, and shrubby species of secondary growth, in shallow soil among boulders. Occasional.

Alloteropsis semialata (R. Br.) Hitchc. Contr. U. S. Nat. Herb. **12:** 210. 1909.

Panicum semialatum R. Br. Prodr. Fl. Nov. Holl. 192. 1810. Australia.

Alloteropsis distachya Presl, Rel. Haenk. **1:** 344. *pl. 47.* 1830. Luzon, Philippines, but source erroneously given as California.

Tropical regions of the Eastern Hemisphere.

HETEROSPATHE ELATA SCHEFF.

Photograph taken on Guam in 1945 by Albert Vatter.

TRISTIROPSIS OBTUSANGULA RADLK.

Fruits (above) and habit (below). Photographs taken on Guam in 1945 by Russell L. Steere.

Malauna Creek; altitude 100 feet; *Burcham* 131, November 27, 1943. Two miles inland, among boulders in stream bed and along the banks; scant, sandy soil, moist to wet. Coarse perennial, culms a few together, erect, to 4 feet tall; with *Garnotia mezii*, *Paspalum cartilagineum*, *P. orbiculare*, and *Panicum nodosum*. Occasional; economic value not known.

Setaria pallidifusca (Schumach.) Stapf & Hubb. Kew Bull. Misc. Inf. **1930:** 259. 1930.

Panicum pallide-fuscum Schumach. Beskr. Guin. Pl. 78. 1827. Guinea, Africa.

Africa; India, Java, Sumatra, and New Guinea (probably introduced in Asia and Pacific islands).

Haiwali village; altitude 100 feet; *Burcham* 125, November 22, 1943. Two miles inland on coastal plain; well-drained sandy loam. Weedy annual, to 4 feet tall; occasional about buildings of native village and into surrounding grassland; probably introduced.

Setaria palmifolia (Koen.) Stapf, Journ. Linn. Soc. Bot. **42:** 186. 1914.

Panicum palmifolium Koen. Naturforscher **23:** 208. 1788.

Panicum plicatum Willd. Enum. Pl. 1033. 1809. Not *P. plicatum* Lam. 1791. Asia.

Tropical Asia through Pacific islands to Polynesia.

Malauna Creek; altitude 150 feet; *Burcham* 133, December 11, 1943. One mile west of Haiwali village; shallow soil among boulders along stream banks. Observed also in old clearings, about native villages, and along borders of rain forest. Coarse, erect perennial; culms few together or in small tufts, 2 to 6 feet tall; blades broad, lanceolate, very finely plicate. Occurs sparingly; young shoots are sometimes used as food by the natives.

Apluda mutica L. Sp. Pl. 82. 1753. India.

Apluda varia Hack. subsp. *mutica* Hack. in DC. Monogr. Phan. **6:** 198. 1889.

India to Japan, Philippines, New Guinea, and New Caledonia.

Haiwali village; altitude 100 feet; *Burcham* 119, November 14, 1943. Grassland, 2 miles inland on coastal plain; well-drained sandy loam, with much organic matter in surface layer. Trailing perennial, rooting and branching freely at nodes, the slender culms intertwined among the tall grassland species; spikelets pale green, with a whitish bloom when young. Associated here with *Eragrostis distans*, *Digitaria microbachne*, *Paspalum scrobiculatum* var. *bispicatum*, *Setaria pallidifusca*, *Manisuris rottboellioides*, *Sorghum nitidum*, *Themeda* sp., and *Imperata* sp.

Manisuris rottboellioides (R. Br.) Kuntze, Rev. Gen. Pl. **2:** 779. 1891.

Ischaemum rottboelliodes R. Br. Prodr. Fl. Nov. Holl. 205. 1810. Tropical Australia.

Rottboellia ophiuroides Benth. Fl. Austral. **7:** 514. 1878. Based on *Ischaemum rottboellioides* R. Br.

Philippines, New Guinea, Australia.

Haiwali village; altitude 100 feet; *Burcham* 124, November 14, 1943. Grassland, 2 miles inland on coastal plain; well-drained sandy loam soil, with much organic matter in the surface layer. An erect, robust perennial to 8 feet tall; associated with same grasses as the preceding. This species is the dominant grass throughout the savanna type, and in much of the grassland on this island. Widely used by natives for thatching houses, in common with other savanna and grassland species. (Pls. 2, 3.)

Sorghum nitidum (Vahl) Pers. Syn. Pl. **1:** 101. 1805.

Andropogon serratus Thunb. Fl. Japon. 41. 1784. Japan.

Holcus nitidus Vahl, Symb. Bot. **2:** 102. 1791.

Southeast Asia to Japan, Melanesia, and Australia.

Haiwali village; altitude 100 feet; *Burcham* 121, November 14, 1943. Grassland, 2 miles inland on coastal plain; well-drained sandy loam soil, with much organic matter in the surface layer. Coarse, erect perennial, to 6 feet tall; occasional throughout the savanna type.

Rhaphis aciculata (Retz.) Desv. Opusc. 69. 1831.

Andropogon aciculatum Retz. Obs. Bot. **5:** 22. 1789. Amboina.

Chrysopogon aciculatus Trin. Fund. Agrost. 188. 1820.

Widespread in tropical Asia, Philippines, Micronesia, Melanesia, Polynesia, and Australia.

Abandoned native village, 2 miles west of Haiwali; altitude 700 feet; *Burcham* 136, December 11, 1943. Shallow soil among boulders, mostly about bases of coconut palms scattered through encroaching secondary growth. Sod-forming perennial with erect, slender flowering culms to 2 feet tall; fairly common on suitable sites.

Polytoca macrophylla Benth. Journ. Linn. Soc. Bot. **19:** 52. 1881. (See page 408.)

Haiwali village; altitude 100 feet; *Burcham* 126, November 22, 1943. Margin of rain forest, 2 miles inland on coastal plain; among large boulders, on thin soil containing much leaf mold. Common to abundant along borders of the rain forest, in part shade. This grass was commonly mistaken for some variety of Indian corn (*Zea mays* L.) by our troops.

This collection includes all species of grasses encountered on Goodenough Island, except the following: *Eleusine indica* (L.) Gaertn., observed about native villages and other inhabited places; *Imperata* sp. and *Themeda* sp., abundant in low altitude grassland and savanna types; and a tufted bunchgrass, of which only vegetative parts were in evidence, which was the dominant species of grasslands above some 1,500 to 2,000 feet elevation. No native bamboos were observed on the portion of the island investigated.

Five habitats are represented by these grasses. It is remarkable how few species are common to two or more habitats.

Within the environs of native villages (pl. 2) and about plantation buildings one finds mostly *Rhaphis aciculata* and *Eleusine indica*, which throughout the Pacific islands seem to be associated with activities of man. To a lesser extent occurs *Setaria pallidifusca*, which appears to be a recent introduction that is spreading into surrounding grasslands to a limited degree; and *Setaria palmifolia*, a native grass that is occasionally used for food.

Areas of secondary growth are characterized by well-drained, shallow to moderately deep soils and by dense shade. These areas have been cleared from mature rain-forest by the natives for gardens; after a few years' use they are permitted to revert to forest again and during the intervening years are exceptionally dense tangles of shrubs, small to medium-sized trees, and intertwining vines. In such habitats *Rhaphis aciculata* was occasional to common; *Paspalum paniculatum*, *Cyrtococcum patens*, and *Setaria palmifolia* were found occasionally. These grasses are manifestly losing out in competition with woody species which will eventually return such areas to rain forest, if not further disturbed by man.

The banks and beds of streams running through the rain-forest provide habitats varying from moist to wet and from part to full shade. Soils are sandy, mostly very shallow, and with but little humus. Here are found such moisture- and shade-loving species as *Garnotia mezii*, *Paspalum cartilagineum*, *P. orbiculare*, *Panicum nodosum*, *Alloteropsis semialata*, and *Setaria palmifolia*. These grasses were all occasional to rare in areas investigated.

Margins of the rain-forest, and small glades within it, are characteristically well drained, in part shade, and with shallow to moderately deep soils. *Centotheca latifolia* and *Setaria palmifolia* are occasional but widespread in these habitats; *Polytoca macrophylla* is occasional to abundant but on this island is restricted to margins of the forest.

In a number of instances *Polytoca macrophylla* and *Manisuris rottboellioides* were found in juxtaposition along margins of the rain forest; the division between their habitats appeared always to be at a point where *M. rottboellioides* would remain in full sunshine and where *P. macrophylla* would be in part shade.

Areas in which grasses are dominant are invariably habitats of full sun, with major slope orientations to the north and east, and for the most part well drained (pls. 3, 4); soils vary from quite shallow to about 30 inches in depth—on the coastal plain, frequently with alternating layers of sand and gravel from water deposition; on the ridges, with outcrops of metamorphic or volcanic rock.

Much of the coastal plain is savanna (pl. 4). The dominant grasses

are *Manisuris rottboellioides*, *Imperata* sp., and *Themeda* sp., in that order of abundance. Together these three would account for 90 to 95 percent of the vegetation. Minor species collected from savanna areas were *Arundinella lasiostoma* and *Apluda mutica*, both relatively common; *Eragrostis distans*, *Digitaria microbachne*, *Paspalum orbiculare*, and *Sorghum nitidum* occur as occasional but widely distributed species. A few trailing herbs, chiefly Leguminosae and Convolvulaceae, are found among these grasses. The principal tree is a species of white-barked, sparse-foliaged legume—the trees invariably scattered through the savanna type, giving it its characteristic aspect, but not observed to grow in rain forest.

Apart from the savanna, which is here confined to the coastal plain, there are considerable areas of grassland, both on the coastal plain and on mountain slopes. In lowland areas the species composition is essentially the same as in savanna: *Manisuris rottboellioides*, *Imperata* sp., and *Themeda* sp. are generally in that order of abundance—sometimes they are in approximately equal proportions; again with a preponderance of *Imperata* sp. or of *Themeda* sp. On clayey and poorly drained soils there is a tendency toward more *Imperata* sp.; on exposed, rocky ridges *Themeda* sp. becomes dominant. Of associated species *Eragrostis distans*, *Arundinella lasiostoma*, *Digitaria microbachne*, *Paspalum orbiculare*, *Apluda mutica* and *Sorghum nitidum* were found to vary from occasional to common, and to be relatively widespread throughout the type; *Setaria pallidifusca* was observed occasionally in vicinity of native villages.

In mountain areas it was observed that, as one ascends, first the *Imperata* sp. disappears from the grassland type at elevations of about 1,000 feet; then the *Themeda* sp. at elevations between 1,500 and 2,000 feet, leaving as dominant a tufted bunchgrass, of which only vegetative parts were in evidence at this time.

NEW BRITAIN, BISMARCK ARCHIPELAGO

New Britain, the principal island of the Bismarck Archipelago, is a narrow, crescent-shaped body of land located in latitude 4°15″ to 6°15″ S. and between longitude 148°15″ and 152°15″ E. The Germans, who occupied New Britain prior to 1914, called this island Neu-Pommern (New Pomerania), and it is so labeled on maps dated prior to the early 1920's.

The island is about 370 miles in length, and the greatest width is about 60 miles; the land area has been estimated at 13,000 square miles. Topography is mountainous, with a range of high, rugged peaks running its entire length; the highest have been estimated at around 7,500 feet. Volcanos are common throughout the island, and evidences of their recent activity are plentiful. From the interior

GRASSLAND, CAPE GLOUCESTER, NEW BRITAIN

Much of the grassland in the vicinity of Cape Gloucester is very similar to that on Goodenough Island. The dominant species, *Manisuris rottboellioides*, forms an almost pure stand here. This is the northwest corner of Cape Gloucester's famous No. 2 Airstrip. (Official U. S. Marine Corps photo.)

PLATE 6

SACCHARUM SPONTANEUM ON CAPE GLOUCESTER, NEW BRITAIN

In some places this grass occurred as pure stands over considerable areas, with thick, reedlike culms, and to 15 feet tall. This was the "kunai grass" encountered by American troops on Cape Gloucester.

mountains the terrain slopes steeply toward the coast; short, swift rivers, in narrow canyons with steep gradients, further accentuate the ruggedness of the terrain.

There is no essential difference between the climate of New Britain and that of New Guinea or the Solomons. Wet and dry seasons are somewhat more sharply defined, however, and the central mountain chain results in seasons on the opposite coasts being reversed—north and west coasts having a rainy season during the northwest monsoon, from about September to March, while on the south and east coasts the rainy season is during the southeast monsoon, between March and September. Further, it is reported that rainfall on the south coast is considerably heavier than on the north: Arawe, on the south coast, has received as much as 300 inches of rain annually, while at Cape Gloucester, on the north coast, annual rainfall was 150 to 200 inches.[2] Annual temperatures, averaging about 80° F., are lower than for some of the neighboring islands, but relative humidity is generally high, resulting in a less agreeable climate.

Soils personally examined on New Britain varied from sandy loams to clay; mostly they were moderately deep, with a surface layer heavily humified to a depth of 1 foot or more. Bedrock is mostly basaltic; much of the Willaumez Peninsula in vicinity of Talasea is underlain with black obsidian.

This combination of deep, fertile soils and a warm, humid climate has produced a luxuriant vegetation. The major portion of New Britain is forested with a very complex array of tree species, with some stands of hardwoods of commercial importance.

"Moss" forests occur on the mountains, extending down to about 2,500 feet elevation in some places (e. g., the saddle between Mount Talawe and Mount Tangi in western New Britain). The lower fringe of moss forest coincides roughly with the lower limits of cloud formation; it is indicated by a great many lichens and epiphytic mosses on tree trunks and limbs and by a marked increase in ferns and mosses on the forest floor. The moss forest proper typically has a thick ground cover of mosses and decayed vegetation, partially concealing the trunks and branches of many fallen trees. Footing is very uncertain, reminiscent of northern sphagnum bogs. Trees persisting from the rain-forest are heavily overgrown with mosses, lichens, and other epiphytes. Condensation of moisture from the clouds is practically continuous; chilling winds are frequent; the gloomy, depressing surroundings are further accentuated by silence, for mammals, birds, and insects are virtually absent. The wide diversity of plant species and forms makes this a most interesting formation.

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[2] Conversations with Lt. W. G. Wiedemann, RANVR, formerly missionary at Arawe and Sag Sag, New Britain, for a period of 8 years.

Much of the coastline is bordered with swamps of mangrove (*Rhizophora* sp. and *Bruguiera* sp.), and nipa palm (*Nipa fruticans*) occurs limitedly near the mouths of some rivers. Small areas of grassland are scattered throughout the coastal region, the largest being in the vicinity of Cape Gloucester. Coconut plantations are frequent along the coast, occupying a considerable area near Rabaul; there are some plantations of coffee and cacao, these being recent introductions that have been comparatively successful. Most plantations are planted to grass, or a species of legume, as a cover crop; cattle are grazed to keep the cover crop under control. As a whole, these cultivated areas comprise only an insignificant portion of the island; the vegetative cover can be considered as basically untouched by activities of men.

I was on this island between December 26, 1943, and May 4, 1944. Though I had opportunity to examine thoroughly the entire western end of the island and the north coast as far eastward as Talasea, combat conditions prevented the collection and preservation of any but a few botanical specimens.

GRASSES COLLECTED

Cyrtococcum oxyphyllum (Hochst.) Stapf in Hook. Icon. Pl. **31:** 3096. 1922.
Panicum oxyphyllum Hochst. ex Steud. Syn. Pl. Glum. **1:** 65. 1854. East Indies.
Panicum pilipes Nees & Arn. ex Buse, in Miquel, Pl. Jungh. 376. 1854. **Java.**
Cyrtococcum pilipes A. Camus, Bull. Mus. Hist. Nat. (Paris) **27:** 118. 1921.

India to Philippines, East Indies, Melanesia, and Polynesia.

Bitokara Mission, Talasea; altitude 100 feet; *Burcham* 139, April 22, 1944. Abandoned native garden; well-drained sandy loam, weathered from obsidian and other volcanic rocks. Creeping perennial, rooting freely at the nodes; associated with *Paspalum* sp., *Oplismenus compositus*, and *O. aristulatus*. Occasional to common in abandoned gardens and along forest trails.

Oplismenus compositus (L.) Beauv. Ess. Agrost. 54. 1812.
Panicum compositum L. Sp. Pl. 57. 1753. Ceylon.

India and south China to Formosa, Philippines, East Indies, New Guinea, and Pacific Islands.

Bitokara Mission, Talasea; altitude 100 feet; *Burcham* 137, April 22, 1944. Same soil and associates as preceding species. Creeping perennial, rooting freely at the nodes; blades erect, broad, short, and thin; sheaths loosely hispid; flowering culms solitary, erect, to 18 inches tall; spikelets sparsely appressed-pilose. Moderately abundant in old gardens and along forest trails, in partial to full shade.

Differs from typical specimens of *Oplismenus compositus* in the longer hairs on the sheaths and the sparsely pilose spikelets.

Oplismenus aristulatus Burcham, sp. nov. Fig. 1.

Perennis, reptans; culmi decumbentes, nodibus ramosi, subglandulosi; vaginae minute glandulosae, ciliatae, apice auriculatae; ligula lacerata, circa 0.5 mm. longa; laminae patentes vel suberectae, 4.5–9.8 cm. longae, 1–1.5 cm. latae, lanceolatae, planae, subglabratae; panicula erecta, longa exserta, 3.5–8.5 cm. longa; rachis 1–4 mm. longa, angulis breviter ciliata; spiculae densae pilosae, 3–4.5 mm. longae, teretes, subsessiles; glumae subaequales, 1.5–2.5 mm. longae, 5–nerviae; lemma fertile indurata, 5–nervia, aristato summo, arista 0.4–0.6 mm. longa; fructus 2.5 mm. longus.

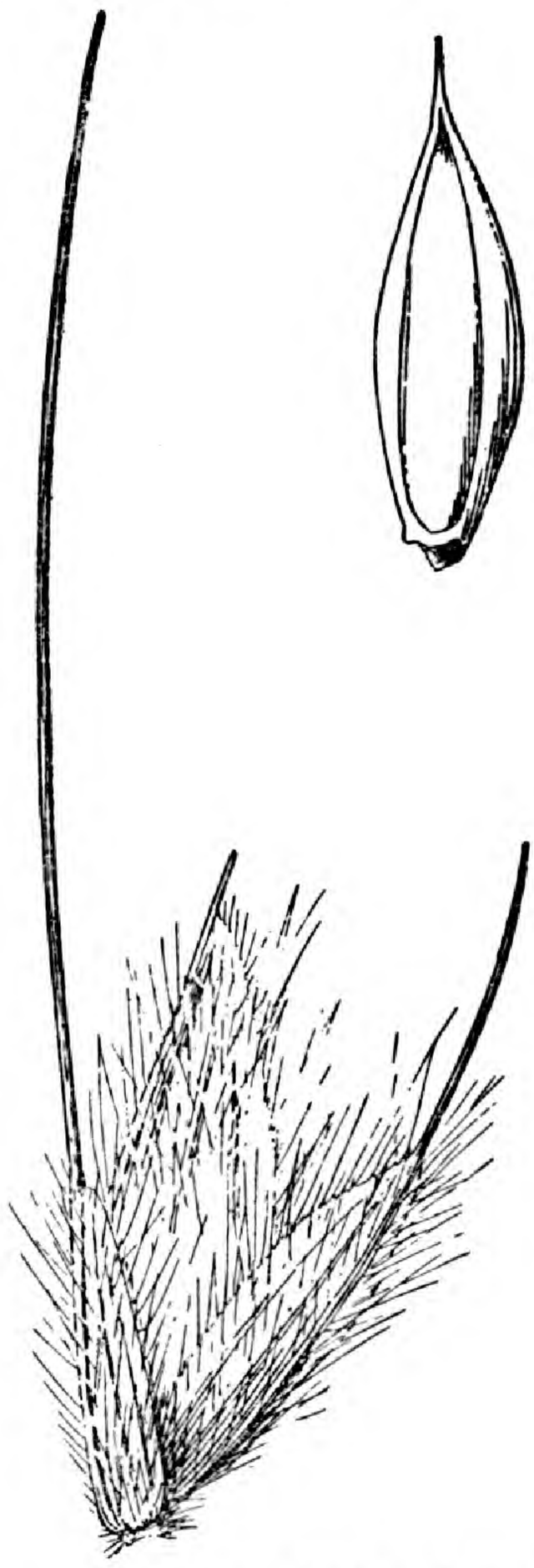

FIGURE 1.—*Oplismenus aristulatus*. Spikelet and fruit, × 10. (Type.)

Creeping perennial, rooting at nodes; culms decumbent, branching freely from the nodes, the branches 25 to 40 cm. tall, slightly glandular throughout; nodes glabrous; sheaths close, minutely glandular, mostly shorter than internodes, ciliate, the summit notched; ligule membranaceous, lacerate, about 0.5 mm. long; blades spreading or ascending, 4.5 to 9.8 cm. (mostly 5 to 8 cm.) long, the upper longer than the lower, 1 to 1.5 cm. wide, lanceolate, constricted at base, flat, thin, and soft-textured when green, nearly glabrous, slightly roughened on the upper

surface and margins; panicle erect, long-exserted, terminal on the branches or occasionally axillary, 3.5 to 8.5 cm. (mostly 5 to 6.5 cm.) long, the axis flexuous, glabrous or nearly so; racemes 4 to 8, the lower somewhat distant; rachis 1 to 4 mm. (mostly about 3 mm.) long, angled, short-ciliate on the angles; spikelets 3 to 13, densely pilose, 3 to 4.5 mm. long (excluding awns), terete, subsessile, solitary or in pairs, in two rows crowded on one side of the rachis; glumes about equal, half as long as the spikelet, 5-nerved, pilose, entire, awned from the tip, the awns slightly reddish, somewhat flattened, that on the first glume 6 to 10 mm. long, on the second 2 to 3 mm. long; sterile lemma longer than glumes or fruit, long-pilose on the upper half, entire, short-awned from the rounded tip, enclosing the hyaline palea; fertile lemma boat-shaped, indurate, 5-nerved, awned from the tip, the awn 0.4 to 0.6 mm. long, the firm margins of the lemma clasping the indurate, nerveless palea; fruit about 2.5 mm. long, hard, plump, and shining.

TYPE: *Burcham* 138, collected April 22, 1944, along forest trail near an abandoned garden, Bitokara Mission, Talasea, New Britain; altitude 50 feet; deposited in the United States National Herbarium, No. 1865731. Growing on well-drained sandy loam, weathered from obsidian and other volcanic rocks. Associated with *Paspalum* sp., *Cyrtococcum oxyphyllum*, *Oplismenus compositus*, other grasses, and woody species. Common in abandoned gardens, forest glades, and along trails.

This species differs from *Oplismenus undulatifolius* (Ard.) Roem. & Schult. and from *O. hirtellus* (L.) Beauv. in the slightly larger, much hairier spikelets and in the awn-tipped fertile lemma, the awn 0.4 to 0.6 mm. long; it further differs from *O. hirtellus* in the nearly glabrous foliage, the smaller blades, shorter racemes, and the short rachis, short-ciliate only on the angles.

Saccharum spontaneum L. Mant. Pl. **2**: 183. 1771.

Tropical Asia through Pacific islands to Polynesia.

Cape Gloucester; altitude 100 feet; *Burcham* 142, May 2, 1944. Open grassland, southeast of No. 2 Airstrip; well-drained sandy loam, with much organic matter in the topsoil. A robust perennial; culms erect, to 6 feet tall. Here an occasional clump, associated with *Manisuris* sp., *Andropogon micranthus*, *Imperata* sp., and *Themeda* sp.; elsewhere forming dense, pure stands on well-drained soils.

Ischaemum digitatum Brongn. in Duperrey, Voy. *Coquille* Bot. **2** (2): 70, ***pl. 13.*** 1831. Buru Island, Moluccas.

Borneo, Moluccas, New Guinea, Philippines.

Waru village, Talasea; altitude 750 feet; *Burcham* 140, April 23, 1944. Coconut plantation; well-drained sandy loam, weathered

from basaltic rocks. Stoloniferous perennial; flowering culms erect, to about 30 inches tall; associated with *Paspalum* sp. Abundant in this locality.

Andropogon micranthus Kunth, Rév. Gram. **1:** 165. 1829. Based on *Holcus parviflorus* R. Br., not *A. parviflorus* Roxb. 1820.
Holcus parviflorus R. Br. Prodr. Fl. Nov. Holl. 199. 1810. Australia.
Sorghum parviflorum Beauv. Ess. Agrost. 132, 165, 178. 1812.
Anatherum parviflorum Spreng. Syst. Veg. **1:** 290. 1825.
Capillipedium parviflorum Stapf in Prain, Fl. Trop. Afr. **9:** 169. 1917.

India to Korea, Japan, Philippines, Sumatra, Java, and New Guinea; Africa.

Cape Gloucester; altitude 100 feet; *Burcham* 141, May 2, 1944. Same habitat as *Saccharum spontaneum*, above. Wiry, erect perennial, in small clumps, to 3 feet tall; associated with *Imperata* sp., *Saccharum spontaneum*, *Manisuris* sp., and *Themeda* sp. Locally abundant throughout grasslands.

The collection from this island is so fragmentary that no adequate discussion of the grass flora can be based on these specimens. Therefore, only general observations are presented.

Much of the grassland in the vicinity of Cape Gloucester is very similar to that of Goodenough Island, both in topography and in species composition (pl. 5). It occurs primarily on well-drained areas that receive much direct sunlight; configuration of the terrain varies from gently rolling to mountainous. Dominant species were also the same: *Manisuris rottboellioides*, *Themeda* sp., and *Imperata* sp., in approximately that order of abundance, with *Manisuris rottboellioides* accounting for 60 to 75 percent of the vegetation in many instances. *Saccharum spontaneum* and *Andropogon micranthus* were collected as associated species; *Sorghum nitidum* and *Paspalum* sp. also were noted occasionally.

Saccharum spontaneum occurred as pure stands over considerable areas; the culms were thick and reedlike, frequently an inch or more in diameter, and to 15 feet tall (pl. 6). In places where natives had burned this grass in hunting wild pigs there remained "islands" of such old grass; between them the young growth would be 4 to 5 feet tall. This was the only locality in the Pacific islands where I found concrete evidence of natives having used fire in the grasslands.

A word of explanation regarding the term "kunai grass," so widely used during the war, is appropriate. Strictly speaking, it refers to *Imperata cylindrica* var. *koenigii*, "kunai" supposedly being a corruption of *koenigii*. By extension, then, it is loosely applied to all species of *Imperata*. However, in many parts of the Solomons, New Guinea, and New Britain the native word for either grass or grassland is simply

"kunai." Thus the term "kunai grass" came to be widely used by our troops in the same manner—to designate any area of coarse tropical grasses, without regard to species.

PAVUVU ISLAND, RUSSELL ISLANDS

Pavuvu Island, in the group of small islands known as the Russell Islands, is located in approximately latitude 9° S. and longitude 159° E. It lies about 35 miles northwest of Cape Esperance, Guadalcanal, within the larger group known as the British Solomons. On some early maps the group now commonly known as the Russells is marked simply "Pawuwu Island"; it is comprised of two larger islands—Pavuvu and Banika Islands—and a number of smaller ones.

The smaller islands are low-lying, recently raised coral reefs; the two principal islands are mountainous in the interior with a fringe of raised coral reefs in evidence in vicinity of the coasts. On Pavuvu Island the highest mountain is some 1,600 feet in elevation—from this and a number of other peaks in the interior the land slopes precipitately nearly to the shoreline. Numerous ravines on the mountain sides, together with irregularities of the raised reefs in coastal areas, give an irregular drainage pattern and terrain that is very dissected indeed.

The hot, humid tropical climate is very similar to that of the Solomon group generally; annual rainfall ranges between 94 and 150 inches; average temperatures are 80° F. to 82° F. the year around, with but little diurnal variation.

The soils of Pavuvu are mostly shallow, with coral outcrops and a considerable admixture of loose coral rock in coastal areas; as one progresses inland the coral is replaced by rocks of volcanic origin, apparently basaltic in the areas observed. Near the coast soil textures are clays and clay loams, frequently with a considerable admixture of well-decayed organic matter in the immediate surface layer. In inland areas there was a noticeable tendency toward coarser textures in soils weathered from volcanic material.

The native vegetation of Pavuvu Island is tropical rain-forest, with a narrow fringe of mangrove (*Rhizophora* sp.) swamps along the immediate coast. About 1910–1915 considerable tracts of land at lower elevations were cleared and planted to coconuts. The usual practice of underplanting the coconut trees with a cover crop and then controlling it by grazing cattle has been followed here. At present a few thousand acres of the northwestern part of Pavuvu, as well as

FIGURE 2.—*Lepturus cinereus*. Plant, × ½; summit of sheath; 3 segments of spike, side view; back of spikelet sunken in rachis; two views of floret, one showing back of lemma, the other the prolonged rachilla and rudimentary floret; two views of caryopsis, showing hilum and scutellum, all × 10. (Type.)

FIGURE 2.—(See opposite page for legend).

the whole of some smaller offshore islands, are given over to coconut plantations. Otherwise the native vegetation has been scarcely disturbed.

I spent in all six months on Pavuvu Island, during the period May 1944 to early March 1945, and thus had opportunity for a considerable investigation of the grass flora of the area.

GRASSES COLLECTED

Eragrostis amabilis (L.) Wight & Arn. ex Hook. & Arn. Bot. Beechey Voy. 251. 1841.

Poa amabilis L. Sp. Pl. 68. 1753. India.
Poa plumosa Retz. Obs. Bot. **4**: 20. 1786. East Indies.
Eragrostis plumosa Link, Hort. Berol. **1**: 192. 1827.

Tropics and subtropics of both hemispheres; introduced in the Americas.

East side Hooper Bay; sea level; *Burcham* 186, February 8, 1945. Margin of swamp; shallow, poorly drained clay soil. Small annual with semiprostrate culms, forming open clumps. Occasional, on moist to well-drained sites in vicinity of the seacoast.

Centotheca latifolia (Osbeck) Trin. Fund. Agrost. 141. 1820. (See p. 410.)

East side Hooper Bay; altitude 25 feet; *Burcham* 166, November 14, 1944. Coconut plantation; in part shade, on thin clay soil along a coral ledge. Associated with *Rhaphis aciculata*, *Axonopus compressus*, *Lepturus cinereus*, *Kyllinga brevifolia*, and *Fimbristylis annua*. Rare, this being the only specimen observed on the island; an unusual location for this grass—probably a relict from the nearby rain-forest.

Lepturus cinereus Burcham, sp. nov. FIG. 2.

Perennis, reptans, colore cinerea; culmi decumbentes, graciles, nodibus omnibus ramosi, glabri; vaginae glabrae, apice minute auriculatae; ligula nulla; laminae plerumque patentes, 2.8–4.5 cm. longae, 3–3.8 mm. latae, subaequales, lanceolatae, planae, rigidae, evidenter nervatae, utrinque glaberrimae; spicae pergraciles, ramos terminantes, 2.3–5 cm. longae, basi inclusae; glumae acuminatae non aristatae, articulis racheos vix longiores vel usque ad ⅓ longiores.

Creeping perennial, rooting at the nodes, occasionally forming a moderately dense turf; culms decumbent, slender, branching from all nodes, branches 4 to 7 cm. long, glabrous throughout; nodes glabrous throughout; sheaths loose, glabrous, open, mostly shorter than the internodes, margins hyaline, especially at the summit, the summit notched; ligule lacking; blades mostly spreading, occasionally suberect, 2.8 to 4.5 cm. (mostly 3 cm.) long, 3 to 3.8 mm. (mostly 3 mm.) wide, markedly uniform in size, lanceolate, flat, rigid, and plainly nerved, entirely glabrous on both surfaces, margins scaberulous; both

sheaths and blades conspicuously pale gray in color (even in growing specimens) giving the herbage an ashy hue; spike very slender, terete, terminal on the branches, 2.3 to 5 cm. (mostly 3 to 4 cm.) long, the lower portion partly enclosed in the sheath; rachis slender, glabrous, disarticulating at maturity; spikelets sessile, embedded in the rachis and falling with the joints; first glume wanting except in the terminal spikelet, second glume closing the cavity flush with the surface, indurate, nerved, acuminate but not awned, from scarcely longer to one-third longer than the rachis joints; lemma hyaline, 3-nerved, shorter than the glume; palea hyaline, a little shorter than the lemma, the rachilla-joint prolonged and bearing a rudimentary floret.

TYPE: *Burcham* 169, collected November 14, 1944, on coral ledge along margin of swamp, east side of Hooper Bay, Pavuvu Island, Russell Islands; altitude 5 feet; deposited in the United States National Herbarium, No. 1866460. Growing here on well-drained, very shallow clay soil; also observed on poorly drained sites near standing water in the swamp. Associated with *Rhaphis aciculata*, *Axonopus compressus*, *Centotheca latifolia*, *Digitaria microbachne*, *Kyllinga brevifolia*, *Fimbristylis annua*, and with several broadleaf herbs and shrubs throughout the area observed. Common to abundant on suitable sites locally, occasionally forming a moderately dense turf over small areas. Observed only in this locality.

This differs from other species of *Lepturus* in the notched summits of the sheaths, absence of the ligule, and particularly in the marked uniformity in size and shape of the small, lanceolate blades; also in their being plainly nerved and entirely glabrous on both surfaces. The color of the herbage, a pale ashy gray, is distinctive in both growing and dried specimens. Further differences are the slenderness of the spike, the lower portion being partly enclosed in the sheath, and the fact that the acuminate glumes are not awned and are proportionately shorter than in other species of the genus.

Sporobolus elongatus R. Br. Prodr. Fl. Nov. Holl. 170. 1810. Australia.

India to Japan, Philippines, East Indies, Melanesia, and Polynesia.

East side Hooper Bay; sea level; *Burcham* 187, February 8, 1945. Margin of swamp, on shallow, poorly drained clay soil. Perennial; culms solitary or a few together; foliage dark green; panicle spikelike, somewhat nodding, often interrupted. Occasional to common, mainly on moist to wet sites, in association with other grasses; rather widely distributed, yet forming only an insignificant proportion of the aggregate.

Eleusine indica (L.) Gaertn. Fruct. et Sem. **1:** 8. 1788. (See p. 406.)

East side Hooper Bay; altitude 25 feet; *Burcham* 162, November 14, 1944. Coconut plantation; well-drained clay soil, underlain with

coral at a depth of about 1 foot. Occasional on this island, about habitations and among other grasses.

Digitaria microbachne (Presl) Henr. Med. Rijks Herb. Leiden **61:** 13. 1930. (See p. 411.)

East side Hooper Bay; altitude 20 feet; *Burcham* 170, February 4, 1945. Coconut plantation; very shallow, well-drained clay soil on a coral outcrop. Associated with other grasses; observed only in this locality.

Axonopus compressus (Sw.) Beauv. Ess. Agrost. 12. 1812.
Milium compressum Sw. Prodr. Veg. Ind. Occ. 24. 1788. Jamaica.
Paspalum compressum Raspail, Ann. Sci. Nat. Bot. **5:** 301. 1825.

Tropics and subtropics of Western Hemisphere; sparingly introduced in tropics of Eastern Hemisphere.

East side Hooper Bay; altitude 25 feet; *Burcham* 160, November 10, 1944. Coconut plantation; well-drained, shallow clay soil underlain with coral. Stoloniferous perennial with erect flowering culms; to about 18 inches tall; abundant in coconut plantations throughout the Russell Islands. A turf-forming grass, apparently introduced as a cover crop. Here, with *Rhaphis aciculata*, which is likewise abundant, it provides excellent year-long grazing for the semiwild cattle that are used to keep plantations free of objectionable plant growth.

Paspalum orbiculare G. Forst. Fl. Ins. Austr. Prodr. 7. 1786. (See p. 411.)

East side Hooper Bay; sea level; *Burcham* 185, February 8, 1945. Brackish swamp; shallow soil underlain with coral. Occasional throughout the island, on very moist to moderately well-drained sites.

Paspalum vaginatum Sw. Prodr. Veg. Ind. Occ. 21. 1788. Jamaica.
Paspalum littorale R. Br. Prodr. Fl. Nov. Holl. 188. 1810. Australia.
Paspalum distichum L. var. *vaginatum* Sw. ex Griseb. Fl. Brit. W. Ind. 541. 1864.

Tropic and subtropic coasts of both hemispheres.

East side Hooper Bay; sea level; *Burcham* 167, November 14, 1944. In standing water of brackish swamp; soil mucky. A low, stoloniferous, rhizomatous perennial, forming a matted turf. Abundant in brackish swamps and along beaches, growing in standing water as well as on better drained sites.

Panicum reptans L. Syst. Nat. ed. 10. **2:** 870 .1759. Jamaica.
Urochloa reptans Stapf, in Prain, Fl. Trop. Afr. **9:** 601. 1920.

Tropics and subtropics of both hemispheres.

East side Hooper Bay; altitude 25 feet; *Burcham* 163, November 14, 1944. Coconut plantation; well-drained clay soil, underlain with coral at a depth of about 1 foot; *Burcham* 164, on well-drained clay loam along edge of rain forest. Decumbent annual, forming spread-

ing clumps, rooting freely at the lower nodes. Occurs occasionally, in association with other grasses, on well-drained soils.

Echinochloa colonum (L.) Link, Hort. Berol. **2:** 209. 1833. (See p. 407.)

East side Hooper Bay; sea level; *Burcham* 168, November 14, 1944. Brackish swamp; soil poorly drained. A few small, widely spreading clumps growing among *Paspalum vaginatum*, in one of the drier portions of the swamp; the only specimens observed on the island.

Thuarea involuta (G. Forst.) Roem. & Schult. Syst. Veg. **2:** 808. 1817.
Ischaemum involutum G. Forst. Fl. Ins. Austr. Prodr. 73. 1786. Society Islands.

Malay Peninsula to Japan, Philippines, Guam, New Caledonia, and Polynesia.

Peninsula southwest of Pepesala Bay; altitude 5 feet; *Burcham* 184, February 7, 1945. Coconut plantation; well-drained clayey soil among coral outcrops near the shore, well above high water, extending 50 to 75 yards inland. Creeping perennial, rooting at the nodes, forming a moderately dense turf; flowering culms borne erect when in bloom, reflexed and among the herbage when mature. Associated with *Axonopus compressus*, *Rhaphis aciculata*, *Vernonia cinerea*, and *Hemigraphis* sp. Common in this locality, the only place observed on this island. (For fruiting habits see fig. 4.)

Imperata exaltata (Roxb.) Brongn. in Duperrey, Voy. *Coquille* Bot. **2** (2): 101. 1831. (See p. 407.)

East side Hooper Bay; altitude 15 feet; *Burcham* 165, November 14, 1944. Small, new clearing in rain forest; well-drained clay loam with considerable organic matter in soil. Associated with *Axonopus compressus*, *Rhaphis aciculata*, *Eleusine indica*, herbs, and shrubs. Only specimens observed on this island.

Rhaphis aciculata (Retz.) Desv. Opusc. 69. 1831. (See p. 414.)

East side Hooper Bay; altitude 25 feet; *Burcham* 158; November 10, 1944. Coconut plantation; well-drained clay soil, underlain with coral at a depth of about 1 foot. Abundant in coconut plantations throughout the island; probably introduced as a cover crop, in admixture with *Axonopus compressus*. Grazed to a considerable extent by plantation cattle, mostly before flowering culms appear.

The species enumerated above are believed to comprise a complete representation of the grasses, exclusive of bamboos, occurring on Pavuvu Island at this time. Some clumps of bamboos were observed at low altitudes in the rain forest, but collections could not be made.

The two dominant grasses are *Axonopus compressus* and *Rhaphis aciculata*, which have apparently been intentionally introduced as a cover crop for the coconut plantation. Together they account for about 98 percent of the grass flora of the island, in the proportions of three parts *Axonopus* and one part *Rhaphis*. They occupy the better sites almost exclusively; other grasses occur either as infrequent specimens or on areas where these two cannot successfully compete. Except for these the grass most widely distributed about the island is *Sporobolus elongatus;* the manner of its occurrence, widespread but forming only an insignificant part of the aggregate, suggests that it was accidentally introduced when the cover crop was planted.

Perhaps only five species can be considered as "native" grasses. Of these, *Centotheca latifolia* was observed only once, a few culms within the coconut plantation removed a short distance from the edge of the rain forest. As this grass habitually occurs only in forest glades it may be either a relict from the time when the rain forest was cleared or a stray from the margin of the present forest, although not observed there. *Paspalum vaginatum* was localized along the seashore and in brackish swamps within about 200 yards of the beach. It was probably established along the shore originally and has extended its range into the swamp since the forest was cleared. The same applies to *Paspalum orbiculare* except for its being somewhat more widely distributed, owing to its adaptability to a variety of sites. The other two species, *Thuarea involuta* and *Lepturus cinereus*, were localized near the coast, mostly on very thin soils over coral outcrops, or in crevices in the coral. Their original ranges have probably been extended locally in competition with *Axonopus compressus* and *Rhaphis aciculata*, which do not thrive on such sterile areas.

The remaining six species found on this island seem to be recent accidental introductions. *Eragrostis amabilis* was localized near the coast; *Eleusine indica* was localized mainly near habitations but had spread about the plantations to a limited extent. *Digitaria microbachne* occurred in one area on poor soil—it appeared to be a new introduction on drier areas. A few clumps of *Echinochloa colonum* were found among *Paspalum vaginatum* in a brackish swamp, apparently a recent introduction there. *Panicum reptans* and *Imperata exaltata* appeared to be recent invaders on better soils and drier sites. The fact that these plantations had been unattended since late in 1941 has no doubt been a contributory factor in enabling many of these invading grasses to gain a foothold on the island.

PELELIU ISLAND, PALAU ISLANDS

Peleliu Island is in the southern part of the Palau (or Pelew) Islands; this group of small islands, of which only seven are inhabited, is the easternmost of the Carolines. Peleliu (Japanese spelling "Periryu") is located in latitude 7° N. and longitude 134°12″ E.

The northern islands of the Palau group are of volcanic origin; in the south, including Peleliu, they are recently raised coral reefs. Peleliu Island, about 6 miles long by 2 miles wide, is roughly the shape of a gigantic lobster claw (see map, fig. 3); there is a fringing reef along the east coast and a barrier reef lying from one-half to one mile offshore on the west. Maximum elevations, found in the chain of coral hills in the northern and western part of the island, are about 200 feet. There is but scant evidence of weathering of the coral; in most places the hills retain much of the appearance and configuration of under-water reefs—this results in steep, jagged ridges, sharp cliffs, and many enclosed depressions similar to those seen on reefs still covered with water, with nothing suggesting or resembling the usual drainage pattern. Aside from these hills the land is mostly flat and poorly drained, much of the eastern portion being swamps, and the south end having been leveled to construct the airfield.

The islands of this group have a tropical oceanic climate. Annual rainfall averages about 140 inches, with May to December the rainiest months. The average annual temperature ranges between 80° F. and 82° F.; there is but little seasonal or diurnal variation, the maximum daily temperatures ranging from 85° F. to 89° F. Prevailing winds, though variable, are mainly from the southerly direction, and from light to moderate in intensity. Clear days are usually with a small proportion of cloud; this, combined with the cooling effect of the prevailing winds, produces a climate that is relatively agreeable.

There is nowhere any considerable depth of soil, the single minor exception being along the west side, where wave action has piled a stretch of sandy soil—never more than a few hundred yards wide—along the base of the ridge of coral hills. These shallow soils, mostly sandy or sandy loam, are usually mixed with broken coral or fragments of sea shells; the consistency and light color indicate recent weathering and little humus. In the eastern portion of the island, where soils have been formed by deposition in the swampy area, there is a small but noticeable content of organic matter.

The soils can scarcely be considered fertile. Although there was a moderately heavy tree cover on most of the island, trees were small in comparison with the usual tropical forest; their nourishment has been drawn mainly from pockets of soil in crevices of the coral. Ridges originally had a complete cover of rain-forest; there were extensive swamps of mangrove (*Rhizophora* sp.) in tidal flats of the eastern

portion. At the south end (Ngarmoked Island) and along the south part of the east coast were some small areas where *Casuarina equisetifolia* was dominant. Coconuts had been planted along most of the west coast, particularly north of the airfield, and on the islands lying off the east coast (Ngabad Island). Gardens for vegetables had been attempted in a few areas, but their products were only mediocre.

I was on Peleliu Island from September 15, 1944, through October 27, 1944, and during this time covered approximately 70 percent of the island's area at least once, mostly on foot.

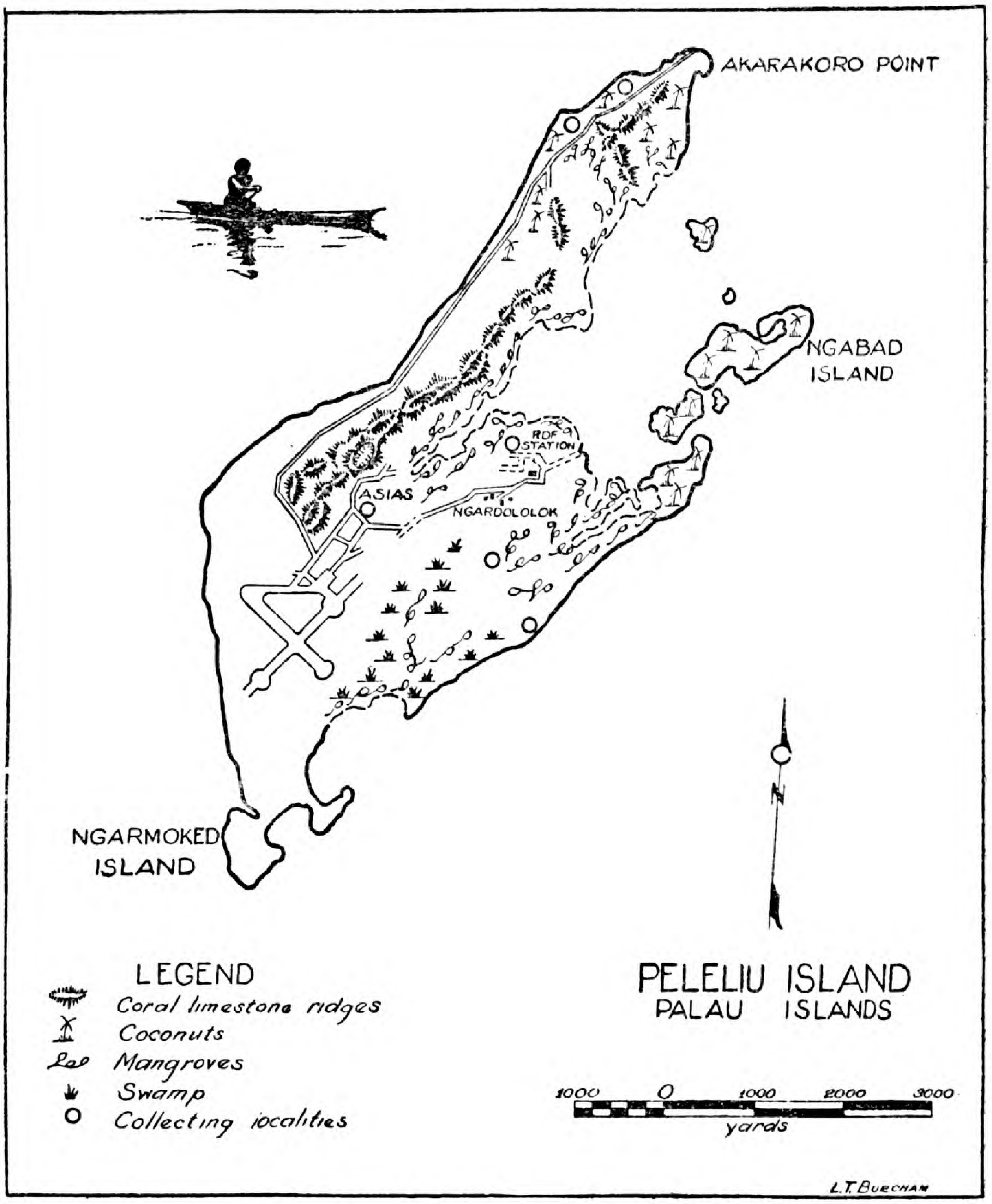

FIGURE 3.—Map of Peleliu Island, Palau Islands.

GRASSES COLLECTED

Eragrostis amabilis (L.) Wight & Arn. ex Hook. & Arn. Bot. Beechey Voy. 251. 1841. (See p. 424.)

North-central Peleliu; altitude 25 feet; *Burcham* 147, October 3, 1944. Near buildings of Radio Direction Finder station, 500 yards north of Ngardololok; shallow sandy soil underlain with coral. Associated with *Lepturus repens*, *Eleusine indica*, *Digitaria longissima*, *Paspalum conjugatum*, *Cenchrus echinatus*, and small shrubs. Occasional, in vicinity of habitations.

Centotheca latifolia (Osbeck) Trin. Fund. Agrost. 141. 1820. (See p. 410.)

Eastern Peleliu; altitude 20 feet; *Burcham* 149, October 3, 1944. Margin of swampy area in rain forest, 800 yards due south of Ngardololok. Associated with *Paspalum conjugatum* and *Schizmatoglottis* sp. Noted occasionally in forest glades and along swamp margins.

Lepturus repens (G. Forst.) R. Br. Prodr. Fl. Nov. Holl. 207. 1810.
Rottboellia repens G. Forst. Fl. Ins. Austr. Prodr. 9. 1786. South Pacific Islands.

Widespread on island coasts, Ceylon to Formosa, Philippines, Bismarck Archipelago, New Guinea, Micronesia, and Polynesia; Queensland, Australia.

North central Peleliu; altitude 25 feet; *Burcham* 143, September 25, 1944. About buildings of RDF station, 500 yards north of Ngardololok; shallow sandy soil underlain with coral. Widely creeping perennial, often forming a turf on small areas; associated species same as *Eragrostis amabilis*, above. Occasional to abundant, and widespread about the island; particularly luxuriant in the deeper sandy soils of Ngabad Island.

Zoysia tenuifolia Willd. ex Trin. Mém. Acad. St. Petersb. VI. Sci. Nat. **2** (1): 96. 1836. Mascarene Islands.
Osterdamia tenuifolia Kuntze, Rev. Gen. Pl. **2**: 781. 1891.

Japan; Polynesia.

North coast Peleliu; altitude 5 feet; *Burcham* 154, October 17, 1944. About buildings of Radio Station, 1 mile southwest of Akarakoro Point; fine sandy soil. Low perennial with creeping rhizomes and very fine leaves, forming a thick turf. Only locality observed; apparently introduced.

Eleusine indica (L.) Gaertn. Fruct. et Sem. **1**: 8. 1788. (See p. 406.)

North central Peleliu; altitude 25 feet; *Burcham* 146, September 25, 1944. About buildings of RDF station, 500 yards north of Ngardololok; shallow sandy soil, underlain with coral. Associated with *Eragrostis amabilis*, *Lepturus repens*, *Digitaria longissima*, *Pas-*

palum conjugatum, *Cenchrus echinatus*, and shrubs. Common about the island, mostly near habitations.

Digitaria longissima Mez, Repert. Sp. Nov. Fedde **18**: 26. 1922.

Digitaria kanehirae Ohwi, Bot. Mag. (Tokyo) **55**: 543. 1941.

New Guinea, Bismarck Archipelago, Palau (Peleliu).

North-central Peleliu; altitude 25 feet; *Burcham* 150, October 5, 1944. About buildings of RDF station, 500 yards north of Ngardololok; shallow sandy soil, underlain with coral. Stoloniferous, prostrate perennial, tending to form a moderately thick turf; associated with same grasses as the preceding species. Occurs occasionally.

Digitaria chinensis Hornem. Hort. Hafn. Suppl. 8. 1819. China.

Digitaria propinqua Gaudich. in Freyc. Voy. *Uranie* Bot. 410. 1826. Not *D. propinqua* Beauv. 1812. Timor.

Panicum timorense Kunth, Rév. Gram. **1**: Suppl. IX. 1830. Based on *Digitaria propinqua* Gaudich.

Digitaria timorensis Balansa, in Morot, Journ. de Bot. **4**: 138. 1890.

India to Japan, Philippines, East Indies, and Polynesia.

North coast Peleliu; altitude 10 feet; *Burcham* 156, October 25, 1944. Secondary growth near road, 1,600 yards southwest of Akarakoro Point; poorly drained sandy soil. Stoloniferous perennial, forming a partial turf, with erect inflorescences, to 10 inches tall; associated with *Paspalum orbiculare* and shrubby species of the secondary growth. Occasional.

Digitaria microbachne (Presl) Henr. Med. Rijks Herb. Leiden **61**: 13. 1930. (See p. 411.)

Near Asias, central Peleliu; altitude 30 feet; *Burcham* 153, October 15, 1944. Near buildings, on well-drained, shallow soil containing much broken coral. Associated with *Eragrostis amabilis*, *Eleusine indica*, *Cenchrus echinatus*, and *Rhaphis aciculata*. Occasional about the island.

Paspalum conjugatum Berg. Act. Helv. Phys. Math. **7**: 129. *pl. 8*. 1762. (See p. 407.)

North-central Peleliu; altitude 25 feet; *Burcham* 145, September 25, 1944. About buildings of RDF station, 500 yards north of Ngardololok; shallow sandy soil, underlain with coral. Associated with *Eragrostis amabilis*, *Lepturus repens*, *Eleusine indica*, *Digitaria longissima*, *Cenchrus echinatus*, and small shrubs. Occasional and widespread; more prevalent in moist areas.

Paspalum orbiculare G. Forst. Fl. Ins. Austr. Prodr. 7. 1786. (See p. 411.)

North coast Peleliu; altitude 10 feet; *Burcham* 155, October 25, 1944. Secondary growth near road, 1,600 yards southwest of Akarakoro

PLATE 7

THE AIRFIELD, PELELIU ISLAND

There is no area of natural grassland on Peleliu, but since construction of the airfield it has been invaded by several of the more aggressive introduced grasses. The dominant species here is *Cenchrus echinatus*.

Point; poorly drained sandy soil. Associated with *Digitaria chinensis* and shrubby species of the secondary growth. Only specimen observed on the island.

Paspalum vaginatum Sw. Prodr. Veg. Ind. Occ. 21. 1788. (See p. 426.)

East coast Peleliu; sea level; *Burcham* 148, October 3, 1944. Along seacoast, 1,400 yards southeast of Ngardololok; in crevices of coral rock just above high-water mark. Only vegetative parts in evidence; associated with a small rush (Juncaceae) and near *Casuarina equisetifolia* and *Pandanus* sp. Rare; a few clumps noted also along a sandy beach on the north coast.

Pennisetum purpureum Schumach. Beskr. Guin. Pl. 64. 1827. Guinea, Africa.

Tropical Africa; introduced into cultivation in American and Old World Tropics; Hawaii, Guam.

North coast Peleliu; sea level; *Burcham* 157, October 26, 1944. Garden area, 1,000 yards southwest of Akarakoro Point; poorly drained sandy soil. Very coarse, robust perennial, in dense clumps to about 7 feet tall; associated with *Eleusine indica*, *Paspalum conjugatum*, and *Cenchrus echinatus*. Only locality observed; apparently cultivated.

Cenchrus echinatus L. Sp. Pl. 1050. 1753. Jamaica, Curaçao.

Common weed in American Tropics; sparingly introduced in Hawaii, Philippines, and Polynesia.

North-central Peleliu; altitude 25 feet; *Burcham* 144, September 25, 1944. RDF station, 500 yards north of Ngardololok; shallow sandy soil, underlain with coral. Low annual, in small clumps; inflorescence a spike of bristly burs; associated with *Eragrostis amabilis*, *Lepturus repens*, *Eleusine indica*, *Digitaria longissima*, and *Paspalum conjugatum*. Most abundant and widely distributed grass on the island.

Ischaemum intermedium Brongn. in Duperrey, Voy. *Coquille* Bot. **2** (2): 73. 1831. Onlan, Caroline Islands.

Philippines, Malay Peninsula, Java, Caroline Islands, Bismarck Archipelago.

North-central Peleliu; altitude 20 feet; *Burcham* 151, October 5, 1944. Swamp, 600 yards northeast of Ngardololok; growing in shallow standing water; soil mucky, mixed with coral fragments. Creeping perennial, with erect flowering culms, to 2 feet tall; associated with *Centotheca latifolia*, *Schizmatoglottis* sp., and *Polygonum* sp. Moderately abundant in swampy or very moist areas.

Rhaphis aciculata (Retz.) Desv. Opusc. 69. 1831. (See p. 414.)

Near Asias, central Peleliu; altitude 30 feet; *Burcham* 152, October 14, 1944. Near buildings on well-drained, shallow soil containing coral fragments. Associated with *Eragrostis amabilis*, *Eleusine indica*,

Digitaria microbachne, and *Cenchrus echinatus*. Observed only in this locality.

* * * * *

The 15 grasses enumerated above comprise all the species observed on Peleliu Island and are believed to be a complete representation of the grass flora, exclusive of bamboos. Bamboos, evidently introduced, occurred only about buildings.

There is no area of natural grassland on Peleliu Island. The nearest approach was on the airfield, which since construction has been invaded by several of the more aggressive, apparently introduced species (pl. 7). The average density of this vegetation would run not more than 20 to 30 percent. The dominant species here was *Cenchrus echinatus*, the most abundant grass encountered on the island; it was associated primarily with *Eleusine indica*, and to a lesser extent with *Eragrostis amabilis*, *Digitaria longissima*, and *D. microbachne*. These same species were found together, in varying proportions, in vicinity of most human habitations on the island.

Zoysia tenuifolia and *Pennisetum purpureum* are evidently recent introductions; the former probably being an accidental introduction, while the latter was found planted in a garden. *Rhaphis aciculata* was collected from the vicinity of buildings in the village of Asias, the manner of its occurrence suggesting an attempt at use for a lawn grass. *Paspalum conjugatum* occurs in limited abundance on a wide variety of sites practically throughout the island.

Grasses that may be regarded as "native" are of very scattered occurrence, because of the considerable disturbance of the vegetation on this small island by man's activities. The most widespread species are *Lepturus repens*, particularly abundant in the coconut plantations of Ngabad Island, and to a lesser extent in the portion of the island north of Ngardololok; and *Ischaemum intermedium*, widely distributed and moderately abundant in swampy areas. *Centotheca latifolia* and *Digitaria chinensis* occur occasionally on suitable sites. *Paspalum vaginatum* was encountered in two areas, both localized along the coast where salt water provided a favorable habitat; only one specimen of *Paspalum orbiculare* was found on the entire island. Activities of our troops on this island, involving concentration of large numbers of men and quantities of materials on such a small area, will doubtless result in a further reduction in the abundance of the grass flora, both native and introduced.

Native vegetation had been disturbed to a major extent prior to our arrival, both by the activities of man and by typhoons which destroyed portions of the forest, especially one reported as occurring about 1933–1935. Remains of trees uprooted at that time were still in evidence, chiefly in the southeastern part of the island. Virtually

all vegetation was denuded from the western and southern portions by our operations. However, configuration of the terrain and nature of the coral bedrock are such that this denudation should produce no erosion problems; as a matter of fact, the net result of these activities should be to accelerate soil formation.

OKINAWA SHIMA, RYUKYU ARCHIPELAGO

Okinawa Shima, or Okinawa Island, is the largest of 55 islands comprising the Ryukyu Archipelago, which forms an arc of small stepping stones between Formosa and southern Japan. This group has been variously called the Ryukyu Retto ("Retto" being the Japanese equivalent of "Archipelago"), the Riu Kiu, the Liu Kiu, the Luchu, the Loochoo, and the Nansei Islands. The central part of Okinawa is located in approximately latitude 33°30′ N. and longitude 128° E. and is about 400 miles from the mainland of Asia across the East China Sea.

Despite the rugged character of the terrain there is no mountain system on the island. Mainly it consists of coral reefs raised above the ocean's surface in small plateaus and isolated hills; some volcanic rocks were encountered, primarily in the southeastern part and on the Motobu Peninsula, but these were distinctly in the minority. Though weathering has progressed farther than on any of the other coral islands visited in the Pacific, much of the configuration of a coral reef is still retained, with little semblance of what we are accustomed to regard as a "normal" drainage pattern. Frequent outcrops of bare coral rock, sheer cliffs along seacoasts and watercourses, and terracing of the fields all further accentuate the irregularities of the topography of this island.

Lying in about the same latitude as Miami, Fla., Okinawa enjoys a similar subtropical climate. Most of the annual rainfall of 84 inches falls between May and October. The average annual temperature of 71° F. ranges from a high of 96° F. to winter temperatures of 38° F.; natives said that frosts were unknown to them. Prevailing southerly winds temper the extremes of climate to an appreciable extent and occasionally whip up to typhoons of destructive force, such as the ones that occurred in September and October 1945.

The people are of mixed ancestry—probably descending from the Ainus, a short-statured, hairy, Mongoloid race originally inhabiting the southern islands of Japan. There has been much intermingling with the Chinese and Japanese, since about 650 A. D., and to a lesser extent with Malays and Koreans. Although the largest island in the Ryukyu Archipelago, Okinawa is but 70 miles long and has an average width of about 7 miles. On this small area there is an average of 900

758187—48——3

persons per square mile—in quite vivid contrast to the relatively uninhabited islands of the Southwest Pacific. Moreover, the northern part is but sparsely settled, the major portion of the total population living in the southern two-thirds of the island. This dense population has dictated utilization of every available square foot of ground.

Soils are mostly clays or clay loams, dull red to bright red in color, friable, and moderately deep (on the order of 2 to 6 feet). Based on crops observed in the fields, productivity of these soils would rate above average. Without terracing, the intensive cultivation to which this rough, broken terrain has been subjected would result in erosion at a highly accelerated rate; on cultivated lands there is virtually no evidence of erosion as other than a natural geologic process. In a number of timbered areas the ground was bare or nearly so, the soil hard and compacted, with sheet and gully erosion in evidence.

Several hundred years of settlement and intensive cultivation have greatly modified the natural vegetation of this island. The higher hills and rougher ground are forested with pine (*Pinus massoniana* Lam.); on the Motobu Peninsula and elsewhere on the northern third of the island occur some stands of *Cryptomeria japonica*. These forests show evidence of heavy use—close cutting and grazing—and have apparently been artificially propagated to a considerable extent. Rough outcrops of coral are common throughout the island; these are usually vegetated with clumps of *Cycas circinalis* and a few scattered pines as dominants, and an understory of shade-loving shrubs, herbs, and grasses. For the most part plants occurring in waste places about habitations and fields are those widely distributed in association with man's activities. Those occurring on the frequent uncultivated coral outcrops, and in rougher, forested hills are probably fairly representative of native species originally occupying the island.

I was on Okinawa between April 1, 1945, and July 22, 1945, and during this time visited the area from Yontan Airfield to the south end of the island and spent about 15 days on the Motobu Peninsula in the north.

GRASSES COLLECTED

Eragrostis distans Hack. [Publ.] Bur. Gov. Lab. Philippine Isl. **35:** 81. 1906. (See p. 410.)

Okinawa and Philippine Islands to New Guinea.

This specimen differs from description of the type as follows: (1) It is perennial; (2) it occasionally bears fertile branches; and (3) the florets have a distinct purplish hue, evident in both growing and dried specimens.

Inubi; altitude 70 feet; *Burcham* 211, April 18, 1945. West side of valley, 100 yards north of village; well-drained silty clay soil. Perennial, growing in tight clumps; erect flowering culms to about 20 inches

tall; florets purplish. Associated with *Imperata cylindrica*, *Miscanthus sinensis*, and *Spiranthes sinensis*. Moderately abundant.

Lepturus repens (G. Forst.) R. Br. Prodr. Fl. Nov. Holl. 207. 1810. (See p. 431.)

Motobu Peninsula; sea level; *Burcham* 227, July 11, 1945. One mile north of Nakasoni, 1,000 yards east of Oi-Kawa River; on coral outcrops along the coast. Associated with *Sporobolus virginicus*, *Zoysia tenuifolia*, *Digitaria henryi*, *Paspalum vaginatum*, and *Thuarea involuta*. Occasional.

Alopecurus aequalis Sobol. Fl. Petrop. 16. 1799. Greece.

Alopecurus fulvus J. E. Smith in Sowerby, English Bot. 21. *pl. 1467*. 1805. England.

Circumpolar Eurasia and America; Siberia, China, Japan, mountains of India.

Inubi; altitude 60 feet; *Burcham* 194, April 12, 1945. 100 yards east of village; clay soil of rice paddies. Low perennial, growing in open clumps in fallow rice paddy; common in standing water and wet places.

Sporobolus elongatus R. Br. Prodr. Fl. Nov. Holl. 170. 1810. (See p. 425.)

Inubi; altitude 60 feet; *Burcham* 195, April 12, 1945. 100 yards east of village; moist clay soil. In small clumps along sodded terraces between rice paddies; associated with *Digitaria violascens*, *Paspalum cartilagineum*, *Panicum repens*, *Sacciolepis indica*, and *Ischaemum crassipes* var. *aristatum*. Common; this species and its associates given here are the ones most frequently encountered in the protective turf, which is maintained on terraces about the fields.

Sporobolus virginicus (L.) Kunth, Rév. Gram. **1**: 67. 1829.

Agrostis virginica L. Sp. Pl. 63. 1753. Virginia.

Tropics and subtropics of both hemispheres.

Motobu Peninsula; sea level; *Burcham* 230, July 13, 1945. One mile north of Nakasoni, 1,000 yards east of Oi-Kawa River; coral outcrops along coast. A low, rhizomatous perennial; flowering culms erect, panicle spikelike; associated with *Lepturus repens*, *Zoysia tenuifolia*, *Digitaria henryi*, *Paspalum vaginatum*, and *Thuarea involuta*. Occasional near seashore, on coral outcrops and sandy beaches.

Zoysia matrella (L.) Merr. Philippine Journ. Sci. Bot. **7**: 230. 1912.

Agrostis matrella L. Mant. Pl. **2**: 185. 1771. Malabar, India.

Zoysia pungens Willd. Ges. Naturf. Freund. Berlin Neue Schrift. **3**: 441. 1801. Malabar Coast, India.

Osterdamia matrella Kuntze, Rev. Gen. Pl. 2: 781. 1891.

India and Malay Peninsula to Java, Japan, Philippines, and Yap.

Hanja; altitude 250 feet; *Burcham* 221, June 27, 1945. Northeast outskirts of village; coral outcrops in cultivated field. Low, creeping

perennial, with rhizomes; blades dark green, wiry, sharply pointed; inflorescence erect; associated with *Sporobolus elongatus* and *Sacciolepis indica.* Occasional; also noted along cart roads and on sodded terraces.

Zoysia tenuifolia Willd. ex Trin. Mém. Acad. St. Petersb. VI. Sci. Nat. **2** (1): 96. 1836. (See p. 431.)

Motobu Peninsula; sea level; *Burcham* 228, July 11, 1945. One mile north of Nakasoni, 1,000 yards east of Oi-Kawa River; coral outcrops near seashore. Associated with *Lepturus repens, Sporobolus virginicus, Digitaria henryi, Paspalum vaginatum*, and *Thuarea involuta.* Occurs occasionally.

Leptochloa filiformis (Lam.) Beauv. Ess. Agrost. 71, 161, 166. 1812.
Festuca filiformis Lam. Tabl. Encycl. **1:** 191. 1791. South America.

Temperate and tropical Americas; sparingly introduced in southern Asia, Java, Philippines, Mozambique.

Hanja; altitude 250 feet; *Burcham* 219, June 26, 1945. Northeast outskirts of village; well-drained clay soil. Slender annual, in small open clumps; inflorescence an open, elongated panicle; collected from a cultivated field. Occasional.

Cynodon dactylon (L.) Pers. Syn. Pl. **1:** 85. 1805.
Panicum dactylon L. Sp. Pl. 58. 1753. Southern Europe.
Capriola dactylon Kuntze, Rev. Gen. Pl. **2:** 764. 1891. Based on *Panicum dactylon* L.

World-wide, in temperate and tropical regions.

Hanja; altitude 250 feet; *Burcham* 223, June 27, 1945. Northeast outskirts of village; clay soil. Low, stoloniferous and rhizomatous perennial; associated with *Sporobolus elongatus, Digitaria sanguinalis, Sacciolepis indica,* and *Isachne globosa.* Occasional to common, mostly on sodded terraces between fields.

Digitaria henryi Rendle, Journ. Linn. Soc. Bot. **36:** 323. 1904.

China and Indo-China to Formosa, Philippines, and Samoa.

Motobu Peninsula; sea level; *Burcham* 225, 226, July 11, 1945. One mile north of Nakasoni, 1,000 yards east of Oi-Kawa River; crevices of coral outcrops along seashore. Creeping perennial, with broad, flat blades mostly about 3 inches long; associated with *Lepturus repens, Sporobolus virginicus, Zoysia tenuifolia, Thuarea involuta,* and *Ischaemum murinum.* A second specimen from this locality, *Burcham* 226, has flat, rigid, harsh blades not exceeding 1 inch in length. Occurs occasionally.

Digitaria sanguinalis (L.) Scop. Fl. Carn. ed. 2. **1:** 52. 1772.
Panicum sanguinale L. Sp. Pl. 57. 1753. Southern Europe.
Paspalum sanguinale Lam. Tabl. Encycl. **1:** 176. 1791.
Syntherisma sanguinalis Dulac, Fl. Haut. Pyr. 77. 1867.

World-wide, in temperate and tropical regions.

Hanja; altitude 250 feet; *Burcham* 222, June 27, 1945. Northeast outskirts of village; clay soil along drainage ditch, occasionally covered with standing water. Low, semiprostrate annual forming dense clumps; associated with *Sporobolus elongatus*, *Cynodon dactylon*, *Sacciolepis indica*, and *Isachne globosa*. Observed occasionally, in fallow fields and waste places.

Digitaria violascens Link, Hort. Berol. **1:** 229. 1827. Brazil.
Panicum violascens Kunth, Rév. Gram. **1:** 33. 1829.
Paspalum chinensis Nees, in Hook. & Arn. Bot. Beechey Voy. 231. 1836. China.
Digitaria chinensis A. Camus, Not. Syst. Lecomte **4:** 48. 1923. Not *D. chinensis* Hornem. 1819.

Southeastern Asia, East Indies, Philippines; introduced in American tropics and subtropics.

Inubi; altitude 60 feet; *Burcham* 197, April 12, 1945. 100 yards east of village; clay soil of terraces between rice paddies. Annual, or perennial in favorable locations; tending to form a turf along terraces; associated with *Sporobolus elongatus*, *Paspalum cartilagineum*, *Panicum repens*, *Sacciolepis indica*, and *Ischaemum crassipes* var. *aristatum*. Occasional to common.

Inubi; altitude 100 feet; *Burcham* 205, April 12, 1945. 300 yards northeast of village; pine forest; in spreading clumps, growing on clay loam spoil from a recently excavated cave.

Eriochloa villosa (Thunb.) Kuntze, Rev. Gram. **1:** 30. 1829.
Paspalum villosum Thunb. Fl. Japon. 45. 1784. Japan.

China, Japan.

Motobu Peninsula; altitude 75 feet; *Burcham* 233, July 14, 1945. One mile north of Nakasoni, 1,000 yards east of Oi-Kawa River; cultivated field, well-drained clay loam soil. Annual, forming small, spreading clumps; common volunteer in cultivated fields.

Paspalum conjugatum Berg. Act. Helv. Phys. Math. **7:** 129. *pl. 8*. 1762. (See p. 407.)

Inubi; altitude 150 feet; *Burcham* 209, April 14, 1945. 600 yards northeast of village; well-drained clay soil near native house. Occasional, mostly near habitations.

Paspalum orbiculare G. Forst. Fl. Ins. Austr. Prodr. 7. 1786. (See p. 411.)

Inubi; altitude 60 feet; *Burcham* 196, April 12, 1945. 100 yards east of village; clay soil. Common on sodded terraces separating rice paddies; associated with *Sporobolus elongatus*, *Digitaria violascens*, *Panicum repens*, *Sacciolepis indica*, and *Ischaemum crassipes* var. *aristatum*.

Inubi; altitude 90 feet; *Burcham* 204, April 12, 1945; 200 yards east of village; well-drained clay loam; occasional small erect clumps in understory of pine forest.

Paspalum vaginatum Sw. Prodr. Veg. Ind. Occ. 21. 1788. (See p. 426.)

Motobu Peninsula; sea level; *Burcham* 231, July 14, 1945. East bank of Oi-Kawa River, 1,000 yards north of Nakasoni; sandy soil along estuary. Occasional, along estuaries and seashore, within influence of salt water.

Cyrtococcum patens (L.) A. Camus, Bull. Mus. Nat. Hist. (Paris) **27**: 118. 1921. (See p. 412.)

Motobu Peninsula; altitude 75 feet; *Burcham* 234, July 14, 1945. One mile north of Nakasoni, 1,000 yards east of Oi-Kawa River; well-drained clay soil. Tending to form a dense cover, in full shade of *Pinus massoniana*, *Pandanus tectorius*, and *Acacia* sp. Locally abundant on favorable sites.

Panicum repens L. Sp. Pl. ed. 2. 87. 1762. Southern Europe.

Tropical and subtropical coasts of both hemispheres.

Inubi; altitude 70 feet; *Burcham* 214, April 28, 1945. 200 yards northeast of village; clay soil. Robust perennial, with many stout rhizomes; occasional among other grasses on terraces between rice paddies.

Sacciolepis indica (L.) Chase, Proc. Biol. Soc. Washington **21**: 8. 1908.

Aira indica L. Sp. Pl. 2; in errata, after index, 1753. India.
Panicum indicum L. Mant. **2**: 184. 1771.
Hymenachne indica Buse ex Miquel, Pl. Jungh. 377. 1854.

India to Korea, Japan, Philippines, Malay Peninsula, East Indies, New Guinea, and Fiji.

Inubi; altitude 100 feet; *Burcham* 206, April 12, 1945. 300 yards northeast of village; well-drained clay loam under pine forest; a few small clumps on spoil from a recently excavated cave. Inubi; altitude 70 feet; *Burcham* 213, April 28, 1945; 200 yards northeast of village; clay soil of terraces, and in rice paddies. Slender annual; culms single or a few together, mostly erect; glumes purplish at tips. Occasional, along terraces and in fallow rice paddies.

Isachne globosa (Thunb.) Kuntze, Rev. Gen. Pl. **2**: 778. 1891.

Milium globosum Thunb. Fl. Japon. 49. 1784. Japan.
Isachne australis R. Br. Prodr. Fl. Nov. Holl. **1**: 196. 1810. Australia.

India and China to Philippines, East Indies, New Guinea, and Australia.

Hanja; altitude 250 feet; *Burcham* 218, June 11, 1945. Northeast edge of village; clay soil of drainage ditch, covered with standing

water part of time. Annual; culms trailing to erect, rooting at nodes; sheaths with bristles which appear to assist the grass in climbing. Common, in standing water or wet to moderately dry sites.

Oplismenus formosanus Honda, Repert. Nov. Sp. Fedde **20**: 361. 1924. Formosa.

Formosa; Okinawa.

Inubi; altitude 90 feet; *Burcham* 212, April 21, 1945. East side of village; clay soil in overgrown native garden. Creeping perennial, rooting freely at nodes; flowering culms erect, spikelets glabrous, purple; in full shade of bamboo, bananas, and other cultivated plants. Occasional, in moist, shady spots.

Echinochloa hispidula (Retz.) Keng, Sinensia **11**: 413. 1940.

Panicum hispidulum Retz. Obs. Bot. **5**: 18. 1789. India.

India and China.

Inubi; altitude 70 feet; *Burcham* 215, April 28, 1945; 200 yards northeast of village; clay soil of rice paddies. Coarse annual, growing mostly in semidry rice paddies—sometimes in standing water; associated with *Alopecurus aequalis* and *Sacciolepis indica*. Occasional to common, on wet sites.

Setaria geniculata (Lam.) Beauv. Ess. Agrost. 41, 169, 178. 1812.

Panicum geniculatum Lam. Encycl. **4**: 727. 1798. Guadeloupe.

Tropics and subtropics of both hemispheres.

Inubi; altitude 85 feet; *Burcham* 202, April 12, 1945. 100 yards east of village; well-drained clay soil. Slender perennial, with slightly involute blades and spikelike infloresecence; in pine forest, associated with *Paspalum cartilagineum*, *Imperata cylindrica*, *Miscanthus sinensis*, *Pogonatherum paniceum*, *Cymbopogon tortilis*, *Pinus massoniana*, *Spiranthes sinensis*, and *Vaccinium wrightii*. Rare.

Thuarea involuta (G. Forst.) Roem. & Schult. Syst. Veg. **2**: 808. 1817. (See p. 427.)

Motobu Peninsula; sea level; *Burcham* 229, July 12, 1945. One mile north of Nakasoni, 1,000 yards east of Oi-Kawa River; sandy beach, just above high water. Associated with *Lepturus repens*, *Sporobolus virginicus*, *Zoysia tenuifolia*, *Digitaria henryi*, and *Ischaemum murinum*. Occasional to rare, in vicinity of the seashore.

Imperata cylindrica (L.) Beauv. Ess. Agrost. 8, 165, 166, 177. *pl. 5. f. 1.* 1812.

Lagurus cylindricus L. Syst. Nat. ed. 10. **2**: 878. 1759. [Southern France.]

Tropics and subtropics of Eastern Hemisphere.

Inubi; altitude 75 feet; *Burcham* 200, April 12, 1945. 100 yards east of village; well-drained clay loam with some coral outcrops. Perennial, with rhizomes; leaves mostly basal, erect; flowering culms erect, to about 20 inches tall. Associated with *Paspalum cartilagineum*,

Miscanthus sinensis, *Pogonatherum paniceum*, *Cymbopogon* sp., *Pinus massoniana*, *Spiranthes sinensis*, and *Vaccinium wrightii*. Occasional to common in understory of pine type; common to abundant in fields and waste places.

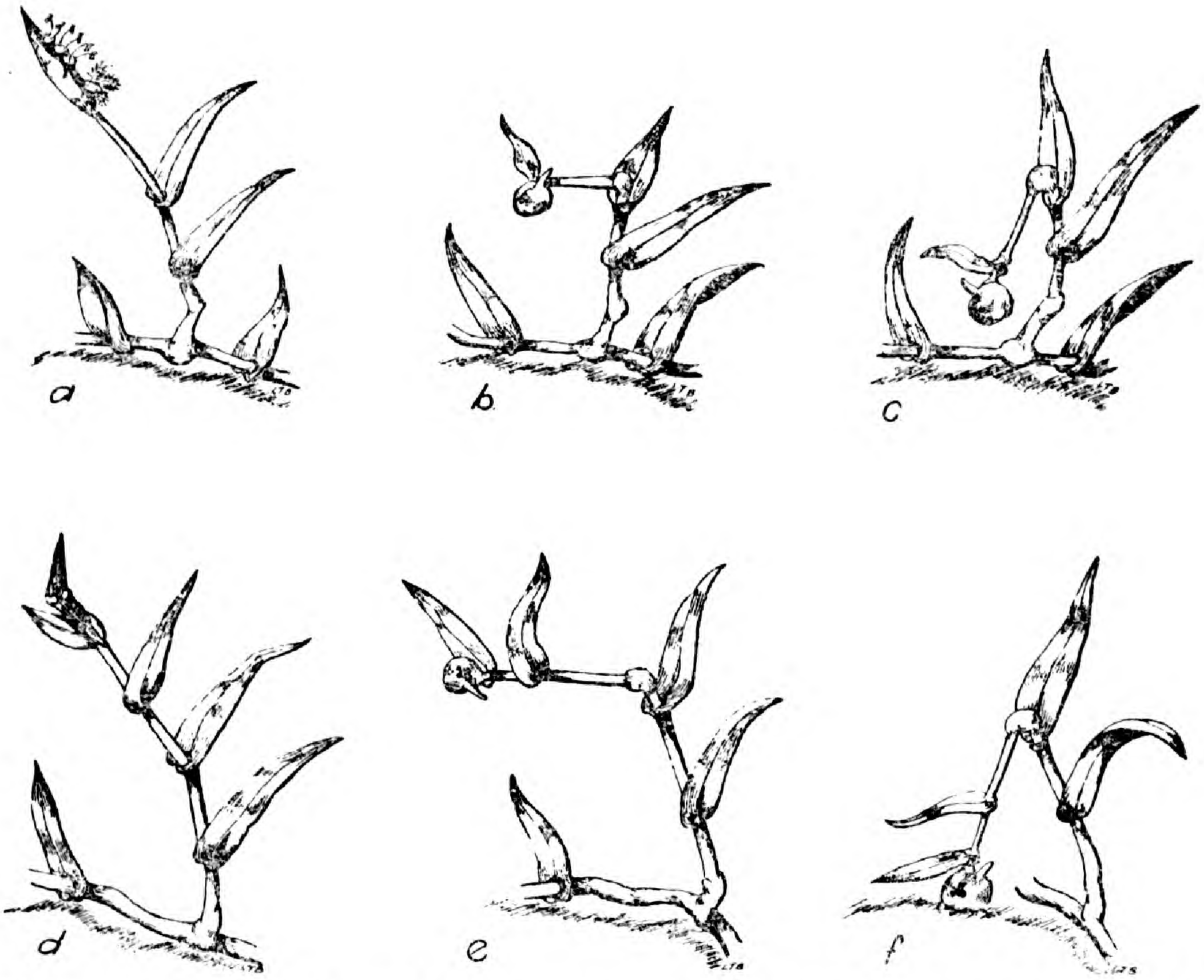

FIGURE 4.—Fruiting habits of *Thuarea involuta*. *a*, Typical inflorescence, about time of fertilization. *b*, Seed in "milk" stage, first and second joints bent about 90°, pushing seed down among leaves. *c*, Mature seed, second joint below seed bent nearly 180°, thrusting seed down into litter at base of plant. *d*, Inflorescence shortly after fertilization; bract beginning to fold over, enclosing seed. *e*, Seed in "milk" stage, second joint below seed bent about 90°, pushing it down among the leaves. *f*, Mature seed. Second joint below seed bent nearly 180°, seed thereby resting on ground surface near base of plant. × ¾.

Miscanthus sinensis Anderss. Öfv. Svensk. Vet. Akad. Förh. **12:** 166. 1856. China.

Eastern Asia; introduced in eastern United States.

Inubi; altitude 75 feet; *Burcham* 198, April 12, 1945. Same soil and associates as preceding species. Robust perennial, in large clumps; numerous leaves mostly basal; flowering culms erect, 4 to 6 feet tall. Common to abundant along streams, margins of fields, and rocky outcrops. Panicles are persistent on the plant after seed has been cast; local inhabitants gather these with a portion of the long culm attached and bind them into small brooms, which are used extensively.

Microstegium vimineum (Trin.) A. Camus, Ann. Soc. Linn. Lyon **68:** 201. 1921.
Andropogon vimineus Trin. Mém. Acad. St. Pétersb. VI. Math. Phys. Nat. **2:** 268. 1832. Nepal, India.
Microstegium willdenowianum Nees, in Lindl. Nat. Syst. Bot. 447. 1836. Nepal, India.
Pollinia imberbis Nees var. *willdenowiana* Hack. in DC. Monogr. Phan. **6**:178. 1889.
Eulalia viminea Kuntze, Rev. Gen. Pl. **2:** 775. 1891.
Pollinia viminea Merr. Enum. Philipp. Pl. **1:** 35. 1922.

India to China, Japan, and Philippines; sparingly introduced in eastern United States.

Motobu Peninsula; altitude 35 feet; *Burcham* 236, July 14, 1945. One mile north of Nakasoni, 1,000 yards east of Oi-Kawa River; coral outcrop along face of cliffs. Spreading perennial, with very slender branching clums, rooting at nodes; inflorescence of ascending racemes (inflorescence abnormal in this specimen, probably diseased). Occasional, in part shade.

Spodiopogon kawakamaii Hayata, Bot. Mag. (Tokyo) **21:** 54. 1907. (Ex description.) Formosa.

Formosa, Okinawa.

Motobu Peninsula; altitude 25 feet; *Burcham* 232, July 14, 1945. East bank of Oi-Kawa River, 1,000 yards north of Nakasoni. Tall perennial, with coarse, broad blades, mostly basal; flowering culm erect, panicle nodding. A single small clump, growing in a handful of decaying vegetable matter, mostly pine needles, on the bare top of a concrete burial vault. Obviously introduced.

Pogonatherum paniceum (Lam.) Hack. Allg. Bot. Zeitschr. **12:** 178. 1906.
Saccharum paniceum Lam. Encycl. **1:** 595. 1785; Tabl. Encycl. **1:** 155. *pl. 40. f. 3.* 1791. East Indies.
Pogonatherum saccharoideum Beauv. Ess. Agrost. 176. *pl. 11. f. 7.* 1812.

India to Japan, Philippines, New Guinea, Australia.

Inubi; altitude 90 feet; *Burcham* 207, April 12, 1945. 400 yards east of village; well-drained clay soil along intermittent stream. Low perennial, forming small, tight clumps; understory of pine type. Associated with *Paspalum cartilagineum*, *Imperata cylindrica*, *Miscanthus sinensis*, *Cymbopogon* sp., *Pinus massoniana*, *Spiranthes sinensis*, and *Vaccinium wrightii*. Locally common to abundant.

Apluda mutica L. Sp. Pl. 82. 1753. (See p. 413.)

Naha-Yonabaru highway; altitude 25 feet; *Burcham* 224, July 9, 1945. South of highway, 600 yards east of Kokuba; well-drained clay soil along stream. Associated here with *Pogonatherum paniceum* and *Andropogon micranthus*; observed occasionally.

Ischaemum crassipes (Steud.) Thell. var. **aristatum** Nakai, Bot. Mag. Tokyo **37:** 121. 1923 (in Japanese); Nakai in Honda, *op. cit.* **38:** 53. 1924. Korea.

Korea, Japan, Formosa, Ryukyu Islands.

Inubi; altitude 60 feet; *Burcham* 210, April 18, 1945. 100 yards east of village; moist clay soil. Perennial, with short rhizomes, forming open clumps; associated with *Sporobolus elongatus*, *Digitaria violascens*, *Paspalum cartilagineum*, *Panicum repens*, and *Sacciolepis indica*. Occasional, in turf of rice paddy terraces.

Ischaemum murinum G. Forst. Fl. Ins. Austr. Prod. 73. 1786. Tana, New Hebrides.

Tana; Samoa.

This specimen differs from description of the type in having nodes that are entirely glabrous. The species is but little known, from widely separated localities.

Motobu Peninsula; sea level; *Burcham* 235, July 14, 1945. One mile north of Nakasoni, 1,000 yards east of Oi-Kawa River; coral outcrops along the beach. Low, tufted perennial with stoloniferous tendency; inflorescence an erect, digitate spike disintegrating at maturity; here with *Lepturus repens*, *Sporobolus virginicus*, *Zoysia tenuifolia*, *Digitaria henryi*, and *Thuarea involuta*. Common here; only locality observed.

Rottboellia exaltata L. f. Nov. Gram. Gen. 40. *pl. 1*. 1779. India.

India to China, East Indies, Philippines, and New Guinea; Africa; sparingly introduced in American tropics.

Naha-Yonabaru highway; altitude 50 feet; *Burcham* 217, June 10, 1945. 1,000 yards east of Kokuba, 300 yards south of highway; well-drained clay soil. Coarse, erect annual, in small open clumps; here a volunteer in a field of sweet potatoes. Occasional.

Arthraxon hispidus (Thunb.) Makino var. **cryptatherus** (Hack.) Honda, Bot. Mag. Tokyo **39:** 277. 1925.

Arthraxon ciliaris subsp. *langsdorfii* var. *cryptatherus* Hack. in DC. Monogr. Phan. **6:** 355. 1889. Japan.

India to Japan; sparingly introduced in eastern United States.

Motobu Peninsula; altitude 65 feet; *Burcham* 237, July 15, 1945. One mile north of Nakasoni, 1,000 yards east of Oi-Kawa River; coral outcrops along face of cliff. Semiprostrate annual, rooting at nodes, with short, broad blades, and digitate inflorescence. Occasional here; also observed as volunteer in fallow fields.

Andropogon micranthus Kunth, Rév. Gram. **1:** 165. 1829. (See p. 421.)

Naha-Yonabaru highway; altitude 25 feet; *Burcham* 216, June 9, 1945. 1,000 yards east of Kokuba; well-drained clay soil along stream banks. In small tussocks; with other grasses and a small bamboo. Occasional, along streams.

Cymbopogon tortilis (Presl) A. Camus, Rev. Bot. Appl. Agr. Colon. **5:** 206. 1925.

Anthistiria tortilis Presl, Rel. Haenk. **1: 347.** 1830. Luzon, Philippines.

Andropogon hamatulus Nees, in Hook. & Arn. Bot. Beechey Voy. 244. 1838. Macao, China.

Cymbopogon hamatulus A. Camus, Rev. Bot. Appl. Agr. Colon. **1**: 284. 1921.

Indo-China to Japan, Formosa, and Philippines.

Inubi; altitude 75 feet; *Burcham* 201, April 12, 1945. 100 yards east of village; well-drained clay soil with some coral outcrops. Tufted perennial, flowering culms erect, to 20 inches tall (specimen from plants of previous season, no spikelets left). Associated with *Paspalum cartilagineum*, *Imperata cylindrica*, *Miscanthus sinensis*, *Pogonatherum paniceum*, *Pinus massoniana*, *Spiranthes sinensis*, and *Vaccinium wrightii*. Most abundant grass in the pine understory.

Rhaphis aciculata (Retz.) Desv. Opusc. 69. 1831. (See p. 414.)

Hanja; altitude 250 feet; *Burcham* 220, June 26, 1945. Northeast outskirts of village; well-drained clay soil, along a cart road; associated with *Cynodon dactylon*, *Isachne globosa*, and *Echinochloa hispidula*. Rare; only locality observed on the island.

The species enumerated above comprise all the grasses observed on Okinawa, with exception of *Dactyloctenium aegyptium* (L.) Beauv., observed on Motobu Peninsula while enroute to the airport for departure from the island, and of bamboos in cultivation about the houses. They are not, however, presumed to be a complete representation of the grass flora of the island, as much of its area was not visited.

For the most part these are grasses widely distributed throughout the world; in turn, they were widely distributed about the island, with minor exceptions. There is a conspicuous number of northern species on the island. Doubtless the strong Asiatic and Japanese floristic elements are in part accounted for by the long history of colonization by Chinese and Japanese.

The greatest number of species was collected from the understory of the pine forest. This is to be expected, since these probably have been disturbed less than other areas, hence they retain a greater number of native plants, plus introduced species which have certainly invaded the forests to some extent. The pine type collection was made on the west slope of the ridge east of Inubi, about 1 mile inland from the east coast of the island. This ridge runs from northwest to southeast, varying from 60 to 150 feet in elevation; the soil is well-drained clay loam, weathered from coral and basaltic rocks—outcrops of coral are frequent and of basalt occasional. The dominant species is *Pinus massoniana* Lam., which on this area averages about 40 feet in height, varies from seedlings to some 20 inches in DBH,[3] and forms an open stand in which the crowns of the trees do not quite make a closed canopy. The understory, of ferns, grasses, broadleaf herbs,

[3] DBH—Diameter at breast height, 4.5 feet above the average ground level.

and low shrubs in about that order of abundance, is quite open, and 2 to 3 feet high, except for some taller shrubs. Of eight grasses collected in this type, *Cymbopogon tortilis* was most abundant; *Miscanthus sinensis* was common to locally abundant; *Pogonatherum paniceum* was locally abundant along drainage lines. *Imperata cylindrica* was common in forest margins, having apparently invaded from adjacent fields and coral outcrops. *Setaria geniculata*, *Digitaria violascens*, and *Sacciolepis indica* were rare in this type, the last two being encountered only once and on recently exposed mineral soil.

Terraces between the small fields serve a dual function—preventing erosion and providing paths for traveling. They are narrow earth embankments, in many cases but little wider than a human foot, grown over with grasses which form a protective sod that is never broken and giving every evidence of careful tending. The grasses on these terraces are thus in a state of semicultivation, serving a very definite purpose in the economy of these people. In rice paddies and similar very moist fields the species occurring on terraces were mainly *Sporobolus elongatus*, *Digitaria violascens*, *Paspalum cartilagineum*, and *Panicum repens*. In well-drained or dry fields the terrace grasses were *Sporobolus elongatus*, *Zoysia matrella* (very limitedly), *Paspalum cartilagineum*, and *Imperata cylindrica*.

The forested areas and terraces about the fields provide the majority of grazing for domestic livestock—mainly goats and a few horses and cows. Goats were tethered along terraces and permitted to feed while the fields were being worked; apparently they were also allowed to roam at large in woodlands during the day, with the smaller children serving as herders. Horses and cows were kept confined for the most part, but occasionally pastured in woodlands and on the uncultivated coral outcrops.

Seven grasses were collected from coral outcrops and sandy beaches along a short stretch of seacoast on the Motobu Peninsula. The most common was *Ischaemum murinum*, a relatively little-known species. Others were *Lepturus repens*, *Sporobolus virginicus*, *Zoysia tenuifolia*, *Digitaria henryi*, *Paspalum vaginatum*, and *Thuarea involuta;* these are widespread grasses typical of seacoasts and beach areas throughout the tropics, and of occasional occurrence in this locality.

When collecting specimens of *Thuarea involuta* on Pavuvu Island I noted that the inflorescence was erect when in bloom and that mature seeds were always on reflexed culms among the herbage, near the surface of the soil. The fruiting habits of this grass have been discussed at some length elsewhere, with chief emphasis on the distribution of its seeds by sea currents.[4] Obviously the interesting habit of "self-planting" the seeds would be equally important in

[4] Nieuwenhuis-Uexküll, Margarete, Die Schwimmvorrichtung der Früchte von *Thuarea sarmentosa* Pers. Ann. Jard. Bot. Buitenzorg *18:* 114–123. *pls. 14, 15.* 1902.

maintaining it, once it has become established on a favorable site. While I was on Okinawa, I studied the grass in the field as fully as its limited occurrence there would permit. I observed that after fertilization of the flower the bractlike rachis bearing the pistillate spikelet at its base folds over and forms a corky protective covering enclosing the seed. In addition, the fertile branch exhibits a strong positive geotropism, recurving at one or more nodes immediately below the seed in such a manner that when mature the seed is among the dead herbage and duff at the base of the plant, and at or very near the surface of the soil. The drawings in figure 4, from sketches made on the spot, illustrate this habit. Apparently the seed does not begin to germinate until the corky covering has disintegrated to a considerable extent, and this is hastened by its being planted among the decaying vegetable matter. Since the seeds are not readily detached from this plant they are thus provided with the optimum conditions of moisture and soil available on that site, thereby assuring the perpetuation of the grass in a locality which has proved favorable to it.

NEW CALEDONIA

Although only two specimens were collected on New Caledonia, they are included because these species, from this island, were not previously represented in the United States National Herbarium.

Stenotaphrum secundatum (Walt.) Kuntze, Rev. Gen. Pl. **2:** 794. 1891.

Ischaemum secundatum Walt. Fl. Carol. 249. 1788. South Carolina.
Stenotaphrum americanum Schrank, Pl. Rar. Hort. Monac. *pl.* ***98.*** 1822.

Tropics and subtropics of America; sparingly introduced in Hawaii, Austral and Society Islands, Polynesia, and Australia.

Noumea; altitude about 25 feet; *Burcham* 67a, November 26, 1942. Stoloniferous perennial; flowering culms erect with spikelets embedded in one side of the corky, flattened rachis. Observed occasionally, near buildings and in waste places in the city.

Bothriochloa decipiens (Hack.) C. E. Hubb. Kew Bull. Misc. Inf. **1934:** 444. 1934.

Andropogon pertusus Willd. var. *decipiens* Hack. in DC. Monogr. Phan. **6:** 483. 1889. Queensland, Australia.
Andropogon decipiens Domin. Biblioth. Bot. **20** (85): 266. 1915.

Queensland and New South Wales, Australia; introduced (?) in New Caledonia.

Camp Goettge (2½ miles south of Noumea); altitude 5 feet; *Burcham* 67, November 26, 1942. Grassland, 100 yards inland from seashore; growing on west slope, in adobe clay soil underlain with coral. Low, creeping perennial; flowering culms erect, inflorescence one to several digitate spikelike racemes. Associated with other grasses and a few trailing herbs. Locally abundant, and closely grazed by cattle.

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FROM THE
UNITED STATES NATIONAL HERBARIUM

VOLUME 30, PART 3

ADDITIONAL PHANEROGAMS IN THE FLORA OF GUAM, WITH NOTES ON UNVERIFIED RECORDS

By EGBERT H. WALKER and ROBERT RODIN

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ADDITIONAL PHANEROGAMS IN THE FLORA OF GUAM, WITH NOTES ON UNVERIFIED RECORDS

By Egbert H. Walker and Robert Rodin

INTRODUCTION

The principal additions to the flora of Guam here recorded are based on collections made by members of the United States armed forces stationed there during World War II. The first set of all the servicemen's specimens here cited is deposited in the United States National Herbarium, except those collected by the junior author, of which the first set is in the herbarium of the University of California. Duplicate sets have been distributed to various institutions. A few records based on other than servicemen's collections are added here for the sake of completeness. The pteridophytes from the servicemen's collections are fully treated by W. H. Wagner and D. F. Grether (*11*).

No complete collection of the plants of Guam has ever been made, although many botanists from Thaddeus Haenke and Luis Née in 1792 to the present day have collected there. These collections are deposited in widely scattered herbaria, but probably the U. S. National Herbarium has about as good a representation of this island's flora as exists today in one place. This is largely due to the wisdom and foresight of Dr. E. D. Merrill, who, as director of the Bureau of Science in Manila, sent here duplicate sets of the Guam specimens which were received by him for determination from various collectors in the early part of the century. The earlier collections made before about 1900, however, are not represented here.

Every collection made in Guam has added records of additional species. W. E. Safford in his monumental work "The Useful Plants of the Island of Guam," published in 1905 (*10*), brought together his extensive and intensive economic and botanical knowledge of the island's plants and the previous records of species collected there. In 1914, E. D. Merrill published "An Enumeration of the Plants of Guam" (*6*), bringing the records together in a systematic manner and citing the specimens upon which they are based, most of which he had determined in Manila. He included all published records and commented on their basis and validity. This enumeration, along with his list of additions published in 1919 (*7*), has provided the most complete knowledge of the species occurring there. Safford's work has provided information concerning the plants themselves.

In 1933, the Japanese botanist Prof. R. Kanehira issued in Japanese an illustrated "Flora Micronesica" (*4*), and in 1935 there appeared in English his "An Enumeration of Micronesian Plants" (*5*). Both contain references to Guam, but careful examination reveals that these are based largely, if not exclusively, on Merrill's enumeration. They furnish some adjustments of nomenclature and suggest that many species, recorded as occurring in the formerly Japanese mandated islands, may occur also in Guam, at least in the as yet botanically unexplored parts of the islands.

E. H. Bryan, of the Bernice P. Bishop Museum in Honolulu, instituted in 1936 a continued series in the Guam Recorder (*2*) on the plants of this island intended for local use and inspiration. It was based on his observations and collections there. The war interrupted this series after consideration of the Icacinaceae. Additional references to the literature on Guam plants may be found in the recent Pacific botanical bibliography by E. D. Merrill (*8*) and the index to it by E. H. Walker in the same issue of the Contributions from the United States National Herbarium (*12*).

Among the servicemen stationed in Guam after its recapture were a few professional and amateur botanists. One or two were officially detailed to collect plant specimens in connection with military developments and sanitary control work, but most of them collected in order to while away idle hours, to satisfy a burning curiosity, to accumulate material in connection with hoped-for future academic studies, or to supply institutions back home that wanted such collections. So extensive did biological collecting become on Guam that there was organized a Guam Natural History Society, which held a number of meetings. With this stimulus, enthusiasts sometimes collected in groups. These joint enterprises are reflected in the occurrence in this paper of citations of the same species collected by different men on the same day and in the same locality. As a result of the senior author's encouragement and assistance to some of these and other servicemen collectors,[1] the U. S. National Herbarium under the Smithsonian Institution received several collections of plant specimens from Guam for determination and deposit. These form the foundation for the present paper.

The junior author was stationed on Guam during 1944 and 1945 and made over 300 collections with the expectation of using them in postwar academic studies. The additions to the known flora of Guam represented in his collection are included in this list rather than published separately, in order to consolidate the material needed by future botanists.

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[1] For an account of this work see E. H. Walker, Biological collecting during World War II. Scientific Monthly **63**: 333–340. 1946.

In 1946 Dr. F. R. Fosberg, frequently accompanied by E. Y. Hosaka of Hawaii, collected extensively throughout the Micronesian islands in which the United States has recently acquired new responsibilities. His collection is the largest so far made in that area and was deposited in the Smithsonian Institution by the U. S. Commercial Company, which employed Dr. Fosberg as botanist along with other scientists in their extensive survey of the resources of these islands. This survey was made preparatory to the formulation of a wise plan for the development and utilization of these resources. This collection contains much material from Guam, but it has not as yet been fully identified and is not included in this report.

When Merrill prepared his "Enumeration of the Plants of Guam," he was in Manila and unable to substantiate all the records included by Safford in his "Useful Plants of the Island of Guam." Some of Safford's records are based on his collections or those of other current collectors, others apparently on his own notes and observations, and still others on the published reports of the earlier explorers of the Pacific, which he had carefully combed for references to Guam plants. Many of these reports had not been verified at the time of Merrill's work in 1914 by additional collections, or else they were based on wrong determinations or erroneous locality data. Most of these earlier collections are deposited in European herbaria. Some of these early records have been verified since Merrill's work by having been re-collected, and the species concerned are now represented in American herbaria. Others still remain unverified, at least so far as specimens and records were available for examination by the present authors after a reasonable search. The lack of scientific material of the cultivated plants of Guam, which comprise the majority of these unverified species, is due to the assumption by collectors that garden plants are thoroughly known and need not be collected. This omission has been decried by the well-known horticulturist L. H. Bailey in his Gentes Herbarum **2**: 159–163. 1930.

The species reported to occur in Guam without any known material to substantiate the report are:

Ruppia maritima L. (Potamogetonaceae)
Cymbopogon citratus (DC.) Stapf (Gramineae)
Eragrostis pilosa (L). Beauv. (Gramineae)
Arenga gamuto (Houtt.) Merr. (Palmae)
Ananas comosus (L.) Merr. (Bromeliaceae), pineapple
Cyanotis cristata (L.) D. Don (Commelinaceae)
Allium cepa L. (Liliaceae), onion
Allium sativum L. (Liliaceae), garlic
Sansevieria roxburghiana Schultes (Liliaceae)
Listed by Merrill as *S. zeylanica* (L.) Willd.
Polianthes tuberosus L. (Amaryllidaceae)
Zephyranthes rosea (Spreng.) Lindl. (Amaryllidaceae)

Musa cavendishii Lamb. (Musaceae)
Musa paradisiaca L. (Musaceae)
Musa textilis Nees (Musaceae)
Zingiber officinale Rosc. (Zingiberaceae)
Aristolochia elegans Mast. (Aristolochiaceae)
Canavalia ensiformis (L.) DC. (Leguminosae), sword bean
Cassia mimosoides L. (Leguminosae)
Indigofera tinctoria L. (Leguminosae)
Mucuna pruriens (L.) DC. (Leguminosae), cowhage; cowitch
Tribulus cistoides L. (Zygophyllaceae)
Canarium indicum Stickm. (Burseraceae)
Probably this is wrongly identified. Merrill suggests it may be *C. ovatum* Engl. The native name is *brea blanca.*
Cardiospermum halicacabum L. (Sapindaceae)
Grewia multiflora Juss. (Tiliaceae)
Probably a misidentification by Safford (cf. Merrill, *6*, p. 110).
Triumfetta tomentosa Boj. (Tiliaceae)
Eugenia malaccensis L. (Myrtaceae)
Merrill suggests this is a misdetermination of *E. javanica* Lam.
Polyscias scutellaria (Burm. f.) Fosb. (Araliaceae)
Listed by Merrill as *Nothopanax cochleatum* (Lam.) Miq.
Polyscias fruticosa (L.) Forst. (Araliaceae)
Listed by Merrill as *Nothopanax fruticosum* (L.) Merr.
Foeniculum vulgare Gaertn. (Umbelliferae)
Jasminum sambac (L.) Ait. (Oleaceae)
Operculina peltata (L.) Hallier f. (Convolvulaceae)
Heliotropium curassavicum L. (Boraginaceae)
Mentha arvensis L. (Labiatae)
Capsicum annuum L. (varieties) Solanaceae)
Sesamum orientale L. (Pedaliaceae)
Mussaenda frondosa L. (Rubiaceae)

ADDITIONS, CORRECTIONS, AND NOW VERIFIED SPECIES

GRAMINEAE

FESTUCEAE

Arundo donax L. Sp. Pl. 81. 1753.

First described from Spain.

Collected in an inland slough near Pago Bay, *D. H. Johnson* D–38, August 27, 1945.

Eragrostis amabilis (L.) Wight & Arn. in Nees in Hook. & Arn. Bot. Beechey Voy. 251. 1838.
Poa amabilis L. Sp. Pl. 68. 1753.

First described from India.

A commonly found grass represented by *Knox* 860, October 18, 1945, without locality. *McGregor* 373 and 434 and *Thompson* 10, cited by Merrill as *E. tenella* (L.) Roem. & Schult., may be referred here; also *Safford & Seale* 1074, collected near Agana, May 25, 1900. Bryan (*2* [2–May]: 36. 1937) discusses this grass.

Sporobolus elongatus R. Br. Prodr. Fl. Nov. Holl. 170. 1810.

First described from Australia.

Collected on Pati Point, *Necker* 401, September 19, 1945, and without locality by Knox on October 18, 1945.

Hosokawa [2] lists this species as occurring in Guam, but he cites no specimens.

PANICEAE

Brachiaria subquadripara (Trin.) Hitchc. Lingnan Sci. Journ. 7: 214. 1931.
Panicum subquadriparum Trin. Gram. Pan. 145. 1826.

First described from the Marianas Islands.

Collected in an old field, one-half mile west of Agana Heights, elevation about 300 feet, *Moore* 256, January 24, 1946.

The original description cites collections from the Marianas Islands and the East Indies and mentions collections by Eschholz and Chamisso. Trinius [3] drew his illustration from a Guam specimen. This species is not mentioned by Safford or by Merrill.

Cenchrus brownii Roem. & Schult. Syst. Veg. 2: 258. 1817.
Cenchrus viridis Spreng. Syst. Veg. 1: 301. 1825.

First described from the West Indies.

Represented by *Knox* 854 and 856, collected on October 18, 1945.

Bryan (*2* [3—June]: 20. 1937) notes *Cenchrus viridis* Spreng. as recorded from Guam.

Digitaria gaudichaudii (Kunth) Henr. Med. Rijks Herb. Leiden 61: 18. 1930.
Panicum gaudichaudii Kunth, Rev. Gram. 385. *pl. 106*. 1830, based on *Digitaria stricta* Gaudich., 1826, not Roem. & Schult., 1817.

First described from Rota Island in the Marianas Islands.

Collected in a fresh-water marsh at Inarajan on the east coast, *Moore* 353, March 20, 1946.

Merrill (*6*, p. 54) referred *Safford* 346 to this species, under the name *Panicum gaudichaudii* Kunth, but placed that name as a synonym of *D. stricta* Gaudich., a name that he recognized as untenable. However, because of uncertainties, he did not change the name. Safford's specimen cannot be relocated for verification. Hosokawa [4] lists this as *Syntherisma stricta* (Gaud.) Hosokawa.

Digitaria microbachne (Presl) Henr. Med. Rijks Herb. Leiden 61: 13. 1930.
Panicum microbachne Presl, Rel. Haenk. 1: 298. 1830.

First described without mention of type locality.

Collected near the beach on Facpi Point, *Necker* 411a, September 18, 1945.

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[2] Journ. Soc. Trop. Agr. 7: 320. 1935.
[3] Icon. Pl. 2: *pl. 186*. 1829.
[4] Journ. Soc. Trop. Agr. 7: 315. 1935.

Digitaria pruriens (Fisch.) Buse, in Miquel, Pl. Jungh. 379. 1854.
Panicum pruriens Fisch. ex Trin. Gram. Pan. 77. 1826.

First described from the Hawaiian Islands.

Collected at Lasaga, elevation 200 feet, *J. Guerrero* 4, ex parte, November 8, 1918 (determined by John Reeder).

Digitaria radicosa (Presl) Miquel, Fl. Ind. Bat. 3: 437. 1855.
Panicum radicosum Presl, Rel. Haenk. 1: 297. 1830.

First described from Luzon.

Collected at Lasaga, elevation 195 feet, *J. Guerrero* 4, ex parte, November 8, 1918 (determined by John Reeder).

Isachne pulchella Roth in Roem. & Schult. Syst. Veg. 2: 476. 1817.

First described from the East Indies.

Collected at a spring in Mount Lamlam area, elevation 1,000 feet, *Moore* 227, January 20, 1946.

Paspalum orbiculare Forst. Fl. Ins. Austr. Prodr. 7. 1786.

First described from the Society Islands.

Collected at the edge of a small pot hole one-half mile northeast of Mount Tenjo, elevation 900 feet, *Moore* 303, February 22, 1946.

This species is mentioned by Bryan (*2* [3—June]: 20. 1937) as a roadside weed at Atantano and on the Mount Santa Rosa savanna.

Pennisetum purpureum Schmach. Beskr. Guin. Pl. 64. 1827.

First described from Guinea, West Africa.

Collected in the open on Ritidian Point, *Rodin* 725B, October 21, 1945.

Bryan (*2* [3—June]: 20. 1937) refers to this as an introduction by the Guam Experiment Station.

Pennisetum setosum (Swartz) L. Rich. in Pers. Syn. 1: 72. 1805.
Cenchrus setosus Swartz, Prodr. Veg. Ind. Occ. 26. 1788.

First described from the West Indies.

Collected on Ritidian Point, where it is common, *Rodin* 725A, October 21, 1945.

Bryan (*2* [3—June]: 20. 1937) refers to this as an introduction in 1920 from the United States.

Setaria pallidifusca (Schumach.) Stapf & Hubb. Kew. Bull. 1930: 259. 1930.
Panicum pallide-fuscum Schumach. Beskr. Guin. Pl. 78. 1827.
Setaria flava (Nees) Kunth, misapplied by Merrill, Philippine Journ. Sci. 9. Bot.: 56. 1914.

First described from Guinea, Africa.

Collected in open grassland on Mount Tenjo, elevation 900 feet, *Moore* 320, February 22 1947; near Facpi Point on approach to Mount

Lamlam, elevation 900 feet, *Necker* 408, September 27, 1945; and on open slopes of Mount Tenjo, *Rodin* 543, December 17, 1944. Other collections are *Moore* 378, *McGregor* 383, and Guam Experiment Station 15 and 61, (see Merrill, *6*).

ANDROPOGONEAE

Andropogon caricosus L. Sp. Pl. ed. 2. 1480. 1763.

First described from India.

Collected in an open grassy field 1 mile southeast of the village of Agat, elevation about 45 feet, *Moore* 250, January 27, 1947.

Chrysopogon aciculatus (Retz.) Trin. Fund. Agrost. 188. 1820.
Andropogon aciculatus Retz. Obs. Bot. 5: 22. 1789.
Raphis aciculata Desv. Opusc. 69. 1831.

First described from the East Indies; now widely distributed in the tropics.

Collected on the Ylig-Sigua ridge, a common grass on this savanna, *Rodin* 629, September 23, 1945. Merrill cites *McGregor* 421, *Clemens* s. n. and Guam Experiment Station 212.

This species is listed by Safford (*10*, p. 183) and Merrill (*6*, p. 53) as *Andropogon aciculatus;* however, *Chrysopogon* is currently included in the list of *nomina generica conservanda.*

Polytrias praemorsa (Nees) Hack. in DC. Monogr. Phan. 6: 189. 1889.
Pollinia praemorsa Ness, Journ. Bot. Kew Misc. 2: 98. 1850.

First described from Java.

Collected in an old camp site one-half mile west of Agana, *Moore* 287, February 13, 1946.

CYPERACEAE

Cyperus cyperoides (L.) Kuntze, Rev. Gen. Pl. 3^2: 333. 1898.
Scirpus cyperoides L. Mant. Pl. 2: 181. 1771.

First described from eastern India.

Collected in old fields and grass flats in well-drained areas 1 mile east of Barrigada, *Moore* 13 and 20, November 17, 1945, and 2 miles southwest of Agana, *Moore* 109, September 18, 1945.

Cyperus iria L. Sp. Pl. 45. 1753.

First described from India.

Collected in a slough 1¼ miles north of Agat, *Necker* 68, August 24, 1945.

Cyperus javanicus Houtt. Nat. Hist. II. 13: Aanwyz. Plaat. [1], *pl. 88. f. 1.* 1782.
Cyperus pennatus Lam. Tabl. Encycl. 1: 144. 1791.
Mariscus stuppeus (Forst. f.) Merr. Philippine Journ. Sci. 3. Bot.: 398. 1908; 9. Bot.: 62. 1914.

First described from Java and now occurring throughout Indo-Malayan, Polynesian, and Micronesian regions.

Collected in a slough 1¼ miles north of Agat, *Necker* 65, August 24, 1945, and 300 feet from the shore of Ajayan Bay, *Necker* 174, August 27, 1945; along the seashore, *McGregor* 371.

This species was referred to by Safford (*10*, p. 254) and Bryan (*2* [4—July]: 23. 1937) as *C. pennatus*, and by Merrill (*6*, p. 62) as *Mariscus stuppeus*. For a discussion of the binomial *Cyperus javanicus* Houtt. see Merrill's remarks [5] in 1938.

Eleocharis dulcis (Burm. f.) Trin. ex Henschel, Vita Rumph. 186. 1933.
Cyperus dulcis Rumph. Herb. Amboin. 6: 7, *pl. 3, f. 1.* 1750.

It is not known where the first collection was made, but this species is widely distributed in the Old World Tropics today as a commonly cultivated plant.

In marshes, *McGregor* 469; in highland swamp north of Talofofo River, *Rodin* 689, September 31, 1945.

In Safford's (*10*, p. 267) and Merrill's (*6*, p. 60) works this species is referred to as *Eleocharis plantaginoidea* (Rottb.) W. F. Wight. Svenson recognizes *E. dulcis* (Burm. f.) Trin. as the correct name in his revision of the genus.[6]

Eleocharis geniculata (L.) Roem. & Schult. Syst. Veg. 2: 150. 1817.
Scirpus geniculatus L. Sp. Pl. 48. 1753, p. p.

First described from Jamaica.

This has been collected in fairly moist soil where other vegetation is suppressed on the beach near Piti village, *Moore* 126, November 10, 1945; in an upland swamp between the Ylig and Talofofo Rivers, elevation 270 to 360 feet, *Steere* 65, September 30, 1945; in highland swamp above Talofofo River, *Rodin* 693, September 31, 1945; on Ylig-Sigua ridge in swampy area, *Rodin* 665, September 23, 1945; and near mouth of Ylig River, *Rodin* 766, November 12, 1945. Earlier collections cited by Merrill are *McGregor* 393 and Guam Experiment Station 74 and 102.

Svenson [7] has recently revised the nomenclature of this species, which Safford (*10*, p. 267) and Merrill (*6*, p. 60) listed as *E. capitata* (L.) R. Br.

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[5] Journ Arn. Arb. 19: 321. 1938.
[6] Rhodora 31: 158. 1929.
[7] Rhodora 41: 51. 1939.

Fimbristylis cymosa R. Br. Prodr. Fl. Nov. Holl. 228. 1810.

First described from the vicinity of the Endeavour River, Australia, now found throughout Polynesia.

Collected near the cliff on Pati Point, elevation about 480 feet, *Markley & Necker* 359, September 25, 1945, and on the beach east of Barrigada, *Steere* 133, 138, and 142. These may represent a variety of this species.

Fimbristylis cymosa R. Br. var. umbellato-capitata (Mann.) Hillebr. Fl. Hawaiian Is. 473. 1888, vel aff.

First described from Hawaii.

Collected along the roadside 3 miles northeast of Aganda Heights, elevation about 270 feet, *Moore* 398a, April 4, 1946, and in the Pati Point area, *Necker* 168, 319, and 369, September 1945.

Kükenthal has referred *F. spathacea* Roth. as misapplied by Merrill (*6*, p. 61) to this variety. Bryan (*2* [5—Aug.]: 22. 1937) considered *F. spathacea* Roth. as a synonym of *F. glomerata* (Retz.) Nees.

PALMAE

Heterospathe elata Scheff. Ann. Jard. Bot. Buitenzorg 1: 162. 1876. PLATE 8

First collected in Amboina.

One tree about 25 feet high with fruit, along an old road between Yona village and the Ylig River, *Rodin* 737, October 28, 1945. This is the first material of this palm that can be definitely identified from Guam. Merrill (*6*, p. 64) cites Guam Experiment Station 129 and 345 as probably being this species, but the material was too fragmentary to make a definite identification possible.

COMMELINACEAE

Commelina benghalensis L. Sp. Pl. 41. 1753.

First described from Bengal, India, and now common in the Old World Tropics.

Collected at the edge of a flat coconut grove where underbrush has been removed, 1 mile south of Barrigada, *Moore* 36, November 25, 1945. Merrill included this species in his list on the authority of Safford's statement. It is discussed also by Bryan (*2* [8—Oct.]: 22. 1937).

PHILYDRACEAE

Philydrum lanuginosum Banks, ex Gaertn. Fruct. & Sem. 1: 62. *pl. 16.* 1788.

First described from Australia.

Collected in 4–6 inches of water in an upland swamp between Ylig and Talofofo Rivers (Steere) or Talofofo Basin (Rodin), elevation about 300 feet, *Rodin* 673 and *Steere* 67, both on September 30, 1945.

AMARYLLIDACEAE

Curculigo orchioides Gaertn. Fruct. & Sem. 1: 63. *pl. 13.* 1788.

First described from Australia, now found in India and Malaysia.

Collected in open exposed grasslands on hilltop, Mount Tenjo, elevation 750 to 900 feet, *Moore* 213, January 5, 1946, *Necker* 81, August 10, 1945; east of Agat, *Necker* 121, August 28, 1945; Facpi Point on approach to Mount Lamlam, elevation about 300 feet, *Necker* 383, September 27, 1945; and on red volcanic soil on a hillside, elevation about 360 feet, *Steere* 31, September 23, 1945. Merrill included this in his enumeration, assuming that Safford's reference to *Hypoxis aurea* Lour. indicated this species. *Safford & Seale* 1097 in the U. S. National Herbarium, from savanna on Mount Macajna, near Agana, collected June 4, 1900, with Safford's determination as *Hypoxis aurea*, clearly represents this species. Bryan (*2* [10—Jan.]: 14. 1938) refers to this as growing "commonly in clearings of sword-grass [*Miscanthus floridulus*] on the savannas, such as south of Agana."

ORCHIDACEAE

Dendrobium philippinense Ames, Philippine Journ. Sci. 8. Bot.: 424. 1913.

First described from Leyte, Philippine Islands.

Collected on breadfruit trees [*Artocarpus altilis* (Parkins.) Fosb.] 20 feet above the ground, on the east coast 2 miles east of Yigo, *Moore* 271, February 3, 1946. This specimen was determined by C. Schweinfurth, who designated it a new record outside of the Philippine Islands, with the flowers larger than usual.

Nervilia aragoana Gaudich. Bot. Freyc. Voy. 422. *pl. 35.* 1826.

Safford (*10*, p. 331) describes this species rather extensively, and Merrill (*6*, p. 70) refers only to the type collected by Gaudichaud. Several collectors of the United States armed forces collected apparent representatives of this species. *Moore* 389 is a fruiting specimen without leaves from the "ground in dense moist rich woods, one-half mile south of Mount Santa Rosa, March 24, 1946." *Rodin* 636 and *Steere* 34 each consists of a tuberous root with a single erect leaf, collected on a moist stream bank in dense shade in Ylig Valley at 200 feet elevation on September 23, 1945; *Rodin* 666 is a similar specimen, collected in Sigua River canyon the same day. All these specimens have been examined by C. Schweinfurth. A leafless specimen, *Moore* 389, was originally determined by Mr. Schweinfurth as "*Didymoplexis* sp.?"; the sterile specimens as *Nervilia* sp. He has subsequently concurred in the senior author's surmise that these represent different stages in the life cycle of the same species. Apparently the

fruiting stems wither before the leaves mature, so that the association of flowering and leaf-bearing material through erratic field collecting is unlikely to occur.

Phreatia samoensis (Kränzl.) Schlechter, Repert. Sp. Nov. Fedde **3**: 320. 1907.
Thelasis samoensis Kränzl. Bot. Jahrb. Engler **25**: 607. 1898.

First described from Upolu, Samoan Islands.

Found on a breadfruit tree on Mount Lamlam, elevation 900 feet, *Moore* 262, January 20, 1946, determined by C. Schweinfurth.

ULMACEAE

Trema orientalis var. **viridis** Lauterb. Bot. Jahrb. Engler **50**: 321. 1913.

First described from Malaysia and the Philippine Islands.

A shrub collected at the edge of a woods 1 mile east of Mount Tenjo, *Moore* 299, February 22, 1946. This determination is based on Hosokawa's treatment [8] of 1935.

URTICACEAE

Pilea microphylla (L.) Liebm. Vidensk. Selsk. Skr. V. **2**: 302. 1851.
Parietaria microphylla L. Syst. ed. 10. **2**: 1308. 1759.

First described from Jamaica, now found in most tropical countries.

Collected on rock ledges and cliffs, Mount Tenjo, elevation 900 feet, *Moore* 221, January 5, 1946; Ritidian Point, *Necker* 372, October 8, 1945, and *Rodin* 727, October 21, 1945; and in dense shade along a path to the beach east of Barrigada, *Steere* 137, October 27, 1945. Bryan (*2* [10—Jan.]: 47. 1939) mentions this as a "native of tropical America, now introduced into various tropical countries, both cultivated and escaped to moist walls and similar places."

PAPAVERACEAE

Argemone mexicana L. Sp. Pl. 508. 1753.

First described from Mexico, Jamaica, and the Caribbean, and now found in the Tropics in cultivation and escaped from cultivation.

Collected along the roadside one-fourth mile east of Agana, *Moore* 215, February 15, 1946.

LEGUMINOSAE

Alysicarpus vaginalis (L.) DC. Prodr. **2**: 353. 1825.
Hedysarum vaginale L. Sp. Pl. 746. 1753.

First described from India and now widely distributed in Asia and Malaysia.

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[8] Trans. Nat. Hist. Soc. Formosa **25**: 242. 1935.

A suberect plant 4 feet high, in an old field near Piti village, *Moore* 179, November 10, 1945.

Caesalpinia crista L. Sp. Pl. 380. 1753.

First collected in Ceylon.

A climbing vine in a forest on the southern tributary of the Talofofo River, *Rodin* 681, September 31, 1945. Neither Safford nor Merrill cited specimens, although both included the species (*10*, p. 288, *pl. 51*; *6*, p. 88).

Erythrina variegata var. **orientalis** (L.) Merr. Interpret. Herb. Amb. 276. 1917.
Erythrina corallodendron var. *orientalis* L. Sp. Pl. 706. 1753.
Erythrina indica Lam. Encycl. 2: 391. 1785.

First described from India and now found widely in cultivation in the tropics and especially along seashores.

A medium sized tree with red flowers collected at edge of woods at Asan, *Moore* 246, January 22, 1946. Described by Bryan (*2* [3–June]: 110. 1940). Safford (*10*, p. 269) and Merrill (*6*, p. 92) listed this species as *E. indica* Lam.

Moghania strobilifera (L.) J. St. Hil. ex Jacks. Ind. Kew. 2: 252. 1894.
Hedysarum strobiliferum L. Sp. Pl. 746. 1753.
Flemingia strobilifera (L.) R. Br. in Ait. f. Hort. Kew. ed. 2. 4: 350. 1812.

First described from India and now found widespread in Asia and Malaysia and introduced into Mauritius and the West Indies.

A common low shrub, 2 to 3 feet high, in open sunny glade on bank of Agana River 2 miles southeast of Agana, *Wagner & Conover* 567, February 27, 1945; near Yona, *Rodin* 567, February 13, 1945. Bryan (*2* [1–Apr.]: 23. 1940) refers to this as "noticed principally near Agana Spring."

Mimosa pudica L. Sp. Pl. 518. 1753.

First described from Brazil and now found as a weed in practically all warm countries.

Collected in an eroded place without accompanying vegetation near Agana, elevation 300 feet, *Moore* 116, September 6, 1945; about one-fourth mile south of Anigua at same elevation, *Moore* 270, February 2, 1946; and 1¼ miles south of Piti, *Necker* 189, September 8, 1945.

Pongamia pinnata (L.) Merr. Interpret. Herb. Amb. 271. 1917.
Cytisus pinnatus L. Sp. Pl. 741. 1753.

First described from India and now a common plant near seashores around the Indian Ocean, southern Asia, the western Pacific, Polynesia, and Australia.

A medium-sized tree on the edge of woods one-half mile north of Asan, *Moore* 234, January 20, 1946.

Sesbania cannabina (Retz.) Pers. Syn. Pl. 2: 316. 1807.

First described from Malabar.

Collected in moist open fields, in the vicinity of Piti, elevation about 45 feet, *Moore* 63, December 12, 1945.

Vigna marina (Burm.) Merr. Interpret. Herb. Amb. 285. 1917.

Phaseolus marinus Burm. Index Univ. in his Herb. Amb. Auct. [sep. pag. 16]. 1755.

Vigna lutea (Sw.) A. Gray, Bot. U. S. Explor. Exped. 1: 452. 1854.

First described from Amboina, now a widely distributed tropical strand plant.

Collected along a roadside 1 mile southwest of Agat, *Moore* 253, January 27, 1946; along the shore between Inarajan and Merizo, *Necker* 205, September 4, 1945; on Facpi Point, Necker 366, September 27, 1945; beach near mouth of Ylig River, *Rodin* 722, October 20, 1945; 2 miles south of Agat on beach, common, *Rodin* 780, December 2, 1945; on beach east of Barrigada, *Steere* 141, October 27, 1945; also the earlier collections of the Guam Experiment Station 78 and 415. Safford (*10*, p. 397), Merrill (*6*, p. 94), and Bryan (*2* [3—June]: 112. 1940) have listed this species as *V. lutea*.

POLYGALACEAE

Salomonia cantoniensis Lour. Pl. Cochinch. 14. 1790.

First described from Cochin China, now found in southern China and through Malaysia to India and tropical Australia. Reported from Palau and Yap by Hosokawa [9] in 1938.

Collected in marshes at 275 feet elevation, 2 miles east of Mount Tenjo, *Moore* 319, February 22, 1946, and between Ylig and Pago Rivers west of Yona village, *Steere* 26 and 27, September 23, 1945.

EUPHORBIACEAE

Acalypha wilkesiana Muell.-Arg. in DC. Prodr. 15 [2]: 817. 1866, vel. aff.

First described from the Fiji Islands.

Common in several places, apparently an escape from cultivation, collected at Yona village, *Rodin* 735, October 27, 1945.

Aleurites trisperma Blanco. Fl. Filip. 755. 1837.

Originally described from the Philippine Islands.

This is a tree about 15 feet high, apparently an introduction, collected at Northwest Field, *Rodin* 809, December 2, 1945. The material clearly matches specimens from the Philippines.

[9] Trans. Nat. Hist. Soc. Formosa 28: 155. 1938.

Endospermum moluccanum (Teysm. & Binn.) Becc. Malesia **2**: 38. 1884.

First described from Amboina.

A tree collected at Northwest Field, *Rodin* 806, December 2, 1945.

Phyllanthus acidus (L.) Skeels, U. S. Dept. Agr. Bur. Pl. Ind. Bull. **148**: 17. 1909.

Averrhoa acida L. Sp. Pl. 428. 1753.

First described from India.

A medium-sized tree collected on edge of woods 1 mile west of Agana, *Moore* 311, February 21, 1946.

SAPINDACEAE

Tristiropsis obtusangula Radlk. in Engl. Pflanzenreich **98d** (IV. 165): 863. 1932.

PLATE 9

First described from a Gaudichaud collection in the Paris herbarium from the Marianas Islands.

A tree, 40 to 50 feet tall, collected north of Northwest Field, *Rodin* 800, December 2, 1945 (see pl. 9), *Steere* 7, 8, and 119, August 21 and October 22, 1945; 1 mile inland from Ritidian Point, *Markley & Necker* 153, September 13, 1945; in jungle at headwaters of Ylig River, *Rodin* 612, August 12, 1945. Rodin and Steere report the common name as "faia" and the former notes that it is commonly used for lumber on Guam.

This species is described in full with citation of specimens from Rota by Hosokawa.[10]

MALVACEAE

Gossypium barbadense L. Sp. Pl. 693. 1753.

First described from the Barbados Islands and now widely distributed in cultivation.

Collected one-half mile east of Barrigada in fertile soil in an open field, *Moore* 26, November 17, 1945.

Hibiscus schizopetalus (Masters) Hook. f. Bot. Mag. Curtis **106**: *pl. 6524*. 1880.

Hibiscus rosa-sinensis var. *schizopetalus* Masters, Gard. Chron. n. ser. **12**: 272. 1879.

First described from Zanzibar, now a widely cultivated ornamental shrub throughout the warmer parts of the world.

Collected in Talofofo village, elevation 315 feet, *Necker* 195, September 5, 1945.

Malvastrum coromandelinum (L.) Garcke, Bonplandia **5**: 297. 1857.

Malva coromandelinum L. Sp. Pl. 687. 1753.

Collected in an open field, one-half mile west of Agana, *Moore* 2, November 16, 1945.

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[10] Trans. Nat. Hist. Soc. Formosa **25**: 30. 1935.

MYRTACEAE

Eugenia reinwardtiana DC. Prodr. **3**: 267. 1828.
Eugenia costenoblei **Merr.** Philippine Journ. Sci. **9**. Bot.: 123. 1914.

First described from the Moluccas, now found along seashores from the Moluccas to Guam.

Kanehira (*5*, p. 380) first reduced Merrill's species, based on *Costenoble* 1172, to a synonym. Additional collections have been made from a tree 15 feet high, trunk about 6 inches in diameter, at Mogfog in central Guam, elevation 360 feet, *Gressitt & Hurlbut* 2012; from a small tree at the edge of woods, 1 mile west of Agana, *Moore* 307, February 23, 1946; and from a shrub at 90 feet elevation on the side of a solid coral bluff on Ypan Point, *Moore* 357, March 20, 1946.

ONAGRACEAE

Jussiaea suffruticosa L. Sp. Pl. 388. 1753.

First described from India, now widely distributed in the Tropics.

Collected in marshy soil 1 mile east of Piti, elevation about 45 feet, *Moore* 178, November 10, 1945; in the Agana River at Agana, *Necker* 55, September 1, 1945; in a slough 1½ miles north of Agat, *Necker* 60 and 66, August 24, 1945. The Necker specimens have been determined by P. A. Munz.

ARALIACEAE

Polyscias guilfoylei (Cogn. & March.) Bailey, Rhodora 18: 153. 1916.
Aralia guilfoylei Cogn. & March. Pl. Ornem. 2: *pl. 58*. 1874.

First described from the "South Sea."

A plant widely cultivated for its variegated leaves, recorded by Merrill (*6*, p. 126) on the basis of Safford's report (*10*, p. 186). *Safford & Seale* 1102, from Agana, June 26, 1900, in the U. S. National Herbarium, supports this report.

PRIMULACEAE

Lysimachia mauritiana Lam. Encyl. 3: 572. 1789.

A strand plant first described from Reunion Island in the Indian Ocean and now found from Mauritius to Japan, New Caledonia, and Hawaii.

Collected on a beach and rocky coral ledges east of Barrigada, *Steere* 126, October 27, 1945. This confirms Merrill's prediction (*6*, p. 127) that this species would be found on Guam.

OLEACEAE

Jasminum didymum Forst. Fl. Ins. Austr. Prodr. 3. 1786.

First described from the Society Islands.

Collected one mile inland from Uruno Point, *Necker* 235, September 4, 1945.

LOGANIACEAE

Fagraea galilai Gilg & Benedict, Bot. Jahrb. Engler **56**: 555. 1921.

First described from Koror Island in the Palau Island group.

Collected at the edge of a woods on Mount Lamlam, elevation about 800 feet, *Moore* 260, January 20, 1946; also on Rota Island, *Necker* RS 4 and RS 5.

Merrill identified *Glassman* 233, collected also on Mount Lamlam and in the same month, as *F. sair* Gilg & Benedict. Both *F. galilai* and *F. sair* were described at the same time, although with separate type localities. Comparison of the two descriptions reveals insignificant differences. Kanehira (*4*) describes and illustrates these two species. *Moore* 260, here cited as *F. galilai*, closely matches Kanehira's illustration. Merrill has written: "In my opinion too many species have been proposed for the area. When sufficient material is available, more light may be thrown on the subject." Until this time comes it is just as well to recognize two species on Mount Lamlam, but with doubts as to their distinctness. It is possible that these and other species of this region will prove to be only variants of *F. berteriana* A. Gray.

APOCYNACEAE

Plumiera acuminata Ait. f. Hort. Kew ed. 2. **2**: 70. 1811.

First described from the East Indies, now widely planted as an ornamental in warm regions.

Collected at an old house site 2 miles southwest of Agana, *Moore* 322, February 22, 1946.

ASCLEPIADACEAE

Telosma cordata (Burm. f.) Merr. Philippine Journ. Sci. **19**: 372. 1921.
Asclepias cordata Burm. f. Fl. Ind. 72. *pl. 27. f. 2.* 1768.
Telosma odoratissima (Lour.) Coville, Contr. U. S. Nat. Herb. **9**: 384. 1905.

First described from Java.

Merrill (*6*, p. 131) mentioned this species, as *Telosma odoratissima*, but did not cite *Safford* 1118, from cultivation at Agana. It is also

represented from Guam by *Nelson* 45, collected in 1914. Both specimens are in the U. S. National Herbarium.[11]

BORAGINACEAE

Heliotropium anomalum Hook. & Arn. Bot. Beechey Voy. 66. 1841.

First described from the Society Islands.

Collected on the beach east of Barrigada, *Steere* 127, October 27, 1945.

VERBENACEAE

Lippia nodiflora (L.) Rich. in Michx. Fl. Bor. Amer. **2**: 15. 1803.
Verbena nodiflora L. Sp. Pl. 20. 1753.

First described from Virginia and now widely distributed as a pantropic weed.

Collected in a lawn among grasses, one-half mile west of Agana, *Moore* 334, March 15, 1946.

RUBIACEAE

Borreria hispida (L.) Schum. in Engl. & Prantl, Pflanzenfam. **4**[4]: 144. 1891.
Spermacoce hispida L. Sp. Pl. 102. 1753.

First described from Ceylon, now found from India to China, Formosa, the Philippines, and Malaya.

Collected in open place in red clay soil on Mount Tenjo, *Rodin* 527, December 17, 1944. The determination is tentative, pending more critical work on this genus.

Dentella repens J. & G. Forst. Char. Gen. Pl. 26. *pl. 13*. 1776.

First described without locality.

Collected in open fields at Agana, *Moore* 265 and 266, January 29, 1946, and *Seale* s. n., about 1900, in the Bishop Museum, Honolulu. These specimens have been examined by F. R. Fosberg, who cited the Seale specimen in 1940.[12] *Moore* 265 has pilose fruits, but those of No. 266 are glabrous. Since various specimens show both characters on the same plant, this conspicuous feature is not of taxonomic importance.

Hedyotis albido-punctata (Merr.) Fosb. Lloydia **3**: 123. 1940.
Oldenlandia albido-punctata Merr. Philippine Journ. Sci. **9**. Bot.: 147. 1914.

This species, based on *McGregor* 375, collected on Cabras Island on the west coast of Guam in October 1911, has been collected also on the beaches near Yona, *Rodin* 600, July 22, 1945, north of Agana Bay,

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[11] For a critical treatment of the nomenclature of this species see Merrill, A commentary on Loureiro's "Flora Cochinchinensis." Trans. Amer. Phil. Soc. n. ser. 24[2]: 322. 1935.

[12] Notes on Micronesian Rubiaceae. Occas. Papers Bishop Mus. 15: 215. 1940.

Rodin 709, October 7, 1945, and east of Barrigada Village, *Steere* 130a and 143, October 27, 1945.

Hedyotis lacinata Kanehira, Trans. Nat. Hist. Soc. Formosa **25**: 6. 1935.

First described from the Palau Islands.

Collected on Facpi Point on approach to Mount Lamlam, elevation 300 feet, *J. Gregory & Necker* 394, September 27, 1945. Identified by F. R. Fosberg, on the basis of the original description.

Morinda umbellata L. var. **glandulosa** (Merr.) Fosb. Occas. Papers Bishop Mus. **15**: 220. 1940.

Morinda glandulosa Merr. Philippine Journ. Sci. **9**. Bot.: 146. 1914.

First described from Guam, based on Guam Experiment Station 36, in fruit, and 376, the type, in flower. An additional collection is *Moore* 42, a climbing shrub on the edge of woods, 1 mile south of Barrigada, November 25, 1945.

Timonius albus Volkens, Bot. Jahrb. Engler **31**: 475. 1901.

Previously recorded only from Yap.

A shrub collected on open grassland on Mount Tenjo, elevation 825 feet, *Moore* 215, January 5, 1946, and on Facpi Point on approach to Mount Lamlam, elevation 300 feet, *Necker* 390 and 398, September 27, 1945.

CUCURBITACEAE

Citrullus vulgaris Schrad. ex Eckl. & Zeyh. Enum. Pl. Afr. Austr. 279. 1834–37.

First described from Africa.

Collected near the cliff on Pati Point, elevation 480 feet, *Necker* 363, September 25, 1945.

COMPOSITAE

Bidens pilosa L. Sp. Pl. 832. 1753.

First described from America.

Collected in a clearing or on roadside on Haputo Point, *Johnson & Necker* 15, August 21, 1945.

Elephantopus mollis H. B. K. Nov. Gen. & Sp. **4**: 26. 1820.

First described from eastern Venezuela.

Safford & Seale 1091, in the U. S. National Herbarium, undoubtedly represents the basis of Safford's (*10*, p. 268) and Merrill's (*6*, p. 154) inclusion of this species in the Guam flora as *E. scaber* L. This specimen has been redetermined by S. F. Blake as *E. mollis* H. B. K. Since additional recent collections also represent *E. mollis*, the existence of *E. scaber* L. in Guam is in much doubt.

Emilia javanica (Burm.) C. B. Robinson, Philippine Journ. Sci. 3. Bot.: 217. 1908.
Hieracium javanicum Burm. f. Fl. Ind. 174. *pl. 57. f. 1.* 1768.

First described from Java.

Collected in the central portion of the island, in the Agana Bay area, *Moore* 174, November 13, 1945; at Agat, *Necker* 62, August 24, 1945; on Mount Tenjo, *Johnson, Markley & Necker* 75, August 10, 1945, and *Rodin* 522, December 17, 1944; south of Piti, *Necker* 30, August 24, 1945, and 181, September 8, 1945; and on a dry hillside between Ylig and Sigua Valleys, *Steere* 58, September 23, 1945.

These red-flowered specimens have been determined by F. R. Fosberg, who believes the specimens cited by Merrill and Perry (*9*), *Glassman* 265 and 292, as *E. sonchifolia* (L.) DC. are *E. javanica*. He reports that the purple-flowered *E. sonchifolia* does occur in Guam, but is less frequent.

Wedelia biflora (L.) DC. in Wight, Contrib. Bot. Ind. 18. 1834.
Verbesina biflora L. Sp. Pl. ed 2. 1272. 1763.

First described from India.

This species is included in Merrill's enumeration (*6*, p. 154) on the authority of de Candolle's reference to a Haenke specimen from Guam and Safford's reference (*10*, p. 377) to this species under the name "*Stemmodontia biflora* (L.)." It is represented by *Safford* 1034, and also by *Moore* 336, March 17, 1946, from a coconut grove on the beach on the east coast between Togcha and Talofofo Bays.

BIBLIOGRAPHY

(1) Bowker, H. F. Pandanaceae or screwpines of Guam. Guam Record. **16** (8—Nov.) : 324–325, 344–345. *f. 1, 2.* 1939.

(2) Bryan, E. H. The plants of Guam. Guam Record. **13** (8—Nov.) : 22–23, 36–37; **13** (9—Dec.) : 14–16, 28. 1936; **13** (10—Jan.) : 28–29, 40; **13** (11—Feb.) : 14–15; (II) **13** (12—Mar.) : 13, 26. 1937; **14** (1—April) : 26–27; (III) **14** (2—May) : 24–25, 36–38. *2 f.;* **14** (3—June) : 18–21, 38. *1 f.*; (IV) **14** (4—July) : 22–23; **14** (5—Aug.) : 22–23; (V) **14** (6—Sept.) : 22–23, 38; (VI) **14** (7—Oct.) : 20–21, 34; (VII) **14** (8—Nov.) : 22–23; (VIII) 14 (9—Dec.) : 25. 1937; (IX) 14 (10—Jan.) : 14, 42; (X) **14** (11—Feb.) : 14–15. *1 f.;* (XI) **14** (12—Mar.) : 14–15, 1938; (XII) **15** (1—Apr. : 35; (XIII) **15** (3—June) : 16–17; (XIV) **15** (4—July) : 16–17; (XIV) **15** (5—Aug.) : 17–19; (XV) **15** (6—Sept.) : 13–14; (XVI) **15** (7—Oct.) : 18–19; (XVII) **15** (8—Nov.) : 20–21, 39. *1 f.;* (XVII) **15** (9—Dec.) : 22, 39. 1938; (XVIII) **15** (10—Jan.) : 25–26, 47; (XIX) **15** (11—Feb.) : 30–31; (XX) **15** (12—Mar.) : 15–16, 28, 39. 1938; (XXI) **16** (1—Apr.) : 19, 32; (XXII) **16** (2—May) : 67, 84; (XXIII) **16** (3—June) : 110–111, 130–131; (XXIV) **16** (4 July) : 148–151, 168–169; **16** (5—Aug.) : 188–190, 212–214; (XXV) **16** (6—Sept.) : 240–241; (XXVI) **16** (8—Nov.) 330–331, 349–351. 1939; **16** (10—Jan.) : 422–424, 436–437. 1940; **17** (1—Apr.) : 21–23, 41–42; **17** (3—June) : 109–112, 130; (XXVIII) **17** (4—July) : 151–153, 168–169; (XXVII) **17** (6—Sept.) : 236; (XXIX) **17** (8—Nov.) : 333–334. 1940;

(XXX) 17 (10—Jan.): 422–423, 432; 17 (11—Feb.): 467–469; 17 (12—Mar.): 513–514. 1941; (XXXI) 18 (3—June): 116–117. 1941.

(3) GLASSMAN, S. F. A survey of the plants of Guam. Journ. Arn. Arb. 29: 169–185. *pl. 1, 2.* 1948.

(4) KANEHIRA, *R.* Flora Micronesica. 1–3, 1–3, 1–4, 1–468, 1–37. *pl. 1–20. f. 1–211.* 1933.

(5) ——— An enumeration of Micronesian plants. Journ. Dept. Agr. Kyushu Univ. 4: 237–464. 1935.

(6) MERRILL, E. D. An enumeration of the plants of Guam. Philippine Journ. Sci. 9. Bot.: 17–155. 1914.

(7) ——— Additions to the flora of Guam. Philippine Journ. Sci. 15: 539–544. 1919.

(8) ——— A botanical bibliography of the islands of the Pacific. Contr. U. S. Nat. Herb. 30: 1–322. 1947.

(9) MERRILL, E. D., and PERRY, L. M. Some additional records for the Guam flora. Journ. Arn. Arb. 27: 323–325. 1946.

(10) SAFFORD, W. E. The useful plants of the island of Guam. Contr. U. S. Nat. Herb. 9: 1–416. *pl. 1–70.* 1905.

(11) WAGNER, WARREN H., Jr., and GRETHER, DAVID F. Pteridophytes of Guam. Occas. Papers Bishop Mus. 19: 25–99. *f. 1–12.* 1948.

(12) WALKER, E. H. A subject index to Elmer D. Merrill's "A botanical bibliography of the islands of the Pacific." Contr. U. S. Nat. Herb. 30: 323–404. 1947.

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UNITED STATES NATIONAL HERBARIUM

VOLUME 30, PART 4

STUDIES OF PACIFIC ISLAND PLANTS, X
THE MELIACEAE OF FIJI, SAMOA AND TONGA

By A. C. SMITH

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PREFACE

The accompanying paper, by A. C. Smith, curator of the Division of Phanerogams, U. S. National Museum, is the tenth in his series of floristic studies and limited revisions of Pacific Island plants. This study discusses the family Meliaceae, the mahogany family, of which 36 indigenous species are found in Fiji, Samoa, Tonga, and adjacent smaller island groups. Some of the species of this family are frequent components of the vegetation in the southwestern Pacific region. Eleven species and two varieties are described as new in the present treatment.

JASON R. SWALLEN,
Head Curator, Department of Botany,
United States National Museum.

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STUDIES OF PACIFIC ISLAND PLANTS, X

THE MELIACEAE OF FIJI, SAMOA, AND TONGA

By A. C. Smith

INTRODUCTION

Like some of the preceding papers in this series,[1] this treatment is intended to facilitate the identification of certain phanerogams in Fiji and the adjacent Pacific archipelagos. The writer, in attempting to name the Meliaceae collected by him in Fiji in 1947,[2] discovered that herbarium identifications in this group are not entirely reliable. It has seemed desirable to put his findings into the form of a limited revision, for the purposes of which all the readily available herbarium material of the family from Fiji, Samoa, Tonga, and a few nearby regions, such as Niue and the Horne and Wallis Islands, has been examined and cited. The writer is greatly indebted to the directors and curators of several herbaria for the privilege of examining specimens under their care. The herbaria cited in the present paper are indicated as follows: Arnold Arboretum of Harvard University (A); Bernice P. Bishop Museum (Bish); British Museum (BM); Gray Herbarium of Harvard University (GH); Royal Botanic Gardens, Kew (K); New York Botanical Garden (NY); U. S. National Herbarium (US). In addition, certain fragments of types were lent from the Conservatoire Botanique, Genève, through the kindness of the director, Dr. C. Baehni.

[1] Previous papers in this series have been published as follows:

I. Bull. Torrey Club 68: 397–406. 1941.
II. Journ. Arn. Arb. 24: 347–361. 1943.
III. Bull. Torrey Club 70: 533–549. 1943.
IV. Journ. Arn. Arb. 26: 97–110. 1945.
V. Op. cit. 27: 319–322. 1946.
VI. Op. cit. 31: 137–171. 1950.
VII. Op. cit. 31: 288–319. 1950.
VIII. Op. cit. 32: 27–58. 1951.
IX. Op. cit. 32: 226–255. 1951.

[2] These collections were made under the auspices of the Arnold Arboretum of Harvard University and the John Simon Guggenheim Memorial Foundation, with the aid of grants from the Penrose Fund of the American Philosophical Society and the Bache Fund of the National Academy of Sciences.

Species of Meliaceae occurring only in cultivation in our region are not considered in this paper. Such species in Fiji are *Melia azedarach* L. (frequent), *Azadirachta indica* Juss. (not commonly cultivated), and *Swietenia* spp. (now in experimental cultivation in Fiji). *Melia elegans* Seem. proves to be a species of Sapindaceae, as indicated at the end of the present treatment.

At least 36 indigenous species of 4 genera (*Xylocarpus*, *Vavaea*, *Aglaia*, and *Dysoxylum*) are found in the region under consideration, and it seems likely that future exploration will disclose others. *Xylocarpus* is represented by the 2 widespread Pacific species, *X. granatum* Koen., a common component of mangrove swamps, and *X. moluccensis* (Lam.) Roem., found on beaches but not ordinarily among mangroves. Both species are abundant, but fairly local, in Fiji and presumably throughout most of our region; their identification does not present any problems and they are not here considered in detail. The 3 remaining genera are characterized by a high degree of local endemism, most species being limited to 1 of the archipelagos and in some cases to a single island, although collections are still too sparse to permit a final opinion on distributional problems. The only species now known to extend beyond a single archipelago are *Vavaea amicorum* (Fiji and Tonga), *Aglaia saltatorum* (Fiji, Tonga, and Niue), *Dysoxylum forsteri* (Tonga and Niue), and *D. maota* (Samoa and probably also the Horne and Wallis Islands). In this paper 11 species and 2 varieties are described as new. Following is a simplified key to the genera with indigenous species in our region.

Leaves simple; indument of simple hairs; staminal tube laciniate; disk inconspicuous, adherent to base of staminal tube ---------- *Vavaea*
Leaves pinnate (if simple, in *Aglaia*, with lepidote or stellate indument); staminal tube entire or crenulate at apex.
Disk inconspicuous, not concealing the ovary.
Leaves and inflorescence glabrous; disk short, thick ---------- *Xylocarpus*
Leaves and inflorescence with lepidote or stellate indument; disk essentially none ---------- *Aglaia*
Disk tubular, surrounding the ovary and base of style; indument of simple hairs (in our species) ---------- *Dysoxylum*

VAVAEA Benth.

Vavaea Benth. in Hook. Lond. Journ. Bot. 2: 212. 1843.

For many years after its description, *Vavaea* was thought to be limited to Tonga and later to the Tonga-Fiji area, but subsequently the known range of the genus has been extended westward to the Philippines, Borneo, and Java. The genus now contains at least 17 species. In our area there appear to be 4 species, all occurring in Fiji and 1 extending into Tonga; the genus is not known to occur in Samoa.

In my opinion none of the Fijian species occur to the westward, although some herbarium specimens from the Philippines are said to represent *V. amicorum* (cf. Merrill, Enum. Phil. Fl. Pl. 2: 359. 1923). The Philippine specimens upon which such records are based have comparatively short-petiolate leaves with a very perceptible strigose-hispidulous indument along the costa and nerves beneath. As compared with *V. amicorum*, the Philippine specimens have longer pedicels and larger flowers. A study of the entire genus will be necessary for adequate delimitation of specific ranges.

KEY TO THE SPECIES

Flowers comparatively small, the calyx at anthesis 3–5 mm. in diameter, with lobes 1–2.5 mm. long, not or slightly accrescent in fruit (calyx up to 7 mm. in diameter, the lobes not more than 3 mm. long), the petals 5–6.5 mm. long and 1.5–2.2 mm. broad, the stamens 2.5–3 mm. long, with anthers 0.5–0.8 mm. long; branchlets comparatively slender, 4–7 mm. in diameter toward apex; petioles rarely more than 3.5 cm. long.

Leaves with obvious, slender (rarely to 2 mm. in diameter) petioles 1–3.5 (–4.5) cm. long, the blades usually 6–15×2.5–8 cm. (rarely up to 17×10 cm.), gradually narrowed at base, attenuate to acute and decurrent on the petiole, rounded or obtusely cuspidate at apex, essentially glabrous beneath at maturity or sparsely pilose along costa, rarely soft-pilose on surface; calyx-lobes acute to obtuse or rounded at apex, sometimes with obvious nerves; ovary closely sericeous (hairs 0.1–0.3 mm. long), the style sparsely sericeous in lower half, glabrous above---- 1. *V. amicorum*

Leaves short-petiolate, often appearing subsessile, the petioles comparatively stout (usually 1.5–3 mm. in diameter), 0.5–1.8 (rarely to 4) cm. long, the blades usually 11–23×4.5–11.5 cm. (rarely 7–29×3.5–14 cm.), gradually narrowed proximally, then often obtuse or subrounded at actual base and abruptly decurrent on the petiole, cuspidate at apex (actual apex obtuse or acute), sometimes coarsely undulate-crenate toward apex, persistently pilose beneath; calyx-lobes acute at apex, obscurely nerved; ovary sericeous usually with hairs 0.4–0.6 mm. long, the style sparsely sericeous nearly to apex---------- 2. *V. harveyi*

Flowers comparatively large, the calyx at anthesis 6–10 mm. in diameter, with lobes 2.5–4 mm. long, usually slightly accrescent in fruit (calyx up to 14 mm. in diameter, the lobes up to 5 mm. long), the petals 7–9 mm. long and 2–3 mm. broad, the stamens 3–4 mm. long, with anthers 0.7–1 mm. long; branchlets comparatively stout, 8–13 mm. in diameter toward apex, conspicuously verrucose with the scars of fallen leaves and inflorescences; petioles 2–7 cm. long.

Leaf-blades lanceolate-obovate, gradually attenuate toward base and long-decurrent on the petiole, glabrous beneath or with a strigose (not spreading) indument limited to the costa and principal nerves.

3. *V. megaphylla*

Leaf-blades oblong-obovate, obtuse at base and short-decurrent on the petiole, uniformly and persistently soft-pilose beneath with whitish hairs 0.3–0.7 mm. long (hairs of petiole and costa also spreading, not appressed), the costa and bases of secondary nerves on upper surface also pilose.

4. *V. degeneri*

1. **Vavaea amicorum** Benth. in Hook. Lond. Journ. Bot. 2: 212. 1843; Walp. Rep. Bot. Syst. 5: 377. 1845; A. Gray, Bot. U. S. Expl. Exped. 1: 244. *pl. 16B*. 1854; C. Muell. in Walp. Ann. Bot. Syst. 4: 388. 1857; C. DC. in DC. Monogr. Phan. 1: 645. 1878; C. DC. in Bot. Jahrb. 7: 461. 1886; Hemsl. in Journ. Linn. Soc. Bot. 30: 171. 1894; Burkill in Journ. Linn. Soc. Bot. 35: 31. 1901.
Vavaea vitiensis Seem. Fl. Vit. 35. 1865.

TYPE LOCALITY: Vavau, Tonga; type collected by Barclay, cited below.

DISTRIBUTION: Fiji and Tonga, often abundant. The species occurs commonly near sea level, along beaches and mangrove swamps, often on limestone cliffs, and in lowland thickets and forest. On the larger islands it is found inland (up to elevations of 1,150 m. on Viti Levu) in forest or forest-grassland transitions, or on ridges and crests. It is usually a slender or shrubby tree, up to 12 m. in height, rarely attaining 20 m., and with a trunk diameter of 20 cm. or perhaps more. The flowers are fragrant, with white to pale yellow petals and filaments; the fruit is at first green, then purple, and black at full maturity.

LOCAL NAMES AND USES: In Tonga: *Ahivoa, yahivau;* in Fiji: *Thevua, sevua.* Less commonly used (and perhaps not too reliable) local names in Fiji are: *Mariko, wawaro* (upland Viti Levu); *ruru* (Koro); *tarau* (Fulanga). In Fiji the species is also known as *false sandalwood*, because of its fragrant wood. The Fijians use the wood as house timbers or as fence posts.

FIJI: VITI LEVU: *Horne* 1050 (GH, K). Mba: Lautoka and vicinity, *Greenwood* 16A (K), 895 (A, K, NY, US); Tavua, *Greenwood* 647A (K); Nandarivatu and vicinity, *Tothill* 59b (K), *Gillespie* 3751 (Bish, GH, NY), *Parks* 20699 (Bish), *Degener & Ordonez* 13597 (A), *Degener* 14283 (A, Bish, K, NY), 14385 (A, Bish, K, NY, US), *Smith* 4900 (A, US); Tholo-i-Nandarivatu Mt., *Gillespie* 3952 (Bish); Mt. Nanggaranambuluta, *Smith* 4789 (A, US); hills east of Nandala Creek, *Smith* 5940 (A, US); Mt. Tomanivi, *Smith* 5211 (A, US); Mt. Koromba [Pickering Peak], *Smith* 4635 (A. US); Mt. Namendre, *Smith* 4511 (A, US). Ra: Rakiraki, *Degener & Ordonez* 13697 (A, Bish, K, NY, US). Nandronga & Navosa: Singatoka, *Greenwood* 16 (K); Rairaimatuku Plateau, between Nandrau and Nanga, *Smith* 5457 (A, US). Serua: Vicinity of Ngaloa, *Degener* 15070 (A, Bish, K, NY, US). Naitasiri: Waindina Valley, *MacDaniels* 59 (K); near Tamavua, *Gillespie* 2444 (Bish, GH). Rewa: Mt. Kombalevu, *Parks* 20285 (Bish); Mt. Korombamba, *Gillespie* 2344 (Bish); near Lami, *Gillespie* 4599 (Bish, GH, K); Suva and vicinity, *Tothill* 191 (K), *MacDaniels* 1074 (A, Bish). VANUA LEVU: Mbua: Ruku-ruku Bay, *H. B. R. Parham* 1 (K), 8 (GH); Seatovo Range, *Smith* 1538 (Bish, GH, K, NY, US). Mathuata: Mathuata coast, *Seemann* 63 (GH, K type of *V. vitiensis*), *Greenwood* 647 (K); Mt. Numbuiloa, near Lambasa, *Smith* 6332 (A, US), 6527 (A, US), 6559 (A, US); Seanggangga Plateau, near Natua, *Smith* 6695 (A, US), 6905 (A, US). Thakaundrove: Mt. Mariko, *Smith* 476 (Bish, GH, K, NY, US); Savu Savu Bay region, *Degener & Ordonez* 13947 (A); Maravu, near Salt Lake, *Degener & Ordonez* 14158 (A, Bish, K, NY, US), 14195 (A, Bish, K, NY, US); Mbutha Bay, *Smith* 816 (Bish, GH, K, NY, US). KORO: North coast, *Smith* 1042 (Bish, GH, K, NY, US). MAKONDRONGA: *Degener & Ordonez* 13807 (A, Bish, K, NY, US). NAIRAI:

Milne 177 (K). KANDAVU: Mt. Mbuke Levu, *Smith* 231 (Bish, GH, K, NY, US); above Namalata and Ngaloa Bays, *Smith* 99 (Bish, GH, K, NY, US). THIKOMBIA-I-LAU: *Tothill* 59c (K). VANUA MBALAVU: *Smith* 1429 (Bish, GH, K, NY, US), 1452 (Bish, GH, K, NY, US. MOALA: Summit ridge, *Bryan* 347 (A, Bish). MATUKU: *Bryan* 251 (A, Bish). LAKEMBA: *Tothill* 61 (K). TAVUNASITHI: *Bryan* 518 (Bish). KAMBARA: *Smith* 1278 (Bish, GH, K, NY, US). FULANGA: *Bryan* 442 (Bish, US), *Smith* 1110 (Bish, GH, K, NY, US), 1156 (Bish, GH, K, NY, US), 1225 (Bish, GH, K, NY, US). ONGEA NDRIKI: *Bryan* 395 (Bish). Fiji, without detailed locality: *U. S. Expl. Exped.* (GH, K, NY, US); *Horne* 359 (K), 574 (GH, K), 667 (GH).

TONGA: VAVAU: *Barclay* s. n. (K TYPE), 3368 (BM), *Crosby* 9 (K); Talau hill, *MacDaniels* 1094 (Bish). TONGATABU: *J. R. & G. Forster* (BM), *Moseley* (K), *Lister* (K), *Graeffe* 1366 (GH), 1520 (K), 1570 (K); Mua, *Setchell & Parks* 15270 (K, NY); Kologa Point, *Setchell & Parks* 15380 (K, US); near Nukalofa, *MacDaniels* 1086 (Bish). EUA: Plateau region, *Parks* 16129 (US), 16183 (Bish, GH, K, NY, US), 16217 (A, Bish, GH, K, US), 16299 (Bish, GH, K, NY, US). Tonga, without detailed locality: *Banks & Solander* in 1769 (BM), *Cartwright* (K), *McKern* 73 (Bish).

Seemann was of the opinion that the Tongan *V. amicorum* did not occur in Fiji, and he described two new Fijian species, *V. harveyi* and *V. vitiensis*. The second of these was reduced to synonymy by de Candolle and has not been taken up by subsequent authors; it differs from the Tongan plant, according to Seemann, in its completely glabrous and almost pruinose leaves and its glabrate calyx. Examination of the two types concerned and the extensive series of specimens cited above confirms the current opinion that the most common *Vavaea* in Fiji represents *V. amicorum*, the only species occurring in Tonga.

Variability in degree of leaf-pubescence is demonstrated by some of the Tongan specimens. For instance, *Parks* 16299, a fruiting specimen, has the leaves quite uniformly soft-pilose beneath, very much as in *V. harveyi*, although in other respects it unmistakably represents *V. amicorum*. *Parks* 16217, a flowering specimen from the same locality, has the leaves essentially glabrous and typical except those on the Arnold Arboretum sheet, which resemble the leaves of No. 16299. The Exploring Expedition material (doubtless from more than one plant) shows similar variability in indument. It seems that the degree of pubescence is unreliable in this species and cannot, in itself, be used as the basis of any subspecific nomenclatural categories. The Fijian material from high elevations is less uniform (in leaf-shape and venation) than that from more typical habitats such as beaches and lowland thickets, but I cannot discern tangible characters for further division of the material.

2. **Vavaea harveyi** Seem. Fl. Vit. 35. 1865; C. DC. in DC. Monogr. Phan. 1: 646. 1878.

TYPE LOCALITY: Fiji, without definite locality; type collected by Harvey, cited below.

DISTRIBUTION: Fiji, apparently limited to the larger volcanic islands, elevations up to 825 m. being recorded. The species is found in forest or in woods, and is noted as a small tree, rarely up to 18 m. in height. The petals and anthers are pale yellow, the fruit red [probably black at maturity].

LOCAL NAME: *Thevua* or *sevua* applies to this species in Fiji, as to the more abundant *V. amicorum*.

FIJI: VITI LEVU: Nandronga & Navosa: Rairaimatuku Plateau, between Nandrau and Rewasau, *Smith* 5617 (A, US). Namosi: Namuamua and vicinity, *Gillespie* 2995 (Bish, GH, K), 3063 (Bish, GH, NY). Naitasiri: Nasinu, *Gillespie* 3453 (Bish, GH); Kalambo, *Tothill* 192 (Bish, K, US); Suva Pumping Station, *Degener & Ordonez* 13772 (A, NY). Rewa: Suva, *Meebold* 16881 (Bish). OVALAU: Vicinity of Levuka, *Gillespie* 4557.5 (Bish). VANUA LEVU: Mbua: Lower Wainunu River valley, *Smith* 1755 (Bish, GH, K, NY, US). Thakaundrove: Vicinity of Waiwai, Savu Savu Bay, *Horne* 639 (GH, K). TAVEUNI: Western slope, between Somosomo and Wairiki, *Smith* 840 (Bish, GH, K, NY, US). Fiji, without definite locality: *Harvey* [probably Vanua Levu, ex Seemann] (GH, K TYPE), *Horne* 568 (K), *B. E. Parham* 198 (A).

Vavaea harveyi is unmistakably a close relative of *V. amicorum*, most readily distinguished by the persistent indument of its leaves, although this alone hardly seems to be a specific character. The comparatively short petioles, larger leaf-blades with more abruptly narrowed bases, and more copious floral indument also separate the plant from *V. amicorum*. No consequential floral differences between the species have been observed, but on the basis of available material their identification does not present difficulties.

3. **Vavaea megaphylla** Wright in Kew Bull. 1895: 102. 1895; Oliver in Hook. Ic. Pl. 25: *pl. 2438*. 1896; Gillespie in Bishop Mus. Bull. 83: 15. *fig. 17*. 1931. *Trigonostemon* (?) *voratus* Croizat in Sargentia 1: 52. 1942.

TYPE LOCALITY: Tamavua (near Suva), in the Province of Naitasiri near the Rewa boundary, Viti Levu, Fiji; type, *Yeoward* 37, cited below.

DISTRIBUTION: Fiji, thus far known definitely only from Viti Levu and the island of Rambi, but to be expected on other volcanic islands. The species is usually reported from low-elevation forest or woods and is mentioned as a low tree (or a "tall tree" according to Yeoward).

LOCAL NAME: Of the cited specimens only *Degener* 15625 lists a local name, *navua*.

FIJI: VITI LEVU: Mba: Nandarivatu, *Tothill* 59a (K). Nandronga & Navosa: Vicinity of Mbelo, near Vatukarasa, *Degener* 15265 (A, Bish, K, NY, US). Serua: Mbuyombuyo, near Namboutini, *Tabualewa* 15569 (A type of *Trigonostemon voratus*, Bish, K, US); Naitasiri: Viria, *B. E. Parham* 215 (A); vicinity of Nasinu, *Gillespie* 3487 (Bish, GH, K, NY); Tamavua, *Yeoward* 37 (K TYPE); Rewa: Central Road, Suva, *Tothill* 190 (K). RAMBI: *Horne* 477 (GH, K). Fiji, without definite locality: *Storck* s. n. (K), VI (GH).

Vavaea megaphylla is at once distinguished from the other described Fijian species of the genus by its stout branchlets with apically congested leaves and inflorescences, its long-petiolate leaves (which are glabrous and uniformly larger than those of *V. amicorum*), and its large flowers. The calyx, in particular, is markedly larger, in both flower and fruit, than that of the two species discussed above. The type of *Trigonostemon voratus* agrees perfectly with the Yeoward specimen and others cited above, in both foliar and calycine characters; other parts of the flower have been damaged and the inflorescence is much reduced, presumably because of insect attack. The reduction of this name removes the genus *Trigonostemon* (Euphorbiaceae) from the known flora of Fiji.

4. **Vavaea degeneri** A. C. Sm. sp. nov.

Arbor foliis magnis longe petiolatis, laminis oblongo-obovatis basi obtusis subtus et costa nervisque secundariis supra persistenter molliter pilosis, inflorescentia robusta, floribus magnis, calyce sub anthesi ad 8 mm. sub fructu ad 12 mm. diametro, petalis 8–9 mm. longis distinguenda; *V. megaphyllae* Wright affinis, foliorum forma basi et indumento differt.

Tree to 6 m. high, the branchlets stout, hollow, 8–13 mm. in diameter just below the apical leaves and inflorescences and copiously cicatricose, distally closely pilose, soon glabrate; petioles stout (2–4 mm. in diameter), swollen at base, (2–) 3–7 cm. long, semiterete, copiously short-pilose or velutinous; leaf-blades papyraceous, drying olivaceous, oblong-obovate, (12–) 17–28 cm. long, (6–) 9–17 cm. broad, obtuse at base and short-decurrent on the petiole, rounded to an abrupt obtusely cuspidate apex, entire or faintly undulate at margin, uniformly and persistently soft-pilose beneath (hairs whitish, 0.3–0.7 mm. long) and on costa and bases of secondaries above, the costa stout, plane or slightly elevated above, prominent beneath, the secondary nerves 10–16 per side, subspreading, nearly straight, anastomosing near margin, slightly impressed or raised above, strongly raised beneath, the veinlet-reticulation copious, fine, sharply prominulous on both surfaces; inflorescences congested among leaves near apices of branchlets, at anthesis not more than 5 cm. long but elongating to 15 cm. in fruit, the peduncle stout, 2–3 cm. long at anthesis but up to 11 cm. in fruit, the peduncle, inflorescence-branches, pedicels, and calyx copiously hispidulous (hairs 0.3–0.5 mm. long); inflorescence-bracts lanceolate, 3–5 mm. long at anthesis (accrescent to 8 mm. in fruit or sometimes subfoliaceous), hispidulous-puberulent without, the bracteoles similar but 2 mm. long; pedicels stout, about 1 mm. long (above articulation), slightly enlarging in fruit; calyx cupuliform-rotate, 6–8 mm. in diameter (to 12 mm. in fruit), the lobes 6 or 7, deltoid-oblong, 3–4×2–3 mm. (up to 5 mm.

long in fruit), subacute, obscurely nerved; petals 5 or 6, carnose, oblong, 8–9 mm. long, 2.5–3 mm. broad, obtuse or rounded at apex, minutely sericeous without, puberulent within; stamens usually 12, 3.5–4 mm. long, alternately slightly unequal, the filaments copiously barbate-hispidulous near apex with hairs about 0.6 mm. long, the anthers oblong, 0.8–1 mm. long; ovary densely stramineous-sericeous with hairs 0.2–0.3 mm. long, the style about 2.5 mm. long, sparsely sericeous below, glabrous above, the stigma subcapitate, about 1 mm. in diameter; fruit succulent, subspherical, apparently about 15 mm. in diameter when fresh, sparsely strigillose, glabrescent; seeds several, often 7 or 8, smooth, nitid, broadly ellipsoid, flattened on 1 or 2 faces, about 6 mm. long and 4–5 mm. broad, obtuse at both ends.

Type in the U. S. National Herbarium, No. 1943578, collected east of Naunduna, eastern drainage of the Yanawai River, Province of Thakaundrove, Vanua Levu, Fiji, alt. 120 m., Jan. 12, 1941, by O. Degener & E. Ordonez (No. 14099). Duplicates at A, Bish, K, NY, etc.

ADDITIONAL SPECIMENS EXAMINED:

FIJI: VITI LEVU: Serua: Thulanuku, vicinity of Ngaloa, alt. 50 m., *Degener* 15098 (A, Bish, K, NY, US); Vatutavathe, vicinity of Ngaloa, alt. 150 m., *Degener* 15188 (A, Bish, K, NY, US).

The specimens are indicated as open- or coarse-branched trees 4–6 meters in height, occurring in forest; the flowers are said to be fragrant and to have the petals white with a yellow tinge, fading to yellow; the fruit is fleshy and red. The type bears mature flowers and No. 15188 essentially mature fruits, while No. 15098 is intermediate in development. The last number bears the local name *mbuanivinggalau*.

In floral characters the new species bears a close similarity to *V. megaphylla* Wright, but differences in the shape, base, and indument of the leaf, mentioned in the above diagnosis and key, are pronounced.

AGLAIA Lour.

Aglaia Lour. Fl. Cochinch. 173. 1790; nomen conservandum.

The species of *Aglaia* in the southwestern Pacific fall into two sections, *Euaglaia* and *Hearnia*, as delimited by Harms (in Nat. Pfl. III. **4:** 298–300. 1896, and ed. 2. **19b1:** 140–147. 1940). These sections are based upon whether the anthers are included within the stamen-tube (*Euaglaia*) or marginal upon it (*Hearnia*); de Candolle had retained the two groups as distinct genera (in DC. Monogr. Phan. **1:** 600–633. 1878). While the two sections may be perfectly natural, as indicated by Harms, they are in practice difficult to distinguish, even when good flowers are available, because of intermediate positions of the anthers. Sometimes the anthers are attached well within the margin of the tube and yet project apically beyond it, such species belonging technically to § *Euaglaia* but certainly suggesting § *Hearnia* upon casual examination of the flowers. Furthermore, only a small pro-

portion of specimens of *Aglaia* in herbaria are in flowering condition, and therefore this basic division is impracticable for purposes of identification.

In examining the species of our region, I note that the type of indument (especially that on the lower surface of the leaflet-costa) is very constant and furthermore easy to determine regardless of the state of the material. While the character of this indument can usually be detected with a hand-lens, examination with a binocular of 25–50 magnification is much more satisfactory. Under such magnification the type of indument can be readily classified into three groups, as follows:

1. Indument lepidote, the rays of the trichomes adnate into a membranaceous scale.
2. Indument stellate, the rays of the trichomes free nearly to base or at least in the distal half, small and uniform in length.
3. Indument stellate, the rays of the trichomes diverse in length, at least some conspicuously stiffer and longer than the others.

Since the specimens from our region can be readily and confidently referred to one or another of these three groups, I make them the primary divisions of my key, below. In two or three cases (although this is hardly necessary) species have been keyed in more than one group. The fact that certain species identical in type of trichome (and very close in other characters as well) fall into different sections of the genus causes one to question the fundamental nature of anther-position. Nevertheless, I have arranged the species in the traditional sections, *Euaglaia* and *Hearnia*, this classification cutting across the primary divisions of the key. In our region, 17 species are discernible, of which 7 are here described as new.

KEY TO THE SPECIES

Indument of lower surface of leaflet-costa (also of branchlets and inflorescence) lepidote, the rays of the trichomes adnate into a membranaceous scale, free only at extreme apices.

Leaves unifoliolate, obviously petiolate, the blades oblanceolate-elliptic, obtuse at base---------- 16. *A. haplophylla*

Leaves pinnate.

Anthers included within the filament-tube (§ *Euaglaia*).

Petals glabrous; leaflet-blades gradually narrowed to an acuminate apex; Samoa---------- 1. *A. samoensis*

Petals lepidote without (except at imbricate margins and apex); leaflet-blades rounded to obtusely cuspidate at apex.

Flowers comparatively large, the petals 2–2.5 mm. long; filament-tube about 2 mm. long, glabrous; Fiji---------- 2. *A. axillaris*

Flowers comparatively small, the petals 1.5–1.8 mm. long; filament-tube about 1.2 mm. long, obscurely but copiously pilose without; Tonga. 5. *A. heterotricha*

Anthers marginal on the filament-tube, not included (§ *Hearnia*); Fijian species.

Petals 2–3.5 mm. long, copiously lepidote without except at margins; filament-tube at least 1 mm. long; inflorescence usually ample, often 10–15 cm. long; leaflet-blades oblong-elliptic, usually gradually narrowed toward apex---------- 6. *A. vitiensis*

Petals small, not more than 1.5 mm. long, glabrous; filament-tube about 0.5 mm. long; inflorescence compact, rarely exceeding 2 or 3 cm. in length; leaflet-blades lanceolate-oblong, not appreciably narrowed toward the rounded or broadly obtuse apex---------- 7. *A. gracilis*

Indument of lower surface of leaflet-costa, etc., stellate, the rays of the trichomes free nearly to base or at least in the distal half, not adnate into a membranaceous scale.

Rays of the trichomes small and fairly uniform in length, the stellate hairs not more than 0.2 mm. in diameter (rays 0.1 mm. or less long).

Leaves unifoliolate or, if pinnate, with the terminal leaflet greatly exceeding in size the 2 or 4 lateral leaflets, the lower pair of these arising from base of rachis, simulating stipules.

Leaf-blades essentially sessile, cordate-amplexicaul; anthers marginal on the filament-tube (§ *Hearnia*)---------- 8. *A. amplexicaulis*

Leaf-blades with greatly reduced lateral leaflets, the terminal leaflet obviously petiolulate, the blade obtuse at base (flowers not known). 17. *A. evansensis*

Leaves pinnate, the lateral leaflets not greatly smaller than the terminal ones, the lowest pair not basal.

Leaflets comparatively large, the terminal one rarely less than 10 cm. long, usually much larger; anthers included within the filament-tube (§ *Euaglaia*).

Petals glabrous; leaflet-blades obviously narrowed to an obtusely cuspidate apex, the hairs of the costa usually with a few longer (to 0.4 mm. long) rays among the short ones; Wallis Islands. 3. *A. psilopetala*

Petals stellate-pilose without (except at imbricate margins and apex); leaflet-blades usually obtuse or rounded at apex (not conspicuously cuspidate), the trichomes of the costa uniform, without long rays; Fiji and Tonga.

Lowermost leaflets usually obviously shorter and proportionately broader than the upper ones; trichomes of the costa stellate, the rays free in the distal half; filament-tube glabrous. 4. *A. saltatorum*

Lowermost leaflets not conspicuously reduced in size; trichomes of the costa scalelike, membranaceous, the rays free only at apex; filament-tube stellate-pilose; known only from Eua Island, Tonga. 5. *A. heterotricha*

Leaflets comparatively small, the terminal one usually less than 10 cm. long.

Leaflets 5 or 7 (rarely 9), oblong or elliptic-oblong, 6–10 (–11) cm. long and 2.5–4.5 cm. broad (lowermost ones sometimes slightly smaller); fruiting inflorescence 2–8 cm. long (including fruits) (flowers not known)---------- 9. *A. elegans*

Leaflets 7 or 9, lanceolate-oblong, 4–7 cm. long and 1.2–2 cm. broad; fruiting inflorescence scarcely more than 2 cm. long (including fruits); anthers marginal on the filament-tube (§ *Hearnia*). 10. *A. venusta*

Rays of the trichomes (at least those of the costa, young branchlets, and young leaf-surfaces, and usually those of the inflorescence as well) diverse in length, with some rays 0.4–1 mm. or more in length.

Leaves comparatively small, the leaflet-blades rarely exceeding 12×4.5 cm., usually smaller; anthers marginal on the filament-tube (§ *Hearnia*) (flowers not known for No. 11).

Lowermost pair of leaflets attached toward base of leaf, often simulating stipules, the petiole below these leaflets (or obvious scars of them) usually less than 1 cm. long——11. *A. basiphylla*

Lowermost pair of leaflets not basal on the leaf, the petiole usually more than 2 cm. long.

Indument of lower surface of leaflets (except on costa) fugacious; lateral leaflets usually 3 or 4 (rarely 1, 2, or 5) pairs, not conspicuously smaller than the terminal one——12. *A. greenwoodii*

Indument of lower surface of leaflets often persistent; lateral leaflets 1 or 2 pairs, conspicuously smaller than the terminal one (leaves very rarely unifoliolate)——13. *A. fragilis*

Leaves comparatively large, the leaflet-blades rarely less than 15×5 cm., usually much larger.

Anthers marginal on the filament-tube (§ *Hearnia*); petals pilose toward base without; hairs of the costa often with some rays 1 mm. long or more; Fiji.

Lateral leaflets 2 or 3 (rarely 4) pairs, obtuse at base (or the lowermost ones rounded), cuspidate or short-acuminate at apex, the indument persistent on the lower leaflet-surface; hairs of calyx with numerous rays 1 mm. or more in length among the shorter rays.

14. *A. archboldiana*

Lateral leaflets 4 or 5 pairs, rounded or subcordate at base, obtuse at apex, the indument of the lower leaflet-surface persistent only on the costa; hairs of the calyx uniformly small, the rays only occasionally as long as 0.5 mm——15. *A. parskii*

Anthers included within the filament-tube (§ *Euaglaia*); petals glabrous; rays of hairs of the costa usually uniform and small but sometimes up to 0.4 mm. long; Wallis Islands——3. *A. psilopetala*

1. **Algaia** (§ *Euaglaia*) **samoensis** A. Gray, Bot. U. S. Expl. Exped. **1:** 236. 1854; C. Muell. in Walp. Ann. Bot. Syst. **4:** 387. 1857; C. DC. in DC. Monogr. Phan. **1:** 616. 1878; Reinecke in Bot. Jahrb. **25:** 644. 1898; Setchell in Carnegie Inst. Washington Publ. **341:** 84. 1924; Christophersen in Bishop Mus. Bull. **128:** 116. 1935.

Aglaia whitmeei C. DC. in Bull. Herb. Boiss. II. **3:** 178. 1903.

Aglaia betchei C. DC. in Bull. Herb. Boiss. II. **3:** 179. 1903, in op. cit. II. **6:** 984. 1906.

TYPE LOCALITY: Tutuila, Samoa; type collected by U. S. Exploring Expedition, cited below.

DISTRIBUTION: Samoa, apparently fairly frequent in various types of forest or in open places at elevations up to 500 m. The plant is a slender tree, up to 15 m. in height, with a trunk diameter up to 25 cm. or perhaps slightly more. The small flowers are said to be yellow, but the lepidote indument of all inflorescence-parts (except the petals) is typically cinnamon-brown.

LOCAL NAMES AND USES: *Langa'ali* and variants are applied to this

species, of which the fragrant inflorescences are used for personal adornment and for scenting coconut oil; Christophersen mentions that the wood is used for house posts.

SAMOA: SAVAII: Above Matautu, *Vaupel* **163 (Bish, US); near Vaipouli,** *Vaupel* **163 bis (K),** *Christophersen & Hume* **1838 (Bish, K, NY); Salailua,** *Christophersen* **2958 (Bish, US), 2986 (Bish, K, NY, US), 2990 (Bish); Salailua-Lataitai,** *Christophersen & Hume* **2626 (Bish, K, NY, US); above Sili,** *Christophersen* **3247 (Bish). UPOLU: Mulifanua,** *Reinecke* **134 (BM, K, US); Moa Moa plantations,** *Eames* **148 (Bish); below Malololelei,** *Christophersen* **339 (Bish, K, NY); Vaea,** *MacDaniels* **1120 (Bish); Vaea Mt.,** *Christophersen* **460 (Bish). TUTUILA:** *U. S. Expl. Exped.* **(GH, K, NY, US 15572 TYPE); Pago Pago and vicinity,** *Garber* **914 (Bish, NY),** *Diefenderfer* **8 (Bish),** *Yuncker* **9430 (Bish); above Vatia,** *Garber* **879 (Bish); from Aua to Breaker Point,** *Setchell* **156 (Bish). OFU: Toanga,** *Garber* **1098 (Bish). Samoa, without detailed locality:** *Whitmee* **s. n. (type of** *A. whitmeei*, **fragment seen from De Candolle Herbarium, Conservatoire Botanique, Genève),** *Betche* **s. n. (type of** *A. betchei*, **fragment seen from De Candolle Herbarium, Conservatoire Botanique, Genève),** *Whitmee* **112 (BM, K), 195 (K),** *Powell* **157 (K), 191 (K), s. n. (K),** *Horne* **42 (GH, K).**

Among the species of § *Euaglaia* in our region, *A. samoensis* is readily distinguished by the combination of glabrous petals and lepidote indument on the vegetative and the other inflorescence parts. In herbaria the species has been interpreted to include material from Tonga, Niue, and Fiji, but more careful consideration indicates that such material does not belong here and that *A. samoensis* occurs only in Samoa. Upon superficial examination such species as *A. psilopetala*, *A. saltatorum*, and *A. heterotricha*, all belonging to § *Euaglaia*, could be confused with *A. samoensis*, but all these have the indument stellate rather than lepidote and are distinguished by other dependable characters.

I am much indebted to Prof. C. Baehni, Director of the Conservatoire Botanique, Genève, for the privilege of examining fragments of the types of *A. whitmeei* and *A. betchei*. In all respects of indument, leaf-texture, and floral detail these fragments agree with the type and other cited specimens of *A. samoensis*. No reasons for the proposal of these two species were given by de Candolle, and his descriptions indicate that the dimensions are well within the extremes for *A. samoensis*. The same conclusion has already been stated by Setchell (in Carnegie Inst. Washington Publ. **341:** 85. 1924). Two specimens from Upolu, collected by Hochreutiner and cited by de Candolle (in Ann. Conserv. Jard. Bot. Genève 15: 246. 1912) as *A. forbesiana* C. DC., should also be compared with *A. samoensis*, since the type of *A. forbesiana* is from New Guinea and its occurrence in Samoa is unlikely. In my observation there is only one species of *Aglaia* in Samoa; Christophersen mentions a specimen (listed at the end of this treatment) which differs from *A. samoensis* in its fewer leaflets and larger fruit, but it is possible that this specimen represents merely an extreme form of *A. samoensis*.

2. **Aglaia (§ *Euaglaia*) axillaris** A. C. Sm. in Sargentia **1**: 43. 1942.

TYPE LOCALITY: Vicinity of Nandarivatu, Province of Mba, Viti Levu, Fiji; type, *Degener* 14505, cited below.

DISTRIBUTION: Fiji, thus far definitely known from Viti Levu, Ovalau, and Taveuni, at elevations up to 1,050 m. The species is a component of dense and often dark forest; it is reported as a tree, often slender, up to 10 m. in height, with brown flowers (petals yellowish within), and with fruits that are yellowish or bright orange, at length becoming brown.

LOCAL NAMES: In central Viti Levu I recorded the names *lindiyango* and *nggiliyango*, but these are more or less generic in that part of Fiji.

FIJI: VITI LEVU: Mba: Mt. Matomba, Nandala, vicinity of Nandarivatu, *Degener* 14505 (A TYPE, Bish, K, NY, US); on the escarpment at Nandarivatu, *Gillespie* 3757 (Bish, GH, US); road from Tavua toward Nandarivatu, *B. E. Parham* 2384 (A); Nauwanga, near Nandarivatu, *Degener* 14334 (A, K, NY); Mt. Ndelaiyoö, on the escarpment west of Nandarivatu, *Smith* 5073 (A, US); hills between Nggaliwana and Tumbeindreketi Creeks, east of the sawmill at Navai, *Smith* 5983 (A, US), 5989 (A, US). Nandronga & Navosa: Northern portion of Rairaimatuku Plateau, between Nandrau and Nanga, *Smith* 5557 (A, US); same region, between Nandrau and Rewasau, *Smith* 5611 (A, US). Naitasiri: Near Tamavua village, *Gillespie* 2430 (Bish, GH). Rewa: Central Road, Suva, *Tothill* F520 (K). OVALAU: Near summit of ridge west of Levuka, *Gillespie* 4451 (Bish). TAVEUNI: Vicinity of Wairiki, *Gillespie* 4682 (Bish); western slope between Somosomo and Wairiki, *Smith* 728 (Bish, GH, K, NY, US). Fiji, without detailed locality: *U. S. Expl. Exped.* (US 15570).

Many of the specimens cited above have been otherwise identified in herbaria, but I believe that they can now be referred to *A. axillaris* with reasonable confidence. On the other hand, two specimens which I cited in connection with the original description of the species are now referred to *A. gracilis*. The Fijian *Aglaiae* with lepidote indument and compound leaves fall into at least three species, which are easily distinguishable when flowers are available. But in the absence of petals and stamens the recognition of *A. axillaris*, *A. gracilis*, and *A. vitiensis* becomes difficult, even when adequate material is available for comparison. In referring fruiting material to the three species I have been guided by general appearance and leaflet-shape. *Aglaia gracilis*, of which only the type collection is known in flowering condition, has comparatively long and narrow leaflets, lanceolate-oblong in shape and not appreciably narrowed toward the rounded or broadly obtuse apex. The other two species have leaflets more obviously tapering toward the apex and in general proportionately broader than those of *A. gracilis*. In general, the compact inflorescence (often with only two or three fruits on a very short peduncle) of *A. axillaris* will serve to distinguish fruiting material of it from *A. vitiensis*, in which the inflorescence is typically more extended, but this character is not en-

tirely dependable. For instance, *Gillespie* 2430, which has the flowers of § *Euaglaia* and therefore is placed in *A. axillaris*, has a freely branching inflorescence as much as 20 cm. long.

The following specimens are provisionally placed in *A. axillaris*, but the parts needed for positive identification are not available:

VITI LEVU: Namosi: Mt. Naitarandamu, *Gillespie* 3105 (Bish, GH, NY, K); Naitasiri: Central road, 8 miles from Suva, *MacDaniels* 1144 (Bish). VANUA LEVU: Thakaundrove: Southern slope of Korotini Range, below Navitho Pass, *Smith* 491 (Bish, K, NY, US); Mt. Mbatini, crest of range, *Smith* 645 (Bish, GH, K, NY, US), 653 (Bish, GH, K, NY, US). Fiji, without detailed locality: *U. S. Expl. Exped.* (US 15574).

3. **Aglaia** (§ *Euaglaia*) **psilopetala** A. C. Sm. sp. nov.

Arbor foliis pinnatis, foliolis apice obtuse cuspidatis, inflorescentia paniculata multiflora, floribus parvis, petalis glabris distinguitur; *A. samoensi* affinis, indumento stellato non lepidoto facile distinguenda, ab *A. saltatorum* et *A. heterotricha* subtus descriptis petalis glabris et foliolorum forma differt.

Tree to 15 m. high, the branchlets slender, terete; indument of young parts, distal portions of branchlets, petioles, leaf-rachises, petiolules, and lower surface of leaflet-costae stellate, the hairs ferruginous or cinnamon-colored, usually 0.15–0.2 mm. in diameter, with 15–20 rays free nearly to base (often also with several longer rays, up to 0.4 mm. long, arising from center of trichome); leaves 3- or 5-foliolate (at least distal ones), 22–27 cm. long, the petiole 5–7 cm. long, slender, swollen and semiterete at base, terete distally like the rachis, the petiolules 3–5 mm. long (of terminal leaflet to 10 mm. long); leaflet-blades papyraceous, drying dull olivaceous, elliptic or obovate-oblong, the terminal and upper lateral ones similar in size, 11–16 cm. long, 4.5–6.5 cm. broad (lowermost ones slightly reduced), obtuse or acute at base, narrowed at apex to an obtuse acumen about 1 cm. long, slightly recurved at margin, copiously punctate on both sides with minute pits indicating caducous hairs, the costa slightly impressed above, prominent beneath, the secondary nerves 9–12 per side, subspreading, slightly curved, nearly plane above, elevated beneath, the veinlets inconspicuous; inflorescences axillary toward apices of branchlets, solitary, paniculate, many-flowered, up to 13 cm. long, branched from base, uniformly (i. e., on branches, pedicels, and calyx) stellate-pilose like vegetative parts but the hairs 0.1–0.15 mm. in diameter, usually with 20–30 rays free in the distal half and lacking the occasional longer rays; bracts and bracteoles minute; pedicels slender (about 0.3 mm. in diameter), 1–1.5 mm. long at anthesis, the flowers about 1.5 mm. long and 2 mm. in diameter; calyx submembranaceous, rotate, about 1.5 mm. in diameter, deeply 5-lobed, the lobes oblong-deltoid, about 0.5 mm. long, obtuse, ciliolate-margined with simple or fascicled hairs about 0.15 mm. long; petals 5 (rarely 6), thin-carnose, elliptic or sub-

orbicular, 1.2–1.4 mm. long, 0.8–1.2 mm. broad, rounded at apex, scariose-margined, strictly glabrous on both sides; androecium broadly cupuliform, the filaments connate into a carnose glabrous tube about 0.8 mm. long and 1.5 mm. in diameter, undulate at apex, the anthers inserted within the tube-margin, oblong-deltoid, 0.3–0.4 mm. long, only the tips exserted; ovary pilose like calyx, the stigma carnose, subcapitate.

Type in the herbarium of the Bernice P. Bishop Museum, collected in inland forest on Uvea, Wallis Islands, alt. about 15 m., Nov. 9, 1932, by E. G. Burrows (No. W19).

The specimen is from a tree 15 m. high; the collector notes the local name as *langakali* and indicates that the inflorescences are used in necklaces. The only available specimen from the Wallis Islands, west of Samoa, obviously represents an undescribed species. Like *A. samoenis*, it belongs in § *Euaglaia* and has glabrous petals, a combination of characters not otherwise found among the species of our region. However, *A. psilopetala* differs radically from *A. samoensis* in its type of indument, in this respect suggesting the two species which follow but readily distinguished from them as indicated in my key.

4. **Aglaia** (§ *Euaglaia*) **saltatorum** A. C. Sm. sp. nov.

Aglaia edulis A. Gray, Bot. U. S. Expl. Exped. 1: 237. 1854 (quoad spec. non sensu typi); Seem. Fl. Vit. 37. 1865, pro parte; C. DC. in DC. Monogr. Phan. 1: 609. 1878, pro parte.

Aglaia samoensis sensu A. C. Sm. in Bishop Mus. Bull. **141**: 80. *fig. 41, b.* 1936; Yuncker in Bishop Mus. Bull. **178**: 71. 1943; non A. Gray.

Aglaia sp. Burkill in Journ. Linn. Soc. Bot. **35**: 31. 1901.

Arbor vel frutex *A. psilopetalae* supra descriptae affinis, petalis extus copiose stellato-pilosis non glabris, foliolorum laminis apice obtusis vel rotundatis vel inconspicue cuspidatis, costae pilis uniformiter ramulosis differt; a *A. samoensi* indumento stellato non lepidoto et petalis pilosis facile distinguitur.

Shrub or tree, usually 2–10 m. high, perhaps sometimes larger, the branchlets slender, subterete; indument of young parts, distal portions of branchlets, petioles, leaf-rachises, and leaflets stellate, the hairs pale brown, 0.1–0.2 mm. in diameter, composed of 13–20 rays free nearly to base or at least in the distal half (indument sometimes becoming sparse on older parts); leaves 5- or 7(rarely 9)-foliolate, 23–40 (–65) cm. long, the petiole 6–11 (–18) cm. long, swollen at base, terete like rachis; leaflets opposite or subopposite, the petiolules 5–14 mm. long (of terminal leaflet 10–20 mm. long), the blades papyraceous, drying pale green or brownish, elliptic or oblong-elliptic (terminal ones sometimes oblanceolate), the terminal and upper lateral ones subsimilar in size, 10–20 (rarely 8–26) cm. long, 4–10 (rarely 3.5–12) cm. broad (lowermost ones conspicuously or at least noticeably reduced in size), obtuse or acute at base (inequilaterally so except the terminal one, the lower

ones rounded), broadly obtuse or rounded or inconspicuously obtusely cuspidate at apex, nearly plane at margin, persistently stellate-pilose beneath (at least on costa, the hairs of the surface often caducous but leaving minute pits indicating the attachments), soon glabrate and minutely punctate above, the costa sulcate or slightly elevated above, prominent beneath, the secondary nerves 10–16 (rarely 8–18) per side, spreading, inconspicuously anastomosing, plane or slightly raised above, elevated beneath, the veinlets plane, obscure above; inflorescences supra-axillary toward apices of branchlets, paniculate, freely branched, many-flowered, usually 20–40 cm. long (rarely reduced to 3 cm. and comparatively few-flowered), pedunculate (peduncle usually 2–7 cm.long), the indument (on branches, pedicels, calyx, and petals) like that of vegetative parts but the hairs only 0.1–0.15 mm. in diameter and sometimes with only about 10 rays; bracts and bracteoles minute; pedicels at anthesis usually 1–1.5 mm. long and 0.5–0.7 mm. in diameter (enlarging, with calyx and petals, after anthesis), the flowers about 1.5–2 mm. long and 1.6–2.5 mm. in diameter; calyx submembranaceous, rotate, 1.5–2 mm. in diameter, 5-lobed nearly to base, the lobes oblong-deltoid, 0.5–0.7 mm. long, obtuse or subacute at apex; petals 5, narrowly imbricate, carnose, oblong-elliptic, 1.3–2 mm. long, 1–1.3 mm. broad, rounded at apex, scariose and minutely erosulous at margin and there glabrous, otherwise copiously stellate-pilose without; androecium broadly obovoid, the filaments carnose, glabrous, loosely connate into a tube 0.8–1.2 mm. long, the anthers inserted within the tube-margin, usually horizontally inflexed, scarcely exserted, deltoid-suborbicular, 0.4–0.6 mm. long; ovary pilose like calyx, the stigma carnose, minutely emarginate, the locules 2, each apparently 2-ovuled; fruits at apparent maturity subglobose or ellipsoid, 3–4 cm. in diameter, the pericarp thin, brittle, obscurely but closely stellate-pilose, the seeds ellipsoid, up to 22×13 mm., rounded at both ends, flattened on the ventral surface.

Type in the U. S. National Herbarium, No. 1674954, collected in forest on the islet of Malatta, southern limestone section of Vanua Mbalavu, Fiji, alt. 0–100 m., March 29, 1934, by A. C. Smith (No. 1439). Duplicates at Bish, K, GH, NY, etc.

ADDITIONAL SPECIMENS EXAMINED:

FIJI: VITI LEVU: Tailevu: Verata, *B. E. Parham* 2500 (A) (cultivated), *Salimoni Rokonaca* 5611 (A) (cultivated). MOTURIKI: *Seemann* 60 (BM, GH, K). KORO: West coast, *Smith* 1079 (Bish, GH, K, NY, US). VANUA MBALAVU: Northern limestone section, *Smith* 1476 (Bish, GH, K, NY, US), 1507 (Bish, GH, K, NY, US). LAKEMBA: Tumbou, *Aporosa Wagatabu* 1137 (A). KAMBARA: On limestone formation, *Smith* 1240 (Bish, GH, K, NY, US). FULANGA: *Tothill* 64 (K). Fiji, without detailed locality: *Milne* 5a (K).

TONGA: VAVAU: *Crosby* (K). TONGATABU: Near Mua, *Setchell & Parks* 15245 (GH, K, US); Ha'amoga, *Setchell & Parks* 15369 (GH, K, US). Tonga, without detailed locality: *McKern* 104 (Bish), 111 (Bish).

TONGA or FIJI, without detailed locality: *U. S. Expl. Exped.* (NY, US 15573).
NIUE: Near Tamakautoga Village, *Yuncker* 9755 (fragm. US); on cliffs near sea, south of Alofi, *Yuncker* 10192 (fragm. US).

DISTRIBUTION: As shown above, the species occurs in Fiji, Tonga, and on Niue. In Fiji it seems to occur only on the smaller eastern islands of the group, the records for Viti Levu being from cultivated plants; in my observation it is generally found on limestone soil at low elevations, in forest or in thickets. It has been noted as a shrub or slender tree up to 10 m. in height, perhaps rarely larger. The fragrant flowers are brown to yellowish or greenish brown, and the fruit orange or russet-yellow.

LOCAL NAMES AND USES: Throughout its range this plant is known as *langakali* (often *la'angakali* in Tonga, *langakali thavuthavu* on Kambara and perhaps elsewhere). Wherever it occurs the people use its inflorescences in making floral necklaces for festive occasions, and also indicate that the inflorescences and fruits are used to scent coconut oil. On the islands of the Lau group in Fiji, the elusive fragrance of the inflorescence of this plant is highly prized, and dancers consider its presence in their necklaces to be essential; hence my specific epithet "of the dancers."

The specimens that I now associate with the new species have been variously named in herbaria. In 1936 I considered this entity identical with *A. samoensis*, but more careful study shows that the two are not very closely related, having quite different types of indument, while the petals are glabrous in one case and copiously pilose in the other. *Aglaia saltatorum* actually is closely related only to two other new species, one from the Wallis Islands and one from Tonga; points of difference among these three novelties are indicated in my key.

The species is not entirely uniform throughout its range. The Tongan specimens and those from Niue tend to have the lowermost leaflets somewhat broader in proportion than the Fijian ones, while the indument of the lower surfaces of leaflets is more persistent in Tonga than it is in the Lau Group of Fiji. However, the cited specimens from Viti Levu (cultivated) are similar to those from Tonga, which may merely indicate that the introduction was made by some of the Tongans who settled in parts of Fiji and superposed their traditions on the Fijian ones. The cited specimen from Koro is the least typical one, having very large leaves with fairly persistent indument and a much reduced inflorescence. In general, however, the species is very well marked and reasonably consistent. I am indebted to Prof. T. G. Yuncker for the privilege of examining two of his specimens from Niue; a third number collected by him, No. 10131, was not seen in connection with the present study but it doubtless represents the same species.

5. **Aglaia** (§ *Euaglaia*) **heterotricha** A. C. Sm. sp. nov.

Arbor *A. saltatorum* supra descriptae affinis, foliorum foliolis inferioribus magnitudine haud reductis, indumento ramulorum juvenilium et foliorum rhachi et foliolorum costa lepidoto (indumento alibi stellato-piloso), filamentorum tubo extus stellato-piloso differt.

Tree, the branchlets terete, slender; indument of young branchlets, petioles, leaf-rachises, and costa of leaflets on lower surface lepidote, the scales membranaceous, 0.1–0.15 mm. in diameter, composed of 40–50 adnate rays free only at the erosulous scale-margin; leaves 7-foliolate (always?), up to 55 cm. long, the petiole 15–20 cm. long, conspicuously swollen at base, subterete like rachis; leaflets opposite, the petiolules 7–17 mm. long (of terminal leaflet to 20 mm. long), the blades papyraceous, greenish olivaceous when dried, elliptic (terminal ones slightly obovate), 15–25 cm. long, 7–10 cm. broad (lower ones on distal leaves sometimes smaller), obtuse or acute at base, apparently obtuse or obtusely cuspidate at apex, punctate on both surfaces and usually with a few persistent scattered trichomes beneath (these with 30–40 rays free nearly to middle), the costa nearly plane or slightly raised above, prominent beneath, the secondary nerves usually 12–15 per side, subspreading, slightly curved, nearly plane above, raised beneath, the veinlets often prominulous beneath, immersed above; inflorescences axillary, paniculate, freely branched (apparently from near base), many-flowered, the indument (on branches, pedicels, and calyx) stellate, the hairs with 30–40 rays free in the distal half; bracts and bracteoles minute; pedicels slender, at anthesis about 0.4 mm. in diameter and 0.5–1 mm. long; calyx submembranaceous, rotate, about 1.5 mm. in diameter, deeply 5-lobed, the stellate hairs toward the margins with only 10–15 rays free nearly to base, the lobes oblong, 0.5–0.7 mm. long, subacute; petals 5, thin-carnose, imbricate, oblong, 1.5–1.8 mm. long, 0.8–1.3 mm. broad, subacute, stellate-pilose without except at margins (hairs about 0.1 mm. in diameter, with 10–20 rays free in distal half); androecium urceolate, about 1.2 mm. long and 1.5 mm. in diameter, the filaments firmly connate into a tube, this closely but copiously pilose without (hairs minute, with 10–20 rays free nearly to base), the anthers inserted within the tube, oblong, about 0.5 mm. long; ovary minute, pilose like petals.

Type in the U. S. National Herbarium, No. 1527045, collected on the plateau on Eua Island, Tonga, in June or July 1926, by H. E. Parks (No. 16305). Duplicates at Bish, BM, K.

The single collection here described is closely related only to *A. saltatorum*, differing in its pilose filament-tube, the scarcely reduced lower leaflets of its leaves, and the diversity of its indument. In *A. saltatorum* the indument is uniformly stellate-pilose, the rays of the

hairs being free nearly to the base. This is the type of hair which occurs on the inflorescences and on the leaf-surfaces of *A. heterotricha*, but on the branchlets, leaf-rachises, and costas this species has a lepidote indument not unlike that of *A. samoensis*. Because of the presence of scales, the new species is also placed in the first part of my key, but it seems more closely related to *A. saltatorum* than to such species as *A. samoensis* and *A. axillaris*. *Aglaia saltatorum*, although occurring on Vavau and Tongatabu, has not yet been collected on Eua Island.

6. **Aglaia** (§ *Hearnia*) **vitiensis** A. C. Sm. in Bishop Mus. Bull. **141:** 80. *fig. 41.* 1936.

In connection with the original description of this species I cited five collections. One of these, *Smith* 728 from Taveuni, has the flowers of § *Euaglaia* and must surely be referred to *A. axillaris*, while all the others except the type probably also represent *A. axillaris*, although they are in fruit. Again, in 1942 (in Sargentia **1:** 42) I cited five additional collections as *A. vitiensis*, but I am now inclined to place four of these in either *A. axillaris* or the new species described below, *A. gracilis*. The difficulties of distinguishing these three species, in the absence of flowering material, have been discussed above under *A. axillaris*. To the typical form of *A. vitiensis* I can refer with reasonable certainty only the type and two additional collections.

However, a more abundant small-leaved form is evident in Fiji, which has flowers identical with those of *A. vitiensis*, being clearly of § *Hearnia*; although this form is not specifically separable, it seems to merit varietal recognition. The two varieties of *A. vitiensis* may be differentiated as follows:

Leaves up to 45 cm. long, the lateral leaflets (lowermost sometimes slightly reduced) 10–20 cm. long and 4.5–7.5 cm. broad, with 12–15 secondary nerves per side, the terminal leaflet similar or larger, up to 21 × 13 cm., with 12–17 secondary nerves per side ---------- var. *vitiensis*

Leaves less than 30 cm. long, the lateral leaflets (3–) 4–10.5 cm. long and (1.2–) 2–4.5 cm. broad, with 6–12 secondary nerves per side, the terminal leaflet essentially similar ---------- var. *minor*

6a. **Aglaia vitiensis** var. **vitiensis.**

TYPE LOCALITY: Koro, Fiji; type, *Smith* 981, cited below.

DISTRIBUTION: Fiji, known with certainty only from Viti Levu and Koro, at elevations up to 750 m. The plant is a tree, as much as 23 m. tall, with brownish flowers.

FIJI: VITI LEVU: Mba: Sovutawambu, near Nandarivatu, *Degener* 14666 (A, Bish, K, NY, US). Naitasiri or Rewa: Central Road, near Suva, *Tothill* 518 (Bish, K). KORO: Eastern slope of main ridge, *Smith* 981 (Bish TYPE, GH, K, NY, US).

Aglaia vitiensis and *A. samoensis*, with which I originally compared it, belong to different sections of the genus and are not closely related, although both have a copious lepidote indument which causes a superficial similarity. Actually, *A. vitiensis* is a very distinct species, closely related only to the following, *A. gracilis*.

6b. **Aglaia vitiensis** var. **minor** A. C. Sm. var. nov.

Arbor parva vel mediocris indumento et inflorescentia varietate typica similis, foliis minoribus, foliolorum nervis secundariis pauciori-bus differt.

Tree, usually small, rarely to 20 m. high, the leaves 5–11-foliolate, up to 30 cm. long, the terminal leaflet essentially like the upper lateral ones; petiolules 3–11 mm. long, the leaflet-blades (3–) 4–10.5 cm. long, (1.2–) 2–4.5 cm. broad, with 6–12 lateral nerves per side; inflorescence as in var. *vitiensis*, 3–15 cm. long, usually many-flowered.

Type in the U. S. National Herbarium, No. 1674996, collected in dense forest on Mt. Kasi, Yanawai River region, Province of Thakaundrove, Vanua Levu, Fiji, alt. 300–430 m., May 10, 1934, by A. C. Smith (No. 1788). Duplicates at Bish, K, GH, NY, etc.

ADDITIONAL SPECIMENS EXAMINED:

FIJI: VITI LEVU: "Between Vienunga and Namoali," *Horne* 858 (GH, K). Mba: Northern portion of Mt. Evans Range, between Mt. Vatuyanitu and Mt. Natondra, *Smith* 4375 (A, US); Mt. Nanggaranambuluta [Lomalangi], east of Nandarivatu, *Greenwood* 852 (A, NY, US), *Smith* 4834 (A, US); Mt. Tomanivi [Mt. Victoria], *Smith* 5096 (A, US). Ra: Ridge from Mt. Namama toward Mt. Tomanivi, *Smith* 5726 (A, US). Nandronga & Navosa: Northern portion of Rairaimatuku Plateau, between Nandrau and Rewasau, *Smith* 5405 (A, US); between Nandrau and Nanga, *Smith* 5556 (A, US). Namosi: Mt. Naitarandamu, *Gillespie* 3348 (Bish, GH); Mt. Voma, *Gillespie* 2784 (Bish, GH). Naitasiri or Rewa: Central Road, near Suva, *Tothill* 519b (Bish, K). Rewa: Mt. Koromba, *Meebold* 16793 (Bish). OVALAU: Near summit of main range west of Levuka, *Gillespie* 4437 (Bish). VANUA LEVU: Thakaundrove: East of Naunduna, Yanawai River region, *Degener & Ordonez* 14084 (A, Bish, K, NY, US); eastern slope of Mt. Ndikeva, *Smith* 1900 (Bish, GH, K, NY, US). MOALA: Near Maloku, *Smith* 1337 (Bish, GH, K, NY, US).

DISTRIBUTION: As indicated above, the variety is apparently limited to Fiji, being known from the islands of Viti Levu, Ovalau, Vanua Levu, and Moala, at elevations of near sea level to 1,200 m., usually occurring in dense forest. The specimens are from compact or slender trees usually 3–15 m. in height (rarely as much as 20 m.); the inflorescence is brown and the fruit orange or orange-brown.

LOCAL NAMES: *Lindiyango* (interior Viti Levu); *thavuthavu* (Vanua Levu and Moala).

In inflorescence characters this entity scarcely differs from typical *A. vitiensis*, but, because of its consistently smaller and fewer-nerved leaflets, I believe that it merits varietal status. It is the more common form of *A. vitiensis*. Although specimens from the higher ele-

vations fall into var. *minor*, it also occurs downward nearly to sea level, and the small leaves do not appear fundamentally concomitant with higher altitudes. Several of the cited collections have been identified as *A. elegans*, but the similarity is no more than superficial, the type of indument being entirely different.

7. **Aglaia** (§ *Hearnia*) **gracilis** A. C. Sm. sp. nov.

? *Dysoxylum obliquum* Gillespie in Bishop Mus. Bull. 83: 13 (excl. *fig. 15*). 1931; non *Aglaia obliqua* White & Francis (1927).

? *Didymocheton obliquum* Harms in Nat. Pfl. ed. 2. 19b1: 157. 1940.

Frutex vel arbor gracilis *A. vitiensi* affinis, inflorescentia compacta, petalis glabris minoribus, filamentorum tubo minuto, foliolorum laminis lanceolato-oblongis apice rotundatis vel late obtusis distinguitur; ab *A. axillari* antheris in filamentorum tubum marginalibus, petalis glabris, et foliolorum forma differt.

Slender tree or simple-stemmed shrub 2–4 m. high, the branchlets slender, terete; indument of young parts, petioles, leaf-rachises, and leaflets lepidote, the scales membranaceous, 0.1–0.15 mm. in diameter, composed of 40–60 adnate rays free only at the erosulous scale-margin; leaves 7- or 9-foliolate (rarely 5-foliolate), 15–42 cm. long, the petiole 3–7 cm. long, conspicuously swollen at base, slightly flattened or shallowly canaliculate above like the rachis; leaflets opposite or subopposite, the petiolules 2–8 mm. long (of terminal leaflet to 10 mm. long), the blades papyraceous, drying greenish brown, lanceolate-oblong, the terminal and upper lateral ones subsimilar, 7–20 cm. long, 2–5.5 cm. broad (lowermost ones sometimes reduced to 5×1.5 cm.), acute or obtuse at base (lower ones sometimes rounded), rounded or broadly obtuse at apex, obscurely punctate on both sides and at length glabrate except for scattered subpersistent scales on the costa beneath, the costa impressed above, prominent beneath, the secondary nerves 8–18 per side, spreading, slightly curved, plane or faintly impressed above, elevated beneath, the veinlets immersed on both sides or plane but evident beneath; inflorescences axillary or arising from stem below leaves, compact, few-flowered, at anthesis scarcely exceeding 1 cm. in length, the indument (on branches, pedicels, and calyx) lepidote, the scales like those of vegetative parts but with fewer and less highly adnate rays, the flowers soon essentially glabrate; bracts and bracteoles oblong, obtuse, 0.5 mm. long or less; pedicels slender, about 0.5 mm. in diameter, at anthesis 1–1.5 mm. long; calyx rotate, about 2 mm. in diameter, deeply 5-lobed, the lobes oblong, 0.6–0.8 mm. long, obtuse, minutely glandular-margined; petals 5, imbricate, thin-carnose, suborbicular, 1.3–1.5 mm. long, 1–1.8 mm. broad, glabrous, rounded at apex; androecium 1–1.2 mm. high and about 1.5 mm. in diameter, the filaments connate into a minute carnose tube about 0.5 mm. long, undulate at margin, the anthers marginal, suberect or

slightly incurved, oblong-deltoid, about 0.7 mm. long; ovary minute, copiously lepidote, the stigma carnose, faintly emarginate; fruiting inflorescences small (scarcely 3 cm. long including fruits), the fruits few or often solitary and terminal on an apparently simple peduncle, the calyx persistent, remaining small; fruit ovoid-ellipsoid, at maturity 1.5–2 cm. long and 1–1.5 cm. broad, obtuse at both ends or rounded at base, the pericarp thin, persistently lepidote, the seeds oblong-ellipsoid, about 13×6 mm., rounded at both ends, flattened ventrally.

Type in the herbarium of the Arnold Arboretum, collected in dense forest on the western slopes of Mt. Nanggaranambuluta [Lomalangi], east of Nandarivatu, Province of Mba, Viti Levu, Fiji, alt. 850–1,000 m., Oct. 2, 1947, by A. C. Smith (No. 6325). Duplicate at US.

ADDITIONAL SPECIMENS EXAMINED:

FIJI: VITI LEVU: Mba: Summit of Mt. Koroyanitu, high point of Mt. Evans Range, *Smith* 4203 (A); Nandarivatu, *Gillespie* 4161 (Bish, GH), *? Gillespie* 4316 (Bish type of *Dysoxylum obliquum*, GH); Tholo-i-Nandarivatu, *Gillespie* 3951 (Bish, GH, NY); ridge between Mt. Nanggaranambuluta [Lomalangi] and Mt. Namama, east of Nandarivatu, *Smith* 4991 (A, US); Nauwanga, near Nandarivatu, *Degener* 14689 (A).

DISTRIBUTION: The few specimens known of this species come from northern Viti Levu, all except one from the general vicinity of Nandarivatu, from elevations of 750–1,200 m. The habitat reported is dense forest, and the plants are slender trees or simple-stemmed shrubs 2–4 m. high, with white petals and bright orange fruit.

LOCAL NAME: *Lindiyango* (more or less generic in parts of Viti Levu).

The difficulties of distinguishing this species from *A. axillaris* and *A. vitiensis* have been discussed above, but actually it is a well-marked entity and the cited specimens are referred here with reasonable confidence, although only the type bears flowers. The only questionable specimen referred here is the type collection of *Dysoxylum obliquum*, which, as I have mentioned in Sargentia **1:** 42.1942, was based upon a confused concept. However, only the type collection is concerned in the nomenclature. Unfortunately this type collection, in fruit, is difficult to place accurately, although I think that it very likely represents *A. gracilis* rather than *A. vitiensis* (to which I referred it in 1942) or *A. axillaris*. At any rate, the epithet *obliqua* is not available in *Aglaia;* so that rather than base the present concept and a new name upon Gillespie's type (the identity of which may remain open to question), I think it best to propose a new species to which Gillespie's binomial may be questionably referred. Gillespie's *figure 15*, published in connection with his original description, is not referable to *A. gracilis*. The habit sketch and the seed drawings (*f*, *g*) may represent *A. axillaris* or *A. vitiensis*, but the floral details (*a–e*) picture *Dysoxylum lenticellare*.

Aglaia gracilis is distinguished not only by its compact inflorescence, glabrous petals, and lanceolate-oblong leaflets, but also by its characteristic slender habit and its comparatively fugacious indument; the calyx is deeply lobed and, with the pedicel, bears very few scales soon after anthesis.

8. **Aglaia** (§ *Hearnia*) **amplexicaulis** A. C. Sm. in Bishop Mus. Bull. **141**: 78. *fig. 39.* 1936.

TYPE LOCALITY: Kandavu, Fiji; type, *A. C. Smith* 156, cited below.

DISTRIBUTION: Fiji, thus far known only from Viti Levu and Kandavu, at elevations of 200–450 m. The species has been collected in dense forest and noted either as a tree 10 m. high or a shrub 1–2 m. high; the petals are yellowish brown.

FIJI: VITI LEVU: Nandronga & Navosa: Southern slopes of Nausori Highlands, in drainage of Namosi Creek above Tumbenasolo, *Smith* 4718 (A, US). KANDAVU: Hills above Namalata and Ngaloa Bays, *Smith* 156 (Bish TYPE, GH, K, NY, US).

This very distinct species is at once distinguished by its simple, subsessile, cordate-amplexicaul leaves and its sparse, stellate indument of uniformly branched hairs. Since the species was originally based on a fruiting specimen, it is a satisfaction to have a second collection in flower; this indicates that the species falls into § *Hearnia*. The following notes, based mostly upon *Smith* 4718, supplement the original description:

Indument of young parts and lower surface of leaf-costa sparse, stellate, the hairs 0.1–0.2 mm. in diameter, composed of 10–20 rays free nearly to base or at least in the distal half; leaves often glabrate, the blades as small as 9×2 cm. or rarely less, with 15–30 pairs of secondary nerves; inflorescences axillary to uppermost leaves, paniculate, at anthesis 4–5 cm. long, few-branched and few-flowered, sparsely stellate-pilose like vegetative parts; bracts lanceolate-oblong, 1.5–2 mm. long, obtuse, the bracteoles similar but about 0.5 mm. long; pedicels at anthesis 2–3.5 mm. long, the flowers about 2.5 mm. in diameter; calyx-lobes oblong-deltoid, subacute, 0.8–1 mm. long; petals 5, elliptic-obovate, 2–2.2 mm. long, about 1.5 mm. broad, rounded at apex, scariose-margined, pilose without toward base like calyx, otherwise glabrous; androecium about 1.8 mm. long and 2.2 mm. in diameter, the filaments connate in a carnose glabrous tube about 1 mm. long, the anthers 5, marginal, suberect, deltoid-ellipsoid, about 1 mm. long; ovary pilose like calyx, the stigma large, carnose, bilobed.

9. **Aglaia** (§ *Hearnia?*) **elegans** Gillespie in Bishop Mus. Bull. **83**: 11. *fig. 12.* 1931.

TYPE LOCALITY: Tamavua, Province of Naitasiri, Viti Levu, Fiji; type, *Gillespie* 2005, cited below.

DISTRIBUTION: Fiji, thus far known only from Viti Levu, at elevations from near sea-level up to 1,075 m. The species occurs in dense forest and is reported as a tree up to 7 m. in height, with a brown fruit.

LOCAL NAME: Gillespie records the name *kau toa*, which I have not otherwise noted for *Aglaia* in Fiji.

FIJI: VITI LEVU: Mba: Mt. Evans Range, *Greenwood* 1142 (A, Bish); upper slopes of Mt. Koromba [Pickering Peak], *Smith* 4664 (A, US). **Naitasiri:** Tamavua woods, *Gillespie* 2005 (Bish TYPE, GH, K, NY, US), 2138 (Bish, GH); vicinity of Nasinu, *Gillespie* 3564 (Bish, GH); Central road, 8 miles from Suva, *MacDaniels* 1143 (Bish). **Rewa:** Vicinity of Suva, *Tothill* 93 (Bish, K).

Of the seven collections originally cited by Gillespie, four are referable to *A. vitiensis* var. *minor*, as are several more recent collections that have been identified as *A. elegans*. Actually these two entities bear only a superficial resemblance, differing fundamentally in type of indument. The stellate hairs of the vegetative parts and of the fruiting inflorescence of *A. elegans* are about 0.15 mm. in diameter, composed of 15–20 rays free nearly to base; these rays are fairly uniform in length and under high magnification are seen to be several-celled.

Although Gillespie did not have flowering material of *A. elegans*, he referred to it § *Euaglaia*. Flowering specimens are still not available, and accurate reference to a section is not possible. However, in view of the apparent relationship between this species and the following, I am more inclined provisionally to place *A. elegans* in § *Hearnia*.

10. **Aglaia** (§ *Hearnia*) **venusta** A. C. Sm. sp. nov.

Frutex habitu gracili, foliis parvis, foliolis lanceolato-oblongis apice rotundatis, inflorescentia compacta, petalis pilosis, antheris parvis marginalibus, fructu saepe solitario distinguitur; *A. eleganti* videtur affinis, foliolis plerumque numerosioribus et minoribus (haud 2 cm. latis) differt.

Slender shrub to 4 m. in height, the branchlets slender, terete, at length glabrate and cinereous; indument of young parts, petioles, leaf-rachises, and leaflets stellate, the hairs 0.1–0.2 mm. in diameter, composed of 8–17 several-celled rays free nearly to base; leaves 7- or 9-foliolate, 12–18 cm. long, the petiole 2–4 cm. long, slightly swollen at base, like the rachis very slender and subterete; leaflets opposite or subopposite, the petiolules very slender, 3–6 mm. long (of terminal leaflet to 8 mm. long), the blades papyraceous, dark green when dried, lanceolate-oblong, the terminal and upper lateral ones similar, 4–7 cm. long, 1.2–2 cm. broad (lowermost ones sometimes slightly smaller), inequilaterally obtuse or nearly rounded at base, rounded at apex, obscurely punctate on both surfaces with minute pits indicating hair-attachments, soon glabrate except for persistent indument on costa

beneath, the costa plane or slightly impressed above, strongly elevated beneath, the secondary nerves 9–13 per side, spreading, inconspicuously anastomosing, nearly plane above, prominulous beneath, the veinlet-reticulation obscure or faintly prominulous; inflorescences axillary, compact, few-flowered, not more than 1.5 cm. long at anthesis, the indument (on rachis, pedicels, calyx, and petals) like that of vegetative parts; bracts and bracteoles oblong, 1 mm. or less long; pedicels up to 1 mm. long; calyx cupuliform, about 2.5 mm. in diameter, 5-lobed, the lobes carnose, oblong, 1–1.2 mm. long, rounded at apex; petals 5, imbricate, carnose, suborbicular, 1–1.5 mm. long and broad (not quite mature), glabrous only toward margins; androecium about 1 mm. high and 1.5 mm. in diameter, the filaments carnose, connate into a glabrous tube 0.3–0.5 mm. long, the anthers erect from margin of tube, subglobose-deltoid, about 0.5 mm. long; ovary minute, pilose like calyx, the stigma subcapitate; fruiting inflorescences small, the fruits often solitary on apparently simple peduncles, the calyx persistent, slightly accrescent; fruit ellipsoid, at maturity about 2 cm. long and 1.3 cm. broad, rounded at both ends, the pericarp thin, brittle, closely velutinous-stellate-pilose, the seeds 1 or 2, ellipsoid, up to 13×9 mm., rounded at both ends, ventrally flattened.

Type in the U. S. National Herbarium, No. 1676177, collected in dense forest on the southwestern slope of Mt. Mbatini, Province of Thakaundrove, Vanua Levu, Fiji, alt. 300–700 m., Nov. 28, 1933, by A. C. Smith (No. 616). Duplicates at Bish, GH, K, NY, etc.

The only known collection was from a slender shrub 4 m. high, the recorded local name being *kula;* the fruit is red, becoming brown at maturity. On the basis of its indument and other vegetative characters, this species can be related only to the preceding, *A. elegans*, but since no flowers are yet known for that species a careful comparison cannot now be made. Assuming that *A. elegans* also belongs to § *Hearnia*, perhaps only the very slender habit and reduced size of leaflets will serve to differentiate my new species; on the basis of available material I think that it should not be combined with the older entity.

11. **Aglaia** (§ *Hearnia?*) **basiphylla** A. Gray, Bot. U. S. Expl. Exped. 1: 237, 1854; C. Muell. in Walp. Ann. Bot. Syst. 4: 387. 1857; Seem. Fl. Vit. 37. 1865.

TYPE LOCALITY: Ovalau, Fiji; type collected by U. S. Exploring Expedition, cited below.

DISTRIBUTION: Fiji, thus far known with certainty only from the island of Ovalau. The Gillespie specimen bears the altitudinal note of 500 m., but no data pertaining to habit or habitat are available.

FIJI: OVALAU: *U. S. Expl. Exped.* (GH, US 15569 TYPE); **vicinity of Levuka, overland trail to the west coast, *Gillespie* 4342.1** (Bish).

In the arrangement proposed in my key, this is the first of the species from our region having the trichome-rays comparatively long and diverse in length. It shares this character with the four species immediately following. No flowers are known for *A. basiphylla*, but the other four species with this type of indument all belong to § *Hearnia*. For convenience, because its trichomes occasionally bear rays of intermediate length, *A. psilopetala* (§ *Euaglaia*) has also been keyed in this relationship, although its true affinity is doubtless with *A. samoensis* and *A. saltatorum*.

12. Aglaia (§ *Hearnia*) **greenwoodii** A. C. Sm. in Bishop Mus. Bull. **141**: 79. *fig. 40*. 1936.

TYPE LOCALITY: Near Wainikoro, Province of Mathuata, Vanua Levu, Fiji; type, *Greenwood* 500A, cited below.

DISTRIBUTION: Fiji, thus far known from Viti Levu and Vanua Levu, at elevations from near sea level up to 850 m., occurring in open or dense forest. The species is usually reported as a tree, often slender, 5–12 m. high or perhaps larger, rarely as a shrub as low as 1 m. in height. The flower-buds are greenish white, the petals at anthesis being brown without and yellow within; the fruit is bright red or reddish orange or brown.

LOCAL NAMES AND USES: Recorded local names are *tawatawa* (region of Nalotawa), *tombuthe* (in Ra), *malandamu* (Wainunu River, Thakaundrove), and *waithavuthavu* (Mathuata). In Ra, Degener noted that the wood was used for house building, while I was informed that in Mathuata the trunks of saplings are used to make spears.

FIJI: VITI LEVU: Mba: Mountains near Lautoka, western slopes of Mt. Evans Range, *Greenwood* 1067 (A, Bish, US); vicinity of Nalotawa, eastern base of Mt. Evans Range, *Smith* 4455 (A, US); Nandala, near Nandarivatu, *Degener* 14374 (A, Bish, K, NY, US); hills between Nandala and Nukunuku Creeks, along trail from Nandarivatu toward Lewa, *Smith* 6201 (A, US). Ra: Mataimeravula, vicinity of Rewasa, near Vaileka, *Degener* 15334 (A, Bish, K, NY, US). Namosi: Slopes of Mt. Voma, *Gillespie* 2470 (Bish); vicinity of Namuamua, *Gillespie* 3068 (Bish). Naitasiri: Tamavua, *Yeoward* 620 (K); near Nasinu, *Greenwood* 1137 (A). VANUA LEVU: Mbua: Lower Wainunu River Valley, *Smith* 1738 (Bish, GH, K, NY, US). Mathuata: Near Wainikoro, *Greenwood* 500A (K TYPE, NY fragment); near Lambasa, *Greenwood* 500 (K); southern slopes of Mt. Numbuiloa, east of Lambasa, *Smith* 6335 (A, US); Seanggangga Plateau, in drainage of Korovuli River, vicinity of Natua, *Smith* 6720 (A, US). Thakaundrove-Mathuata boundary: Crest of Korotini Range, between Navitho Pass and Mt. Ndelaikoro, *Smith* 528 (Bish, GH, K, NY, US).

The cited specimens have sometimes been confused in herbaria with *A. elegans*, but the two species are quite distinct in type of indument, although superficially their foliage is somewhat similar. Actually, the relationship of *A. greenwoodii* seems to be with *A. basiphylla*, but this should not be positively stated because of the lack of flowers for

the latter species. The presence of a pair of basal stipule-simulating leaflets on the leaves of *A. basiphylla* distinguishes that species, to which, on the basis of foliage alone, *A. greenwoodii* is admittedly close.

13. **Aglaia** (§ *Hearnia*) **fragilis** A. C. Sm. in Sargentia 1: 45. 1942.

TYPE LOCALITY: Nauwanga, near Nandarivatu, Province of Mba, Viti Levu, Fiji; type, *Degener* 14680, cited below.

DISTRIBUTION: Thus far known only from the vicinity of Nandarivatu, Viti Levu, at elevations of 750–1,200 m., reported as an undershrub or as a small tree up to 5 m. in height, occurring in dense and often wet forest.

FIJI: VITI LEVU: Mba: Nauwanga, near Nandarivatu, *Degener* 14680 (A TYPE, Bish, K, NY, US); Nandarivatu, *Tothill* 91 (K), *Parks* 20741 (Bish), *Gillespie* 3691 (Bish); near summit of Mt. Nanggaranambuluta [Lomalangi], *Gillespie* 3794 (Bish); hills east of Nandala Creek, about 3 miles south of Nandarivatu, *Smith* 5937 (A, US).

This well-marked and apparently very local species is closely related only to the preceding, *A. greenwoodii*, from which it differs, as noted in my key, in its fewer and more persistently pilose leaflets, of which the lateral ones are conspicuously smaller than the terminal. Its leaves, however, do not bear the essentially basal reduced leaflets which characterize those of *A. basiphylla*.

14. **Aglaia** (§ *Hearnia*) **archboldiana** A. C. Sm. in Sargentia 1: 44. 1942.

TYPE LOCALITY: Vicinity of Ngaloa, Province of Serua, Viti Levu, Fiji; type, *Degener & Ordonez* 13705, cited below.

DISTRIBUTION: Known only from Viti Levu, at elevations from near sea level up to 970 m., usually in dense forest. The collections are noted as trees, usually slender, up to 10 m. in height; the indument throughout is a light brown.

LOCAL NAMES: *Sasawira* (noted by Degener); *kali* (noted by Gillespie, but the name more often refers to *Myristica* spp.).

FIJI: VITI LEVU: Mba: Immediate vicinity of Nandarivatu, *Gillespie* 3709 (A, Bish), *Smith* 5046 (A, US); Mt. Matomba, Nandala, near Nandarivatu, *Degener* 14506 (A, Bish, K, NY, US); hills between Nandala and Nukunuku Creeks, along trail from Nandarivatu toward Lewa, *Smith* 6199 (A, US); hills east of Nandala Creek, about 3 miles south of Nandarivatu, *Smith* 5928 (A, US); hills between Nggaliwana and Nandala Creeks, south of Nauwanga, *Smith* 5829 (A, US). Serua: *Greenwood* 1020 (A, K); vicinity of Ngaloa, *Degener & Ordonez* 13705 (A TYPE, Bish, K, NY, US).

Aglaia archboldiana has no close relatives except the following species, *A. parksii*. These two allied species of § *Hearnia* are of the general affinity of *A. greenwoodii* and its allies, but their very large leaves immediately distinguish them. My original description of the petals as glabrous was inaccurate, as at least the outer petals are sparsely pilose toward the base without.

15. **Aglaia** (§ *Hearnia*) **parksii** A. C. Sm. in Bull. Torrey Club **70**: 541. 1943, in Journ. Arn. Arb. **27**: 320. 1946.

TYPE LOCALITY: Tholo-i-Suva, Province of Naitasiri, Viti Levu, Fiji; type, *Parks* 20076, cited below.

DISTRIBUTION: Thus far collected only in southeastern Viti Levu, in dense forest at elevations of 200 m. or less; the plants are trees up to 6 m. in height, with a brownish ferruginous indument.

FIJI: VITI LEVU: Naitasiri: Tholo-i-Suva, *Parks* 20076 (A fragm., Bish TYPE); near Nasinu, *Greenwood* 1136 (A).

This apparently local species is related only to *A. archboldiana*, differing in the characters noted in my key. *Greenwood* 1136 bears young inflorescences which are, however, sufficiently developed to show that the species belongs in § *Hearnia*; the petals are pilose (hairs 0.2–0.25 mm. in diameter, with about 15 rays free nearly to base, the rays only occasionally as long as 0.5 mm.) in the basal half without, glabrous distally; the anthers are definitely marginal on the filament-tube.

16. **Aglaia haplophylla** A. C. Sm. sp. nov.

Arbor parva foliis simplicibus petiolatis basi obtusis vel acutis, indumento copioso partum novellarum et inflorescentiae compactae lepidoto distinguitur; indumento *A. axillari*, *A. vitiensi*, et *A. gracili* similis, foliis simplicibus valde differt.

Tree 7 m. high, the branchlets slender, terete, the older ones brownish or cinereous, rugulose; young parts copiously lepidote with cinnamon-brown scales, these membranaceous, 0.1–0.15 mm. in diameter, composed of 40–60 rays adnate except at the erosulous margin of the scale; leaves simple, with the lepidote indument persisting on the petiole and costa (at least beneath), otherwise soon glabrate; petioles slender, 1–2 cm. long, flattened or shallowly grooved above, swollen at base and apex; leaf-blades papyraceous, drying dull green, oblanceolate-elliptic or narrowly oblong-elliptic, 7–11 cm. long, 2–4 cm. broad, obtuse at base, rounded or broadly obtuse at apex, recurved at margin, copiously but obscurely punctate on both surfaces with pits indicating scale-attachments, the costa impressed above, prominent beneath, the secondary nerves 9–13 per side, spreading, anastomosing near margins, plane and inconspicuous above, slightly elevated beneath, the veinlets immersed; inflorescences axillary toward apices of branchlets, solitary, 2–3 cm. long in young fruit, few-flowered (flowers not seen but young fruits usually 2–4 per inflorescence), uniformly and copiously lepidote like the young vegetative parts throughout (branches, pedicels, bracteoles, calyx, and ovary); bracteoles lanceolate, 1–1.5 mm. long; pedicels in young fruit about 1.5 mm. long; calyx 3–4 mm. in diameter, the lobes oblong, 0.8–1 mm. long, obtuse; young fruit ellipsoid, rounded at both ends, the locules 2, each with 2 ovules.

Type in the herbarium of the Arnold Arboretum, collected in dense forest on the ridge between Mt. Nanggaranambuluta [Lomalangi] and Mt. Namama, east of Nandarivatu, Province of Mba, Viti Levu, Fiji, alt. 1,050–1,120 m., Aug. 18, 1947, by A. C. Smith (No. 5683). Duplicate at US.

The only available specimen is indicated as a tree 7 m. high. Although no flowers are available, the specimen clearly represents a new species, being sharply characterized by its simple leaves. The lepidote indument and the leaf-texture indicate a relationship with *A. axillaris*, *A. vitiensis*, and *A. gracilis*, all of which occur in the same general area but have compound leaves. Without flowers it is not possible to place *A. haplophylla* in a section, but it is obviously more closely related to one of the mentioned species than it is to *A. amplexicaulis*, the only other simple-leaved *Aglaia* thus far known from Fiji.

17. **Aglaia evansensis** A. C. Sm. sp. nov.

Frutex vel arbor gracilis, indumento sparso stellato (pilorum ramulis parvis uniformibus), foliis parvis 3- vel 5-foliolatis, foliolis lateralibus valde reductis, infimis folii rhachi basalibus stipulis simulantibus, inflorescentia compacta pauciflora distinguitur; indumento *A. eleganti* et *A. venusta* subsimilis, foliorum forma valde differt.

Shrub or slender tree to 8 m. in height, the branchlets slender, terete, subflexuose distally, soon glabrate and cinereous; indument of young parts, leaf-rachises, and leaflets stellate, the hairs 0.1–0.2 mm. in diameter, composed of 12–20 rays fairly uniform in length and free nearly to base; leaves 3- or 5-foliolate (or appearing simple due to loss of the small basal leaflets), 7–17 cm. long, the petiole essentially none, the rachis slender, terete, 1–5 cm. long; leaflets papyraceous, drying pale green, eventually glabrate except for persistent hairs on the costa beneath, the 2 or 4 lateral leaflets opposite, much reduced, with petiolules 1–2 mm. long, the lowermost leaflets simulating stipules, with suborbicular few-nerved blades 0.5–3 cm. long and nearly as broad, the blades of the second pair of leaflets (if present) oblong-elliptic, 1.5–4.5 cm. long and 1–2.5 cm. broad, rounded at base, obtuse at apex, with 4–8 pairs of secondary nerves, the terminal leaflet with a swollen petiolule 2–4 mm. long and an oblong- or lanceolate-elliptic blade, this 4–12 cm. long, 2–5 cm. broad, broadly obtuse at base and apex, the costa plane or slightly impressed above and prominent beneath, the secondary nerves 6–15 per side, spreading, plane above, raised beneath, the veinlets obscure or faintly prominulous beneath; inflorescences (seen only before and after anthesis) axillary, compact, few-flowered, up to 3.5 cm. long including fruit, the indument (on rachis, pedicels, and calyx) like that of vegetative parts; pedicels swollen, 2–2.5 mm. long; calyx persistent, 2–2.5 mm. in diameter, the lobes 5, oblong-deltoid, obtuse, 0.7–1 mm. long; petals (very minute

on *Greenwood* 117) apparently glabrous, the stamens too undeveloped to distinguish; fruits often reduced to 1 per inflorescence on an apparently simple peduncle, ellipsoid, at maturity about 2 cm. long and 1.5 cm. broad, rounded at both ends, the pericarp thin, brittle, closely stellate-pilose like the calyx, the seeds 1 or 2, ellipsoid, about 13×8 mm., rounded at both ends, flattened ventrally.

Type in the herbarium of the Arnold Arboretum, collected in dense low forest on the eastern slopes of Mt. Koroyanitu, Mt. Evans Range, Province of Mba, Viti Levu, Fiji, alt. 950–1,050 m., May 1, 1947, by A. C. Smith (No. 4152). Duplicate at US.

ADDITIONAL SPECIMENS EXAMINED:

FIJI: VITI LEVU: Mba: Mt. Evans Range [upper western slopes toward Lautoka and near summit of Mt. Mbotilamu], *Greenwood* 117 (K), 1068 (A), 1072 (A, Bish, US); slopes of Mt. Nairosa, eastern flank of Mt. Evans Range, *Smith* 4080 (A, US).

DISTRIBUTION: Apparently limited to the isolated Mt. Evans Range, in northwestern Viti Levu, Fiji, at elevations of 900–1,180 m. The plant is a slender shrub or tree 2–8 m. high, occurring in upper slope forest of a dense, low type; the fruit is red.

In spite of the absence of mature flowers, which makes the assignment of the plant to a section inadvisable, I venture to describe this very distinct entity as new. It is at once distinguished by its small leaves with greatly reduced lateral leaflets, the lowest of which are basal on the rachis and simulate stipules. In having such basal leaflets the species resembles *A. basiphylla*, while in size of leaves it suggests *A. fragilis*, but both these species have indument of a different type, the trichome-rays being frequently elongate. In pubescence the new species suggests *A. elegans* and *A. venusta*, which are possibly its closest relatives, but the reduced number and size and the position of the lateral leaflets at once distinguish it. Although the leaves of *A. evansensis* may appear unifoliolate, close examination discloses the scars of the basal leaflets.

Aglaia sp.

Aglaia basiphylla sensu C. DC. in DC. Monogr. Phan. **1**: 613. 1878, non A. Gray.

FIJI: VITI LEVU: Ra: Mataimeravula, vicinity of Rewasa, near Vaileka, alt. 50–200 m., *Degener* 15422 (A, Bish, K, NY, US). VANUA LEVU: Thakaundrove: Hills west of Mbutha Bay, Natewa Peninsula, alt. 150–350 m., *Smith* 809 (Bish, GH, K, NY, US) (*langakali*). TAVEUNI: *Seemann* 59 (GH, K).

The cited specimens, all in fruit, may be compared only with *A. greenwoodii;* they have the same type of indument, but it is more fugacious, persisting only sparsely on the costa of leaflets; their leaflets tend to be more distinctly narrowed distally, oblong-ovate rather than oblong-elliptic; the calyx in fruit is considerably smaller than in typical *A. greenwoodii*, the hairs of the calyx and inflorescence-branches lacking the occasional long rays which characterize that species; the

indument is pale brown rather than deep cinnamon-colored. I suspect that the cited material represents an undescribed species, but verification from flowering specimens should be awaited.

Apparently de Candolle's description of *A. basiphylla*, cited above, was based entirely upon *Seemann* 59.

Aglaia sp.

FIJI: VITI LEVU: Mba: Mountains east of Lautoka [western base of Mt. Evans Range], alt. 250 m., *Greenwood* 282 (K).

The cited specimen is indicated as a tree about 6 m. high; its leaves are 18–25 cm. long, with 5 leaflets, these being lanceolate-elliptic and up to about 12×5 cm.; the indument consists of pale stellate hairs about 0.3 mm. in diameter, with 10–15 rays uniform in length and free to base; the lower surface of leaflets is persistently and conspicuously covered with hairs of this type.

The single specimen appears to represent an undescribed species of the general relationship of *A. elegans*, but the persistence and large size of the hairs, together with minor details of leaflet-shape and texture, exclude it from that species. As the specimen is in young fruit, it cannot be definitely assigned to a section of the genus.

Aglaia sp. (Christophersen in Bishop Mus. Bull. 128: 116. 1935.)

SAMOA: SAVAII: Forest above Matavanu Crater, alt. 1,030 m., *Christophersen & Hume* 2195 (Bish, NY, US).

Christophersen has briefly discussed this fruiting specimen, which in indument agrees with *A. samoensis*, but which differs in having leaves with only 1 or 2 pairs of lateral leaflets and in its larger fruits.

DYSOXYLUM Bl.

Dysoxylum Bl. Bijdr. Fl. Ned. Ind. 172. 1825.

Dysoxylum has traditionally been divided into two well-marked sections, *Eudysoxylum* and *Didymocheton*, this arrangement having been accepted by C. de Candolle (in DC. Monogr. Phan. **1:** 480–528. 1878). Both groups were originally proposed by Blume as genera, a separation which is maintained by Harms (in Nat. Pfl. ed. 2. **19b1:** 156–166. 1940) and a few other students of the family. The separation of the groups is based wholly upon characters of the calyx, which in *Dysoxylum* proper is gamosepalous (but often deeply lobed) and in *Didymocheton* composed of separate imbricate sepals. In the species of our region there is also a consistent difference in the indument of the fruit, stated in the key. However, except for the calycine differences the flowers of the two groups are fundamentally similar, with parallel series of variations. In the present paper the more comprehensive concept of *Dysoxylum* is maintained, following most recent workers. In our area 13 species are recognizable, three of them being described as new.

KEY TO THE SPECIES

Calyx gamosepalous but deeply lobed, subtended by 1–3 minute bracteoles not forming a cupule; fruits glabrous at maturity (§ *Eudysoxylum*).

Petals connate into a tube in the lower half or third and adnate to lower part of staminal tube; leaflets sometimes with very short petiolules and with the distal base of the blade rounded and touching the leaf-rachis.

Leaflet-blades densely and persistently soft-pilose beneath, the costa often persistently pilose above; petiolules (on distal margin) usually 4–8 mm. long; Fiji---------- 1. *D. pilosum*

Leaflet-blades soon glabrate on both surfaces (sometimes hispidulous when juvenile but not soft-pilose) except for often persistently barbellate nerve-axils beneath.

Flowers comparatively small and slender; calyx-lobes 0.5–0.7×0.7–1.4 mm.; corolla and staminal tube submembranaceous in texture; corolla 6–9 mm. long at anthesis; disk 2–2.5 mm. long, 0.5–0.8 mm. in diameter, glabrous; style 5–6.5 mm. long.

Leaves comparatively robust, 40–65 (–85) cm. long, the petioles 5–15 (–18) cm. long; petiolules (on distal margin) usually 3–10 mm. long; calyx-lobes 1–1.4 mm. broad; Fiji---------- 2. *D. richii*

Leaves less robust, 25–50 cm. long, the petioles 3–8 cm. long; petiolules (on distal margin) usually 1–3 mm. long; calyx-lobes 0.7–1 mm. broad; Tonga and Niue---------- 3. *D. forsteri*

Flowers comparatively large; calyx-lobes 0.7–1.5×1.2–2.2 mm.; corolla and staminal tube thin-carnose in texture; corolla 8–12 mm. long at anthesis; disk 2–4 mm. long, 0.8–1.5 mm. in diameter, glabrous or sometimes retrorse-strigose within; style usually 8–10 mm. long; petiolules of leaflets short, 1–5 mm. long (on distal margin); Samoa. 4. *D. samoense*

Petals free from each other and from staminal tube, or connate and adnate to the tube only at extreme base; leaflets always obviously petiolulate, the blades acute to rounded at base but the distal base scarcely touching the leaf-rachis.

Leaflets densely strigose on costa and secondary nerves beneath; flowers comparatively robust, the petals 9–11 mm. long and 4–8 mm. broad; staminal tube 6–8 mm. long and about 6 mm. in diameter, the stamens 14 or 15, with anthers about 2.5 mm. long; Fiji------ 5. *D. myriandrum*

Leaflets glabrous (perhaps strigillose when juvenile, persistently so in no. 13); flowers less robust, the petals not more than 4.5 mm. broad; stamens 10, with anthers less than 2 mm. long.

Calyx at anthesis 5–5.5 mm. in apical diameter, the lobes 1.8–2×2.5–3 mm.; petals 7.5–11×3–4.5 mm.; staminal tube 6–8.5 mm. long, 4–5 mm. in diameter; anthers 1–1.8 mm. long; disk 2–2.5 mm. long and in diameter, retrorsely sericeous within; Samoa---------- 6. *D. huntii*

Calyx at anthesis not more than 3.5 mm. in apical diameter; petals not exceeding 7.5×3 mm.; staminal tube not more than 6 mm. long and 3.5 mm. in diameter; anthers 0.8–1 mm. long; disk not exceeding 1.8 mm. in length and diameter.

Disk glabrous on both sides; calyx-lobes about 1×1–1.5 mm.; petals 5–6×1.6–2 mm.; staminal tube about 4 mm. long; Fiji. 7. *D. lenticellare*

Species of this alliance, with elenticellate fruits arising from branchlets below leaves---------- 13. *D. gillespieanum*

Disk minutely but copiously retrorse-sericeous within; calyx-lobes about 2×2–2.5 mm.; petals 7–7.5×2–3 mm.; staminal tube 5–6 mm. long; Tonga ---------- 8. *D. tongense*

Calyx with separate imbricate sepals, subtended by several to numerous bracteoles, these free but often forming a cupule and simulating sepals; fruits at maturity minutely but very copiously and densely velutinous (§ *Didymocheton*).

Petiolules conspicuous, 10–35 mm. long, the leaflet-blades large, 13–30×4.5–10.5 cm., glabrous at maturity, acute or obtuse at base and only slightly inequilateral; leaves 50–100 cm. long, with petioles up to 20 cm. long and with 13–21 leaflets; flowers comparatively large (corolla 15–16 mm. long at anthesis, 5-lobed; stamens 10; disk about 5 mm. long); Fiji. 9. *D. seemannii*

Petiolules comparatively inconspicuous, 1–5 mm. long (on the shorter margin), the leaflets often appearing subsessile, hardly exceeding 22×7 cm., usually smaller.

Corolla 10–16 mm. long at anthesis, 5-lobed; stamens 10; disk 4–5.5 mm. long, retrorsely sericeous or strigillose within; style 9–13 mm. long; leaflet-blades obviously inequilateral, rounded at base on the distal side (distal half of blade longer than proximal half), glabrous at maturity or persistently barbellate in nerve-axils on lower surface.

Leaflets usually 13–25 (rarely 11 or 27); Samoa ---------- 10. *D. maota*

Leaflets 7 or 9; Fiji ---------- 11. *D. tenuiflorum*

Corolla 5–10 mm. long at anthesis, often 3- or 4-lobed, sometimes 5-lobed; stamens 5 or 6, rarely 7; disk 2–3 mm. long, glabrous or very sparsely strigose within; style 6–7.5 mm. long; leaflets (3–) 5–9, the blades only slightly inequilateral, acute to obtuse at base (or, if inequilateral and rounded, with the distal half of blade shorter than proximal half), often persistently pilose on costa beneath; Fiji ---------- 12. *D. hornei*

1. **Dysoxylum (§ *Eudysoxylum*) pilosum** A. C. Sm. in Sargentia **1:** 40. 1942.
? Dracontomelon pilosum Seem. Fl. Vit. 52. 1865.

TYPE LOCALITY: Near Lautoka [western base of Mt. Evans Range], Province of Mba, Viti Levu, Fiji; type, *Greenwood* 396, cited below.

DISTRIBUTION: Thus far known only from Viti Levu, Fiji, where it occurs uncommonly at elevations up to 550 m., in forest or on dry slopes. In western Viti Levu it characteristically occurs in forested gullies on the flanks of grassy or deforested hills. The species is reported as a tree 7–15 m. high.

FIJI: VITI LEVU: Mba: Mountains near Lautoka [western base and slopes of Mt. Evans Range], *Greenwood* 396 (A TYPE, K), 396C (A, K); north of Lomolomo, near Lautoka, *Degener & Ordonez* 13715 (A, Bish, K, NY, US). Nandronga & Navosa: Southern slopes of Nausori Highlands, in drainage of Namosi Creek above Tumbenasolo, *Smith* 4589 (A, US); Naruku, vicinity of Mbelo, near Vatukarasa, *Degener* 15310 (A, Bish, K, NY, US). Naitasiri: Viria, *Meebold* 16722 (K); near Nasinu, *Greenwood* 1133 (A). Rewa: Vicinity of Suva, *Meebold* 16907 (Bish).

Dysoxylum pilosum is readily distinguished from other species of the genus in our region by the dense and persistent soft indument of the lower surfaces of its leaflets. In other characters it closely resem-

bles *D. richii*, certainly its closest ally; floral differences between the two species are negligible, and the several collections not originally cited by me now show that *D. pilosum* has as ample an inflorescence as *D. richii*.

2. **Dysoxylum** (§ *Eudysoxylum*) **richii** (A. Gray) C. DC. in DC. Monogr. Phan. **1**: 511. 1878.

Didymochiton richii A. Gray, Bot. U. S. Expl. Exped. **1**: 239. *pl. 20*. 1854; C. Muell. in Walp. Ann. Bot. Syst. **4**: 387. 1857.

TYPE LOCALITY: Fiji, three localities being cited by Gray ("Vanua-levu, at Sandalwood Bay; Somu-somu; Nukulau"). These localities are: (1) Mbua Bay, Province of Mbua, Vanua Levu, (2) Somosomo, on the western coast of Taveuni, and (3) Nukulau, an islet near the mouth of Lauthala Bay, east of Suva, Province of Rewa, Viti Levu. Type collected by the U. S. Exploring Expedition, cited below.

DISTRIBUTION: *Dysoxylum richii* is the most abundant Fijian species of the genus at low and middle elevations, probably to be found on most of the islands at elevations up to about 1,000 meters. It is a common component of forests, both wet and dry, and at low elevations it occurs in thickets and on edges of mangrove swamps. The species is reported as a tree from 5 to 25 meters in height; the flowers have the corolla and staminal tube cream-white to pale yellow or greenish yellow; the fruit is rusty brown or greenish, often with brown or yellowish lenticels, exuding a milky latex when cut, and with a red aril. Parts of the plant, when bruised, emit a sharp alliaceous odor; although this is characteristic of many species of *Dysoxylum*, it seems especially noticeable in *D. richii*.

LOCAL NAMES AND USES: The most frequently used local names seem to be *sasawira* and variants of *tarawau* (usually referred to *Draconto-melon*) indicating that this is the *tarawau* eaten by pigeons and other birds, e. g. *tarawau ni kaka*, *tarawau kei thongge*, *tarawau kei raka-raka*. Also used on Viti Levu are *sawira*, *mala*, and *malamala;* several other names reported by collectors are open to question. The trunks of *D. richii* are sometimes used as house posts.

FIJI: VITI LEVU: Mba: Mt. Evans Range, *Smith* 4059 (A, US), 4355 (A, US); Nandarivatu and vicinity, *Gillespie* 3861 (Bish), 4263 (Bish), *Degener* 14538 (A), 14539 (A, Bish, K, NY, US); hills between Nggaliwana and Nandala Creeks, south of Nauwanga, *? Smith* 5832 (A, US); valley of Nggaliwana Creek, *? Smith* 5359 (A, US); hills between Nggaliwana and Tumbeindreketi Creeks, *Smith* 5979 (A, US). Ra: Tuvatuva, vicinity of Rewasa, near Vaileka, *Degener* 15376 (A, Bish, K, NY, US). Nandronga & Navosa: Northern portion of Rairaimatuku Plateau, between Nandrau and Nanga, *Smith* 5504 (A, US); Thuvu, near Singatoka, *Greenwood* 923 (A, K, NY). Namosi: Vicinity of Namosi, *Gillespie* 2472 (Bish). Naitasiri: Nanduna, *B. E. Parham* 1085 (A). Rewa: Vicinity of Suva, *Tothill* 63 (K), *MacDaniels* 1002 (Bish). KANDAVU: Hills above Namalata and Ngaloa Bays, *Smith* 53 (Bish, GH, K, NY, US). VANUA LEVU: Mbua: Southern portion of Seatovo Range, *Smith* 1513 (Bish, GH, K, NY, US). Mathuata: Mathuata coast, *Greenwood* 396B (K); Lambasa, *Greenwood* 598

(K); southern slopes of Mt. Numbuiloa, east of Lambasa, *Smith* 6348 (A, US); Seanggangga Plateau, vicinity of Natua, *Smith* 6723 (A, US). TAVEUNI: Vicinity of Wairiki, *Gillespie* 4643 (Bish); vicinity of Waiyevo, *Gillespie* 4736 (Bish, GH, K, NY, US). KORO: Eastern slope of main ridge, *Smith* 941 (Bish, GH, K, NY, US). VANUA MBALAVU: Northern limestone section, *Smith* 1496 (Bish, GH, K, NY, US); central volcanic section, near Lomaloma, *Smith* 1414 (Bish, GH, K, NY, US). MATUKU: *Bryan* 244 (A, Bish). KAMBARA: On limestone formation, *Smith* 1290 (Bish, GH, K, NY, US). Fiji, without detailed locality: *U. S. Expl. Exped.* (GH, TYPE US 42447 and 42448).

With the following two species, *D. forsteri* and *D. samoense*, *D. richii* forms a well-marked species-group in § *Eudysoxylum*. Characters separating the three species are not strong, the populations from Fiji (*D. richii*) and from Tonga (*D. forsteri*) being especially close. The comparatively conspicuous petiolules of *D. richii*, together with other characters mentioned in my key, permit its specific recognition; if the two entities should be combined, as suggested by Seemann (Fl. Vit. 36. 1865), *D. forsteri* would be the correct binomial. In comparing *D. richii* with *D. samoense*, Setchell (in Carnegie Inst. Washington Publ. 341: 81. 1924) implies that the corolla-lobes of *D. richii* are imbricate; I do not find this to be the case, the lobes of all the species of this alliance being valvate and fundamentally similar.

Two of my collections from Viti Levu (nos. 5359 and 5832), cited above as questionable, have a more or less persistent hispidulous indument on the lower leaflet-surface, even in fruiting condition. At present I do not note other characters to indicate that this form merits nomenclatural recognition.

3. **Dysoxylum** (§ *Eudysoxylum*) **forsteri** (Juss.) C. DC. in DC. Monogr. Phan. 1: 507. 1878.

Trichilia alliacea Forst. f. Fl. Ins. Austr. Prodr. 33. 1786; DC. Prodr. 1: 623. 1824; non *Dysoxylum alliaceum* Bl. (1825).

Hartighsea forsteri Juss. in Mém. Mus. Hist. Nat. [Paris] 19: 265. 1830.

Dysoxylum alliaceum Seem. Fl. Vit. 36. 1865; non Bl. (1825).

Dysoxylum richii sensu Hemsl. in Journ. Linn. Soc. Bot. 30: 171. 1894; Burkill in Journ. Linn. Soc. Bot. 35: 31. 1901; Yuncker in Bishop Mus. Bull. 178: 71. 1943; non C. DC.

TYPE LOCALITY: Tonga, in the Nomuka Group; type presumably collected on Cook's third voyage, cited below.

DISTRIBUTION: Tonga and Niue, at low elevations, presumably in forest. The species is reported as a tree, up to 8 meters (but probably also more) in height; the flowers are yellowish green, and the fruit has an alliaceous odor.

LOCAL NAMES AND USES: *Maota* or *maotai* (Tonga); *moota* (Niue). Yuncker reports that on Niue the wood is used in making canoes and that the fruits are eaten by birds.

TONGA: VAVAU: *Barclay* 3367 (BM), *Crosby* (K). NOMUKA GROUP: "*Cook's 3rd Voyage*" (TYPE BM). TONGATABU: *Graeffe* 1374 (K), 1375 (K); district of

Vahe, *Setchell & Parks* 15433 (Bish, K); 10 miles from Nukalofa, *MacDaniels* 1081 (Bish). EUA: Powell Plantation, *Parks* 16026 (Bish, GH, K, NY, US).

NIUE: 2 miles east of Alofi, *Yuncker* 9639 (Bish, US); near Hikutivake village, *Yuncker* 9846 (Bish).

The close relationship between this species and *D. richii* has been noted under that species and in my key.

4. **Dysoxylum** (§ *Eudysoxylum*) **samoense** A. Gray, Bot. U. S. Expl. Exped. 1: 241 (as *Disoxylon ? samoense*). 1854; C. Muell. in Walp. Ann. Bot. Syst. 4: 387. 1857; C. DC. in DC. Monogr. Phan. 1: 527. 1878; Setchell in Carnegie Inst. Washington Publ. 341: 80. *fig. 2.* 1924; Christophersen in Bishop Mus. Bull. 128: 115. 1935.

Dysoxylum funkii C. DC. in Bull. Herb. Boiss. II. 6: 981. 1906.

Didymocheton funkii Harms in Nat. Pfl. ed. 2. 19b1: 157. 1940.

TYPE LOCALITY: Samoa ("Manua and Tutuila"); type collected by the U. S. Exploring Expedition, cited below. The fact that Gray's original materials were a mixture has been noted by Setchell and is discussed below, but it is not possible to state whether the lectotype is from Manua or from Tutuila.

DISTRIBUTION: Samoa, at elevations up to 750 m., occurring in forest, open forest, or open places. The species is a tree, up to 20 m. in height, with white flowers and a light brown fruit.

LOCAL NAME: Christophersen implies that the three recognizable Samoan species of *Dysoxylum* are designated by different local names; *D. samoense* is the *maota mamala* of the Samoans. Collectors' labels also note the name as *maota* or *mamala*.

SAMOA: SAVAII: Fealealupo peninsula, *Christophersen* 2807 (Bish, K, NY); above Sili, *Christophersen* 3201 (Bish, K, NY, US); Matavanu, open woodland near crater, *Christophersen & Hume* 1945 (Bish, K, NY, US); Le To, above Salailua, *Christophersen* 2938 (Bish); Lealatele district, *Vaupel* 233 (US). UPOLU: *Funk* 1 (type of *D. funkii*, fragment seen from De Candolle Herbarium, Conservatoire Botanique, Genève); below Malololelei, *Christophersen* 336 (Bish, US). TUTUILA: Pago Pago and vicinity, *Garber* 916 (Bish), *Meebold* 16720 (Bish); near Blunt's Point, *Setchell* 358 (Bish). TUTUILA or MANUA: *U. S. Expl. Exped.* (GH, TYPE US 42484). TAU: Plateau back of Siufaga village, *Yuncker* 9183 (Bish). Samoa, without definite locality: *Whitmee* 95, part (K), 95 bis (K), 200, part (K).

In describing *D. samoense*, Gray took the characters from two specimens, stating that "It is not absolutely certain, therefore, that the two belong to the same species." Unfortunately, this opinion has been confirmed, but the situation has been clarified in detail by Setchell (in the publication cited above). Setchell points out that the leaves and fruits belong to one species, and he has wisely selected this as the portion to be associated with Gray's binomial, a choice binding upon subsequent workers. He indicated the specimen in the U. S. National Herbarium as No. 42484 as the holotype of Gray's species. The second species is represented by US sheet No. 42485, with juvenile leaves and young inflorescences; this species Setchell has correctly associated

with *D. huntii* Merr. The corresponding Exploring Expedition sheet in the Gray Herbarium bears detached leaflets and fruits of *D. samoense* and an undeveloped inflorescence of *D. huntii*. Both species are now known from Tutuila, but additional material from Manua is not available.

Christopherson (in the publication cited above) referred his specimens to "*Dysoxylum* aff. *samoense*," but I find no reason to doubt their place in Gray's species as emended by Setchell. Two sterile specimens which Christophersen thought might differ (Nos. 1945 and 2938) seem to me essentially identical in foliage with other cited material.

A fragment of the type of *D. funkii* has been lent to me from the Conservatoire Botanique, Genève; in floral characters and in leaf-texture this is identical with the concept here under consideration, and nothing in de Candolle's description contradicts this position for his species. In his monograph of the family (1878) de Candolle included *D. samoense* among his "species incertae sedis," and obviously he did not take Gray's species into consideration when he described *D. funkii*.

Dysoxylum samoense differs from *D. richii* and *D. forsteri*, as my key indicates, in its comparatively large floral parts. When mature flowers are not available the species will be separable with difficulty from *D. forsteri*, like which it has shorter petiolules than *D. richii*.

5. **Dysoxylum** (§ *Eudysoxylum*) **myriandrum** A. C. Sm. in Sargentia **1: 41. 1942.**

TYPE LOCALITY: Vanua Levu, Fiji.

DISTRIBUTION: Known only from the type collection, from a tree 6 m. high growing in dense forest at an altitude of 650–900 m.; the petals and staminal tube are pale green, brown-tinged.

LOCAL NAME: *Warokamithi* was the name recorded by me in 1933, but it has not been noted elsewhere in the genus and is open to question.

FIJI: VANUA LEVU: Thakaundrove-Mathuata boundary: Crest of Korotini Range, between Navitho Pass and Mt. Ndelaikoro, *Smith* 569 (Bish, K, GH, NY TYPE, US).

This species and the three following form a clearly marked group within § *Eudysoxylum*, differing from *D. forsteri* and its allies in having the petals free from each other and from the staminal tube essentially to base. In foliage this group of species is also readily recognized, as the leaflets are obviously petiolulate, with blades that are comparatively thick in texture, glabrous (except in *D. myriandrum*), and acute to rounded at base, without the exaggerated distal base of the blade that characterizes most species of the genus in our region. *Dysoxylum myriandrum* is one of the most distinct species of the genus by virtue of its increased number of stamens, but its relationship to such species as *D. huntii* and *D. aneityense* is unquestionable. In

my original description I erroneously referred this species to § *Didymocheton*, mistaking the stout calyx-tube for a pedicel, whereas actually the flowers are sessile and the sepals are not completely free.

6. **Dysoxylum** (§ *Eudysoxylum*) **huntii** Merr. in Setchell in Carnegie Inst. Washington Publ. **341**: 83. *fig. 4.* 1924; Christophersen in Bishop Mus. Bull. **128**: 114. 1935.
Didymocheton huntii Harms in Nat. Pfl. ed. 2. **19b1**: 157. 1940.

TYPE LOCALITY: In the original publication three collections in Setchell's series, all from the vicinity of Pago Pago, Tutuila, Samoa, are cited; of these two are indicated as sterile, and the third, No. 433 (collected by Lt. Comdr. Daniel Hunt), is in flower. This last collection, therefore, is doubtless to be taken as the type; it is deposited in the herbarium of the University of California. Although I have not seen the original material, the description and the discussions of Setchell and Christophersen clearly indicate the identity of this well-marked species.

DISTRIBUTION: Endemic to Samoa, occurring at least on the larger islands at elevations of 400–1,550 m. Christophersen notes the species as one of the commonest forest trees at medium and high altitudes. It is a tall tree, up to 20 m. in height, with a straight trunk up to 70 cm. in diameter. The fruit is said to be pale green, with a coating of yellow or pale brown confluent lenticels.

LOCAL NAMES AND USES: *Maota mea* is apparently the most commonly used name for this species, but Christophersen's labels also record the names *malava* and *ma'ali*. The green wood burns readily and is utilized by the Samoans as firewood.

SAMOA: SAVAII: Vicinity of Matavanu Crater, *Christophersen & Hume* 1957 (Bish, K, NY, US), 2151 (Bish, K, NY), 2210 (Bish); Salailua (cultivated), *Christophersen & Hume* 2575 (Bish); above Salailua, *Christophersen* 2680 (Bish, US), 3083 (Bish), 3124 (Bish, K, NY, US); near Le To, above Salailua, *Christophersen* 3060 (Bish, K, NY); above Siuvao, *Christophersen & Hume* 3306 (Bish). UPOLU: Malololelei-Lanutoo trail, *Christophersen* 397 (Bish); near Malololelei, *Christophersen* 956 (Bish). TUTUILA: Top of Pioa, *Christophersen* 3537 (Bish, NY). TUTUILA or MANUA: *U. S. Expl. Exped.* (US 42485).

Dysoxylum huntii is clearly distinguished from its relatives in our region, such as the Fijian *D. lenticellare*, by the floral characters mentioned in my key. *Dysoxylum aneityense* Guillaumin (1931), of the New Hebrides, has foliage and inflorescences remarkably similar to those of *D. huntii;* its disk is somewhat more slender and the indument of its ovary is closer, but otherwise the flowers of the two species seem essentially identical. The fruit of *D. aneityense*, as far as can be discerned from the only available fruiting specimen (*Wilson* 949, A), has a pericarp which is comparatively smooth in texture, whereas the fruit of *D. huntii* at maturity is strikingly rugulose and presumably

paler. I believe that the two species can be retained, but if not, *D. huntii* has nomenclatural priority.

The U. S. Exploring Expedition specimen cited above is one of the two elements which Gray referred to his *D. samoense*, being the non-typical element as that species was redefined by Setchell. *Dysoxylum huntii* was originally referred to § *Didymocheton*, but it clearly has a gamosepalous calyx and should be placed in § *Eudysoxylum*.

7. **Dysoxylum** (§ *Eudysoxylum*) **lenticellare** Gillespie in Bishop Mus. Bull. 83: 13. *fig. 14.* 1931.

Dysoxylum obliquum sensu Gillespie in Bishop Mus. Bull. 83: *fig. 15. a–e.* 1931, non sensu typi.

? *Dysoxylum* aff. *aneityense* sensu A. C. Sm. in Bishop Mus. Bull. 141: 82. 1936; non Guillaumin.

Didymocheton lenticellare Harms in Nat. Pfl. ed. 2. 19b1: 157. 1940.

TYPE LOCALITY: Mt. Nanggaranambuluta, Province of Mba, Viti Levu, Fiji; type, *Gillespie* 3927, cited below.

DISTRIBUTION: Fiji, but thus far known with certainty only from the island of Viti Levu; although Gillespie states that the species occurs on Ovalau, all the collections he cites were obtained on Viti Levu (one of these, No. 2472, represents *D. richii*). On Viti Levu, this is the most abundant species of *Dysoxylum* in upland forests, elevations of 400–1,250 m. having been recorded. It occurs in dense rain-forest, in crest thickets, and in forest-grassland transitional zones. The species is a tree 3–15 m. high, with its petals and staminal tube white or greenish white; the fruit is usually light green with conspicuous whitish or pale brown lenticels.

LOCAL NAMES: *Mala* or *malamala* is commonly used for the species in interior Viti Levu; Gillespie also noted the names *mbau so ro* and *kau toa*.

FIJI: VITI LEVU: Mba: Mt. Evans Range, east of Lautoka, *Greenwood* 949 (A, K, NY),1157 (A); upper slopes and summit of Mt. Koromba [Pickering Peak], *Smith* 4650 (A, US), 4691 (A, US); Vicinity of Nandarivatu, *Gillespie* 3754 (A, Bish), *Parks* 20711 (Bish), *Tothill* 65 (K), 95 (K); slopes of Mt. Nanggaranambuluta [Lomalangi], east of Nandarivatu, *Gillespie* 3722 (Bish), 3781 (Bish); summit ridge of Mt. Nanggaranambuluta, *Gillespie* 3927 (Bish TYPE); ridge between Mt. Nanggaranambuluta and Mt. Namama, *Smith* 5000 (A, US); Nauwanga, south of Nandarivatu, *Degener* 14561 (A, Bish, K, NY, US); hills between Nggaliwana and Tumbeindreketi Creeks, *Smith* 5877 (A, US); Mt. Tomanivi [Mt. Victoria], *Gillespie* 4127 (Bish, GH); western slopes of Mt. Tomanivi, *Smith* 5121 (A, US). Nandronga & Navosa: Northern portion of Rairaimatuku Plateau, between Nandrau and Rewasau, *Smith* 5396 (A, US), between Nandrau and Nanga, *Smith* 5531 (A, US). Namosi: Mt. Naitarandamu, *Gillespie* 3314 (Bish, GH, K, NY); Mt. Voma, *B. E. Parham* 1716 (A); vicinity of Namosi, *Gillespie* 2598 (Bish, GH), 2822 (Bish, GH, US); vicinity of Namuamua, *Gillespie* 3035 (Bish), 3064 (Bish). TAVEUNI: Western slope, between Somosomo and Wairiki, ? *Smith* 766 (Bish, GH, K, NY, US). Fiji, without definite locality: *Horne* 141a (K), 316 (GH, K), 881 (K).

As indicated by my key, this species is distinguishable from the Samoan *D. huntii* in its smaller flowers, dimensional differences being quite obvious and consistent as far as observed at present; in foliage and fruit the two species are difficult to separate, but nevertheless I have no hesitation in retaining both. Gillespie erroneously referred his species to § *Didymocheton*. In the original publication he described and figured only fruiting material, although he correctly cited *Horne* 316, a specimen with immature flowers. These flowers were inadvertently described and figured by Gillespie under *D. obliquum*, this fact explaining why he referred that species to *Dysoxylum* rather than to *Aglaia*, to which genus all the cited specimens of *D. obliquum* belong. Elsewhere in this paper I have placed the various specimens cited by Gillespie as *D. obliquum* under the species of *Aglaia* which they represent. Since no analysis of the inflorescence has been provided for *D. lenticellare* (except that based on the immature flowers of *Horne* 316 and referred to *D. obliquum*), the following description has been drawn up, based on ample flowering material (*Smith* 4650, 4691, 5000):

Inflorescence axillary toward apices of branchlets, at anthesis 6–9 cm. long, spreading, with a peduncle 1–2.5 cm. long and 4–8 lateral branches; bracts deltoid, acute, 1–1.5 mm. long; inflorescence-branches, bracts, and bracteoles copiously but minutely sericeous-strigillose; flowers sessile on short ultimate branchlets, subtended by 2 opposite bracteoles about 0.5 mm. long; calyx gamosepalous, cupuliform, at anthesis about 2 mm. long and 2–2.5 mm. in apical diameter, strigillose-sericeous without (hairs pale brown, 0.1–0.2 mm. long), the tube minute, the limb subcarnose, 5-lobed nearly to base, the lobes narrowly imbricate, ovate-suborbicular, about 1 mm. long and 1–1.5 mm. broad, rounded at apex, ciliolate-margined; petals 5, thin-carnose, free, oblong, at anthesis 5–6 mm. long and 1.6–2 mm. broad, subspreading, obtuse, puberulent dorsally with very minute brown hairs; staminal tube short-cylindric, carnose, about 4 mm. long and 3.5 mm. in diameter, crenulate at apex, glabrous on both sides; stamens 10, with sessile oblong obtuse anthers about 1 mm. long; disk carnose, 1.3–1.5 mm. long, 1.5–1.8 mm. in diameter, crenulate at apex, glabrous on both sides; ovary densely sericeous with stramineous hairs about 0.3 mm. long, the locules 3, each with 2 collateral ovules affixed near middle, the style stout, terete, sericeous in the lower half, glabrous distally, the stigma peltate-capitate, about 1 mm. in diameter.

The only available specimen of this relationship from Taveuni, *Smith* 766, is questionably referred to *D. lenticellare*. It bears young fruits which appear to be elenticellate and softer than typical in texture; it is noted as a shrub 3 m. high (the other cited specimens being indicated as trees), and it has somewhat narrower leaflets than the specimens from Viti Levu. This is the specimen which in 1936 I

identified as *D.* "aff. *aneityense*," but I am now inclined to believe that it more likely represents Gillespie's species, unless the discovery of flowers should establish it as an undescribed entity. *Dysoxylum aneityense*, of the New Hebrides, differs markedly from *D. lenticellare* in its more robust flowers, which suggest those of the Samoan *D. huntii*, as mentioned above under that species.

8. Dysoxylum (§ *Eudysoxylum*) **tongense** A. C. Sm. sp. nov.

Arbor foliolis glabris manifeste petiolulatis, floribus cum petalis liberis distinguenda; *D. lenticellari* Gillespie vitiensi affinis, inflorescentiae pedunculis longioribus et bracteis majoribus, calycis lobis et petalis majoribus, tubo stamineo longiore, disco intus minute sed copiose retrorso-sericeo differt.

Large tree, the branchlets robust, subterete, up to 15 mm. in diameter toward apex and there very minutely pale-strigillose, glabrate, often marked by conspicuous scars of fallen leaves and lenticellate; leaves and inflorescences congested toward apices of branchlets, the leaves 17–28 cm. long, the petiole and rachis terete, slender, very minutely and obscurely strigillose-puberulent, soon glabrate, the petiole 5–9 cm. long, swollen at base; leaflets (5–)7–13, glabrous, the petiolules slender, 6–12 mm. long, the blades thin-coriaceous, drying brownish, the middle lateral ones subfalcate-ovate, 7–12(–15) cm. long, 3–5.5 (–6) cm. broad, at base inconspicuously inequilateral, broadly obtuse and decurrent on the petiolule (distal half the longer, sometimes rounded), at apex obtusely cuspidate or short-acuminate (acumen to 15 mm. long), the leaflets toward base and apex of leaf somewhat reduced, the terminal one often atrophied; venation of leaflets inconspicuous, the costa and secondaries nearly plane above, raised beneath, the secondaries 7–11 per side, spreading, slightly curved, the veinlet-reticulation obscure, coarse; inflorescence axillary, at anthesis 8–13 cm. long, paniculate, the peduncle up to 5 cm. long, slightly broadened and flattened distally, the branches few, spreading, short; bracts oblong, obtuse, 2–3 mm. long, caducous; inflorescence-branches, bracts, and bracteoles minutely strigillose or sericeous with pale hairs; flowers sessile, subtended by deltoid obtuse bracteoles less than 1 mm. long; calyx gamosepalous, at anthesis 2.5–3 mm. long and about 3.5 mm. in apical diameter, minutely strigillose-puberulent without, the tube minute, less than 1 mm. long, the limb cupuliform, submembranaceous, 5-lobed nearly to base, the lobes imbricate, ovate-suborbicular, about 2 mm. long and 2–2.5 mm. broad, rounded at apex, ciliolate-margined; petals 5, essentially free or weakly adnate to staminal tube at base, thin-carnose, oblong, at anthesis 7–7.5 mm. long and 2–3 mm. broad, obtuse, recurved, minutely but copiously sericeous dorsally (hairs pale, less than 0.1 mm. long), glabrous within; staminal tube carnose, cylindric, 5–6 mm. long, 2–3 mm. in diameter, crenulate at apex, glabrous on

both sides; stamens 10, affixed 1–1.2 mm. from apex of tube, the anthers sessile, oblong, about 0.8 mm. long, obtuse at apex; disk carnose, cylindric, 1.5–1.7 mm. long, about 1.2 mm. in diameter, crenulate at apex, glabrous without, minutely but copiously retrorse-sericeous within (hairs colorless, 0.1–0.15 mm. long); ovary conical, strigose-sericeous with stramineous hairs about 0.2 mm. long, the locules 3, each with 2 collateral-superposed ovules, the style stout, terete, about 5 mm. long, glabrous except at very base, the stigma peltate-capitate, about 0.8 mm. in diameter; immature fruits arising from a short-cylindric calyx-tube surmounted by persistent lobes, obovoid, seen up to 2.5×1.5 cm., conspicuously stipitate at base, rounded at apex, soon glabrate, the pericarp coriaceous, lenticellate.

Type in the U. S. National Herbarium, No. 1527033, collected in forest on the Johannsen Plantation, Eua, Tonga, in June or July, 1926, by H. E. Parks (No. 16072). Duplicates at Bish, GH.

ADDITIONAL SPECIMENS EXAMINED:

TONGA: EUA: High central plateau, *Parks* 16133 (Bish, GH, K, US); in plateau forests, *Parks* 16282 (Bish, BM, GH, K, NY, US).

DISTRIBUTION: Tonga, thus far known only from the island of Eua; Parks indicates that the species is a large forest tree, but no altitudinal or color data are available.

The new species is closely related to the Fijian *D. lenticellare*, but the floral differences pointed out in my key and diagnosis indicate that it is worthy of specific rank. Of the available specimens, the type is in flower and the other two bear immature fruits. Possibly the collection of mature fruits will disclose other differences from *D. lenticellare*, but in general the diagnostic characters in *Dysoxylum* are to be found in flowers rather than fruits.

9. **Dysoxylum** (§ *Didymocheton*) **seemannii** Gillespie in Bishop Mus. Bull. 83: 14. *fig. 16.* 1931 (as *D. seemanni*).

Milnea edulis sensu Seem. in Bonplandia 10: 296. 1862; non Roxb.

Aglaia multijuga Seem. Fl. Vit. 37. 1865; non *Dysoxylum multijugum* Arn. (1834).

Didymocheton multijugum Harms in Nat. Pfl. ed. 2. 19b1: 157. 1940.

TYPE LOCALITY: Island of Wakaya, Fiji; type, *Storck* 874, cited below.

DISTRIBUTION: Throughout Fiji, probably to be found on most of the islands, usually occurring at low elevations but noted, for the first specimen cited below, up to 900 m. It is a species of forests but has also been observed on wooded ridges, on edges of forest, and in forest-grassland transitional regions. The species is a shrub or tree 1.5–10 m. high, often with the leaves and inflorescences up to 1 m. long and congested at the summit of the plant. The corolla and staminal tube are yellowish green or cream-white, and the fruit is orange-brown to russet-brown.

LOCAL NAMES: *Kau toa* (ex Gillespie, Petersen); *tavai* (ex Degener). I have noted the names *tarawau* (usually referred to *Dracontomelon*) and *ndanindani* (usually referred to *Polyscias multijuga* and other araliaceous plants which somewhat resemble this in foliage); Storck also noted the local name as *danidani loa*.

FIJI: VITI LEVU: Mba: Vicinity of Nandarivatu, *Gillespie* 4301 (Bish, GH, K, NY). Ra: Waindawa, vicinity of Rewasa, near Vaileka, *Degener* 15498 (A, Bish, K, NY, US). Namosi: Southeast of Namosi, *Gillespie* 2855 (Bish). Naitasiri: Tholo-i-Suva, *F. Raiqiso* 798 (A); Kalambo, *Tothill* 219 (K); Tamavua, *Gillespie* 2408 (Bish, GH, US). Province?: *Petersen* 19 (NY). KANDAVU: Hills above Namalata and Ngaloa Bays, *Smith* 88 (Bish, NY), 153 (Bish, NY), 160 (Bish, GH, K, NY, US). WAKAYA: *Storck* 874 (BM, K TYPE). VANUA LEVU: Mbua: Upper Ndama River valley, *Smith* 1609 (Bish, K, NY, US). Thakaundrove: Naunduna, eastern drainage of Yanawai River, *Degener & Ordonez* 14109 (A, NY). TAVEUNI: Vicinity of Waiyevo, *Gillespie* 4805 (Bish, GH). VANUA MBALAVU: Northern limestone section, *Smith* 1509 (Bish, GH, K, NY, US). MANGO: Edge of limestone forest and grassland, *Bryan* 564 (A, Bish, US). MOALA: Near Naroi, *Smith* 1307 (Bish, GH, K, NY, US). KAMBARA: On limestone formation, *Smith* 1277 (Bish, GH, K, NY, US). Fiji, without definite locality: *Horne* 410 (GH, K).

Among the species of § *Didymocheton* in our region, *D. seemannii* is readily recognized by its large leaves with conspicuous petiolules, and by its large flowers, the corolla being copiously strigillose without. In fruiting condition, the local species of § *Didymocheton* are readily distinguished from those of § *Eudysoxylum* by the dense velutinous indument of the fruits. In flower, the ovaries of these species are hispidulous or strigillose with stiff hairs, similar to those found in § *Eudysoxylum*. These hairs persist for a time on the young fruits, but they eventually fall. The hairs composing the ultimate and persistent fruit-indument are closely set, contiguous, pale brown, simple, spreading, and less than 0.1 mm. long. These hairs are not seen on the ovary in flower, either because they are then too minute or because they develop only after anthesis. The mature fruits of *D. seemannii* and its allies tend to be oblate-spherical, with inconspicuous longitudinal ridges demarcating the valves.

Although Gillespie published his epithet as "*seemanni*," I have corrected it to *seemannii* in accordance with an addition to Art. 70 of the International Rules of Botanical Nomenclature accepted by the Stockholm Congress of 1950, to the effect that the use of the termination *i* instead of *ii*, prescribed in Rec. XL (b), is treated as an unintentional orthographic error which may be corrected.

10. **Dysoxylum** (§ *Didymocheton*) **maota** Reinecke in Bot. Jahrb. **25**: 643. 1898; Rechinger in Denkschr. Akad. Wiss. Wien **85**: 296. 1910; Setchell in Carnegie Inst. Washington Publ. **341**: 81. *fig. 3*. 1924; Christophersen in Bishop Mus. Bull. **128**: 115. 1935.

Dysoxylum betchei C. DC. in Bull. Herb. Boiss. II. **3**: 178. 1903.

Dysoxylum amooroides sensu C. DC. in Bull. Herb. Boiss. II. 3: 178. 1903; non Miq.
Dysoxylum albiflorum C. DC. in Ann. Conserv. Jard. Bot. Genève 15: 245. 1912.
Didymocheton betchei Harms in Nat. Pfl. ed. 2. 19b1: 157. 1940.
Didymocheton albiflorum Harms in Nat. Pfl. ed. 2. 19b1: 157. 1940.
Didymocheton maota Harms in Nat. Pfl. ed. 2. 19b1: 157. 1940.

TYPE LOCALITY: Mulifanua, Upolu, Samoa; type, *Reinecke* 122, presumably deposited in the Botanical Museum at Berlin and perhaps destroyed. Duplicates of the type are cited below.

DISTRIBUTION: Samoa, at least on the larger islands and probably throughout, and also apparently in the Horne and Wallis Islands. It is a frequent tree in lowland forests, elevations up to 300 m. having been recorded. The trees are noted as 5–20 m. in height, with greenish white or yellowish flowers and orange or yellow fruits.

LOCAL NAMES AND USES: This species is the *maota* of the Samoans, a name also recorded for the Horne and Wallis Islands material; Christophersen notes that the fruits are a favorite food of pigeons.

SAMOA: SAVAII: *Vaupel* 120 (Bish), 120 bis (K); Salailua *Christophersen* 2957 (Bish, K, NY, US); above Salailua, *Christophersen* 2762 (Bish, K, NY, US); Salailua-Lataitai, *Christophersen* 2632 (Bish, US); above Sili, *Christophersen* 3206 (Bish, K, NY, US). UPOLU: *Horne* 7 (K); Mulifanua, *Reinecke* 122 (TYPE COLL., BM, K, US); Ululaloa, *Hochreutiner* 3435 (type of *D. albiflorum*, fragment seen from De Candolle Herbarium, Conservatoire Botanique, Genève); near Apia, *Rechinger* 1173 (BM, US); Moa Moa plantations, *Eames* 182 (Bish, K, NY). TUTUILA: Pago Pago, *Bryan* 1006 (Bish). Samoa, without definite locality: *Betche* (type of *D. betchei*, fragment seen from De Candolle Herbarium, Conservatoire Botanique, Genève), *Betche* 14 and *Whitmee* 18 (source of the record for *D. amooroides*, fragments seen from De Candolle Herbarium), *Whitmee* 95, part (K), 199 (K), 200, part (K), *Horne* (GH).

WALLIS ISLANDS: UVEA: ? *Burrows* W20 (Bish).

HORNE ISLANDS: FUTUNA: ? *Burrows* 11 (Bish).

This very distinct species is readily distinguished from its allies, the Fijian *D. seemannii* and *D. hornei*, by the obvious foliage and floral characters mentioned in my key. In sterile condition, however, it is not readily separated from *D. samoense*, a species with very different flowers and fruits. The sterile and inadequate specimens from the Wallis and Horne Islands are questionably referred to *D. maota*. They agree well with Samoan material in shape and texture of leaflets but have slightly longer than average petiolules.

Fragments of the types of *D. betchei* and *D. albiflorum*, kindly lent me by Prof. Baehni, precisely agree with specimens of *D. maota*, and nothing in the original descriptions indicates reason for questioning this disposition. The petals of *D. betchei* are said to be 4, but the one flower available has them 5, as usual for *D. maota*. All flowers examined of various specimens have 5 petals, but possibly there is some variation in this respect. The leaflets of *D. albiflorum* are said to be 13×2 cm.; these would be very narrow for the species, but leaflets with

proportions approaching these are found in *Bryan* 1006. Prof. Baehni has also permitted me to examine fragments of *Whitmee* 18 and *Betche* 14, the bases of de Candolle's Samoan record for *D. amooroides*, and I find these specimens to be typical for *D. maota*.

It may be noted that both Setchell and Christophersen, in their discussions of Samoan Meliaceae, account for only three species of *Dysoxylum*, although they refrain from reducing the three additional names proposed by de Candolle. My observations bear out the conclusion that only three species of the genus occur in Samoa (*D. samoense*, *D. huntii*, and *D. maota*).

11. Dysoxylum (§ *Didymocheton*) tenuiflorum A. C. Sm. sp. nov.

Arbor *D. maota* Reinecke samoensi valde affinis, foliolis paucioribus laminis plerumque ovato-ellipticis basi inconspicue inaequilateralibus, sepalis paullo minoribus, corollae lobis angustioribus, tubo stamineo et disco textura leviter tenuioribus differt.

Tree 8–20 m. high, sometimes spreading, the branchlets terete, sparsely and obscurely strigillose distally, soon glabrate; leaves and inflorescences aggregated toward apices of branchlets, the leaves (20–) 25–50 cm. long, the petiole, rachis, and petiolules slender, terete, glabrous or very sparsely strigillose, the petiole 4–13 cm. long, slightly swollen at base; leaflets (5–) 7 or 9, the petiolules 1–4 mm. long (on distal margin, sometimes up to 7 mm. on proximal margin), the blades papyraceous, pale greenish and rugulose when dried, the middle lateral ones ovate- or oblong-elliptic, 9–17 cm. long, 4–6.5 cm. broad, at base obviously but not conspicuously inequilateral, broadly obtuse (rounded on distal side), at apex gradually narrowed into an obtuse acumen 10–15 mm. long, the basal leaflets reduced in size, the terminal leaflet similar to the laterals or slightly smaller, acute at base on a petiolule to 2 cm. long; venation of leaflets pale or yellowish, the costa elevated above, prominent beneath, the secondaries 7–12 per side, spreading, nearly plane above, elevated beneath, the veinlet-reticulation inconspicuous; leaflet-blades glabrous or usually barbellate in nerve-axils beneath with pale tangled hairs less than 1 mm. long; inflorescence supra-axillary, broadly or narrowly paniculate, at anthesis 15–40 cm. long, the peduncle (3–6 cm. long), rachis, and branches slender, essentially glabrous, the branches several or numerous, spreading, up to 10 cm. long; bracts minute, deltoid, less than 1 mm. long, acute, like the bracteoles dorsally strigillose-puberulent; flowers subsessile, subtended by about 10 closely imbricate bracteoles, these membranaceous, broadly deltoid, ciliolate-margined, the outermost about 0.5×1 mm., the innermost up to 1.2×1.5 mm., simulating sepals and forming a cupule; sepals 5, free, in texture and indument similar to bracteoles, at length glabrate, ovate-suborbicular, 1–1.7 mm. long, 1.3–2 mm. broad, rounded at apex; corolla thin-

carnose, at anthesis about 12 mm. long, copiously strigose-puberulent without (hairs 0.1–0.2 mm. long, predominantly retrorse), glabrous within, composed of 5 petals eventually strongly reflexed and free in the distal two-thirds, these oblong-ligulate, 1.2–1.6 mm. broad, subacute and minutely inflexed at apex; staminal tube submembranaceous, slightly shorter than corolla, strigillose in free portion without, glabrous within, crenulate at apex with 10 emarginate lobes 0.7–1 mm. long; stamens 10, affixed between the lobes of the tube about 1 mm. from apices, the anthers sessile, oblong, 1–1.2 mm. long, obtusely mucronate and slightly exserted; disk thin-carnose, cylindric, about 4.5 mm. long and 1.5–2 mm. in diameter, obscurely crenulate at apex with 5 minute lobes, sparsely and very minutely retrorse-puberulent without, retrorse-strigillose within (hairs 0.1–0.15 mm. long); ovary conical, hispidulous-strigillose with stramineous hairs 0.3–0.4 mm. long, the locules 3, each with 2 collateral-superposed ovules (fruiting locules 4 ex Bryan), the style terete, stout, 9–10 mm. long, glabrous distally, the stigma peltate-capitate, about 1 mm. in diameter, obscurely 3-lobed when young; fruit subtended by subpersistent sepals, subglobose, about 2.5 cm. in diameter, the pericarp rugulose, without obvious longitudinal ridges, very densely velutinous with hairs less than 0.1 mm. long.

Type in the herbarium of the New York Botanical Garden, collected in forest on limestone formation, Kambara, Fiji, alt. 0–100 m., March 2, 1934, by A. C. Smith (No. 1247). Duplicates at Bish, GH, K, US, etc.

ADDITIONAL SPECIMENS EXAMINED:

FIJI: TAVEUNI: Western slope, between Somosomo and Wairiki, *Smith* 717 (Bish, GH, K, NY, US). LAKEMBA: Northwestern lowland forest, *Bryan* 530 (Bish).

DISTRIBUTION: Fiji, thus far known only from the three islands cited above, in the eastern part of the archipelago. It is a tree of lowland forest, occurring at elevations up to 300 m. (on Taveuni); the corolla and staminal tube are cream-white, and the fruit (*Bryan* 530) is green with brown pubescence.

LOCAL NAMES: I noted the names of *tokai* (1247) and *tarawau tangane* (717), but I do not feel sure that either name was correctly applied by my informants.

The new species is closely related only to the Samoan *D. maota*, differing most obviously in its reduced number of leaflets. The flowers of the two entities are quite similar, those of the new species being a trifle the more slender and delicate in texture; the leaflets of *D. maota* are usually the narrower in proportion and have very conspicuously inequilateral bases. The new species differs from its relatives in Fiji, *D. seemannii* and *D. hornei*, by the several obvious characters stated in my key; these three Fijian species of § *Didymocheton* are actually not closely related to one another.

12. Dysoxylum (§ *Didymocheton*) hornei Gillespie in Bishop Mus. Bull. 83: 12. *fig. 13.* 1931.

Didymocheton hornei Harms in Nat. Pfl. ed. 2. 19b1: 157. 1940.

Dysoxylum hornei is a very distinct species of § *Didymocheton*, differing from its allies in our region in its reduced number of stamens, smaller corolla, which is often only 3- or 4-lobed, and its short and usually glabrous disk. Even when the corolla-lobes are 5, *D. hornei* has only 5 or 6 (rarely 7) stamens. The species is further characterized by its comparatively few and nearly sessile leaflets, of which the distal half of the blade is shorter than the proximal half (the reverse of the usual condition in the genus). The inflorescence is comparatively narrow, with the lateral branches insignificant in length.

Gillespie's species is not entirely uniform, however. Typical specimens have the leaflets persistently pubescent on the costa beneath, whereas certain specimens, scattered within the range of the species, have the leaflets quite glabrous and in other respects have a more limited and closer indument than typical. I propose to separate these latter specimens from the typical form as var. *glabratum*. The two varieties may be distinguished as follows:

Leaflets persistently hispidulous or at least obviously puberulent on costa beneath, often also pubescent on lower surface; bracteoles and sepals copiously strigillose without (hairs 0.1–0.3 mm. long); corolla copiously sericeous-strigillose without (hairs 0.1–0.3 mm. long); corolla-lobes usually 3 or 4, less commonly 5; ovary with hairs 0.5–1 mm. long ---------- var. *hornei*

Leaflets complete glabrous, the costa beneath without indument; bracteoles and sepals often glabrous (or inconspicuously strigillose dorsally with hairs scarcely exceeding 0.1 mm. long); corolla minutely appressed-puberulent without (hairs 0.05–0.1 mm. long); corolla-lobes 5; ovary with hairs 0.2–0.3 mm. long---------- var. *glabratum*

12a. Dysoxylum hornei var. hornei.

TYPE LOCALITY: Vicinity of Namosi, Namosi Province, Viti Levu, Fiji; type, *Gillespie* 2863, cited below.

DISTRIBUTION: Fiji, thus far known only from Viti Levu and Ovalau, at elevations up to 1,100 m. Habitats of dense forest, partially open forest, and hillside thickets have been noted. The plant is a tree, often slender, 2–13 m. in height, with white or yellowish flowers.

LOCAL NAMES AND USES: *Kau toa* is recorded by Gillespie, *viviniura* by Degener (no. 15308). In connection with the latter, Degener notes that an extract of the leaves is used medicinally.

FIJI: VITI LEVU: Mba: Mountains near Lautoka [western base of Mt. Evans Range], *Greenwood* 1061 (A), 1061A (A, US); slopes of Mt. Nairosa, eastern flank of Mt. Evans Range, *Smith* 4046 (A, US); vicinity of Nandarivatu, *Gillespie* 4212 (Bish, GH, K); slopes of escarpment north of Nandarivatu, *Smith* 6263 (A, US); Mt. Matomba, near Nandarivatu, *Degener* 14419 (A, Bish, K, NY); hills between Nandala and Nukunuku Creeks, along trail from Nandarivatu toward Lewa, *Smith* 6193 (A, US). Nandronga & Navosa: Singatoka River,

Greenwood 834 (A, K, NY, US); Naruku, vicinity of Mbelo, near Vatukarasa, *Degener* 15308 (A, Bish, K, NY, US); vicinity of Mbelo, *Tabualewa* 15642 (A, Bish, K, NY, US). Serua: Mbuyombuyo, near Namboutini, *Tabualewa* 15610 (A, Bish, K, NY). Namosi: Mt. Naitarandamu, *Gillespie* 3318 (Bish); vicinity of Namosi, *Gillespie* 2863 (Bish TYPE, GH). Naitasiri: Tholo-i-suva, *B. E. Parham* 1068 (A); vicinity of Nasinu, *Gillespie* 3587 (Bish, GH). OVALAU: Lovoni Valley, *Horne* 233 (GH, K); Levuka, *Horne* 375 (GH, K). Fiji, without definite locality: *Gillespie* 4263 (Bish, juvenile).

12b. Dysoxylum hornei var. glabratum A. C. Sm. var. nov.

Arbor a varietate typica foliolis glabris, florum indumento parciore et breviore differt.

Tree, up to 15 m. high, with leaves similar to those of var. *hornei* but completely glabrous; bracteoles and sepals glabrous or very inconspicuously strigillose dorsally; corolla about 9 mm. long at anthesis, minutely appressed-puberulent without, the lobes 5, strongly reflexed at anthesis, 1–1.3 mm. broad; staminal tube sparsely strigillose without, the stamens 5 or 6, with anthers 0.7–0.8 mm. long; disk about 3 mm. long, glabrous or sparsely retrorse-strigillose on both sides; ovary minutely hispidulous-strigillose with stramineous hairs 0.2–0.3 mm. long.

Type in the herbarium of the Arnold Arboretum, collected in open forest near Nandarivatu, Province of Mba, Viti Levu, Fiji, alt. about 750 m., Feb. 4, 1941, by Otto Degener (No. 14267). Duplicates at Bish, K, NY, US, etc.

ADDITIONAL SPECIMENS EXAMINED:

FIJI: VITI LEVU: Vicinity of Nandarivatu, *Gillespie* 4220 (Bish, GH, NY, US); hills between Nggaliwana and Nandala Creeks, south of Nauwanga, *Smith* 5835 (A, US); hills between Nggaliwana and Tumbeindreketi Creeks, east of the sawmill at Navai, *Smith* 5881 (A, US). OVALAU: Lovoni Valley, *Horne* 141 (GH, K). TAVEUNI: Western slope, between Somosomo and Wairiki, *Smith* 730 (Bish, GH, K, NY, US).

DISTRIBUTION: Fiji, known from the islands of Viti Levu, Ovalau, and Taveuni, at elevations of 600–900 m. Habitats of dense to open forest have been noted. The plant is a tree, often slender, 4–15 m. high, with fragrant flowers (type collection) which are cream-white or greenish yellow, sometimes pink-tinged; the fruit has a brownish green velutinous indument.

LOCAL NAMES: I have noted the names *ndrengandrenga* (No. 5835) and *raidambo* (No. 730), neither of which is ordinarily used for the genus in Fiji.

13. Dysoxylum (§ *Eudysoxylum*) gillespieanum A. C. Sm. sp. nov.

Arbor foliolis subcoriaceis manifeste petiolulatis, fructibus infra folia aggregatis valde stipitatis pericarpio coriaceo glabrato, *D. lenticellari* Gillespie affinis, petiolis petiolulisque manifeste canaliculatis, foliorum indumento strigilloso subpersistente, fructibus paucis infra folia aggregatis pericarpio haud lenticellato differt.

Tree, up to 25 m. high, the branchlets robust, terete, rugulose, at first brownish and copiously strigillose or puberulent with pale hairs about 0.2 mm. long, at length glabrate, cinerascent; leaves aggregated toward apices of branchlets, 14–27 cm. long, the petiole, rachis, and petiolules densely but sometimes inconspicuously pale-strigillose or puberulent like young branchlets, the petiole 3–5 cm. long, deeply canaliculate, slightly swollen at base; leaflets 7 or 9, subopposite or alternate, the petiolules slender, canaliculate, 7–15 mm. long, the blades subcoriaceous, drying dark green or brownish, the middle lateral ones oblong-elliptic, 5.5–9 (–11) cm. long, 3–4.5 cm. broad, obtuse or rounded at base (distal side the longer), obtuse or obtusely short-acuminate at apex, the venation comparatively inconspicuous, the costa plane or slightly grooved above, elevated beneath, the secondary nerves 7–10 per side, spreading, plane above, slightly elevated beneath, the veinlet-reticulation immersed, the basal leaflets slightly reduced; leaflet-blades glabrous or sparsely strigillose above, minutely punctate beneath and inconspicuously strigillose with colorless hairs 0.1–0.2 mm. long, or sometimes copiously hispidulous especially along costa and secondaries with hairs to 1 mm. long, eventually essentially glabrate; inflorescences not seen; fructescences arising from branchlets below leaves, reduced and comparatively simple, the rachis stout, up to 3 cm. long, usually simple, sometimes reduced to a coarse woody glomerule, at length glabrate; fruits 1–5, each borne on a swollen cylindric stalk (calyx-tube) 5–8 mm. long, this rugulose, subpersistently strigillose, the calyx-lobes deciduous; fruit obovoid-ellipsoid, with 3 or 4 inconspicuous longitudinal ridges, at apparent maturity 3.5–4 cm. long and 1.5–2 cm. broad, conspicuously narrowed at base to a stipe 3–8 mm. long and about 5 mm. in diameter, rounded at apex, the pericarp coriaceous, rugulose, minutely strigillose toward base, eventually glabrate, elenticellate or with a few inconspicuous lenticels, 1.5–2 mm. thick, the locules 3, the dissepiments coriaceous, persistent; seeds apparently solitary in each locule, elongate-ellipsoid.

Type in the herbarium of the Arnold Arboretum, collected in dense forest on hills east of Nandala Creek, about 3 miles south of Nandarivatu, Province of Mba, Viti Levu, Fiji, alt. 850–970 m., Sept. 9, 1947, by A. C. Smith (No. 5955). Duplicate at US.

ADDITIONAL SPECIMENS EXAMINED:

FIJI: VITI LEVU: Mba: Vicinity of Nandarivatu, alt. 900 m., *Gillespie* 4198 (A, Bish).

DISTRIBUTION: Known only from the two specimens cited, obtained in essentially the same locality in north-central Viti Levu, Fiji; Gillespie notes the fruits as dull green in color.

Although the important diagnostic characters in *Dysoxylum* are found in the flowers, the two cited specimens seem definitely to repre-

sent an undescribed species of § *Eudysoxylum*. Because flowers are lacking I have not been able to place this species accurately in my key, but it seems certainly to be a close ally of *D. lenticellare*, with which it agrees in leaflet-texture and -shape. The fruiting inflorescences of *D. lenticellare* are usually ample and associated with the leaves, and the fruits are conspicuously lenticellate. The leaves of Gillespie's species have the petioles and petiolules subterete or merely flattened above, whereas those of the new species have them canaliculate, the petioles very conspicuously so. *Dysoxylum lenticellare* has glabrous leaflets, those of *D. gillespieanum* being more or less persistently strigillose beneath. The two available collections of the new species are not identical in foliage-indument. *Gillespie* 4198 has the leaflets copiously hispidulous on the costa and nerves beneath with hairs up to 1 mm. long and also densely but less obviously strigillose with appressed hairs about 0.2 mm. long. Only the latter type of indument occurs on the leaflets of the type, but in other respects the specimens are similar, and it can hardly be doubted that they represent the same species.

RECORD OF MELIACEAE TO BE EXCLUDED FROM THE REGION

Dysoxylum bijugum (Labill.) Seem. Fl. Vit. 37. 1865.

In making this new combination in Flora Vitiensis, Seemann refers to it his No. 104 (said to be from Viti Levu but indicated in the herbarium at Kew as being from Taveuni). The specimen is very inadequate, and I find no reason to suppose that it belongs to the Meliaceae, although I have been unable to identify it. Seemann's combination is based upon the New Caledonian *Trichilia bijuga* Labill. and is referred by de Candolle (in DC. Monogr. Phan. **1:** 506. 1878) to *Dysoxylum lessertianum* (Juss.) Benth., a species that apparently does not occur in Fiji.

SPECIES EXCLUDED FROM THE FAMILY

Koelreuteria elegans (Seem.) A. C. Sm. comb. nov.
Melia (*?*) *elegans* Seem. Fl. Vit. 36. 1865.
Koelreuteria vitiensis A. C. Sm. in Journ. Arn. Arb. **31**: 299. 1950.

Seemann's brief description of *Melia elegans* is quite inadequate for recognition of the plant, and the possibility of the species' representing a member of the Sapindaceae did not occur to me until the description and type collection were carefully scrutinized in connection with the present study of Meliaceae. There can be no doubt that Seemann's specimen represents a juvenile form of *Koelreuteria vitiensis*, in which the young leaflets are more coarsely serrate and more densely pilose than mature ones. The fact that the species was well established along the Mathuata coast as early as 1860 indicates that

it cannot have been a recent introduction, as suggested by me when I referred the plant to *Koelreuteria formosana* Hayata (in Sargentia 1: 55. 1942). While it is a satisfaction to place another puzzling Fijian binomial in its proper place, I regret that the discovery of the identity of *Melia elegans* was not made before I proposed the entity as a new species. The type collection is very similar to *Smith* 6429, also from Mathuata, a similarly sterile specimen. To my citations of 1950 should be added:

FIJI: VANUA LEVU: Mathuata: Along coast, *Seemann* 64 (GH, K TYPE).

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[Synonyms in *italics*. Page numbers of principal entries in **boldface**]

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UNITED STATES NATIONAL HERBARIUM

VOLUME 30, PART 5

STUDIES OF PACIFIC ISLAND PLANTS, XV
THE GENUS ELAEOCARPUS IN THE NEW HEBRIDES, FIJI, SAMOA, AND TONGA

By A. C. SMITH

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PREFACE

The paper here published is the fifteenth in a series by A. C. Smith, curator of the division of phanerogams, U. S. National Museum, discussing new and noteworthy plants of the Pacific Islands. In this study are considered the species of the genus *Elaeocarpus* (family Elaeocarpaceae) occurring in the island groups immediately east of the Solomon Islands, namely the New Hebrides, Fiji, Samoa, and Tonga. Twenty-five species are accounted for in this area, of which six are here described as new. *Elaeocarpus*, a genus of large and medium-sized trees of tropical Old World rain-forests, demonstrates the eastward attenuation of morphological variation so frequently encountered in plant groups with distributions centering in New Guinea and other parts of Malaysia.

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Head Curator, Department of Botany,
United States National Museum.

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STUDIES OF PACIFIC ISLAND PLANTS, XV

THE GENUS ELAEOCARPUS IN THE NEW HEBRIDES, FIJI, SAMOA, AND TONGA

By A. C. Smith

INTRODUCTION

In continuation of a series of limited revisions of selected families of phanerogams from Fiji and the adjacent archipelagos,[1] the present treatment is intended to facilitate the identification of species of *Elaeocarpus* in the island groups east of the Solomon Islands. The area here considered extends from the New Hebrides through Fiji and into Samoa and Tonga; the very few available specimens from Niue, the Wallis Islands, and Rotuma have also been considered. The family Elaeocarpaceae is represented in this region only by the genus *Elaeocarpus*, with the exception of a single species of *Aceratium* endemic to the New Hebrides, *A. braithwaitei* (F. v. Muell.) Schlechter (including *Elaeocarpus kajewskii* Guillaumin; see Smith, 1944, p. 119, for discussion).[2]

Impetus for the preparation of this paper was derived from my attempt to identify the Fijian specimens of *Elaeocarpus* collected by me in 1947.[3] I soon learned that the genus is as difficult, in proportion to the number of species involved, in the Melanesian Islands as it is in Papuasia and regions to the west. The only satisfactory solution seemed to be to prepare a limited revision of *Elaeocarpus* in Fiji and the adjacent archipelagos, with redescriptions of the known spe-

[1] Recent papers in this series have been published as follows:
X. Contr. U. S. Nat. Herb. **30**: 469–519. 1952.
XI. Journ. Arn. Arb. **33**: 97–118. 1952.
XII. Op. cit. **33**: 119–149. 1952.
XIII. Op. cit. **33**: 367–402. 1952.
XIV. Op. cit. **34**: 37–51. 1953.

[2] For references to selected literature, see bibliography at the end of this paper.

[3] The mentioned collections were made under the auspices of the Arnold Arboretum of Harvard University and the John Simon Guggenheim Memorial Foundation, with the aid of grants from the Penrose Fund of the American Philosophical Society and the Bache Fund of the National Academy of Sciences.

cies, most of which were first described on the basis of inadequate material or without mention of certain critical characters. For this purpose the herbarium material of several institutions has been examined and is here cited, with the indicated abbreviations: Arnold Arboretum of Harvard University (A); Bernice P. Bishop Museum (Bish); British Museum (BM); Gray Herbarium of Harvard University (GH); Royal Botanic Gardens, Kew (K); New York Botanical Garden (NY); and U. S. National Herbarium (US). I am greatly indebted to the administrators of these herbaria for the privilege of examining specimens under their care.

Elaeocarpus has been discussed (Merrill, 1945, p. 216, *fig. 255*) as an example of the typical attenuation of Malaysian genera in their extension to the eastward. The following figures, indicating the number of species known from groups between New Guinea and Tonga, are illustrative: New Guinea, at least 111; Solomon Islands, 4; New Hebrides, 2; New Caledonia, 29; Fiji, 18; Samoa, 5 (of which 1 extends into Tonga). These figures are by no means reliable, being in most cases too low. It is probable that the figures for Samoa and Tonga are essentially correct, but additional new species may be anticipated from Fiji, to judge from the several available collections which are at present unidentifiable because essential parts are lacking. Whether any considerable number of new *Elaeocarpi* are to be expected from New Caledonia I cannot say; the figure of 29 is taken from Guillaumin's recent list (1948, p. 205–206). The New Caledonian species are not considered in the present treatment, as the material in American herbaria from that island is entirely inadequate. It is certain that additional species of *Elaeocarpus* will be discovered in New Guinea, when remote parts of that rich island are explored. The figures of species known from the Solomon Islands and the New Hebrides, 4 and 2 respectively, are the least credible. It is quite unlikely that these archipelagos support fewer species of the genus than does Fiji, and the known record only serves to emphasize the total inadequacy of botanical collections in the Solomon-New Hebrides region.

No real agreement has been reached by students of *Elaeocarpus* as to infrageneric categories, and it is not probable that acceptable categories can be erected until a competent student revises the entire genus. The difficulties inherent in the genus and the unsatisfactory nature of strictly regional approaches have been well discussed by Merrill (1951). In considering the Papuasian species (1944), I accepted as a basis for discussion the sectional arrangement proposed by Schlechter (1916), with minor modifications. Schlechter's division of the Papuasian species into 9 sections is not entirely satis-

factory, as will be obvious to students of other floras, whose *Elaeocarpi* will not always fit into this system; but nevertheless these sections permit a reasonable grouping of the New Guinean species. Such an attempt to group the species in readily definable categories seems more realistic than retaining the unwieldy sectional concepts of earlier workers, a point of view I have elsewhere elaborated (1944). To ignore infrageneric divisions altogether in *Elaeocarpus*, as Knuth and Gagnepain (see Merrill, 1951, for discussion) and Guillaumin (1948) seem to have done, will not bring order to the genus.

For purposes of reviewing the species considered in the present paper, Schlechter's system is quite usable. Table 1 shows the occurrence of Schlechter's sections (as modified by me, 1944) in the island groups from New Guinea to Tonga, exclusive of New Caledonia.

TABLE 1.—*Occurrence of sections of* Elaeocarpus *in the island groups from New Guinea to Tonga*

Section	New Guinea	Solomon Islands	New Hebrides	Fiji	Samoa	Tonga
Lobopetalum	X					
Dactylosphaera	X					
Chascanthus	X	X			X	
Ganitrus	X	X	X		X	
Fissipetalum	X			X		
Oreocarpus	X		X			
Blepharoceras	X			X	X	
Monocera	X	X		X		
Coilopetalum	X	X	X		X	X

This table will serve to demonstrate that the eastward attenuation of *Elaeocarpus* is not uniform. Certain combinations of basic characters (whether or not expressed in nomenclatural units at the sectional level) persist farther to the east than other combinations. Eastward attenuation of the number of species, of course, is merely an expression of the attenuation of possible or probable character-combinations. The distributional gaps shown by the table are striking and indicate that one can draw only the most general conclusions about the distribution of *Elaeocarpus* in the southwestern Pacific, on the basis of material now available.

The present treatment accounts for 25 species, of which 6 are described as new. In the following keys I rely largely upon floral characters, and therefore this study will be of only limited use if sterile or fruiting specimens are at hand. Such specimens can usually be identified by careful comparison, but it is hardly possible to construct a useful key without reference to floral details, some of which can be

observed only by accurate dissection. The key to sections utilizes only those characters found in the species of our region and is not intended to show the total variability within sections throughout their ranges.

SYSTEMATIC TREATMENT

KEY TO THE SECTIONS

Ovary 5-locular, each locule with 4–6 ovules; anthers erostrate, setose at apex; fruits subglobose, the endocarp copiously ornamented with irregular oblong processes, all the locules but 1 sometimes aborting---------- 1. § *Ganitrus*

Ovary 2-locular (3- or 4-locular only in § *Coilopetalum*).

Flowers small, the petals not more than 6 mm. in length, with few (up to 10) laciniae; stamens 10–27, the anthers erostrate; ovules 2–4 per locule; fruit small, round in cross-section, the mesocarp thin, the endocarp inconspicuously rugulose---------- 2. § *Fissipetalum*

Flowers larger, the petals at anthesis at least 7 mm. long, often copiously laciniate; stamens often numerous, rarely as few as 15, the anthers rostrate.

Petals thinner than sepals and obviously different, not copiously sericeous within (hairs never retrorse); ovary 2-locular; fruits comparatively large, the mesocarp thick, the endocarp forming a somewhat flattened putamen, this with obvious and sometimes lobed lateral angles.

Flowers large, the petals 18–47 mm. long; stamens 40–125; fruits large (3.5–6.5 cm. long), the endocarp hard and bony-------- 3. § *Monocera*

Flowers smaller, the petals 7–18 mm. long; stamens 15–41; fruits often somewhat smaller (3–5 cm. long), the endocarp sometimes fibrous.

Ovary glabrous; ovules 6 per locule---------- 4. § *Oreocarpus*

Ovary obviously sericeous.

Ovules 4–7 per locule---------- 5. § *Blepharoceras*

Ovules 2 per locule---------- 6. § *Chascanthus*

Petals resembling sepals in size and texture but with 6–11 apical laciniae, densely sericeous on both sides (hairs retrorse within); ovary glabrous, 3- or 4-locular, the locules with 6–8 ovules; fruits small, round in cross-section, the mesocarp thin, the endocarp coarsely rugulose, inconspicuously angled---------- 7. § *Coilopetalum*

KEYS TO THE SPECIES

1. § *Ganitrus*

Petioles 5–8 mm. long, the leaf-blades 8–14×1.5–4 (–5) cm., finely crenulate distally with 3–6 crenations per centimeter, entire in lower half; pedicels in fruit 13–20 mm. long; New Hebrides---------- 1. *E. hebridarum*

Petioles 12–20 mm. long, the leaf-blades 11–19×3–5.2 cm., conspicuously crenate except at base with 2 or 3 crenations per centimeter; pedicels in fruit 20–25 mm. long; Samoa and perhaps adjacent small islands-- 2. *E. christophersenii*

2. § *Fissipetalum*

Petals 5.5–6 mm. long, with 3–5 apical laciniae; stamens 26 or 27, the anthers 2–2.5 mm. long; ovary glabrous, the locules 4-ovulate; racemes lax, 2–4-flowered, the pedicels 20–25 mm. long; leaf-blades attenuate at base.

3. *E. pittosporoides*

Petals 1.3–3 mm. long, with 5–10 apical laciniae; stamens 10–16, the anthers not more than 1.3 mm. long; ovary pilose, the locules 2-ovulate; racemes essentially straight, 6–18-flowered, the pedicels 2–6 mm. long.

Flowers minute, the petals 1.3–1.9 mm. long; stamens 14–16, the anthers 0.3–0.7 mm. long.

Branchlets and petioles at first pale-puberulent or strigose, usually soon glabrate; leaf-blades subacute and attenuate at base, predominantly obovate-elliptic, 2–5 cm. broad, soon glabrate on both sides; flower-subtending bracts 2–3 mm. long; stamens 1.2–1.3 mm. long, the anthers 0.6–0.7 mm. long---------- 4. *E. cassinoides*

Branchlets and petioles copiously hispidulous-puberulent, the indument often subpersistent; leaf-blades rounded or broadly obtuse at base, rarely acute, oblong-elliptic, 3–6.7 cm. broad, often persistently puberulent beneath at least on costa and secondaries; flower-subtending bracts about 1 mm. long; stamens 0.6–0.7 mm. long, the anthers 0.3–0.4 mm. long---------- 5. *E. pyriformis*

Flowers larger, the petals 2.5–3 mm. long; stamens 10–12, the anthers 1–1.3 mm. long; leaf-blades obovate-oblong, often reddish beneath, attenuate at base---------- 6. *E. kasiensis*

3. § *Monocera*

Ovary glabrous or very sparsely pilose and soon glabrate; sepals essentially glabrous without or, if sparsely strigose in bud, soon glabrate; anthers with a comparatively conspicuous dorsal awn (0.8–4 mm. long) and sometimes also with a ventral awn.

Leaf-blades thick-coriaceous, rounded or bluntly cuspidate at apex, acute or obtuse at base; branchlets very stout (7–15 mm. in diameter toward apices) and copiously cicatricose; sepals thick-coriaceous, 30–40 mm. long; petals yellow toward base, pink distally, carnose, 30–47 mm. long, crenulate-lobed at the rounded apex (lobes subequal, obtuse, 1–2 mm. long); stamens 100–125, the filaments short-hispidulous (hairs 0.1–0.2 mm. long), the anthers 13–16 mm. long---------- 7. *E. storckii*

Leaf-blades chartaceous to coriaceous, gradually narrowed to an acute or obtuse apex; branchlets usually not exceeding 5 mm. in diameter toward apices; sepals 18–32 mm. long; petals white, submembranaceous, 22–37 mm. long, the apical laciniae oblong or lanceolate, often irregular, acute or subacute, 2–8 mm. long; stamens 40–100, the filaments conspicuously hispidulous (hairs 0.5–1 mm. long), the anthers 7–13 mm. long.

Flowers comparatively large, the sepals usually exceeding 20 mm. in length, the petals 23–37 mm. long, the apical laciniae 9–20, the anthers 1-aristate; fruits (not known for No. 9) comparatively large, at least 5 cm. long at maturity.

Leaf-blades elliptic to lanceolate, usually 13–23×5–9 cm., acute to attenuate at base and decurrent on the petiole; inflorescence-axis usually 1–4 cm. long and pale-puberulent at anthesis; sepals copiously sericeous-tomentellous within (hairs golden, 0.2–0.5 mm. long); stamens 48–90, the anthers 9–13 mm. long including the dorsal awn (0.8–1.5 mm. long)---------- 8. *E. chelonimorphus*

Leaf-blades ovate-elliptic, 7–13×3–5 cm., rounded or faintly cordate at base; inflorescence-axis 4–6 cm. long, glabrous; sepals densely sericeous within (hairs whitish, 1–2 mm. long); stamens 90–100, the anthers 7–9 mm. long including the dorsal awn (3–3.5 mm. long)---------- 9. *E. gillespieanus*

Flowers smaller, the sepals up to 20 mm. long, the petals 22–25 mm. long, the apical laciniae 6–16, the anthers sometimes biaristate; fruits 3.5–5 cm. long at apparent maturity.

Leaf-blades ovate-elliptic, 7–16×3–6.5 cm., rounded to broadly obtuse at base, the petioles 2–4 cm. long; sepals 3–4 mm. broad, the petals with 6–9 apical lobes---------- 10. *E. vitiensis*

Leaf-blades lanceolate or lanceolate-ovate, 7–10×2–4 cm., acute to obtuse at base, the petioles (1–) 1.5–2.8 cm. long; sepals 2–3 mm. broad, the petals with 11–16 apical lobes---------- 11. *E. lepidus*

Ovary sericeous with long-persistent hairs; sepals puberulent without, perhaps at length subglabrate; anthers with a comparatively short awn (0.5–0.8 mm. long).

Leaf-blades acute or narrowly obtuse at base and decurrent on the petiole; young vegetative parts and inflorescence-axis closely pilose with hairs less than 0.4 mm. long; petals laciniate along margins nearly to base, or at least on lateral margins above middle, as well as apically, the lobes 11–35.

Leaf-margin coarsely crenate, the veinlet-reticulation comparatively conspicuous, prominulous on both surfaces; axis of inflorescence and pedicels sparsely strigose-puberulent; sepals 11–15 mm. long; petals probably not much exceeding the sepals in length at anthesis, laciniate along margins nearly to base with 11–17 lobes; ovary minutely sericeous with pale hairs about 0.2 mm. long---------- 12. *E. laurifolius*

Leaf-margins inconspicuously crenulate, the veinlet-reticulation inconspicuous, subimmersed or plane above; axis of inflorescence and pedicels copiously sericeous-puberulent; sepals 17–22 mm. long; petals 18–25 mm. long, laciniate in the distal half with 16–35 lobes; ovary conspicuously sericeous with golden hairs 0.4–0.5 mm. long-------- 13. *E. subcapitatus*

Leaf-blades rounded or subcordate at base; young vegetative parts and inflorescence-axis with hairs 0.4–0.6 mm. long; petals laciniate only at apex, the lobes 11–13---------- 14. *E. melochioides*

4. § *Oreocarpus*

One species; New Hebrides---------- 15. *E. hortensis*

5. § *Blepharoceras*

Flowers comparatively large, the sepals 12–13.5 mm. long, the petals 13–15 mm. long, white, with 8–12 apical laciniae; stamens 28–30, the filaments copiously sericeous with pale hairs 0.7–1 mm. long, the anthers 5–7 mm. long; style 10–12 mm. long; inflorescence short, the axis not more than 2.5 cm. long; leaf-blades comparatively small, not exceeding 7×3.5 cm., acute or obtuse at base, the petioles not more than 1.5 cm. long----------16. *E. kambi*

Flowers smaller, the sepals not more than 10 mm. long and the petals not exceeding 13 mm.; stamens (15–41) with glabrous or minutely hispidulous-puberulent filaments (hairs not more than 0.1 mm. long), the anthers not more than 4.2 mm. long; style not exceeding 6 mm. in length; inflorescence often elongate, the axis at least 3 cm. long at anthesis; leaf-blades only rarely less than 7 cm. in length, the petioles usually much longer than 1.5 cm.

Leaf-blades large, usually 14–30 cm. long and 6–14.5 cm. broad, the secondary nerves 10–15 per side; branchlets greatly thickened, 5–15 mm. in diameter toward apices; anthers with an apical awn 0.5–0.7 mm. long.

Racemes up to 15 cm. long, the pedicels 4–10 mm. long at anthesis.
Leaf-blades obovate, gradually narrowed toward base, then abruptly narrowed and decurrent on the petiole; hairs of young parts 0.1–0.2 mm. long; racemes 10–15 cm. long, the rachis and pedicels puberulent with hairs less than 0.1 mm. long; petals with 7 or 8 apical laciniae; ovary sericeous with hairs 0.1–0.2 mm. long, the ovules 6 per locule; Fiji---------- 17. *E. milnei*
Leaf-blades ellipitic or elliptic-ovate, rounded to a shallowly cordate base; hairs of young parts 0.3–0.6 mm. long; racemes 3–7.5 cm. long, the rachis and pedicels with hairs 0.2–0.4 mm. long; petals white, with 12–18 apical laciniae; ovary sericeous with hairs 0.3–0.5 mm. long, the ovules 4 per locule; Samoa---------- 18. *E. magnifolius*
Racemes 22–40 cm. long, the rachis and pedicels tomentellous with hairs 0.3–0.7 mm. long, the pedicels 15–55 mm. long at anthesis; petals pink, whitish distally, with 13–17 apical laciniae; ovules 6 per locule; leaf-blades elliptic or obovate-elliptic, rounded at base; young parts copiously sericeous with hairs 0.6–1 mm. long; Fiji---------- 19. *E. roseiflorus*
Leaf-blades comparatively small, usually 5–20 cm. long and 3–11 cm. broad, the secondary nerves 5–11 per side; branchlets comparatively slender, 2–8 (–10) mm. in diameter toward apices; anthers with an apical awn 0.8–1.6 mm. long (shorter in Nos. 22 and 24, small-leaved species).
Stamens 26–41, 1–3-seriate; style 3–4 mm. long; petals white (color not known for No. 22), the apical laciniae 8–19; leaf-blades cordate to very broadly obtuse at base, the indument of branchlets and petioles often long-persistent.
Leaf-blades elliptic to lanceolate-ovate, usually 9–20×4–11 cm., crenulate at margin; pedicels at least 5 mm. long at anthesis; sepals 6.5–8 mm. long; petals 7–10 mm. long; anthers with an apical awn 1–1.6 mm. long.
Pedicels at anthesis 8–13 cm. long, the petals 5–6 mm. broad, with 12–16 apical laciniae; endocarp of fruit 2–3 mm. thick, forming a putamen with the lateral angles subacute and undulate into lobes 2–3 mm. long; Fiji---------- 20. *E. graeffei*
Pedicels at anthesis 5–8 mm. long, the petals 3.5–5 mm. broad, with 8–14 apical laciniae; endocarp of fruit 1–2 mm. thick, forming a putamen with the lateral angles strongly produced into lobes 5–8 mm. long; Samoa---------- 21. *E. ulianus*
Leaf-blades ovate, 5–9×3–6.5 cm., essentially entire at margin; pedicels 3–5 mm. long at anthesis; sepals 9–10 mm. long; petals 12–12.5 mm. long, with 16–19 apical laciniae; anthers with an apical awn 0.6–0.8 mm. long; Fiji---------- 22. *E. degenerianus*
Stamens 15–22; leaf-blades obtuse to attenuate at base, essentially entire or inconspicuously undulate-crenulate at margin, the branchlets and petioles soon glabrate.
Leaf-blades obtuse to subacute at base; petals pink with 7 or 8 yellowish apical laciniae; stamens 15, the anthers 3.3–3.8 mm. long, with a terminal awn 0.8–1 mm. long; style 5–6 mm. long; ovules 4–6 per locule; Fiji---------- 23. *E. xanthodactylus*
Leaf-blades attenuate at base and long-decurrent on the petiole; petals (color not known) conspicuously fimbriate with 14–18 lobes; stamens 18–22, the anthers 2.5–3 mm. long, with a terminal awn 0.5–0.8 mm. long; style 2.5 mm. long or less; ovules 2 per locule; Samoa.
24. *E. tuasivicus*

6. § *Chascanthus*

One species; Samoa ---------- 24. *E. tuasivicus*

7. § *Coilopetalum*

One species; Samoa, Tonga, and Niue ---------- 25. *E. tonganus*

1. § GANITRUS

Elaeocarpus § Ganitrus Brongn. & Gris in Bull. Soc. Bot. Fr. 8: 202. 1861.

Section *Ganitrus* is comparatively easily characterized and readily recognized (see Smith, 1944, pp. 227–229 for discussion). In New Guinea it is composed of approximately 16 known species, some of these having been referred to § *Ptilanthus*, which I believe not to be separable, by Schlechter (1916, p. 121). The section is represented eastward of New Guinea by 1 species each in the Solomon Islands, New Hebrides, and Samoa.

1. **Elaeocarpus (§ *Ganitrus*) hebridarum** Knuth in Rep. Sp. Nov. 50: 84. 1941.
Elaeocarpus aff. *persicaefolius* sensu Guillaumin in Journ. Arn. Arb. 12: 232. 1931; non Brongn. & Gris.

Tree, up to 25 m. high, glabrous throughout (or young parts obscurely puberulent) except infructescence, the branchlets slender, 1.5–3 mm. in diameter near apices, distally purpurascent and obscurely angled; leaves numerous toward apices of branchlets, the petioles slender, canaliculate, 5–8 mm. long, angled or narrowly winged nearly to base, the blades thin, papyraceous, drying greenish brown, lanceolate, 8–14 cm. long, 1.5–4 (–5) cm. broad, attenuate at base and long-decurrent on the petiole, gradually narrowed to an obtuse or subacute apex, entire and narrowly recurved at margin in lower half, finely crenulate distally, the crenations 3–6 per centimeter, obscurely callose on the rounded upper margin, the costa plane or slightly raised above, prominent beneath, the secondary nerves 14–18 per side, spreading, curved, prominulous on both sides, the veinlet-reticulation intricate, plane or faintly prominulous on both sides; inflorescences not known; infructescences lateral below leaves, 3–7 cm. long, the short peduncle and rachis slender, 1–2 mm. in diameter, faintly strigose, glabrate; fruits 4–7 per infructescence or fewer, more or less unilateral, the pedicel slender, curved, 13–20 mm. long, pilose like rachis (hairs pale, 0.2–0.3 mm. long) and soon glabrate; disk pulvinate in fruit or obscure, the lobes confluent, distally hispidulous with yellowish hairs about 0.3 mm. long; fruits coriaceous when dried, presumably carnose when fresh, subglobose or slightly oblate, up to 22 mm. in diameter, faintly pentagonal when dried, obscurely sericeous-puberulent or soon glabrate, the epicarp very thin, tough, the mesocarp 2–3 mm. thick, fibrous, the endocarp hard and bony, 1–2 mm. thick, with numerous

irregular oblong processes 1–2 mm. long, the locules 5 (1–3 often aborting), each 1-seeded, the seeds oblong-ellipsoid, apparently about 8 mm. long, castaneous.

TYPE LOCALITY: Eromanga, New Hebrides; the type is *Kajewski* 328, deposited in the Berlin Herbarium and presumably destroyed; isotypes are cited below.

DISTRIBUTION: New Hebrides, thus far known only from three of the southern islands, in rain-forest at elevations of 200–400 m. The species is said by Kajewski to be a common tree 10–25 m. high, with a straight trunk; the fruit is blue.

LOCAL NAME AND USE: A local name for the type collection is given as *nay-yos*, and on Aneityum the wood is used for comb-making.

NEW HEBRIDES: EROMANGA: Dillion Bay, *Kajekski* 328 (TYPE COLL., A, K, NY. US). TANNA: Lenakel, *Kajewski* 93 (A. K. NY). ANEITYUM: Anelgauhat Bay, *Kajewski* 917 (A, K, NY).

Elaeocarpus hebridarum is a species of the general relationship of *E. sphaericus* (Gaertn.) K. Schum., amply characterized, even in the absence of flowers, by its small, short-petioled leaves with distally finely crenulate margins. The related *E. fauroensis* Hemsl., of the Solomon Islands (see Smith, 1944, p. 236, for amplification of original description) has leaf-blades about 15–20×4.5–6.5 cm., the fruiting pedicel about 25 mm. long, the fruit 2–3 cm. in diameter, and the endocarp with longer processes.

2. **Elaeocarpus (§ *Ganitrus*) christophersenii** A. C. Sm. sp. nov.
Elaeocarpus sp. Christophersen in Bishop Mus. Bull. 128: 140. 1935.
Elaeocarpus sphaericus sensu Christopherson in Bishop Mus. Bull. 154: 18. 1938, non K. Schum.

Arbor foliorum laminis lanceolatis fere ad basim conspicue crenatis, crenationibus decidue aristatis, sepalis utrinque sericeo-puberulis, petalis in lobos 5 primarios profunde fissis, laciniis ultimis 12–16, staminibus circiter 50, antheris 3–4.5 mm. longis erostratis apice setosis, ovario sericeo, stylo 6–7.5 mm. longo, loculis 5, ovulis 5 vel 6 per loculo; a *E. hebridarum* petiolis longioribus, laminis majoribus manifestius crenatis, pedicellis sub fructu longioribus differt.

Tree, up to 10 m. high, the young branchlets slender, 2–4 mm. in diameter near apices, purpurascent, inconspicuously angled, sparsely sericeous-puberulent with pale hairs 0.1–0.2 mm. long, soon glabrate and subterete; leaves numerous toward apices of branchlets, the petioles slender, flattened above, 12–20 mm. long, pilose like branchlets and soon glabrate, the blades thin, papyraceous, drying brownish, lanceolate or narrowly oblong, 11–19 cm. long, 3–5.2 cm. broad, glabrous on both sides, shining above, attenuate at base and decurrent on the petiole, gradually narrowed to an obtuse and shallowly retuse apex, conspicuously crenate at margins except near base,

the crenations 2 or 3 per centimeter, callose-aristate on the rounded distal margin (awn 0.5–1 mm. long, readily caducous, leaving a slight thickening), the costa nearly plane above or slightly elevated, prominent beneath, the secondary nerves 10–16 per side, arcuate-ascending, slightly elevated on both sides or subprominent beneath, irregularly anastomosing toward margins, the veinlet-reticulation prominulous on both sides or plane above; inflorescences lateral below leaves, at anthesis 7–9 cm. long, the peduncle short, the rachis slender, striate, 1–1.5 mm. in diameter, sparsely pilose like young branchlets; flowers numerous, 6–8 per centimeter of rachis but some caducous, the subtending bracts oblong-obovate, 2.5–3×1–1.5 mm., copiously sericeous without and puberulent within, caducous before anthesis, the pedicels at anthesis 13–17 mm. long; sepals 5, thin-carnose, lanceolate, 8–9 mm. long, 1.7–2 mm. broad, acute at apex, pilose on both sides like pedicel, inconspicuously carinate within; petals 5, thin-carnose, obovate-cuneate, 8–9 mm. long, 2.5–3 mm. broad, copiously tomentellous on proximal margins and within near base (hairs 0.2–0.4 mm. long), otherwise glabrous, copiously and deeply laciniate, the 5 principal divisions 4–5 mm. long, each of these once or twice dichotomously divided, the ultimate lobes 12–16, lanceolate, 1-nerved, 2–4 mm. long; disk carnose, 0.7–0.8 mm. high, copiously sericeous-hispidulous with golden hairs 0.2–0.3 mm. long, the lobes 5, confluent, dorsally shallowly sulcate; stamens about 3-seriate, 50–52, diverse in length, 4–6 mm. long, the filaments terete, 1–1.5 mm. long, minutely setulose-sericeous, the anthers 3–4.5 mm. long, minutely hispidulous, erostrate, subacute at apex, the dorsal apex terminated by 1–3 setae up to 1 mm. long; ovary subglobose, copiously sericeous with golden hairs 0.3–0.6 mm. long, the style subulate, 6–7.5 mm long, sericeous in the basal half, glabrous distally, soon caducous, the locules 5, each with 5 or 6 biseriate ovules; infructescences up to 11 cm. long, the indument of rachis and pedicels sometimes subpersistent, the pedicels 20–25 mm. long, the disk persistently hispidulous; fruits coriacous when dried, subglobose, at apparent maturity about 20 mm. in diameter, marked at apex with 5 obscure radiating lines, the epicarp thin, tough, the mesocarp 1.5–3 mm. thick, fibrous, the endocarp hard and bony, about 2 mm. thick, copiously ornamented with irregularly oblong processes 1–2 mm. long, the locules 5 but often all except one aborting, the seeds 1 per locule when developing.

Type in the herbarium of the Bernice P. Bishop Museum, collected in forest at Falelima-Siuvao, Savaii, Samoa, alt. about 50 m., November 19, 1931, by Erling Christophersen (No. 309).

ADDITIONAL SPECIMENS EXAMINED:

SAMOA: SAVAII: Tufutagoe-Falelima, *Christophersen* 2766 (Bish, US); near Salailua, *Christophersen* 2983 (Bish).

(?) WALLIS ISLANDS: UVEA: *Burrows* W8 (Bish).

(?) ROTUMA: *Waqatabu* 2631 (A).

DISTRIBUTION: The new species is known definitely only from Savaii, Samoa, where it has a limited range at low elevations (up to 150 m.). Christophersen notes it as from forest or edge of forest, near an abandoned plantation (No. 2766). The species is a tree 5–10 m. high, the fruit being blue when ripe and eaten by pigeons.

LOCAL NAME: *Siapo atua* is the name referred to Christophersen's three collections.

The specimens from Uvea and Rotuma are not too confidently referred here, since both are sterile and show slight differences in petiole-length and leaf-margins from the Samoan specimens. Burrows gives the local name *tongovao* for the Uvea plant; the Rotuma specimen was from a tree nearly 20 m. high, locally known as *umasa*.

The new species is certainly of the general affinity of *E. sphaericus* (Gaertn.) K. Schum., to which Christophersen referred it with the suggestion that it might be a recent introduction into Samoa. The notes with his specimens do not necessarily indicate that the plants were introduced. When clearing land for a plantation, the Polynesians usually leave large hard-wooded trees standing, and of course trees on the edge of a forest are often characteristic of the forest itself, but they are more accessible to collectors.

The conventional herbarium concept of *E. sphaericus*, so ably discussed by Merrill (1951, pp. 196–199), seems to me quite artificial, including as it does a large part of § *Ganitrus*. Of course, the ultimate decision as to the limits of this species will rest with some future monographer; but in the meantime I see little gain in the wholesale reduction of regionally limited taxa to a somewhat vague concept. Although *E. sphaericus* is said to be cultivated in India and perhaps in parts of Malaysia, because of the value attached to the hard endocarps, there is no evidence to indicate that the occurrence of § *Ganitrus* as far east as Samoa is unnatural. Its absence from Fiji, on the basis of present material, is puzzling, but a parallel distribution is seen in § *Coilopetalum;* both cases seem to indicate the need of more intensive collecting in our area.

From the only other species of § *Ganitrus* known from our region, *E. hebridarum* Knuth, of which flowers are unknown, *E. christophersenii* is readily distinguished by its longer-petiolate and larger leaves with more obvious marginal crenations, and by its comparatively long-pedicellate fruits.

Another species to which the Samoan plant is allied is the Australian *E. grandis* F. v. Muell., sometimes cultivated; the two entities are very close in foliage, *E. christophersenii* having its marginal crenations somewhat coarser. The sepals of *E. grandis* are about 12 mm. long and attenuate at apex, the petals are at least 16–17 mm. long but laciniate and pilose like those of the Samoan plant, the disk is about 1.5 mm.

high, the stamens are about 57–60 in number, with anthers 5–7 mm. long, and the style is about 15 mm. long.

2. § FISSIPETALUM

Elaeocarpus § Fissipetalum Schlechter in Bot. Jahrb. 54: 118. 1916.

The 4 species of § *Fissipetalum* known from our region are all Fijian, indicating that the section is to be expected in the Solomon Islands and the New Hebrides; in New Guinea it is represented by approximately 17 known species. The species placed here are easily recognized by their very small flowers, few stamens with erostrate anthers, reduced number of ovules, small fruits, and essentially unornamented pyrenes which are round in cross-section. Characteristically, the New Guinean species of this section have the ovules 4 per locule, but I found it necessary to place in the section species with 2 and 6 ovules per locule (1944, pp. 236–246). Of the Fijian species here placed, 3 have biovulate locules, and I believe that Schlechter's original interpretation of the section must be expanded to this extent.

It is questionable whether or not § *Fissipetalum* should be separated from § *Dicera* (for discussion of which see Smith, 1944, p. 223), a section which has, and perhaps correctly, been rather broadly interpreted. For instance, Merrill (1951, p. 165, etc.) refers to § *Dicera* certain new species which in petal-characters would be placed in § *Fissipetalum*, although elsewhere (1951, p. 174) he retains the latter section as distinct. Perhaps a reasonably broad interpretation of sectional lines will lead to the combination of these two names, and also § *Lobopetalum* Schlechter (1916, p. 109), under the earliest name, § *Dicera*. Such a decision can best be made by the ultimate monographer of the genus.

3. **Elaeocarpus** (§ *Fissipetalum*) **pittosporoides** A. C. Sm. in Journ. Arn. Arb. 26: 100. 1945.

Tree, up to 6 m. high, glabrous except for some floral parts, the branchlets slender (3–4 mm. in diameter distally), terete, cinereous; leaves crowded toward apices of branchlets, the petioles slender, shallowly canaliculate, 1–2 cm. long, the blades subcoriaceous or chartaceous, drying olivaceous, obovate-elliptic, 6.5–10 cm. long, 2.5–4.5 cm. broad, attenuate at base and decurrent on the petiole, obtusely cuspidate at apex, slightly recurved at margin and remotely undulate-crenulate, the costa strongly raised on both sides, the secondary nerves 6–8 per side, subspreading, anastomosing toward margins, sharply prominulous on both sides, the veinlet-reticulation obvious, prominulous on both sides; racemes axillary, lax, up to 6 cm. long, 2–4-flowered, the peduncle up to 3 cm. long and like the rachis slender, the pedicels very slender, at anthesis 20–25 mm. long; sepals 5, thin-carnose or

papyraceous, oblong, 5.5–6×1.5–2 mm., subacute, glabrous without, conspicuously carinate within and sericeous-puberulent with hairs 0.1–0.2 mm. long; petals 5, submembranaceous, obovate, about as long as sepals, 2.5–3 mm. broad, carinate within toward base and there faintly tomentellous, otherwise glabrous, 3–5-lobed at apex, the lobes subacute, 1–2 mm. long; disk about 0.5 mm. high, sparsely hispidulous, obscurely 5-lobed; stamens 26 or 27, 1- or 2-seriate, 3.5–4 mm. long, minutely papillose-hispidulous throughout, the filaments 1–1.5 mm. long, the anthers 2–2.5 mm. long, subacute at apex, erostrate, the dorsal apex slightly projected; gynoecium glabrous, the ovary ovoid, 2-locular, each locule with 4 biseriate ovules, the style subulate, 2–2.5 mm. long.

TYPE LOCALITY: Viti Levu, Fiji; the type is *Greenwood* 1010.

DISTRIBUTION: Thus far known only from the type collection, obtained at an elevation of 200–300 m. in southeastern Viti Levu, from a tree 5–6 m. high; the flower-buds (essentially mature) are yellow, somewhat dependent on very thin pedicels.

FIJI: VITI LEVU: Namosi: Hills between Navua River and Suva, *Greenwood* 1010 (A TYPE, K).

This very distinct species, which remains known only from the original collection, is distinguishable from *E. cassinoides* and its more immediate allies by the several obvious characters utilized in my key. Although I referred the species to § *Dicera* in 1945, I am now inclined to place it in § *Fissipetalum* because of its laciniate (although few-lobed) petals and erostrate anthers.

4. **Elaeocarpus** (§ *Fissipetalum*) **cassinoides** A. Gray, Bot. U. S. Expl. Exped. 1: 204. 1854; C. Muell. in Walp. Ann. Bot. Syst. 4: 331. 1857; Seem. Fl. Vit. 29. 1865; Hemsl. in Journ. Linn. Soc. Bot. 30: 171. 1894; A. C. Sm. in Journ. Arn. Arb. 26: 99. 1945.

Tree, up to 23 m. high, the young parts copiously strigose-hispidulous, the branchlets subterete, slender, brownish, when young pale-puberulent or strigose with hairs 0.1–0.2 mm. long, usually soon glabrate; petioles pilose and glabrate like branchlets, slender, canaliculate, 5–15 mm. long; leaf-blades papyraceous or chartaceous, oblong- or obovate-elliptic, 5–11 cm. long, 2–5 cm. broad, subacute to attenuate at base and decurrent on the petiole, broadly obtuse to obtusely cuspidate and often obscurely emarginate at apex, often narrowly recurved at margin and crenulate especially distally (crenations 1–3 per centimeter, at first obscurely spinulose but soon rounded and callose on distal margin), obscurely puberulent on nerves when young but soon glabrate on both sides, the costa plane or slightly raised above, prominent beneath, the secondary nerves 4–9 per side, erecto-patent, anastomosing, slightly prominulous or plane above, raised and often with axillary domatia beneath, the veinlet-reticulation prominulous on

both sides or obscure above; racemes axillary, usually 3–4.5 cm. long at anthesis, 12–17-flowered, short-pedunculate, the rachis and pedicels pale-puberulent or hispidulous with pale or yellowish hairs 0.1–0.3 mm. long, the flower-subtending bracts submembranaceous, lanceolate, 2–3 mm. long, sparsely pilose, soon caducous, the pedicels 2–3.5 mm. long at anthesis; sepals 5, submembranaceous, deltoid-oblong, 1.5–2 mm. long, 0.7–1.2 mm. broad, subacute, sparsely puberulent on margin and distally within, otherwise glabrous, carinate within; petals 5, submembranaceous, glabrous, obovate-cuneate, 1.3–1.9 mm. long, 0.8–1.2 mm. broad, fimbriate with 6–8 lobes, these subequal, obtuse, 0.3–0.5 mm. long; disk 5-lobed, the lobes nearly free, about 0.4 mm. high and 0.7 mm. broad, dorsally deeply sulcate, copiously hispidulous; stamens 14–16, uniseriate, 1.2–1.3 mm. long, the filaments slender, glabrous, about 0.6 mm. long, the anthers oblong, hispidulous, obtuse, erostrate, 0.6–0.7 mm. long; ovary ovoid, with base of style puberulent-hispidulous (hairs about 0.15 mm. long), the style 0.4–0.5 mm. long, the locules 2, each biovulate; infructescence often shortened by loss of apical portion of rachis, the pedicels stout, 2–5 mm. long, subglabrate; fruits obovoid or ellipsoid, 14–20 mm. long, 8–11 mm. broad, glabrous, the epicarp thin, rugulose, waxy, together with the mesocarp forming a carnose outer layer 0.5–1 mm. thick, the endocarp very hard, about 2.5 mm. thick, rugulose by means of slight irregular depressions, longitudinally bisulcate, the locule and seed usually solitary, the seed ellipsoid-oblong, about 10 mm. long.

TYPE LOCALITY: Mbua Bay [Sandalwood Bay], Vanua Levu, Fiji; type collected by U. S. Exploring Expedition, cited below.

DISTRIBUTION: Endemic to Fiji,[4] thus far known from several of the islands, occurring in various types of forest or in thickets at elevations up to 400 m. My own notes indicate the plant as a tree 13–23 m. high, with a trunk-diameter up to 1 m.; the petals of No. 1086 (the only specimen with mature flowers) were pale pink; the fruits are blue or purplish.

LOCAL NAME: *Wailoaloa* (*Smith* 1735).

FIJI: VITI LEVU: Rewa: Slopes of Korombamba Mt., *Gillespie* 2307 (Bish, GH, K, NY, US). VANUA LEVU: Mbua: Mbua Bay, *U. S. Expl. Exped.* (GH, K, US 13596 TYPE); lower Wainunu River valley, *Smith* 1735 (Bish, GH, K, NY, US). KORO: Eastern slope of main ridge, *Smith* 1007 (Bish, GH, K, NY, US); western slope, *Smith* 1086 (Bish, GH, K, NY, US). MOALA: Above Maloku, *Smith* 1353 (Bish, GH, K, NY, US).

Elaeocarpus cassinoides is clearly distinguished from its relatives

[4] In 1945 I remarked that statements of the occurrence of this species in Tonga were all based upon Gray's very questionable record. In currently known and authentic Tongan collections it has not reappeared, and so it seems advisable to drop the species from lists of Tongan plants; I feel certain that Gray's material came from one collection, from Vanua Levu.

in our region, except the following (*E. pyriformis*), by its comparatively minute flowers. Its small, predominantly obovate-elliptic, and glabrous leaves further characterize it, and its small fruits, with a bony and inconspicuously rugulose endocarp, are typical for the section. In my previous notes on *E. cassinoides*, in 1945, I was reluctant to assign it to § *Fissipetalum*, because of its biovulate ovary-locules, but in all other basic respects it agrees with the Papuasian members of this section.

5. **Elaeocarpus** (§ *Fissipetalum*) **pyriformis** A. Gray, Bot. U. S. Expl. Exped. 1: 205. 1854; C. Muell. in Walp. Ann. Bot. Syst. 4: 332. 1857; Seem. Fl. Vit. 29. 1865.

Shrub or tree, up to 8 m. high (or more?), the young parts copiously hispidulous with yellowish hairs, the branchlets subterete, striate, often flexuose distally, 1.5–2.5 mm. in diameter toward apices, at first copiously hispidulous-puberulent with hairs 0.1–0.3 mm. long, eventually glabrate; leaves numerous toward apices of branchlets, the petioles slender, flattened above or shallowly canaliculate, 4–15 mm. long, pilose like branchlets, the indument persistent, the leaf-blades chartaceous or submembranaceous, drying dull green, oblong-elliptic, 4.5–12 cm. long, 3–6.7 cm. broad, rounded or broadly obtuse at base or rarely acute and decurrent on the petiole, rounded or obtusely cuspidate and inconspicuously emarginate at apex, often narrowly recurved at margin and shallowly crenulate (crenations 2 or 3 per centimeter, obscurely spinulose but soon becoming inconspicuously callose on distal margin), glabrous above or subpersistently puberulent on lower part of costa, puberulent beneath with pale hairs 0.1–0.3 mm. long, these often persistent at least on costa and some secondaries, the costa plane or slightly elevated above, prominent beneath, the secondary nerves 5–10 per side, spreading, inconspicuously anastomosing, prominulous or plane above, sharply elevated beneath and often with axillary domatia, the veinlet-reticulation intricate, prominulous on both sides or plane above; racemes solitary, axillary or borne above scars of fallen leaves, 2–3 cm. long at anthesis, 8–12-flowered (or some flowers caducous), the peduncle very short, the rachis and pedicels slender, copiously pilose with pale spreading hairs 0.2–0.3 mm. long, the flower-subtending bracts membranaceous, lanceolate, about 1 mm. long, dorsally minutely strigillose, the pedicels 2–3 mm. long at anthesis; sepals 5, submembranaceous, ovate-deltoid, 1.5–1.7 mm. long, 0.7–1 mm. broad, acute, carinate within, minutely puberulent without and toward apex within; petals 5, membranaceous, obovate-cuneate, glabrous, 1.5–1.8 mm. long, 0.8–1.2 mm. broad, fimbriate with 7–10 lobes, these subequal, obtuse, 0.2–0.4 mm. long; disk-lobes 5, nearly free, 0.3–0.4 mm. high and 0.6–0.8 mm. broad, deeply bilobed, uniformly and copiously hispidulous; stamens 14 or 15, uniseriate, 0.6–0.7 mm.

long, the filaments terete, glabrous, about 0.3 mm. long, the anthers oblong, minutely hispidulous, obtuse, erostrate, 0.3–0.4 mm. long; ovary ovoid, sparsely sericeous with hairs 0.2–0.3 mm. long, the style subulate, 0.6–0.7 mm. long, the locules 2, each biovulate; infructescence up to 5 cm. long, often shortened by loss of tip of rachis, the pedicels 3–5 mm. long, with long-persistent indument but eventually subglabrate; fruits obovoid, 15–22 mm. long, 10–14 mm. broad, glabrous, obtuse at base and apex, the epicarp thin, rugulose, waxy, forming with the mesocarp an outer carnose layer 1–1.5 mm. thick, the endocarp hard and bony, 2–3 mm. thick, inconspicuously rugulose, longitudinally bisulcate, the locule 1, the seed filling the entire cavity.

TYPE LOCALITY: Mbua Bay [Sandalwood Bay], Vanua Levu, Fiji; the type is the Exploring Expedition specimen cited below.

DISTRIBUTION: Endemic to Fiji, collected only on the two large islands, at elevations from near sea level up to 750 m. The species is a tree or shrub noted up to 8 m. in height, occurring in forest or on wooded ridges. The only flowering specimen (*Horne* 222) is without color notes; the fruits accompanying my No. 6831 were shining, metallic, green-blue, becoming brighter blue.

LOCAL NAME: *Kesa* (*MacDaniels* 1041).

FIJI: VITI LEVU: Mba: Nambuyasa Village, *Gillespie* 4086 (Bish, GH, K). Nandronga & Navosa: Southern slopes of Nausori Highlands, above Tumbenasolo, *Greenwood* 1187 (A, US). Namosi: Vicinity of Namosi, *Gillespie* 2835 (Bish, GH, NY, US). Naitasiri: Waindina River basin, *MacDaniels* 1041 (A, Bish). VANUA LEVU: Mbua: Mbua Bay, *U. S. Expl. Exped.* (GH, K, US 13616 TYPE). Mathuata: Southern base of Mathuata Range, north of Natua, *Smith* 6831 (A, US). Fiji, without definite locality: *Horne* 222 (K), 981 (K), *Tothill* 375 (K).

Gray was aware of the close relationship between his *E. pyriformis* and *E. cassinoides*, and indeed there would be justification for treating the available material as conspecific. Only the slight differences in leaf-shape and in degree and persistence of indument of vegetative parts, as indicated in my key, separate the two concepts. Only one collection of each species with mature flowers is thus far known, and so no comprehensive picture of floral differences, if consequential, is available. On the basis of these two specimens, however, *E. pyriformis* has the smaller bracts and stamens, other floral parts being essentially similar.

6. **Elaeocarpus** (§ *Fissipetalum*) **kasiensis** A. C. Sm. in Bishop Mus. Bull. **141**: 92. *fig. 48*. 1936.

Shrub, about 3 m. high, glabrous throughout except for young parts and inflorescences, the young parts sericeous with pale hairs 0.3–0.5 mm. long, soon glabrate, the branchlets terete, slender, 2–4 mm. in diameter toward apices; petioles rugose, shallowly canaliculate,

1–2 cm. long; leaf-blades thin-coriaceous, when dry green and shining above and often reddish beneath, obovate-oblong, 7–15 cm. long, 3–7 cm. broad, attentuate at base and long-decurrent on the petiole, rounded at apex, often revolute at margin and obviously crenulate (crenations 1 or 2 per centimeter, distally terminated by a blackish callose apiculation 0.5–0.8 mm. long, this caducous, leaving the distal margin rounded), the costa plane or slightly raised above, prominent beneath, the secondary nerves 5–8, ascending, obviously anastomosing toward margin, the veinlet-reticulation lax, prominulous or immersed on both sides; racemes solitary, axillary, 2–6 cm. long at anthesis, short-pedunculate, 6–18-flowered, the rachis and pedicels slender, often reddish, sparsely strigose-puberulent with pale hairs 0.2–0.3 mm. long, the flower-subtending bracts lanceolate, 2–3 mm. long, sparsely puberulent without, caducous, the pedicels 3–6 mm. long, curved; sepals 4 or 5, thin-carnose, lanceolate-ovate, acute, 3–3.5 mm. long, 1.2–2 mm. broad, sparsely puberulent and glabrate without, glabrous and carinate within; petals 4 or 5, submembranaceous, thickened toward base, oblong-obovate, 2.5–3 mm. long, 1.2–1.5 mm. broad, glabrous, fimbriate at apex with 5–7 lobes, these about 0.5 mm. long, rounded, subequal or the middle lobe the largest; disk-lobes 4 or 5, essentially free, about 0.4 mm. high and 0.8 mm. broad, minutely but copiously hispidulous; stamens 10–12, uniseriate, 1.8–2 mm. long, the filaments terete, glabrous, 0.5–0.8 mm. long, the anthers minutely tuberculate-hispidulous, 1–1.3 mm. long, rounded at both ends, erostrate; ovary ovoid, minutely pale-sericeous with hairs 0.1–0.2 mm. long, the style conical-filiform, about 1 mm. long, sparsely sericeous near base, glabrous distally, the locules 2, each with 2 collateral ovules; infructescences soon glabrate throughout, up to 8 cm. long, the pedicels up to 10 mm. long, incrassate, the fruits obovoid, up to 2×1 cm., apiculate at apex, the immature pericarp about 1 mm. thick.

TYPE LOCALITY: Yanawai River region, Vanua Levu, Fiji; type, *Smith* 1761.

DISTRIBUTION: Known only from the type collection, taken from a shrub 3 m. high, occurring in dense bush at an elevation of 300–430 m. The sepals are yellow and the petals pink with yellow margins.

FIJI: VANUA LEVU: Thakaundrove: Yanawai River region, Mt. Kasi, *Smith* 1761 (Bish TYPE, GH, K, NY, US).

While agreeing with *E. cassinoides* and *E. pyriformis* in its basic characters, including the biovulate ovary-locules, *E. kasiensis* is a very distinct species on the basis of its obovate-oblong and often reddish leaves, its comparatively large flowers, and its reduced number of stamens. Although I originally referred the species to § *Dicera*, it now seems better placed in § *Fissipetalum*.

3. § MONOCERA

Elaeocarpus § Monocera Brongn. & Gris in Bull. Soc. Bot. Fr. 8: 201. 1861.

Section *Monocera* has been used in a very broad sense by many students; its typification and essential characters were recently outlined by me (1944, pp. 255–256), and § *Papuanthus* Schlechter was reduced to synonymy. In New Guinea the section consists of approximately 12 species, while 1 species is known from the Solomon Islands. In our region 8 species, all Fijian, are here recognized; the discovery of the section in the New Hebrides seems inevitable.

The species here referred to § *Monocera* are characterized by comparatively large flowers, often copiously laciniate petals, numerous and aristate stamens, a bilocular ovary with numerous ovules, and a large somewhat flattened fruit. The endocarp is characteristically flattened, very hard and uniformly bony, with obvious and often lobed lateral angles.

7. **Elaeocarpus** (§ *Monocera*) **storckii** Seem. in Bonplandia 10: 295. 1862, Fl. Vit. 28. *pl.* 7. 1865.

A large tree, glabrous throughout except for some floral parts, the branchlets very robust, subterete, 7–15 mm. in diameter near apices, conspicuously cicatricose with the crowded scars of fallen leaves; leaves congested near apices of branchlets, the petioles stout (1.5–3 mm. in diameter), rugose, shallowly canaliculate, 3–6 cm. long, swollen at base and apex, the leaf-blades thick-coriaceous, drying olivaceous, obovate- or elliptic-oblong, 9–20 cm. long, (3–) 4–9 cm. broad, acute or obtuse at base, rounded or very bluntly cuspidate at apex and shallowly emarginate, thickened and somewhat recurved at margin, entire in the basal half or throughout but more often shallowly crenulate distally (crenations 1 or 2 per centimeter, inconspicuously callose-spinulose and soon rounded on distal margin), the costa stout, strongly elevated above and very prominent beneath, the secondary nerves 7–11 per side, erecto-patent, irregularly anastomosing toward margin, bluntly elevated on both sides, the veinlet-reticulation intricate, conspicuous, prominulous on both sides; racemes lateral from branchlets below leaves, robust, 6–11 cm. long including flowers, the peduncle short, forming with the rachis a very stout (2–5 mm. in diameter) axis 2–5 cm. long, this subterete, swollen at bases of pedicels, the flower-subtending bracts not seen, the developing flowers 2–7 in number; pedicels 2–5.5 cm. long at anthesis, stout, 2.5–4 mm. in diameter at anthesis, swollen distally; sepals 5, thick-coriaceous (1–2 mm. thick), oblong-lanceolate, 30–40 mm. long, 5–10 mm. broad, subacute at apex, glabrous without, carinate and copiously sericeous within (hairs stramineous, 0.2–0.4 mm. long), densely puberulent on the thickened margins; petals 5, carnose, oblong-obovate, 30–47 mm.

long, about 15 mm. broad, glabrous on both sides or sparsely puberulent proximally within, greatly thickened and carinate within toward base, crenulate-lobed at the rounded apex (lobes 12–16, obtuse, 1–2 mm. long, subequal or the middle lobe the largest); disk thick-carnose or subcoriaceous, glabrous, annular-pulvinate, 2–3 mm. high, 5-lobed, the lobes confluent, dorsally sulcate; stamens 100–125, 4–6-seriate, 18–25 mm. long, the filaments terete, gradually narrowed upward, 5–9 mm. long, copiously hispidulous with hairs 0.1–0.2 mm. long, the anthers slender, stiff, minutely hispidulous-tuberculate, 13–16 mm. long including awns, uni- or biaristate at apex, the dorsal awn subulate, 1.7–4 mm. long, the ventral awn up to 2 mm. long or lacking; ovary coriaceous, conical, glabrous, the style stout, conical-subulate, glabrous, up to 20 mm. long, the ovary-wall very thick (1–1.5 mm. at anthesis), the locules 2, each with 8 biseriate ovules; very young fruits ovoid, up to 2×1 cm., the epicarp strongly rugulose, the mesocarp thick and fibrous, the endocarp not bony at this stage; mature fruits (ex Storck) ovoid, acute, 4–6 cm. long, the stone large, bony, 1-seeded.

TYPE LOCALITY: Ovalau, Fiji; the type is *Storck* 871, cited below.

DISTRIBUTION: Fiji, known definitely only from Ovalau and southeastern Viti Levu, at elevations up to 550 m. Although further data are inadequate, the species is doubtless a large forest tree, and Storck noted that its flowers were colored; Seemann's artist shows the sepals as rich pink, the petals as yellow proximally, pink toward apices.

LOCAL NAME: *Ngaingai* ["*gaigai*"], according to Storck, who noted that the tree exudes a resin.

FIJI: VITI LEVU: Rewa: Near summit of Korombamba Mt., *Gillespie* 2325 (Bish, GH). Naitasiri: Kalambo, *Tothill* in 1929 (K). OVALAU: Port Kinnaird, *Storck* 871 (BM, GH, K TYPE). Fiji, without definite locality: *Horne* 479 (GH, K).

Elaeocarpus storckii is without close relatives among the species of our area, being remarkable for its very robust habit, thick leaves, very coarse flowers, and numerous stamens. In nature it must be a beautiful and spectacular species, if the large flowers are as brightly colored as depicted by Seemann's artist.

8. **Elaeocarpus** (§ *Monocera*) **chelonimorphus** Gillespie in Bishop Mus. Bull. **83**: 18. *fig. 22.* 1931; A. C. Sm. in Bishop Mus. Bull. **141**: 95, 1936.

Tree, up to 15 m. or more in height, rarely a shrub, the young parts minutely sericeous-puberulent, the branchlets subterete, 2–6 mm. in diameter toward apices, when young minutely strigose-puberulent (hairs pale, 0.1–0.2 mm. long), soon glabrate; leaves usually spaced on distal parts of branchlets, not congested, the petioles stout (1.5–3 mm. in diameter, swollen at base and apex), flattened above or shallowly canaliculate, variable in length, (8–) 15–60 mm. long, obscurely

puberulent like branchlets, soon glabrate; leaf-blades chartaceous or thin-coriaceous, pale or dark green to brownish when dried, narrowly or broadly elliptic to lanceolate or obovate-lanceolate, (8–) 13–23 cm. long, (3–) 5–9 cm. broad, acute (rarely obtuse) to attenuate at base and decurrent on the petiole, acuminate or abruptly cuspidate at apex (acumen up to 15 mm. long, obtuse or callose-acute), often narrowly recurved at margin and obscurely or obviously spinulose-crenulate (crenations 1 or 2 per centimeter), glabrous on both sides or obscurely and evanescently strigose-puberulent beneath, the costa prominent on both sides, the secondary nerves 6–12 per side, curved-ascending, irregularly anastomosing, slightly elevated above, sharply raised beneath and often with axillary domatia, the veinlet-reticulation obvious, intricate, prominulous on both sides; racemes arising from branchlets below leaves or rarely axillary, the peduncle short, with the rachis forming a slender axis 1–4 (–5.5) cm. long, the maturing flowers usually 2–5 or rarely more, the rachis pale-puberulent (hairs 0.1–0.2 mm. long) or sometimes very early glabrate, the flower-subtending bracts papyraceous, ovate-deltoid, acute, 1.5–3 mm. long, puberulent on both sides or tomentellous within, soon caducous, the pedicels slender, 2–5 cm. long at anthesis, gradually enlarged distally; sepals 5, carnose, variable in thickness, lanceolate or oblong-lanceolate, 22–32 mm. long, 3.5–9 mm. broad, gradually narrowed to a subacute apex, glabrous without, carinate within and copiously sericeous-tomentellous (hairs golden, 0.2–0.5 mm. long), puberulent on the broadened margins; petals 5, submembranaceous distally, thickened toward base and conspicuously carinate proximally within, oblong to oblong-obovate or broadly oblong-elliptic, 23–37 mm. long, 7–16 mm. broad, conspicuously reticulate-veined, glabrous on both sides or sparsely spreading-pilose on lower part of carina within, conspicuously fimbriate at the rounded apex, the lobes 9–19, variously cleft, lanceolate, acute, 3–8 mm. long, usually with 1–3 ultimate veinlets, the middle lobe the broadest; disk carnose to coriaceous, annular-pulvinate, 1–2.5 mm. high, 5-lobed, the lobes confluent, dorsally sulcate and sericeous, apically copiously hispidulous with golden hairs 0.2–0.5 mm. long; stamens 48–90, 2–4-seriate in 5 clusters on flattened upper surface of disk-lobes, 17–22 mm. long, the filaments carnose, terete, gradually narrowed distally, 6–9 mm. long, copiously hispidulous with hairs 0.5–1 mm. long, the anthers minutely tuberculate-hispidulous and dorsally sericeous (hairs as on filaments), 9–13 mm. long, the dorsal awn lanceolate-subulate, 0.8–1.5 mm. long, the ventral apex obtuse, often recurved but not aristate; ovary narrowly ellipsoid, flattened, glabrous or sparsely hispidulous at base, the style subulate, glabrous, 10–20 mm. long, the ovary-wall very thick, obscurely sericeous within, the locules 2, each with 8 biseriate ovules; infructescences on branchlets or trunk, the rachis glabrate, thick but not much elongating, the

pedicels up to 6 cm. long, very stout, the disk persistent; fruits ovoid or ellipsoid, laterally slightly compressed, carnose when fresh, drying coriaceous, 5–6.5 cm. long, 3–4.5 cm. broad, glabrous, rounded or obtuse at both ends, the base of style persistent, the epicarp brittle and coarsely rugose when dry, thin (about 0.2 mm. thick), the mesocarp spongy, fibrous, 5–10 mm. thick in fresh fruits, the endocarp hard and bony, 4–6 mm. thick, forming an ellipsoid and strongly flattened putamen up to 50×35×22 mm., this acute at both ends, diamond-shaped in cross section, 4-angled, the lateral angles shallowly lobed (lobes 4–6 per side, obtuse, up to 5 mm. long, apically directed), the dorsiventral angles obtuse or acute, often sulcate, the locule 1, occupied by a single ellipsoid seed up to 3 cm. long.

TYPE LOCALITY: Mt. Korombamba, southeastern Viti Levu, Fiji; the type is *Gillespie* 2293, cited below.

DISTRIBUTION: Endemic to Fiji, but thus far known only from Viti Levu and Vanua Levu, appearing to be the most common *Elaeocarpus* on the former island. Elevations upward of 100 m. have been recorded, but the species reaches its greatest abundance toward the summits; it has been found on Tomanivi (1323 m.) and other high hills. It occurs in various types of forest, usually in dense rain-forest or in the low mossy forest of ridges. The species is usually noted as a tree 7–15 m. in height, less commonly as a low shrub. The sepals are green, the petals and filaments white to greenish yellow, the anthers and disk-lobes pale yellow, and the ovary and style green; the fruit is green to bluish or yellowish.

LOCAL NAMES: Several collectors have noted the name *kambi* on Viti Levu, and Degener mentions that the kernel of the fruit is edible. My No. 5346 bears the local name *sivia*.

FIJI: VITI LEVU: Mba: Mt. Evans Range, *Greenwood* 877A (A, K, NY); eastern slopes of Mt. Koroyanitu, Mt. Evans Range, *Smith* 4150 (A, US); hills between Nandala and Nukunuku Creeks, along trail from Nandarivatu toward Lewa, *Smith* 6189 (A, US); Mt. Nanggaranambuluta [Lomalangi], near Nandarivatu, *Smith* 4802 (A, US), *Greenwood* 877 (A); Vuninatambua, Navai, *Degener* 14878 (A, K, NY); Nauwanga, *Degener* 14542 (A, Bish, K, NY, US); valleys of Nggaliwana and Tumbeindreketi Creeks, *Smith* 5346 (A, US), 5864 (A, US); summit of Mt. Tomanivi [Mt. Victoria], *Smith* 5195 (A, US). Nandronga & Navosa: Northern portion of Rairaimatuku Plateau, between Nandrau and Rewasau, *Smith* 5646 (A, US); ridge between Koronayalewa and Molava, *B. E. Parham* 1438 (A); ridge between Naloka and Naraiyawa, *B. E. Parham* 2473 (A). Namosi: Naitarandamu Mt., *Gillespie* 3118 (Bish, GH), 3141 (Bish, GH, NY); Wainikoroiluva River above Naraiyawa, *B. E. Parham* 1442 (A); ridge southeast of Namosi, *Gillespie* 2844 (Bish, GH, NY, US); between Ndevoira and Naseivou, *B. E. Parham* 1836 (A). Naitasiri: Nathokaika track, *B. E. Parham* 919 (A); vicinity of Nasinu, *Gillespie* 2293.5 (Bish); Tholo-i-suva, *B. E. Parham* 1609 (A); Tamavua, *Yeoward* 61 (K). Rewa: Southeastern slopes of Mt. Korombamba, *Gillespie* 2293 (Bish TYPE, GH, K, NY, US). Tailevu: Wainivesi, *B. E. Parham* 2629 (A). VANUA LEVU: Mathuata: Seanggangga Plateau, in drainage of Korovuli River, vicinity of Natua, *Smith* 6659 (A, US). Thakaundrove-

Mathuata boundary: Crest of Korotini Range, between Navitho Pass and Mt. Ndelaikoro, *Smith* 550 (Bish, NY). Thakaundrove: Yanawai River region, Mt. Kasi, *Smith* 1798 (Bish, K, NY), 1802 (Bish, GH, K, NY, US); Natewa Peninsula, Uluingala, *Smith* 2001 (Bish, GH, K, NY, US).

The basic characters of this species are the acute-based leaf-blades with obvious venation, the large flowers, the glabrous sepals and ovary, and the numerous stamens. However, in the extensive suite of available specimens there is considerable variation in such characters as length of petiole, leaf-size, size of flowers, and number of stamens. Possibly infraspecific categories will eventually seem desirable, but for the present I have only four or five collections with fully developed flowers, in which the important characters must be sought. It should be noted that in two specimens from high elevation (*Smith* 2001 and 5195) the floral variation from more typical material is considerable. These two specimens have the sepals 7–9 mm. broad, the petals 12–16 mm. broad, and the styles 15–20 mm. long; in other available mature flowers the sepals are 3.5–7 mm. broad, the petals 7–11 mm. broad, and the styles 10–14 mm. long. No correlation has been detected as to stamen-number; the type specimen has about 48 stamens (rather than 40 as stated by Gillespie), while other material has the stamens 68 to 90 in number, often in a single plant. The broad, long-styled flowers discussed above do not have any unusual leaf-characteristics, and for the time being they do not seem especially significant.

9. **Elaeocarpus (§ *Monocera*) gillespieanus** A. C. Sm. in **Bishop Mus. Bull. 141:** 94. *fig. 49.* 1936.

Tree, up to 20 m. high, essentially glabrous throughout except for some floral parts, the young parts glabrous or very sparsely pale-strigose, the branchlets subterete, 2.5–4 mm. in diameter toward apices; leaves spaced on distal parts of branchlets, the petioles slender, shallowly canaliculate, 2–4 cm. long, the blades thin-coriaceous, drying olivaceous, ovate-elliptic, 7–13 cm. long, 3–5 cm. broad, rounded or faintly cordate at base, acuminate at apex (acumen up to 15 mm. long, callose-acute, fragile), slightly thickened at margin and subentire or remotely crenulate (crenations about 1 per centimeter, shallow), the costa plane or slightly elevated above, prominent beneath, the secondary nerves 8–10 per side, spreading, slightly curved, pale, slightly elevated above and prominulous beneath, the veinlet-reticulation intricate, prominulous on both surfaces; racemes arising from branchlets below leaves, the peduncle very short, forming with the rachis a slender glabrous (or very obscurely pale-strigose) axis 4–6 cm. long, the maturing flowers usually 2–5, the pedicels 20–35 mm. long; sepals 4 or 5, thick-carnose, lanceolate-oblong, 18–30 mm. long, 4–7 mm. broad, acute at apex, glabrous without or very obscurely strigose like rachis, densely sericeous within (hairs whitish, 1–2 mm. long), slightly thickened at margins; petals 4 or 5, submembranaceous, inconspicu-

ously carinate and thickened proximally within, glabrous on both sides or with a few scattered strigose hairs dorsally and faintly puberulent-ciliolate toward base, obovoid, 25–35 mm. long, 10–18 mm. broad, fimbriate at apex with 14–20 lobes, these 3–6 mm. long, variously joined, each reticulate-nerved, the middle lobe the largest; disk pulvinate, about 1.5 mm. high, deeply 4- or 5-lobed, the lobes confluent, dorsally sulcate, sericeous dorsally and hispidulous distally with golden hairs 0.2–0.4 mm. long; stamens 90–100, in 4–6-seriate clusters on upper surface of disk-lobes, 15–17 mm. long, the filaments terete, slender, 7–8 mm. long, copiously hispidulous with pale ascending hairs 0.7–1 mm. long, the anthers 7–9 mm. long (including awn), copiously sericeous-hispidulous along dorsal and ventral median lines (hairs 0.5–1.5 mm. long), the dorsal awn subulate, very conspicuous, 3–3.5 mm. long, the ventral apex subacute, sometimes recurved but not aristate; ovary ovoid-ellipsoid, slightly flattened, glabrous (or very sparsely strigose toward base), the style filiform, glabrous, 12–15 mm. long, the ovary-wall very thick, the locules 2, each with 8 biseriate ovules.

TYPE LOCALITY: Mt. Seatura, Vanua Levu, Fiji; type, *Smith* 1613.

DISTRIBUTION: Known only from the type collection, obtained at an elevation of 400 m. in dense forest; this collection was from a tree 20 m. high, with the petals noted as white.

LOCAL NAME: *Mamakura.*

FIJI: VANUA LEVU: Mbua: Southern slopes of Mt. Seatura, *Smith* 1613 (Bish TYPE, GH, K, NY, US).

Elaeocarpus gillespieanus is closely related only to *E. chelonimorphus* and *E. vitiensis.* As it is thus far known only from the type collection, one does not know how dependable its characters are, but it clearly differs from *E. chelonimorphus* in such characters as leaf-shape and prominence of the anther-awn; the material of Gillespie's species is sufficiently ample so that the range of variability in these respects is well established and cannot be taken to include the type of *E. gillespieanus.* *Elaeocarpus vitiensis*, also an inadequately known species, closely resembles *E. gillespieanus* in foliage, but differs in its apparently slightly smaller flowers, less copiously fimbriate petals, and much shorter anther-awns.

10. **Elaeocarpus** (§ *Monocera*) **vitiensis** Gillespie in Bishop Mus. Bull. 83: 20. *fig. 24.* 1931.

Tall tree, essentially glaborous throughout except for some floral parts, the young parts very sparsely strigose-puberulent and soon glabrate, the branchlets terete, 1.5–3 mm. in diameter toward apices; leaves spaced on distal parts of branchlets, the petioles slender, slightly flattened above, 2–4 cm. long, swollen at base and apex, the blades coriaceous to chartaceous, olivaceous or dull green when dried, ovate-

elliptic, 7–16 cm. long, 3–6.5 cm. broad, rounded or broadly obtuse at base, gradually narrowed to a short-acuminate apex (acumen up to 1 cm. long, obtuse), undulate-crenulate at margin (crenations 1 or 2 per centimeter, shallow, rounded), the costa plane or slightly elevated above, prominent beneath, the secondary nerves 7–10 per side, spreading, curved, inconspicuously anastomosing, prominulous above and slightly elevated beneath, the veinlet-reticulation prominulous on both sides; racemes lateral below leaves, the peduncle very short, with the rachis forming an axis about 2 cm. long at anthesis, the maturing flowers apparently 2–4, the pedicels at anthesis 15–25 mm. long, sparsely pilose with a few spreading hairs, soon glabrate; sepals 4 or 5, carnose, lanceolate, 19–20 mm. long, 3–4 mm. broad, gradually narrowed to an acute apex, sparsely pilose without like pedicel and soon glabrate, carinate within and copiously sericeous (hairs pale, 0.2–0.3 mm. long), puberulent on the thickened margins; petals 4 or 5, membranaceous, carinate and slightly thickened within toward base, oblong-obovate, 22–25 mm. long, 7–10 mm. broad, glabrous on both sides or very obscurely sericeous toward base, apically 6–9-lobed, the lobes oblong, subacute, sometimes inconspicuously subdivided, copiously reticulate-veined, the middle lobe the largest; disk hispidulous at apex with pale hairs 0.4–0.6 mm. long; stamens probably 40–75 (40–50 ex Gillespie; 74 in one flower of *Degener* 14544), 14–15 mm. long, the filaments slender, 5.5–7 mm. long, copiously hispidulous with pale hairs 0.5–1 mm. long, the anthers 8–9 mm. long, very minutely tuberculate, sparsely sericeous dorsally and ventrally, the dorsal awn subulate, 1.2–2 mm. long, the ventral apex acute and sometimes also aristate with an awn up to 0.8 mm. long; ovary ellipsoid, very sparsely pilose with hairs about 0.5 mm. long but soon glabrate, the style subulate, 10–11 mm. long, the ovulation not observed but the locules obviously 2, the ovules probably several per locule; infructescences with a rachis about 3–4 cm. long, the pedicels thickened; fruits ellipsoid, slightly compressed, 3.5–4.5 cm. long and 2.5–3.5 cm. broad, rounded at both ends, the epicarp thin, fragile when dried, the mesocarp fibrous, probably spongy and about 5 mm. thick in fresh fruits, the endocarp bony, 5–7 mm. thick, forming an ellipsoid putamen, the lateral margins of this conspicuously flattened and slightly undulate, the dorsiventral angles subacute.

TYPE LOCALITY: Vicinity of Nandarivatu, Viti Levu, Fiji; the type, *Gillespie* 3973, is cited below.

DISTRIBUTION: Known only from the region of the type locality, at an elevation of 800–900 m., occurring in forest or in wooded ravines. Gillespie notes the plant as a large tree, with a trunk diameter of 50 cm.; he remarks that the flowers are slightly fragrant, the petals white, and the fruit dark olive-green. The Degener specimen, in bud, is noted as having green sepals.

FIJI: VITI LEVU: Mba: Vicinity of Nandarivatu, *Gillespie* 3973 (Bish TYPE), 4169 (Bish, GH, NY, US); Nauwanga, *Degener* 14544 (A, NY).

None of the cited specimens are satisfactory, the type consisting of foliage and detached floral parts, with a single fruit; this was the only specimen cited by Gillespie. However, I think that his No. 4169 must also be placed here, as it agrees excellently with the type in foliage; it has a few detached fruits. The Degener specimen, similar in foliage, bears a few large buds, which seem to be 4-merous but otherwise similar to the flowers of the type.

Elaeocarpus vitiensis and the new species described below form, with *E. chelonimorphus* and *E. gillespieanus*, a group of related species characterized by rather large, white-petaled flowers, essentially glabrous outer surfaces of sepals and ovaries, long-awned anthers, and distally narrowed leaf-blades. The present species has somewhat smaller flowers than the two preceding, differing further from *E. chelonimorphus* in its very different leaf-base and from *E. gillespieanus* as noted under that species.

11. Elaeocarpus (§ *Monocera*) lepidus A. C. Sm. sp. nov.

Arbor grandis *E. vitiensi* Gillespie valde affinis, foliorum petiolis brevioribus et laminis lanceolatis vel lanceolato-ovatis angustioribus basi acutis vel obtusis, floribus paullo gracilioribus, petalis manifestius laciniatis differt.

Tree, up to 27 m. high, the young parts sericeous-strigose, soon glabrate, the branchlets subterete, slender (1.5–3 mm. in diameter toward apices), distally strigose with pale hairs 0.1–0.2 mm. long, usually soon glabrate; leaves spaced on distal parts of branchlets, the petioles slender, shallowly canaliculate, (10–) 15–28 mm. long, evanescently strigose like young branchlets, the blades chartaceous, drying olivaceous, lanceolate or lanceolate-ovate, 7–10 cm. long, 2–4 cm. broad, acute to obtuse at base and abruptly decurrent on the petiole, gradually narrowed to a slender but obtuse apex, undulate-crenulate at margin (crenations about 1 per centimeter or fewer, the indentations shallow, obscurely spinulose), glabrous on both sides, the costa nearly plane above, prominent beneath, the secondary nerves 7–9 per side, subspreading, slightly curved, irregularly anastomosing, like the veinlet-reticulation prominulous on both sides; racemes borne on branchlets below leaves, the peduncle very short, with the rachis forming an axis 1–3 cm. long at anthesis, this sericeous-puberulent with silvery hairs 0.1–0.3 mm. long, eventually glabrate, the maturing flowers usually 3–8; flower-subtending bracts papyraceous, ovate-oblong, 4–5 mm. long and 2–2.5 mm. broad, subacute, pilose without like rachis, tomentellous-puberulent within, caducous; pedicels slender, pilose like rachis, at anthesis 17–23 mm. long; sepals 5, thin-carnose, lanceolate, 18–20 mm. long, 2–3 mm. broad, gradually

narrowed to an acute apex, in bud pilose like pedicels but soon glabrate, inconspicuously carinate within and sericeous (hairs pale, 0.2–0.3 mm. long), puberulent on the thickened margin; petals 5, submembranaceous, oblong-obovate, 23–25 mm. long, 7.5–9 mm. broad, carinate and slightly thickened within toward base, obscurely sericeous dorsally and puberulent on margins toward base but otherwise glabrous, apically laciniate, the lobes 11–16, lanceolate, 3–6 mm. long, inconspicuously reticulate-veined, the middle lobe the largest; disk carnose, 1–1.5 mm. high, 5-lobed, the lobes confluent on inner surface, deeply sulcate, sparsely sericeous dorsally and hispidulous apically with hairs 0.3–0.4 mm. long; stamens 42–54, 3- or 4-seriate in 5 clusters, 15–16 mm. long, the filaments slender, 6.5–7.5 mm. long, hispidulous with pale subascending hairs about 0.5 mm. long, the anthers 8–9 mm. long, very minutely tuberculate, with sparse sericeous dorsal and ventral hairs 0.5–0.8 mm. long, the dorsal awn subulate, 1.5–2 mm. long, the ventral apex acuminate or with a short awn up to 0.5 mm. long; ovary ellipsoid, inconspicuously strigillose-sericeous with pale hairs 0.2–0.5 mm. long, glabrate, the style subulate, glabrous, 12–13 mm. long, the ovary-wall sparsely sericeous within, the locules 2, each with 6–8 biseriate ovules; infructescence usually with 1 subterminal fruit maturing, the rachis and pedicels thickening but not elongating, sometimes subpersistently pilose; fruits ellipsoid, slightly flattened, coriaceous when dried, up to 5 cm. long and 2.8 cm. broad, glabrous, broadly obtuse at both ends, the epicarp 0.2–0.3 mm. thick, finely rugulose with minute shallow pits, the mesocarp spongy, fibrous, 5–8 mm. thick when fresh, the endocarp hard, bony, 3–5 mm. thick, forming an ellipsoid flattened putamen, this irregularly and inconspicuously ridged, the lateral angles produced into a hard, acute undulate wing 2–5 mm. broad, the dorsiventral angles subacute, the locule 1, the seed ellipsoid, 25–30 mm. long, acute at both ends.

Type in the U. S. National Herbarium, No. 1676699, collected on edge of forest on the eastern slope of the main ridge, Koro, Fiji, alt. 200–300 m., January 29, 1934, by A. C. Smith (No. 948). Duplicates at Bish, GH, K, NY, etc.

ADDITIONAL SPECIMENS EXAMINED:

FIJI: VITI LEVU: Mba: Slopes of the escarpment north of Nandarivatu, *Smith* 6280 (A, US). Fiji, without definite locality: *Horne* 437 (GH, K).

DISTRIBUTION: The new species is definitely known only from the islands of Koro and Viti Levu, Fiji, at elevations of 200–800 m., on edge of forest or in woods along stream. It is a tree, indicated as 20–27 m. in height; the type is noted as having green sepals, white petals and filaments, and brown anthers; No. 6280 has bluish green fruits.

LOCAL NAME: *Kambi* (*Smith* 6280).

The three specimens cited are clearly conspecific; the type and the Horne specimen bear good flowers and the remaining specimen has

essentially mature fruits. The new species is closely related only to *E. vitiensis*, having very similar flowers, which are slightly the more slender and with more numerous petal-laciniae. The short-petiolate and narrower leaves, with acute or obtuse (rather than rounded) bases, distinguish *E. lepidus* from *E. vitiensis*, and the new species also tends to have the indument of its branchlets, rachis, pedicels, and ovary more obvious and more persistent.

12. **Elaeocarpus** (§ *Monocera*) **laurifolius** A. Gray, Bot. U. S. Expl. Exped. 1: 203. 1854; C. Muell. in Walp. Ann. Bot. Syst. 4: 331. 1857; Seem. Fl. Vit. 28. 1865.

Tree (?), the young parts closely golden-sericeous (hairs about 0.2 mm. long), the branchlets subterete, rugulose, 2–4 mm. in diameter toward apices, sparsely strigose-puberulent, soon glabrate; leaves crowded toward apices of branchlets, the petioles flattened or shallowly bisulcate above, slender, 15–30 mm. long, soon glabrate, the blades coriaceous, drying brownish, lanceolate or oblong-ovate, 7–12.5 cm. long, 3–6 cm. broad, acute or narrowly obtuse at base and decurrent on the petiole, gradually narrowed to an obtuse apex, narrowly recurved at margin and coarsely crenate (crenations about 1 per centimeter, obscurely spinulose, at length rounded on distal margin), glabrous on both sides or evanescently strigose-puberulent beneath, the costa strongly elevated above, prominent beneath, the secondary nerves 6–9 per side, subspreading, curved, irregularly anastomosing, elevated or nearly plane above, sharply elevated beneath, the veinlet-reticulation coarse, prominulous on both sides; racemes lateral below leaves, the peduncle short, with the rachis forming a stout axis 2–3 cm. long, this sparsely strigose-puberulent, subglabrate, the maturing flowers apparently 2–5; pedicels very stout (1–1.5 mm. in diameter, swollen upward to 3 mm.), 10–15 mm. long, closely strigose-puberulent with hairs about 0.1 mm. or sometimes to 0.5 mm. long; sepals 5, very thick-carnose (1–1.5 mm. thick), swollen at margins, deltoid-lanceolate, 11–15 mm. long and 2.5–3 mm. broad (in nearly open flowers), acute at apex, strigose-puberulent without like pedicel, copiously sericeous within (hairs 0.3–0.8 mm. long); petals 5, submembranaceous to thin-carnose, oblong-elliptic, in advanced bud about 10 mm. long and 4–5 mm. broad, sparsely sericeous without toward base or glabrous on both sides, laciniate along margin nearly to base (lobes apparently 11–17, lanceolate, acute, 1–4 mm. long, the apical lobe the broadest); disk 0.6–0.7 mm. high, 5-lobed, the lobes confluent, dorsally sulcate, copiously golden-sericeous and apically hispidulous with hairs 0.3–0.5 mm. long; stamens about 60, in 5 clusters opposite the petals, 8–9 mm. long (in advanced bud), the filaments subterete, up to 1.5 mm. long (obviously immature), copiously sericeous with hairs about 0.5 mm. long, the anthers 7–8 mm. long, sparsely sericeous dorsally, with an

apical dorsal awn about 0.5 mm. long; ovary conical, minutely sericeous with pale hairs about 0.2 mm. long, tapering into a stout style about 6 mm. long (immature), this sericeous toward base, glabrous distally, the locules 2, the ovules 8 per locule, biseriate.

TYPE LOCALITY: Fiji, without precise locality; the type is the Exploring Expedition specimen cited below.

DISTRIBUTION: The species is known only from two Fijian collections, both unfortunately without data.

FIJI: Without definite locality: *U. S. Expl. Expcd.* (US 13612 TYPE), *Horne* 772 (GH, K).

The type is a specimen with very young buds, which Gray erroneously described as diclinous and "entirely glabrous." Fortunately the Horne specimen bears more mature, although still not entirely open, flowers, and it is so similar to the Exploring Expedition plant that it can be safely referred here. The floral dimensions given above are from the Horne specimen. The species is necessarily not well understood, but it seems amply differentiated from the group of *E. chelonimorphus* in its pilose ovary and outer surface of sepals and its short anther-awns.

13. Elaeocarpus (§ *Monocera*) **subcapitatus** Gillespie in Bishop Mus. Bull. 83: 19. *fig. 23.* 1931.

Large tree, the young parts golden-sericeous with hairs about 0.2 mm. long, the branchlets subterete, 2.5–4 mm. in diameter toward apices, minutely pale-strigose-puberulent, soon glabrate; leaves crowded toward apices of branchlets, the petioles shallowly bisulcate above, (15–) 20–40 mm. long, pilose like branchlets, soon glabrate, the blades thick-coriaceous, drying brownish, paler or grayish beneath, ovate- or lanceolate-elliptic, 8–19 cm. long, (2.5–) 3–7 cm. broad, acute or narrowly obtuse at base and decurrent on the petiole, short-acuminate or cuspidate at apex (acumen up to 1 cm. long, obtuse), narrowly recurved at margin and inconspicuously crenulate (crenations about 1 per centimeter, shallow), glabrous on both sides or evanescently strigose-puberulent beneath, often with axillary domatia beneath, the costa sharply elevated above and prominent beneath, the secondary nerves 5–8 per side, spreading-arcuate, obscurely anastomosing, nearly plane above, elevated beneath, the veinlet-reticulation coarse, inconspicuous, subimmersed or plane above, prominulous beneath; racemes axillary or arising from branchlets below leaves, the peduncle short, with the rachis forming a stout subflexuose axis 1.5–2.5 cm. long, this closely sericeous-puberulent (hairs gray or dull-golden, 0.2–0.4 mm. long), the maturing flowers 3–5; flower-subtending bracts papyraceous, obovate-oblong, obtuse, 4–6 mm. long, copiously sericeous-puberulent without, caducous; pedicels stout, 12–21 mm. long at

anthesis, pilose like rachis; sepals 5, thick-carnose (about 1 mm. thick), oblong-lanceolate, 17–22 mm. long, 4–5 mm. broad, subacute, copiously puberulent without (in bud sericeous with hairs 0.2–0.4 mm. long), densely sericeous and conspicuously carinate within; petals 5, carnose especially toward base, conspicuously carinate within proximally, oblong-elliptic, 18–25 mm. long 5–10 mm. broad, sparsely sericeous dorsally near center and ciliolate-puberulent on margins near base, otherwise glabrous, copiously fimbriate with 16–35 lobes, these often lateral on margins to the middle or lower, lanceolate, acute, the distal ones 4–6 mm. long (middle lobe the largest, variously incised), the proximal ones decreasing in size; disk about 1.5 mm. high, 5-lobed, the lobes confluent, dorsally sulcate, copiously sericeous and hispidulous with golden hairs 0.3–0.5 mm. long; stamens 50–72, 3- or 4-seriate in 5 clusters, 14–19 mm. long, the filaments terete, 5–8 mm. long, copiously hispidulous with hairs 0.5–1 mm. long, the anthers 9–11 mm. long, minutely tuberculate-hispidulous, sparsely sericeous dorsally, with an apical dorsal awn 0.6–0.8 mm. long, the ventral apex minutely emarginate; ovary ellipsoid, slightly flattened, copiously sericeous with golden hairs 0.4–0.5 mm. long, the style subulate, 11–13 mm. long, sericeous in basal half, glabrous above, the ovary-wall thick, the locules 2, each with 7 or 8 biseriate ovules; infructescence greatly thickened, the fruits flattened-ellipsoid, coriaceous when dried, up to 6 cm. long and 4 cm. broad, minutely strigose-puberulent or perhaps eventually glabrate, obtuse at both ends, the base of style persistent, the epicarp hard, about 0.2 mm. thick, the mesocarp spongy, fibrous, probably 5 mm. or more thick when fresh, the endocarp hard, bony, 3–4 mm. thick, forming a flattened ellipsoid putamen, this with the lateral angles acute, undulate, the dorsiventral angles subacute, the seed 1, occupying the entire cavity.

TYPE LOCALITY: Mt. Naitarandamu, Viti Levu, Fiji; type *Gillespie* 3235, cited below.

DISTRIBUTION: Fiji, thus far known definitely from a limited montane area in southern Viti Levu, at elevations of about 915 to 1,150 m. The specimens are presumably from large trees of dense forest; Gillespie noted the petals as white.

FIJI: VITI LEVU: *Graeffe* 49 (BM). Namosi: Summit of Mt. Naitarandamu, *Gillespie* 3235 (Bish TYPE, GH), 5117 (Bish, GH); summit of Mt. Voma, *Gillespie* 2723 (Bish, GH, K).

Elaeocarpus subcapitatus is a very close relative of *E. laurifolius;* in the absence of good flowering material of the latter a careful comparison cannot now be made. However, Gillespie's species comes from high elevations, whereas Gray's type was certainly from a lowland plant; the leaf-blades of *E. subcapitatus* are comparatively thicker, less obviously nerved, and nearly entire at margins; differences in indu-

ment and in petal-laciniation are also apparent, as noted in my key. On the basis of present evidence I am inclined to maintain Gillespie's species without question. *Graeffe* 49 was cited by Seemann under his *E. storckii*, a very different plant not of this immediate relationship.

14. **Elaeocarpus** (§ *Monocera*) **melochioides** A. C. Sm. sp. nov.

Arbor *E. laurifolio* A. Gray et *E. subcapitato* Gillespie affinis, foliorum laminis tenuioribus et basi rotundatis vel subcordatis, petalis tantum apice laciniatis, indumento partium juvenilium et inflorescentiae longiore facile distinguitur.

Tree, up to 7 m. high, the young parts copiously sericeous with stramineous hairs about 0.5 mm. long, the branchlets subterete, 2–4 mm. in diameter toward apices, when young copiously sericeous-puberulent (hairs pale, about 0.2 mm. long), at length glabrate and brownish; leaves spaced along distal portions of branchlets, the petioles slender, inconspicuously bisulcate above, 20–35 mm. long, pilose like young branchlets and soon subglabrate, the blades chartaceous, drying dark green, ovate, 8–13 cm. long, 3.5–7.5 cm. broad, rounded or subcordate at base, short-acuminate or cuspidate at apex (acumen up to 1 cm. long, obtuse), narrowly revolute at margin and coarsely crenate (crenations about 1 per centimeter, obtuse on distal margin), glabrous above, inconspicuously strigose-puberulent and soon glabrate beneth, the costa strongly elevated above, prominent beneath, the secondary nerves 7–9 per side, spreading, curved, irregularly anastomosing, prominulous above, sharply raised beneath and often with axillary domatia, the veinlet-reticulation coarse, obvious, prominulous on both sides; racemes axillary or arising from branchlets below leaves, the peduncle short, with the rachis forming a stout axis 1–2 cm. long, this copiously hispidulous-tomentellous (hairs pale golden, 0.4–0.6 mm. long), the maturing flowers 2–4 near apices of rachis, the bracts soon caducous, the pedicels (before anthesis) stout, up to 10 mm. long, pilose like rachis; sepals 5, thick-carnose, ovate-lanceolate, in bud up to 12 mm. long and 4 mm. broad, densely sericeous-strigose without (hairs about 0.2 mm. long), copiously sericeous within (hairs 0.4–0.6 mm. long), tomentellous-puberulent on the thickened margins; petals 5, submembranaceous, oblong, in bud up to 12 mm. long and 5 mm. broad, sericeous proximally without (hairs 0.5–1 mm. long), laciniate at apex only, the lobes 11–13, lanceolate, 3–4 mm. long, the middle lobe the largest; disk with 5 confluent lobes, these sulcate, apically hispidulous with hairs 0.5–1 mm. long; stamens about 4-seriate, 65–70, the filaments terete, copiously hispidulous with hairs 0.8–1 mm. long, the anthers (in bud) about 8 mm. long, the dorsal awn 0.6–0.7 mm. long, the ventral apex rounded; ovary ellipsoid, copiously sericeous with golden hairs 0.5–0.7 mm. long, the style glabrous, the locules 2, each with 6 biseriate ovules.

Type in the herbarium of the Arnold Arboretum, collected in dense forest on the northern portion of the Rairaimatuku Plateau, between Mt. Tomanivi [Mt. Victoria] and Nasonggo, Province of Naitasiri, Viti Levu, Fiji, alt. 870–970 m., Sept. 18, 1947, by A. C. Smith (No. 6092). Duplicate at US.

DISTRIBUTION: Known only from the type collection, taken from a tree 7 m. high.

The new species, although known only from a single collection with immature flowers, is clearly of the affinity of *E. laurifolius* and *E. subcapitatus*. It differs from both in having its leaf-blades thinner in texture and rounded or subcordate at base, in having its petals laciniate only at the apex rather than on the lateral margins as well, and in the longer indument of its young parts, rachis, pedicels, and sepals. Of course a final analysis cannot be made, in view of the fact that none of these three species are really adequately known, but *E. melochioides* is amply distinct even without characters that may be provided by mature flowers.

4. § OREOCARPUS

Elaeocarpus § Oreocarpus Schlechter in Bot. Jahrb. 54: 127. 1916.

Section *Oreocarpus* (for brief discussion of typification see Smith, 1944, p. 246) is not very strongly marked, and perhaps it will eventually be combined with § *Blepharoceras* or even § *Monocera*. The glabrous ovary, as a character to separate sections, certainly cannot be very seriously considered, but a full consideration of all characters may lead to a more precise delimitation of § *Oreocarpus*. For the time being the approximately 8 New Guinean species here referred are not adequately known. The only species of our region occurs in the New Hebrides.

15. **Elaeocarpus** (§ *Oreocarpus*) **hortensis** Guillaumin in Journ. Arn. Arb. 12: 231. 1931.

Tree, up to 15 m. high, essentially glabrous throughout, the young parts sometimes faintly strigose-puberulent but soon glabrate, the branchlets subterete, hollow, very stout, 8–15 mm. in diameter toward apices and there copiously marked with the crowded scars of fallen leaves; leaves congested near apices of branchlets, the petioles rugulose, canaliculate, 2–3 cm. long, sometimes with conspicuous immersed glands, the blades coriaceous, drying brownish, obovate-elliptic, 8–13 cm. long, 3–5 cm. broad, acute at base and decurrent on the petiole, rounded and slightly emarginate at apex, strongly revolute at margin and apparently entire or undulate, the costa rugose and slightly elevated above, prominent beneath and conspicuously striate when dried, the secondary nerves 6–8 per side, spreading, nearly plane above, prominent beneath, the veinlet-reticulation intricate, immersed above, plane or prominulous beneath; racemes axillary, the peduncle short, the axis 2.5–5 cm. long, slender, striate-rugulose, the maturing flowers 4–8, the

pedicels 12–15 mm. long slightly after anthesis; sepals 4, thick-carnose, lanceolate, 13–14 mm. long, 3–3.3 mm. broad, obtuse at apex, glabrous without, strongly carinate and copiously sericeous within (hairs golden, 0.1–0.2 mm. long), minutely tomentellous-puberulent on the thickened margins; petals 4, thin-carnose, swollen and carinate within toward base, obviously reticulate-veined, oblong, 13–18 mm. long, 6–6.5 mm. broad, glabrous without, inconspicuously pale-pilose on margins toward base and on carina within (hairs 0.3–0.4 mm. long), 3- or 4-lobed at apex, the lobes 4–6 mm. long, obtuse, entire or with 1 or 2 lateral teeth, each several-nerved; disk carnose, 1.3–1.5 mm. high, deeply 4-lobed, the lobes dorsally sulcate, hispidulous at apex with hairs 0.1–0.2 mm. long; stamens (not seen attached; number?) 8.5–9 mm. long, the filaments stout, terete, 3–3.5 mm. long, minutely hispidulous (hairs slightly ascending, 0.1–0.2 mm. long), the anthers 5–5.5 mm. long, minutely hispidulous, the dorsal apex slightly the longer, apiculate but not rostrate, the ventral apex obtuse; ovary subglobose, glabrous, rugulose, the style stout, glabrous, 18–19 mm. long, the ovary-wall very thick, the locules 2, each with 6 biseriate ovules; fruits (seen only detached) ellipsoid, up to 30 mm. long and 18 mm. broad, rounded at both ends, the epicarp thin, brittle, the mesocarp spongy, probably 5 mm. or more thick in fresh fruits, the endocarp hard, bony, about 2 mm. thick, forming an ellipsoid putamen, this slightly flattened, inconspicuously rugulose, with obtuse lateral angles, rounded on dorsiventral surfaces, the seed ellipsoid, occupying the entire cavity.

TYPE LOCALITY: Tanna, New Hebrides; the type is *Kajewski* 127. In Guillaumin's paper discussing Kajewski's New Hebrides plants it is not stated whether the Arnold Arboretum set or the Paris set contains the holotypes of new species.

DISTRIBUTION: New Hebrides, known only from the type collection, obtained in rain-forest at 200 m. altitude. The specimens were taken from a tree about 15 m. high, with a trunk diameter of about 60 cm., said to be uncommon but "found growing in native gardens"; the fruit was noted as dark green.

NEW HEBRIDES: TANNA: Lenakel, *Kajewski* 127 (TYPE COLL., A, K).

The single collection is not very adequate, the Arnold Arboretum sheet having its flowers past anthesis; enough detached parts are found so that the original description can be somewhat amplified. The species is without close allies in our area and perhaps it is, as suggested by Guillaumin, most closely related to the New Caledonian *E. ovigerus* Brongn. & Gris. It falls into Schlechter's § *Oreocarpus*, perhaps an unnatural section, which appears not to extend farther east into the Pacific, but it does not seem closely related to any of the New Guinean species of the section.

5. § BLEPHAROCERAS

Elaeocarpus § Blepharoceras Schlechter in Bot. Jahrb. 54: 129. 1916.

This section consists of about 10 species in New Guinea; it is not very rigidly characterized (see Smith, 1944, p. 248) but to it may be referred 8 additional species from Fiji and Samoa. Merrill (1951, p. 179) implies that § *Blepharoceras* does not merit separation from § *Monocera*, and this disposition will very likely be followed by most workers. For the New Guinean and Pacific species, however, § *Blepharoceras* provides a useful concept, differing from § *Monocera* in its smaller flowers with a reduced number of stamens. A comparison of the fruits of the two sections, when these are sufficiently well-known, may also prove instructive; at least some of the species here referred to § *Blepharoceras* differ from § *Monocera* in having the endocarp distinctly fibrous, rather than bony, in texture.

16. Elaeocarpus (§ *Blepharoceras*) **kambi** Gibbs in Journ. Linn. Soc. Bot. **39:** 142. *pl. 13, fig. 11–13.* 1909.

Tree, up to 30 m. high, the young parts copiously but minutely tomentellous-puberulent and also spreading-pilose with hairs 0.2–0.5 mm. long, the indument rich brown, the branchlets terete, slender, 2–4 mm. in diameter toward apices, at first similarly pilose, soon glabrate; leaves numerous but evenly spaced along distal parts of branchlets, the petioles slightly flattened or semiterete, 7–15 mm. long, pilose like young parts, subglabrate; leaf-blades chartaceous or subcoriaceous, drying dark green or pale brown, elliptic or ovate, 4–7 cm. long, 2–3.5 cm. broad, acute or obtuse at base and shortly decurrent on the petiole, rounded or broadly obtuse at apex and often slightly callose-thickened, narrowly recurved at margin and entire or obscurely undulate-crenulate (crenations about 2 per centimeter), glabrous on both sides (or when young pilose like petioles toward base and on costa), the costa slightly elevated above, sharply raised beneath, the secondary nerves 5–8 per side, subspreading, curved and anastomosing toward margin, nearly plane above, elevated beneath, the veinlet-reticulation intricate, immersed above, plane or prominulous beneath; racemes solitary in leaf-axils or arising from branchlets below leaves, the peduncle short, the axis 1–2.5 cm. long, slender, copiously tomentellous with pale golden hairs 0.2–0.5 mm. long, the maturing flowers 3–8, the flower-subtending bracts oblong, obtuse, 2–3 mm. long, pilose like rachis, caducous; pedicels slender, 15–20 mm. long at anthesis, tomentellous like rachis; sepals 5, thin-carnose, oblong-lanceolate, 12–13.5 mm. long, 2.5–3 mm. broad, subacute at apex, copiously puberulent-tomentellous without and on margins (hairs 0.1–0.3 mm. long), carinate and sericeous within, the hairs 0.3–0.5 mm. long; petals 5, thin-carnose, obovate-oblong, 13–15 mm. long, 4–5 mm. broad, slightly

thickened and carinate within toward base, sparsely ciliolate-pilose on basal margins and sometimes sparsely sericeous on both sides near base (hairs to 1 mm. long), otherwise glabrous, fimbriate at apex with 8–12 lobes, these lanceolate, subacute, 1.5–2.5 mm. long, each with 1 or 2 ultimate veinlets, subequal; disk pulvinate, about 1 mm. high, 5-lobed, the lobes confluent, dorsally sulcate, sericeous and apically hispidulous with hairs 0.5–1.5 mm. long; stamens 28–30, 1- or 2-seriate, 10–11 mm. long, the filaments terete, 3–5 mm. long, copiously sericeous with pale hairs 0.7–1 mm. long, the anthers 5–7 mm. long, sericeous dorsally and sparsely so ventrally, the dorsal awn lanceolate, acute, 0.8–1 mm. long; ovary ellipsoid, copiously sericeous with pale yellow hairs 0.4–0.7 mm. long, the style stout, 10–12 mm. long, glabrous except at base, the ovary-wall thick, sparsely sericeous within, the locules 2, each with 6 biseriate ovules; fruits (only detached and broken ones with *Gillespie* 3863 seen) ellipsoid, up to 25 mm. long and 15 mm. broad (immature?), rounded at both ends, the pericarp glabrous, inconspicuously rugulose, thin, brittle.

TYPE LOCALITY: Nandarivatu, Viti Levu, Fiji; type, *Gibbs* 808, cited below.

DISTRIBUTION: Fiji, but apparently limited to the region of north-central Viti Levu near Nandarivatu, at an elevation of 800–970 m. It is a large tree of the rain-forest, indicated as 26–30 m. in height and with a trunk diameter of about 60 cm., with a spreading rounded crown. The sepals are greenish at base and white distally, the petals and anthers pure white, and the filaments greenish.

LOCAL NAME: *Kambi* (Gibbs).

FIJI: VITI LEVU: Mba: Nandarivatu, *Gibbs* 808 (BM TYPE, K), *Gillespie* 3863 (Bish, GH, NY); hills east of Nandala Creek, about 3 miles south of Nandarivatu, *Smith* 5954 (A, US).

Elaeocarpus kambi, indicated as "very general" in the Nandarivatu region by Gibbs, in my observation is quite rare, but perhaps this is because it is a stately and consequently overlooked tree. Its crown merges with the upper storey of the forest but, when the tree is felled, is seen at the right season to bear a mass of beautiful white flowers. On the basis of my No. 5954, the species must be considered one of the most striking trees in Fiji. It is without close allies in our area, being characterized by its comparatively small and short-petiolate leaves and its large flowers.

17. **Elaeocarpus** (§ *Blepharoceras*) **milnei** Seem. Fl. Vit. 28. 1865.

Tree, up to 13 m. high, the young parts densely hispidulous-puberulent (hairs ferrugineous, 0.1–0.2 mm. long), the branchlets subterete, stout, 10–12 mm. in diameter toward apices and cicatricose with the crowded scars of fallen leaves, soon glabrate; leaves congested toward apices of branchlets, the petioles stout (2–3 mm. in diameter), semi-

terete or shallowly canaliculate, 2.5–5 cm. long, closely and subpersistently cinereous-puberulent (hairs scarcely 0.1 mm. long); leaf-blades subcoriaceous, brownish when dried, obovate, 14–19 cm. long and 7–10 cm. broad (up to 25×13 cm. ex Seemann, but such leaves not now with type), gradually narrowed toward base and then obtuse and abruptly decurrent on the petiole, short-cuspidate at apex, closely crenate-serrulate nearly to base (teeth 2–5 per centimeter, distally terminated by a callose apiculum 0.5–0.8 mm. long), obscurely puberulent toward base and along costa above but soon glabrate, beneath subpersistently strigose-puberulent on costa and nerves, otherwise glabrous, the costa strongly elevated and rounded above, prominent beneath, the secondary nerves 13–15 per side, spreading, slightly curved and anastomosing toward margin, nearly plane above, sharply elevated beneath, the veinlet-reticulation intricate, prominulous on both sides; racemes lateral below leaves, the peduncle short, the rachis slender, 10–15 cm. long, many-flowered, like the pedicels copiously puberulent (hairs 0.05–0.1 mm. long) and also with a few scattered longer hairs to 0.4 mm. long, the pedicels 4–7 mm. long at anthesis; sepals 5, thin-carnose, lanceolate, 9–10 mm. long, 2–2.5 mm. broad, subacute, puberulent without like pedicels, carinate within and sparsely sericeous with hairs 0.4–0.5 mm. long; petals 5, thin-carnose distally, thickened toward base, oblong-obovate, 10–11 mm. long, 4–4.5 mm. broad, very sparsely sericeous within at base, otherwise glabrous, fimbriate at apex with 7 or 8 lobes, these subequal, obtuse, 2–2.5 mm. long, each with several terminal veinlets; disk pulvinate, about 0.8 mm. high, 5-lobed, the lobes confluent, dorsally sulcate, copiously hispidulous with hairs 0.1–0.2 mm. long; stamens 23–25, uniseriate, 6–7 mm. long, the filaments terete, 2.5–3.5 mm. long, minutely hispidulous with hairs about 0.05 mm. long, the anthers 3.5–4 mm. long, minutely tuberculate-hispidulous, the dorsal awn lanceolate, 0.5–0.7 mm. long, the ventral apex subacute, often slightly recurved but not aristate; ovary ovoid, copiously sericeous with hairs 0.1–0.2 mm. long, the style subulate, 4–5 mm. long, sericeous in the lower half, glabrous distally, the ovary-wall thick, sparsely sericeous within, the locules 2, each with 6 biseriate ovules.

TYPE LOCALITY: Viti Levu, Fiji; the type, collected by Milne, is cited below.

DISTRIBUTION: Fiji, known only from the type collection. Milne's precise locality is in doubt, being indicated on his label as "Nisana, by the margin of stream in the forest." I do not find a settlement of this name on recent maps, but the *Herald* conceivably anchored near the town of Sanasana, on the southwestern coast of Viti Levu near the mouth of the Tuva River, in the present Province of Nandronga & Navosa.

FIJI: VITI LEVU: *Milne* 81 (K TYPE).

With the two species immediately following, *E. milnei* forms a well-marked group characterized by very stout branchlets and large leaves; the flowers in general characters are similar to those of *E. graeffei* and its allies, but they agree in having very short anther-awns.

18. Elaeocarpus (§ *Blepharoceras*) **magnifolius** Christophersen in Bishop Mus. Bull. 128: 135. *fig. 17.* 1935; non Knuth (1938).

Tree, up to 8 m. high, the young parts copiously sericeous (hairs ferrugineous, 0.3–0.6 mm. long), the branchlets subterete, stout, 5–10 mm. in diameter toward apices and there densely cicatricose, eventually glabrate; leaves congested toward apices of branchlets, the petioles shallowly canaliculate, swollen at base and apex, (3.5–) 5–10 cm. long, sparsely strigose-puberulent (hairs 0.2–0.4 mm. long), at length glabrate; leaf-blades chartaceous, drying dull or pale green, elliptic or elliptic-ovate, (9–) 14–30 cm. long, (5–) 6–14.5 cm. broad, rounded to a shallowly cordate base, short-acuminate or cuspidate at apex (acumen up to 1 cm. long, obtuse or callose-subacute), undulate-crenulate at margin (crenations remote, often 1–3 cm. apart on larger leaves, rounded, obscurely callose-spinulose distally), sparsely pilose on costa above or completely glabrous, beneath sparsely strigose-puberulent like petioles especially on costa and secondaries and at length sometimes subglabrate, the costa nearly plane above, prominent beneath, the secondary nerves 11–14 per side, spreading, slightly curved and anastomosing toward margin, nearly plane above, sharply elevated beneath, the veinlet-reticulation intricate, prominulous on both sides; racemes axillary or arising from branchlets just below leaves, the peduncle short, the rachis slender, 3–7.5 cm. long, with 3–11 maturing flowers, like the pedicels copiously sericeous-hispidulous or short-tomentellous (hairs golden or reddish, 0.2–0.4 mm. long), the pedicels 6–10 mm. long at anthesis; sepals 5, carnose, lanceolate, 7.5–9 mm. long, 2–2.5 mm. broad, subacute, pilose without like pedicels, conspicuously carinate within and somewhat less densely pilose; petals 5, thin-carnose distally, thickened toward base especially at center, oblong- or cuneate-obovate, 9–13 mm. long, 4–6 mm. broad, sometimes sparsely strigillose without toward base (hairs golden, 0.2–0.3 mm. long), otherwise glabrous, rounded at apex and irregularly fimbriate into 3 principal divisions and 12–18 lobes, these lanceolate, subacute, 1.5–4 mm. long, each 1-nerved; disk carnose, 1–1.2 mm. high, 5-lobed, the lobes confluent, dorsally sulcate, copiously sericeous-hispidulous with hairs 0.3–0.4 mm. long; stamens 25–30, about 2-seriate, 4.5–5 mm. long, the filaments terete, 1.5–2 mm. long, obscurely strigillose-hispidulous (hairs about 0.1 mm. long) and soon glabrate, the anthers 2.5–3.5 mm. long, minutely hispidulous, the dorsal awn subulate, 0.5–0.6 mm. long, the ventral apex rounded; ovary

ovoid, slightly flattened, copiously sericeous with golden hairs 0.3–0.5 mm. long, the style stout, 2–4.5 mm. long, sericeous near base, glabrous distally, the locules 2, each with 4 biseriate ovules; infructescence thickened but not elongating, the rachis and pedicels subpersistently pilose; fruits usually 1 or 2 per infructescence, ellipsoid, slightly flattened, up to 4 cm. long and 3 cm. broad, rugose when dried and sparsely strigose or glabrate, rounded at base and apex, the epicarp hard, 0.1–0.2 mm. thick, the mesocarp presumably spongy when fresh and apparently not more than about 2 mm. thick, the endocarp bony, 2–3 mm. thick, forming an ellipsoid and strongly flattened putamen, this up to 37×25×15 mm., coarsely rugose, the lateral angles strongly projecting and undulate with 4–6 oblong lobes up to 6 mm. long, the dorsiventral angles obtuse, the seed ellipsoid, acute at both ends, about 25 mm. long.

TYPE LOCALITY: Near Malololelei, Upolu, Samoa; type, *Christophersen* 257, cited below.

DISTRIBUTION: Samoa, thus far known from the islands of Savaii and Upolu at elevations of 700–1,300 m., occurring in wet forest or on high ridges. The plant is noted as a tree 3–8 m. high, with white petals and (no. 246 only) a blue fruit.

SAMOA: SAVAII: Above Salailua, *Christophersen* 2758 (Bish): Le To, above Salailua, *Christophersen* 2919 (Bish, K, NY); above Ngangamalae, *Christophersen* 3438 (A, Bish, K, NY, US). UPOLU: Above Malololelei, *Christophersen* 246 (Bish, NY), 257 (Bish TYPE).

Elaeocarpus magnifolius is closer to *E. milnei* than to *E. graeffei*, with which Christophersen compared it, but it is readily distinguished from *E. milnei* by characters pertaining to the shape and base of the leaf-blades, its more obvious indument, comparatively short racemes, fewer petal-laciniae, and by having 4 rather than 6 ovules per locule.

19. **Elaeocarpus** (§ *Blepharoceras*) **roseiflorus** A. C. Sm. sp. nov.
Elaeocarpus milnei sensu A. C. Sm. in Bishop Mus. Bull. **141**: 95. 1936; non Seem.

Arbor foliis magnis ellipticis vel obovato-ellipticis longe petiolatis basi rotundatis, racemis pedicellisque longis pendentibus, rhachium et pedicellorum indumento tomentello copioso, petalis roseis apice copiose laciniatis distinguitur; ab *E. milnei* Seem. et *E. magnifolio* Christophersen racemis pedicellisque elongatis valde differt.

Tree, up to 10 m. high, the young parts copiously sericeous (hairs ferrugineous, 0.6–1 mm. long), the branchlets subterete, hollow, stout, 6–15 mm. in diameter toward apices and there densely cicatricose, soon glabrate; leaves congested toward apices of branchlets, the petioles semiterete, swollen at base and apex, (2–) 3–9 cm. long, obscurely puberulent and soon glabrate; leaf-blades chartaceous, drying brownish, broadly elliptic or obovate-elliptic, (10–) 17–23 cm.

long, (5–) 9–12 cm. broad, rounded at base and abruptly decurrent on the petiole, obtusely cuspidate at apex (acumen up to 1 cm. long), inconspicuously undulate-crenulate at margin (crenations about 1 per centimeter, distally tipped by a callose apiculum about 0.5 mm. long and eventually rounded), glabrous on both sides, the costa strongly elevated and rounded above, prominent beneath, the secondary nerves 10–13 per side, spreading, curved, anastomosing toward margin, plane or slightly raised above, prominent beneath, the veinlet-reticulation intricate, prominulous on both sides; racemes copiously spreading from branchlets below leaves, the peduncle up to 10 cm. long or more, forming with the rachis a slender pendent many-flowered axis 22–40 cm. long, this and the pedicels closely tomentellous with reddish hairs 0.3–0.7 mm. long, the flower-subtending bracts oblong, 1.5–2 mm. long, pilose like the rachis on both sides, soon caducous, the pedicels very slender, 15–55 mm. long at anthesis; sepals 5, thin-carnose, lanceolate, 9–10 mm. long, 2–2.5 mm. broad, puberulent-tomentellous without (hairs minute or up to 0.3 mm. long), carinate within and sericeous with hairs about 0.5 mm. long; petals 5, thin-carnose distally, thickened toward base, oblong-obovate, 10.5–11 mm. long, 3.5–4 mm. broad, sparsely sericeous within toward base (hairs 0.5–0.6 mm. long), otherwise glabrous, copiously fimbriate at apex with 13–17 lobes, these 1–3 mm. long, lanceolate, obtuse, each with 1 or 2 ultimate veinlets; disk carnose, 1–1.3 mm. high, 5-lobed, the lobes confluent, dorsally sulcate, copiously hispidulous with hairs 0.2–0.4 mm. long; stamens 28–32, uniseriate, 5.5–7 mm. long, the filaments terete, 2.5–3 mm. long, copiously hispidulous with hairs about 0.1 mm. long, the anthers 3–4 mm. long, minutely tuberculate-hispidulous, the dorsal awn subulate, 0.5–0.7 mm. long, the ventral apex obtuse; ovary ovoid, copiously sericeous with golden hairs 0.2–0.3 mm. long, the style subulate, about 6 mm. long, sericeous in lower half, glabrous distally, the ovary-wall thick, sparsely sericeous within, the locules 2, each with 6 biseriate ovules.

Type in the herbarium of the New York Botanical Garden, collected in dense forest along stream on the southwestern slope of Mt. Mbatini, Province of Thakaundrove, Vanua Levu, Fiji, alt. 700 m., November 29, 1933, by A. C. Smith (No. 670). Duplicates at Bish, GH, K, US, etc.

Distribution: Known only from the type collection, taken from a spreading tree 10 m. high, indicated as having the petals rich pink, whitish distally.

In identifying the cited specimen as *E. milnei* in 1936 I did not make a sufficiently careful comparison, as it is now seen to be quite different from Seemann's type. The new species is remarkable for the extreme length of its graceful racemes and pedicels, and it is further characterized by its more obvious indument and by details of leaf-shape and petal-laciniation.

20. **Elaeocarpus** (§ *Blepharoceras*) **graeffei** Seem. in Journ. Bot. **2**: 76. 1864, Fl. Vit. 28. *pl.* 8. 1865.

Tree, up to 25 m. high, the young parts copiously sericeous with pale-ferrugineous or fulvous hairs 0.3–0.5 mm. long, the branchlets subterete, 3–8 (–10) mm. in diameter toward apices and there copiously sericeous-puberulent (hairs 0.1–0.3 mm. long), at length glabrate; leaves spaced on distal parts of branchlets or somewhat congested, the petioles slender, shallowly canaliculate, slightly swollen at base and apex, (2.5–) 3–8 cm. long, pilose like young branchlets or copiously puberulent, the indument long-persistent; leaf-blades chartaceous, brownish or olivaceous and often paler beneath when dried, elliptic to elliptic- or lanceolate-ovate, (7–) 12–20 cm. long, (3–) 4.5–11 cm. broad, rounded to subcordate or very broadly obtuse at base, acuminate at apex (acumen up to 15 mm. long, callose-tipped), inconspicuously crenulate at margin (crenations 1 or 2 per centimeter or somewhat more remote, distally obscurely callose-spinulose and becoming rounded), above sparsely strigose on costa and soon glabrate, strigose-puberulent beneath (hairs grayish, 0.1–0.3 mm. long) especially on nerves, the indument often long-persistent, the costa nearly plane or slightly rounded above, prominent beneath, the secondary nerves 8–11 per side, subascending, slightly curved, irregularly anastomosing, nearly plane above, sharply elevated beneath, the veinlet-reticulation intricate, prominulous on both sides; racemes axillary or lateral just below leaves, the peduncle 1–2 cm. long, forming with the rachis a slender axis 6.5–10 cm. long, this 8–15-flowered, like the pedicels copiously sericeous-puberulent or tomentellous with golden or fulvous hairs 0.2–0.5 mm. long, the flower-subtending bracts lanceolate, 2–3 mm. long, pilose on both sides like the rachis, caduous, the pedicels curved, 8–13 mm. long at anthesis; sepals 5, thin-carnose, lanceolate, 7–8 mm. long, 1.5–2.5 mm. broad, subacute, copiously sericeous on both sides with golden hairs 0.1–0.2 mm. long (or slightly longer within), carinate within; petals 5, submembranaceous distally, thickened and carnose at center toward base, cuneate-obovate, 9.5–10 mm. long, 5–6 mm. broad, very sparsely sericeous-puberulent within toward base, otherwise glabrous, conspicuously fimbriate at apex with 12–16 lobes, these 1.5–3 mm. long, often unequal in length and breadth, with 1–3 ultimate veinlets; disk carnose, about 1 mm. high, 5-lobed, the lobes confluent, dorsally sulcate, densely sericeous-hispidulous with golden hairs 0.1–0.2 mm. long; stamens 28–41, 2- or 3-seriate, 5–5.5 mm. long, the filaments terete, 1.2–1.6 mm. long, distally very minutely hispidulous-puberulent, the anthers 3.8–4.2 mm. long, minutely hispidulous-tuberculate, terminated by a dorsal awn 1–1.2 mm. long; ovary ovoid, copiously sericeous with golden hairs about 0.2 mm. long, the style subulate, about 4 mm. long, sericeous near base, glabrous distally, the ovary-wall inconspicuously sericeous within, the locules

2, each with 4–7 biseriate ovules; infructescences not elongating, usually with 1–3 mature fruits, the rachis and pedicels thickened, persistently pilose; fruits ellipsoid, strongly flattened, at apparent maturity up to 4 cm. long and 2.5 cm. broad, puberulent with minute yellowish long-persistent hairs, broadly obtuse at both ends, the epicarp brittle, about 0.1 mm. thick, the mesocarp spongy, fibrous, probably 2–3 mm. thick when fresh, the endocarp hard but not bony, with a fibrous layer in the center, 2–3 mm. thick, forming an ellipsoid and strongly flattened putamen, this up to 35×23×12 mm., the lateral angles subacute, undulate into 3 or 4 oblong lobes 2–3 mm. long, the dorsiventral surfaces rounded, shallowly sulcate, the seed ellipsoid, acute at both ends.

TYPE LOCALITY: Viti Levu, Fiji, without specific locality; the type is *Graeffe* 59, cited below.

DISTRIBUTION: Fiji, thus far known only from Viti Levu and the Lauan island of Kambara, at elevations from near sea-level up to 600 m. The species is a tree up to 25 m. in height, occurring in forest; the petals are white (*Smith* 1266).

LOCAL NAMES AND USES: *Mindri* (*Smith* 4447); *ndrivi* (*Degener* 15369a); *vathea* (*Smith* 1266). Degener reports that in Ra an extract made by boiling the leaves in water is taken internally for stomach ailments.

FIJI: VITI LEVU: *Graeffe* 59 or s. n. (BM TYPE, K). Mba: Mountains near Lautoka, *Greenwood* 1096 (A, US); vicinity of Nalotawa, eastern base of Mt. Evans Range, *Smith* 4447 (A, US). Ra: Hills near Penang, *Greenwood* 751 (K); Tuvavatu, between Rewasa and Nokonoko, *Degener* 15369a (A, Bish, K, NY, US). KAMBARA: On limestone formation, *Smith* 1266 (Bish, GH, K, NY, US). Fiji, without definite locality: *Horne* (GH), 15 (K).

Elaeocarpus graeffei and its immediate allies (the three species which follow) form a species-group very similar to the group centering around *E. milnei*. However, *E. graeffei* and its relatives are comparatively slender in habit, their leaves being smaller and with fewer secondaries. Although vegetative characters separating the two groups are not absolute, they are sufficiently stable so that the groups are readily differentiated. In addition, *E. graeffei* and its allies have comparatively long anther-awns (with the exception of *E. degenerianus*, a species with unmistakably small leaves).

21. **Elaeocarpus** (§ *Blepharoceras*) **ulianus** Christophersen in Bishop Mus. Bull. 128: 138. *fig. 19.* 1935.

? *Elaeocarpus graeffei* sensu Lauterb. in Bot. Jahrb. 41: 230. 1908; non Seem.

Tree, up to 20 m. high or more, the young parts densely sericeous with ferrugineous or fulvous hairs 0.3–0.5 mm. long, the branchlets subterete, 2–5 mm. in diameter toward apices and copiously sericeous-puberulent (hairs 0.1–0.3 mm. long), glabrate; leaves mostly congested toward apices of branchlets, the petioles slender, shallowly

canaliculate, (1.5–) 2–6 cm. long, subpersistently pilose like young branchlets; leaf-blades chartaceous, drying olivaceous, elliptic- or ovate-lanceolate, (7–) 9–15 cm. long, (3–) 4–8 cm. broad, rounded or subcordate at base, short-acuminate or cuspidate at apex (acumen up to 15 mm. long, callose-obtuse), obviously crenulate at margin (crenations 1 or 2 per centimeter, obscurely callose-spinulose distally, soon rounded), above inconspicuously strigose toward base and on costa but soon glabrate, sparsely strigose-puberulent beneath (hairs 0.1–0.3 mm. long), glabrate, the costa sharply elevated above, prominent beneath, the secondary nerves 6–10 per side, subascending, prominulous above, strongly elevated beneath, the veinlet-reticulation intricate, prominulous on both sides; racemes axillary or arising below leaves, the peduncle 1–2 cm. long, forming with the rachis a slender axis 5–10 cm. long, this 4–10-flowered, like the pedicels copiously spreading-pilose or subsericeous, the hairs reddish or pale, 0.2–0.4 mm. long, the flower-subtending bracts lanceolate, 1.5–3 mm. long, pilose on both sides like the rachis, caducous, the pedicels 5–8 mm. long at anthesis; sepals 5, carnose, lanceolate, 6.5–8 mm. long, 1.5–2 mm. broad, subacute, tomentellous-puberulent without (hairs 0.1–0.2 mm. long), densely sericeous within (hairs 0.2–0.5 mm. long); petals 5, thin-carnose, thickened toward base, cuneate-obovate, 7–10 mm. long, 3.5–5 mm. broad, obscurely sericeous near base within, otherwise glabrous, laciniate at apex with 8–14 lobes, these oblong-lanceolate, subacute, 2.5–4 mm. long, subequal, each with 1–3 ultimate veinlets; disk carnose, about 1 mm. high, the lobes 5, confluent, dorsally sulcate, copiously sericeous-hispidulous with golden hairs 0.4–0.5 mm. long; stamens 26–34, 1- or 2-seriate, 4.5–5.5 mm. long, the filaments terete, 1.5–2 mm. long, glabrous or sparsely pilose at base, the anthers 3.5–4 mm. long, minutely tuberculate-hispidulous, the dorsal awn subulate, 1–1.6 mm. long, the ventral apex rounded; ovary ovoid, slightly flattened, densely sericeous with golden hairs 0.3–0.4 mm. long, the style subulate, 3–4 mm. long, sericeous in basal half, glabrous distally, the ovary-wall thick, obscurely sericeous within, the locules 2, each with 6 biseriate ovules; infructescences not elongating, the maturing fruits 1–3, the rachis and pedicels thickened, persistently pilose; fruits ellipsoid, slightly flattened, rugose when dried, up to 5 cm. long and 4 cm. broad, puberulent with yellowish hairs and at length glabrate, obtuse at both ends, the epicarp about 0.1 mm. thick, the mesocarp fibrous, probably 3–4 mm. thick when fresh, the endocarp hard, fibrous, 1–2 mm. thick, forming an ellipsoid and strongly flattened putamen, this up to 45×32×13 mm., the lateral angles strongly produced into 3 or 4 irregular oblong lobes 5–8 mm. long, the dorsiventral angles prominent distally, the seed ellipsoid, acute at both ends.

TYPE LOCALITY: Above Salailua, Savaii, Samoa; type, *Christophersen* 2696, cited below.

DISTRIBUTION: Samoa, known from Savaii and Upolu at elevations from 350 to 900 m., most often occurring in wet forest. The species is a tree up to 20 m. or more in height, with a trunk diameter up to 1 m.; the petals are white and the fruit green.

LOCAL NAMES: *Taputoi* (*Christophersen* 327); *sagavao* (ex Lauterbach, if *Funk* 215 represents this species).

SAMOA: SAVAII: Above Salailua, *Christophersen* 2696 (Bish TYPE, US), 2891 (A, Bish, NY, US); Le Vai, above Salailua, *Christophersen* 3005 (A, Bish, K, NY, US); above Siuvao, *Christophersen* 3307 (Bish); Siuvao-Auala, *Christophersen* 3381 (Bish, US), 3382 (juvenile leaves?) (Bish, NY). UPOLU: Near Malololelei, *Christophersen* 327 (Bish, K, NY).

Elaeocarpus ulianus is an extremely close ally of the Fijian *E. graeffei*, the two being nearly indistinguishable in foliage. However, slight differences in leaves can be discerned by direct comparison, *E. ulianus* having its costa slightly the more slender and more sharply raised above, and the secondary nerves also more obvious. Differences in the inflorescences are also very slight and of dubious value, and only in the putamen of the fruit are characters found that seem significant. In addition to the degree of lateral lobing mentioned in my key, there is a difference in the texture of the endocarp, which in *E. graeffei* is harder and less inclined to flatten under pressure, being fibrous only in the middle portion when examined in cross section; in *E. ulianus* the endocarp is uniformly fibrous throughout. These slight differences should perhaps not be considered specific in nature, but I hestitate to reduce the Samoan plant to synonymy without a more extensive suite of specimens. Lauterbach's record of *E. graeffei* in Samoa is based upon *Funk* 215, from Upolu, which I have not seen but which probably represents *E. ulianus*.

22. **Elaeocarpus** (§ *Blepharoceras*) **degenerianus** A. C. Sm. sp. nov.

Arbor ramulorum et petiolorum indumento copioso et persistente, petiolis brevibus, foliorum laminis parvis ovatis basi cordatis, pedicellis brevibus, petalis copiose fimbriatis in lobos 3 primarios fissis, staminibus circiter 35 distinguitur; *E. graeffei* Seem. et *E. uliano* Christophersen affinis, foliorum laminis ovatis minoribus integris, floribus majoribus, antheris breviter aristatis differt.

Tree, the young parts copiously sericeous-tomentellous with fulvous hairs 0.3–0.6 mm. long, the branchlets subterete, slender, 2–3 mm. in diameter toward apices, densely tomentellous or puberulent with long-persistent hairs; leaves spaced on distal parts of branchlets, the petioles slender, finely canaliculate, 1.5–3.5 cm. long, persistently brown-pilose like young branchlets, the blades chartaceous, drying brownish, ovate, 5–9 cm. long, 3–6.5 cm. broad, shallowly but obviously cordate at base, obtuse or cuspidate at apex (acumen up to 5 mm. long, callose-tipped), narrowly recurved and subentire or inconspicu-

ously undulate at margin, densely tomentellous on costa and some secondaries above but otherwise glabrous, finely puberulent beneath (hairs pale, spreading, 0.1–0.3 mm. long or slightly longer on nerves, subpersistent), the costa slightly elevated above, prominent beneath, the secondary nerves 5–8 per side, spreading, curved, prominulous above, sharply elevated beneath and with axillary domatia of an unusually projecting type, the veinlet-reticulation intricate, prominulous on both sides; racemes in very young bud (*Degener* 14527) up to 3 cm. long, about 10-flowered, the rachis densely pilose like young branchlets, the flower-subtending bracts about 3 mm. long, similarly pilose on both sides, 3-lobed, the lateral lobes basal, inconspicuous, the middle lobe lanceolate, subacute; mature inflorescences not seen but a few flowers available with the type; pedicels curved, 3–5 mm. long at anthesis, copiously tomentellous-puberulent with pale reddish hairs 0.2–0.4 mm. long; sepals 5, thin-carnose, lanceolate, 9–10 mm. long, 1.5–1.8 mm. broad, subacute, copiously tomentellous without like pedicel, carinate and densely sericeous within; petals 5, submembranaceous distally, thickened toward base, obovate-cuneate, 12–12.5 mm. long, about 6 mm. broad, sparsely sericeous within toward base, otherwise glabrous, copiously fimbriate at apex with 16–19 laciniae, these lanceolate, acute, 2–4 mm. long, variously connate into 3 primary petal-lobes, the ultimate laciniae inconspicuously 1-nerved; disk annular-pulvinate, 0.8–1 mm. high, 5-lobed, the lobes confluent, dorsally sulcate, copiously sericeous and apically hispidulous with hairs 0.1–0.2 mm. long; stamens about 35 and approximately 2-seriate, 5.5–6 mm. long, the filaments terete, 2–2.5 mm. long, essentially glabrous or very obscurely hispidulous-puberulent, the anthers 3.2–3.5 mm. long, minutely tuberculate-hispidulous, the dorsal awn subulate, 0.6–0.8 mm. long, the ventral apex subacute; ovary ovoid, copiously hispidulous-tomentellous with hairs about 0.2 mm. long, the style subulate, 3.5–4 mm. long, puberulent proximally, glabrous above, the ovary-wall thick, sparsely sericeous within, the locules 2, each with 5 (or 6?) biseriate ovules; infructescences not seen, but a few detached fruits available with the type, the pedicels not elongating, persistently pilose; fruits narrowly ellipsoid, slightly flattened, about 4.5 cm. long and 2.5 cm. broad at apparent maturity, faintly puberulent, glabrate, obtuse at base, gradually narrowed to a subacute apex, the epicarp brittle, very thin, the mesocarp spongy, fibrous, 4–6 mm. thick when dried (perhaps thicker when fresh), the endocarp 1.5–2 mm. thick, hard only on outer and inner surfaces, with a wide and comparatively soft fibrous intermediate layer, forming an ellipsoid putamen up to 40×18×10 mm., the lateral angles produced into several conspicuous flattened lobes, the dorsiventral surfaces rounded.

Type in the herbarium of the Bishop Museum, collected in dark woods on the slopes of Mt. Nanggaranambuluta [Lomalangi], Province of Mba, Viti Levu,

Fiji, alt. about 1,000 m., December 13, 1927, by J. W. Gillespie (No. 4285). Duplicate at GH.

ADDITIONAL SPECIMEN EXAMINED:

FIJI: VITI LEVU: Mba: Nauwanga, near Nandarivatu, *Degener* 14527 (A).

DISTRIBUTION: Fiji, known only from the vicinity of Nandarivatu, in north-central Viti Levu, at an altitude of 750–1,000 m. The species is presumably a large forest tree, but no habitat data are supplied.

Although the available material is not entirely satisfactory, it is sufficiently ample so that an adequate description can be drawn up of what is patently a very distinct new species. The basic characters demonstrate its affinity with *E. graeffei*, but it differs in having its small ovate leaf-blades more distinctly cordate at base and with a shorter apex, its flowers larger and shorter-pedicellate, its short-awned anthers, and in the characteristically persistent indument of its branchlets and petioles.

23. Elaeocarpus (§ *Blepharoceras*) **xanthodactylus** A. C. Sm. sp. nov.

Arbor ramulis petiolisque gracilibus strigoso-puberulis mox glabratis, foliorum laminis ellipticis vel obovato-lanceolatis, petalis roseis in laciniis 7 vel 8 luteis fissis, staminibus circiter 15 uniseriatis, antheris conspicue aristatis distinguenda; *E. graeffei* Seem. et *E. uliano* Christophersen affinis, staminibus et petalorum laciniis paucioribus, foliorum laminis basi obtusis vel subacutis margine subintegris, ramulis petiolisque mox glabratis valde differt.

Tree, up to 10 m. high, the young parts copiously sericeous with pale reddish hairs 0.4–0.6 mm. long, the branchlets slender, subterete, 2–3 mm. in diameter toward apices, strigose-puberulent distally (hairs 0.1–0.3 mm. long), glabrate; leaves spaced or somewhat congested on apical parts of branchlets, the petioles slender, shallowly canaliculate, swollen at base and apex, (0.7–) 1.5–3 cm. long, sparsely strigose like young branchlets, soon glabrate; leaf-blades papyraceous or chartaceous, drying dark green, narrowly elliptic or obovate-lanceolate, (5–) 7–12 cm. long, (2–) 3–5.5 cm. broad, obtuse to subacute at base and short-decurrent on the petiole, cuspidate at apex (acumen up to 1 cm. long, callose-obtuse), narrowly recurved at margin and entire or very obscurely crenulate with remote and shallow indentations, sparsely strigose on costa above or completely glabrous, beneath strigose on costa and nerves with hairs up to 0.5 mm. long but soon glabrate, the costa plane or slightly raised above, prominent beneath, the secondary nerves 7–10 per side, spreading, curved, anastomosing toward margin, prominulous above, sharply elevated beneath, the veinlet-reticulation intricate, prominulous on both sides; racemes axillary or arising below leaves, the peduncle 1–2 cm. long, forming with the rachis a slender axis 5–7 cm. long, this 5–10-flowered, like the pedicels puberulent or spreading-pilose, the hairs golden,

0.2–0.4 mm. long, the flower-subtending bracts lanceolate, about 1.5 mm. long, pilose on both sides like the rachis, caducous, the pedicels slender, 7–10 mm. long at anthesis; sepals 5, thin-carnose, oblong-lanceolate, 7.5–9 mm. long, 1.5–2 mm. broad, subacute, carinate within, sericeous on both sides with golden hairs 0.2–0.4 mm. long; petals 5, submembranaceous distally, slightly thickened toward base, often remaining involute at basal margins, oblong-cuneate, 9.5–10.5 mm. long, 4–4.5 mm. broad, sparsely golden-sericeous within toward base, otherwise glabrous, conspicuously fimbriate at apex with 7 or 8 lobes, these subequal, 2–3.5 mm. long, each with 1 or 2 ultimate veinlets; disk carnose, 0.5–0.8 mm. high, 5-lobed, the lobes confluent, dorsally sulcate, hispidulous with golden hairs about 0.2 mm. long; stamens uniseriate, 15 (in several flowers dissected), 5.5–6.5 mm. long, the filaments terete, distally minutely hispidulous, 2.2–2.7 mm. long, the anthers 3.3–3.8 mm. long, minutely hispidulous-tuberculate, terminated by a subulate dorsal awn 0.8–1 mm. long; ovary ellipsoid, puberulent-sericeous with pale golden hairs 0.1–0.3 mm. long, the style subulate, 5–6 mm. long, pilose near base, glabrous distally, the ovary-wall obscurely sericeous within, the locules 2, each with 4–6 biseriate ovules.

Type in the herbarium of the Arnold Arboretum, collected in dense forest on the summit ridge of Mt. Numbuiloa, east of Lambasa, Province of Mathuata, Vanua Levu, Fiji, alt. 500–590 m., November 3, 1947, by A. C. Smith (No. 6471). Duplicate at US.

DISTRIBUTION: Known definitely only from the type collection, taken from a tree 10 m. high; the petals are at first greenish yellow, then rich pink with yellowish lobes, and the stamens are pale yellow.

From its only close allies, *E. graeffei* and *E. ulianus*, the new species is readily distinguished by its few stamens, its colored petals with comparatively few apical laciniae, by having its leaf-blades obtuse to subacute at base, and by its more readily glabrate habit. Petal-color is probably a very dependable character in *Elaeocarpus*, within reasonable limits, as it seems correlated with other floral characters; unfortunately it is not always noted by collectors.

Another specimen which suggests *E. xanthodactylus* is *Smith* 6555 (A, US), from essentially the type locality (summit of southwestern ridge of Mt. Numbuiloa, alt. about 500 m.; tree 12 m. high, in dense forest). This specimen has leaves essentially like those of No. 6471, but the petioles are 3–6 cm. long and the base of the blade is more acute. The infructescence is greatly swollen, the pedicels 18–20 mm. long, and the persistent disk with hairs 0.3–0.7 mm. long; the flower-subtending bracts are persistent and 3–4 mm. long. Although the foliage differences are slight, I hesitate to refer No. 6555 to the new species because ordinarily, in *Elaeocarpus*, the flower-subtending bracts, pedicels, and disk-indument do not lengthen much with matu-

rity. The fruit of No. 6555 is of an unusual type; it is ellipsoid, up to 5 by 3 cm., the epicarp is tough and comparatively thick (0.3–0.4 mm. thick), the mesocarp is fibrous and apparently at least 5 mm. thick, and the endocarp is very thin, scarcely more than 0.3 mm. thick, forming an irregularly angled (not flattened) putamen. This is not the type of putamen found in other Pacific species of this alliance. More evidence is needed before this specimen can be definitely connected with *E. xanthodactylus*, but it obviously does not represent any other described species.

6. § CHASCANTHUS

Elaeocarpus § Chascanthus Schlechter in Bot. Jahrb. 54: 115. 1916.

Section *Chascanthus* is represented by at least 4 species from New Guinea and 1 from the Solomon Islands. It seemed to be quite sharply characterized (Smith, 1944, p. 225–227) on the basis of these species, but the advisability of retaining it as distinct from § *Blepharoceras* should be considered. Apparently the reduced number of ovules in § *Chascanthus* is the most obvious separating basic character, but it is possible that fruiting characters of consequence will be recognized. I refer here a single Samoan species, which superficially suggests § *Blepharoceras*.

24. Elaeocarpus (§ *Chascanthus*) tuasivicus Christophersen in Bishop Mus. Bull. 128: 137. *fig. 18.* 1935.

Tree, up to 12 m. high, the young parts sericeous with golden hairs 0.3–0.5 mm. long, the branchlets obtusely angled distally and there 2–4 mm. in diameter, minutely strigose-puberulent, soon glabrate; leaves abundant, closely spaced along branchlets toward apices, the petioles flattened or broadly canaliculate, drying rugulose, 10–25 mm. long, strigose like young branchlets, glabrate; leaf-blades subcoriaceous to chartaceous, drying brownish, lanceolate to oblanceolate, (4–) 7–13.5 cm. long, (1.5–) 2–4.5 cm. broad, attenuate at base and long-decurrent on the petiole, obtuse or obtusely cuspidate at apex and sometimes faintly emarginate, slightly recurved at margin and undulate-crenulate (crenations about 1 per centimeter, rounded), glabrous on both sides or very sparsely strigose beneath when young, the costa elevated and rounded above, prominent beneath, the secondary nerves 6–10 per side, spreading, curved, anastomosing toward margin, prominulous above, conspicuously raised beneath, the veinlet-reticulation intricate, prominulous on both sides or immersed above; racemes axillary or lateral below leaves, the peduncles 2–3 cm. long, forming with the rachis a slender axis 4–8 cm. long and 5–10-flowered, this puberulent or tomentellous with golden hairs 0.1–0.2 mm. long, at length subglabrate, the flower-subtending bracts oblong-lanceolate, 1.5–3 mm. long, strigose on both sides, soon caducous, the pedicels

8–15 mm. long at anthesis, pilose like rachis; sepals 5, thin-carnose, lanceolate, 6.5–7.5 mm. long, 1.7–2 mm. broad, subacute, pilose on both sides like pedicel and carinate within; petals 5, thin-carnose, thickened toward base, obovate-cuneate, 9–10.5 mm. long, 4.5–6 mm. broad, glabrous on both sides, conspicuously fimbriate at apex, the lobes 14–18, lanceolate, subequal, 4–5 mm. long, acute, usually 1-nerved; disk carnose, 0.7–0.8 mm. high, 5-lobed, the lobes confluent, inconspicuously dorsally sulcate, sericeous-hispidulous with golden hairs 0.2–0.4 mm. long; stamens 18–22, 1- or 2-seriate, 4.5–5 mm. long, the filaments terete, 1.5–2.2 mm. long, glabrous, narrowed distally, the anthers 2.5–3 mm. long, minutely hispidulous, the dorsal awn subulate, 0.5–0.8 mm. long, the ventral apex acute; ovary ellipsoid-ovoid, copiously sericeous with golden hairs 0.2–0.3 mm. long, the style terete, 2.2–2.5 mm. long, sericeous in lower half, glabrous distally, the ovary-wall thick, the locules 2, each with 2 collateral ovules.

TYPE LOCALITY: Above Letui, Savaii, Samoa; type, *Christophersen* 776, cited below.

DISTRIBUTION: Samoa, apparently limited to the main mountain range of Savaii (hence the specific epithet) at an elevation of 1,350–1,700 m., occurring as a shrub or tree 3–12 m. high, in wet or low forest or in open scrub forest.

SAMOA: SAVAII: Above Letui, *Christophersen* 776 (Bish TYPE, US); on rim of Papafu Crater, *Christophersen* 2723 (Bish, K); above Salailua, *Christophersen* 3115 (A, Bish, US); on crater rim above Aopo, *Christophersen* 3458 (Bish, K, NY, US).

This apparently very limited endemic is a sharply marked species, without close allies in Samoa or the adjacent archipelagos. Its closest relative may be *E. salomonensis* Knuth (in Rep. Sp. Nov. 50: 87. 1941; syn.: *E. solomonensis* A. C. Sm. in Journ. Arb. Arb. 25: 225. 1944). However, the species of the Solomon Islands has the racemes 15–30 cm. long, the petals with 60–90 laciniae arranged in 5 or 6 primary lobes, 30–35 stamens, and a 3-loculed ovary, as well as acuminate and closely crenate-serrate leaf-blades. The basic features of the Samoan plant seem to indicate its position in Schlechter's § *Chascanthus*, the ovary-locules being clearly biovulate; however, since this feature may not be readily observed, I have also keyed the plant in § *Blepharoceras*, although it certainly has no close relatives in that section.

7. § COILOPETALUM

Elaeocarpus § Coilopetalum Schlechter in Bot. Jahrb. 54: 134. 1916.

This section contains at least 28 species in New Guinea and 1 in the Solomon Islands; in the Pacific it extends eastward to the Cook Islands, being represented in our region by a species common to

Samoa, Tonga, and Niue; its occurrence in the New Hebrides is also indicated by a fragment which apparently represents an undescribed species. The basic characters of § *Coilopetalum* seem adequately to characterize it; the flowers are comparatively small, the petals resembling the sepals in size and texture and often conspicuously retrorse-sericeous within, the ovary is 2–4-locular, the ovules numerous, and the fruits small, the scarcely ornamented pyrene being nearly round in cross section. It appears to me a fairly sound section (for discussion see Smith, 1944, p. 259). Merrill (1951, p. 173) implies that it is not readily separable from § *Monocera*, although elsewhere in the same paper (1951, p. 192) he accepts it as distinct. The very characteristic fruits, to say nothing of the different floral features, seem to forbid the reduction of § *Coilopetalum* to § *Monocera*.

25. **Elaeocarpus** (§ *Coilopetalum*) **tonganus** Burkill in Journ. Linn. Soc. Bot. **35**: 29. 1901.

Elaeocarpus samoensis Lauterb. in Bot. Jahrb. **41**: 230. 1908; Christophersen in Bishop Mus. Bull. **128**: 136. 1935; Yuncker in Bishop Mus. Bull. **178**: 80. 1943.

Tree, up to 15 m. high, glabrous throughout except inflorescences, the young parts apparently viscid when fresh, the branchlets subterete, often striate-rugulose and cicatricose, 2–4 mm. in diameter toward apices; leaves closely spaced along distal parts of branchlets or congested, the petioles slender, shallowly canaliculate, slightly swollen at base and apex, 1.5–4.5 cm. long, the blades chartaceous or thin-coriaceous, drying olivaceous, ovate to elliptic, (5–) 6–13.5 cm. long, 2.5–6 cm. broad, broadly obtuse or rarely rounded at base, obtusely cuspidate at apex (acumen less than 1 cm. long), shallowly crenulate at margin (crenations 0.5–2 cm. apart, obscurely callose-spinulose and soon rounded), the costa nearly plane or rounded above, prominent beneath, the secondary nerves 5–8 per side, spreading, slightly curved, irregularly anastomosing, prominulous or nearly plane above, sharply elevated beneath and usually with obvious axillary domatia, the veinlet-reticulation prominulous on both sides or nearly plane above; racemes axillary or arising below leaves, the peduncles 2–4 cm. long, soon glabrate, forming with the rachis a slender axis 5–13 cm. long and 5–25-flowered, the rachis and pedicels sericeous-puberulent with silvery-gray hairs 0.1–0.3 mm. long, the flower-subtending bracts oblong-lanceolate, 2–3 mm. long, sericeous, caducous before anthesis, the pedicels slender, curved, 7–15 mm. long at anthesis; sepals 5, thin-carnose, lanceolate, 6.5–9 mm. long, 1.5–2.3 mm. broad, acute, copiously pilose without like pedicel, conspicuously carinate and glabrous within; petals 5, thin-carnose, oblong, 6.5–8.3 mm. long, 1.5–3 mm. broad, conspicuously carinate within toward base, very densely sericeous on both sides (hairs without ascending, 0.3–0.7

mm. long, within retrorse, 0.5–1 mm. long), fimbriate at apex, the laciniae 6–11, subequal, lanceolate, subacute, 1–1.5 mm. long; disk carnose, 0.4–0.6 mm. high, deeply 5-lobed, the lobes confluent, bilobed, strongly projecting, hispidulous distally with hairs 0.1–0.3 mm. long; stamens 31–52, 2- or 3-seriate, 3.5–5 mm. long, the filaments slender, terete, 0.8–2.2 mm. long, copiously hispidulous with subascending hairs 0.1–0.3 mm. long, the anthers 2.5–3.3 mm. long, minutely tuberculate-hispidulous, the dorsal awn subulate, 0.5–0.9 mm. long, the ventral apex rounded; ovary ovoid, glabrous, the style slender, 2.5–3.3 mm. long, inconspicuously 3- or 4-angled, the ovary-wall thick, the locules 3 or 4, each with 6–8 biseriate ovules; infructescence slightly thickening but not elongating, the rachis and pedicels often pilose but at length glabrate, the disk persistent and obvious; fruits ellipsoid, coriaceous and rugose when dried, up to 18 mm. long and 12 mm. broad, obtuse or rounded at both ends, the epicarp thin, hard, less than 0.05 mm. thick, the mesocarp coarsely granular, 1–1.5 mm. thick, the endocarp very hard and bony, 1–2 mm. thick, forming an ellipsoid putamen, this coarsely and irregularly rugulose without, smooth within, inconspicuously 3- or 4-angled, the angles obtuse, shallowly sulcate, the seed ellipsoid, acute at both ends, occupying the entire cavity.

TYPE LOCALITY: Vavau Island, Tonga; the type, *Crosby* 15, is cited below. Isotypes of *E. samoensis*, *Vaupel* 390, are also cited.

DISTRIBUTION: Samoa, Tonga, and Niue, but known from very few islands. It occurs at elevations close to sea level in Tonga and on Niue, but in Samoa is reported from 300–750 m. The species has been noted as a tree 4–15 m. high, growing in various types of forest, thickets, woodland, and on dry ridges; the fruits are blue or brownish purple, often glaucous.

LOCAL NAMES AND USES: In Samoa: *A omatie* (name from a Kraemer specimen cited by Lauterbach). In Tonga: *Masi* (ex MacDaniels). On Niue: *Malalava, mamalava* (ex Yuncker, who notes that the wood is used for timbers in house construction).

SAMOA: SAVAII: Olonono, *Vaupel* 390 (type coll. of *E. samoensis*, Bish, K, NY, US); near Olo, above Safotu, *Christophersen & Hume* 2325 (Bish), 2526 (A, Bish, K, NY, US); above Sili, *Christophersen* 3222 (Bish, K, NY, US). UPOLU: Above Malololelei, ridge to Mt. Vaitou, *Christophersen* 263 (Bish, NY).

TONGA: VAVAU: *Crosby* 15 (K TYPE); east of Neiafu, *MacDaniels* 1101 (Bish).

NIUE: *Jensen* 1 (BM); south of Alofi, *Yuncker* 9612 (Bish, US), 9898 (A, Bish), [9870 also cited by Yuncker, not seen].

The above reduction of *E. samoensis* to *E. tonganus*, not previously suggested, is made only after very detailed study of the cited specimens, including type material of both names. In foliage the material from Tonga and Niue is essentially identical with that from Samoa.

In flower, the Tonga-Niue specimens have slightly the larger sepals and petals, the latter tending to have the more numerous apical laciniae, more numerous stamens (41–52 as opposed to 31–41), and slightly longer filaments. These are the only differences I can note, and they are so inconsequential that it seems inadvisable to retain *E. samoensis* even as an infraspecific taxon.

Elaeocarpus tonganus is probably most closely allied to *E. rarotongensis* Hemsl. (1896), which unfortunately is not adequately described, although points of the original description show beyond doubt that the species also belongs to § *Coilopetalum*. On the basis of specimens of *E. rarotongensis*, from the Cook Islands, now available (*Parks* 22040 and 22517), the species has longer petioles and larger leaf-blades, with more numerous secondaries, than *E. tonganus*, although such differences are not absolute. The disk, in fruiting condition, in *E. rarotongensis* has 10 conspicuous and acute costae, whereas in *E. tonganus* the disk is composed of 10 rounded and projecting lobes. I think that the two taxa will prove amply distinct when the Rarotonga plant is fully known.

Elaeocarpus floridanus Hemsl. (1896), of the Solomon Islands, is also of this general relationship; as compared with *E. tonganus* it has its leaf-blades proportionately somewhat longer and more obviously crenulate, while its disk in fruit is of the type discussed above for *E. rarotongensis*. It is evident that the species of § *Coilopetalum* in the area from the Solomons to the Cook Islands are very closely related, and the absence of this complex from Fiji, on the basis of present collections, is puzzling.

Elaeocarpus sp.

NEW HEBRIDES: ANEITYUM: Anelgauhat Bay, *Kajewski* 938 (A, US) (common tree, up to 15 m. high, in rain-forest at about 300 m. alt.).

The cited specimen appears to represent an undescribed species, but the material is inadequate for description. The leaves have petioles 1.5–3 cm. long and lanceolate subentire blades up to 15×6 cm. The infructescence is not more than 2 cm. long, and detached fruits are ellipsoid, about 25×18 mm.

Another interesting specimen from the New Hebrides, without further locality, is a flowering fragment collected by R. E. Burton (A) on Sept. 15, 1944. This specimen, consisting of a single leaf and a detached inflorescence in full anthesis, definitely represents an undescribed species of § *Coilopetalum*. The leaf is remarkably similar to that of *Kajewski* 938, but the inflorescence is about 8.5 cm. long, and the disk is of a different type; the fruit accompanying the Kajewski specimen does not necessarily represent § *Coilopetalum*.

These two specimens are discussed because they clearly indicate that at least one undescribed species of *Elaeocarpus* occurs in the New Hebrides and awaits description.

BIBLIOGRAPHY

GUILLAUMIN, A.
1948. Flore analytique et synoptique de la Nouvelle-Calédonie. Phanerogames. Paris.

MERRILL, E. D.
1945. Plant life of the Pacific world. i-xv, 1–295. New York.
1951. Notes on *Elaeocarpus* Linnaeus. Journ. Arn. Arb. 32: 157–200.

SCHLECHTER, R.
1916. Die Elaeocarpaceen Papuasiens. Bot. Jahrb. 54: 92–155. *fig. 1–9.*

SMITH, A. C.
1944. Studies of Papuasian plants, VI. Elaeocarpaceae. Journ. Arn. Arb. 25: 104–121, 222–298.

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