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New and Critical Plants from Raiatea *

By

JOHN WILLIAM MOORE

INTRODUCTION

The purpose of this paper is to present diagnoses of new species of Pteridophytes and Spermatophytes collected on the island of Raiatea in 1926-1927, together with a critical study of several Polynesian species concerning which there has existed considerable taxonomic and nomenclatural confusion.

Raiatea, a member of the leeward French Society Islands, is situated at latitude 18° S. and longitude 150° 35' W. The island lies approximately 6083 kilometers (3780 miles) southwest of San Francisco, 3613 kilometers (2245 miles) northeast of Wellington, New Zealand, and 3878 kilometers (2410 miles) south-southwest of Honolulu.

The island is volcanic in origin and lies within a barrier reef which also encloses another small island called Tahaa. The axis of the two islands is south-southeast by north-northwest.

Raiatea is 19.3 kilometers (12 miles) long and roughly triangular in shape. The island measures 11.2 kilometers (7 miles) in width at the south end and narrows to 4.8 kilometers (3 miles) at the northern extremity. The coastline is 145 kilometers (90 miles) in length and irregular with many bays and small inlets. The highest elevation of the island is attained in Mount Tamaru, approximately 1033 meters (3389 feet) in altitude.

Previous plant collections on Raiatea have been very few. Sir Joseph Banks, while accompanying Captain Cook on his first voyage around the world (1768-1771), collected a few specimens. At the same time Nelson collected *Asplenium laserpitiiifolium* Lamarck. George Bennet (1821-1829) collected *Davallia solida* Swartz. Vesco (1847), Nadeaud (1856-1859), and Savatier (1877) collected specimens of a monotypic genus of the family Campanulaceae, *Apetahia raiateensis* H. E. Baillon. Finally in 1921 Forest B. H. Brown collected a few specimens of plants on the island.

With the exception of the scanty knowledge obtained from these meager collections and sporadic visits to its shores, Raiatea was therefore virtually a *terra incognita* so far as its plant life was concerned when in 1926 the oppor-

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tunity came to me to undertake a complete botanical survey of the island. The expedition was made possible by grant of a Bishop Museum Fellowship from Yale University, and the field work was carried on from September 15, 1926, to June 16, 1927. During this time trips were made to all parts of the island to procure representative collections of the major plant groups, algae, fungi, lichens, liverworts, mosses, ferns, fern allies, and flowering plants. Of these, the ferns, fern allies, and flowering plants constitute the most extensive series and are the groups whose taxonomy I have undertaken. A complete report on these groups is in preparation. Descriptions of the mosses collected have been published by Bartram (1).†

During my stay in Raiatea I received the kind coöperation and numerous courtesies of many residents without whose aid ever-present difficulties could not have been surmounted. I am deeply appreciative of the award of the Bishop Museum Fellowship and grants from Bernice P. Bishop Museum which permitted me to visit herbaria. To the committee of the faculty of the University of Minnesota I am thankful for the award of the Shevlin Fellowship for one year.

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The type specimens of the new species here described will be deposited in the herbarium of Bernice P. Bishop Museum.

† Numbers in parenthesis refer to Bibliography, p. 49.

PTERIDOPHYTA

HYMENOPHYLLACEAE

Hymenophyllum productoides, species nova.

Rhizoma repens nudum, folia ovato-oblonga glabra valde viridia 10-18 cm. longa 4-6 cm. lata, petiolus 3-4 cm. longus $\frac{1}{2}$ mm. crassus nitidus valde fuscus, praeter $\frac{1}{2}$ -1 cm. imum alis crispatis sursum ad 1 mm. latis instructus, rachis similiter alata segmentis crispatis 3 mm. altis in axillis pinnarum instructa, pinnae ad 13 utrinque alternae in lacinias secundarias 1-3 dichotomas pinnatisectae laciniae ultimae oblongo-lineares planae integrae falcatae 2 mm. latae emarginatae, septa cellularum marginalium prominentiis interioribus carentia, sori plures ad laciniarum apices gesti ex lamina liberi, indusium elongato-deltoideum acutiusculum in valvas duas omnino divisum $2\frac{1}{2}$ mm. longum integrum, sporangia plus minusve $445 \times 363 \mu$, sporae circa $46 \times 46 \mu$.

Field number 660, March 5, 1927, altitude 300 meters; on moss-covered branches of trees, ridge, south end of Opoa Mountain. Endemic.

A close relative of *Hymenophyllum productum* Kunze, of Java, this Raiatean plant differs in the following respects: tips of the indusium not toothed, tissue filling in the angles made by the primary branches of the frond more abundant, wing of the stipe and rachis crisped, not plane, veins of the ultimate segments with more numerous cells and smaller lumens.

Hymenophyllum epiphyticum, species nova.

Rhizoma repens pilis sparsissimis fuscis instructum, folia ovato-lanceolata 2-3-pinnatisecta glabra pallentia siccata subfusca 6-14 cm. longa $2-3\frac{1}{2}$ cm. lata, petiolus $1-2\frac{1}{2}$ cm. longus $\frac{3}{10}$ mm. crassus nitidus fuscus omnio alatus ad imum, rachis alis planis $\frac{1}{2}$ mm. latis instructa, pinnae ad 12 utrinque alternae circa in lacinias secundarias 1-2 dichotomas pinnatisectae, laciniae ultimae oblongo-lineares planae integrae patentibus plusculo 1 mm. latae apicibus rotundae vel leviter emarginatae, septa cellularum marginalium prominentiis depressis latis interne instructa, sori in apicibus laciniarum ultimarum immersi, indusium basi rotundum $1\frac{3}{4}$ mm. longum breviter bilobum lateribus anguste alatum, lobi indusiorum late cuneati, sporangia plus minusve $370 \mu \times 365 \mu$, sporae $60 \mu \times 48 \mu$.

Field number 550, January 20, 1927, altitude 400 meters; on moss-covered tree trunks, mountain, north side of Faaroa Bay. Endemic.

Hymenophyllum epiphyticum differs from *Hymenophyllum Blumeianum* Sprengel in having the hairs of the rhizome scattered, the wings of the stipe extending to the base, a slightly thicker stipe, shorter fronds, somewhat narrower terminal segments, and the base of the involucre manifestly rounded, instead of turbinate.

Trichomanes societense, nomen novum.

Hymenophyllum polyanthum Hooker: Nightingale, Oceanic Sketches, p. 132, 1835.

Trichomanes polyanthos Hooker: Icones plantarum, tab. 703, 1844; not Swartz: Prod., p. 137, 1788.

When originally described by Hooker in 1835, this species was referred to the genus *Hymenophyllum* with the specific name *polyanthum*. In 1844 Hooker published an illustration of the plant under the name *Trichomanes polyanthos*. The specific name *polyanthos* had already been used in this genus by Swartz in 1788. A new specific name must therefore be assigned to the plant.

CYATHEACEAE

***Hemitelia decurrens* (Hooker), combinatio nova.**

Alsophila decurrens Hooker: Species Filicum, vol. 1, p. 51, 1844.

The genera of Cyatheaceae (*Cyathea*, *Hemitelia* and *Alsophila*) are generally easily recognized. The species under consideration is a true *Hemitelia* and should be called *Hemitelia decurrens*.

***Hemitelia raiateensis*, species nova.**

Planta arborescens ad 5 m. alta, folia 3-pinnata ad 2 m. longa oblongo-lanceolata, petiolus rufo-fuscus inermis, rachides pinnarum primariarum et secundariarum pilis plurimis brevibus subalbis supra instructae, pinnae secundariae oblongo-lanceolatae ad 9 cm. longae 2 cm. latae supra abrupte contractae in caudas obtusas attenuatas crenato-dentatas 1-1¼ cm. longas 2-3 mm. latas, laciniae ultimae in textura crassae falcatae crenulatae ad 10 mm. longae 2½ mm. latae circa 1½ mm. remotae, binae ima praesertim lacinia postica manifeste contractae plerumque breve pedicellata, nervi simplices vel furcati, sori prope nervum medium, indusium fragile fuscum, cyathus incompletus ab nervo medio apertus, receptaculum sine pilis globosum vel subelongatum, sporangia circa 29.7 µ × 29.7 µ, sporae circa 130 µ × 264 µ.

Field number 137, September 25, 1926, altitude 360 meters; in creek bottom, among *Pandanus* trees, east path to Mt. Temehani. Endemic.

Hemitelia raiateensis differs from *Hemitelia tahitensis* (Brackenridge) Mettenius in having the pinnae of the second order conspicuously caudate, the ultimate segments more distantly placed and more prominently crenulate; the basal two ultimate segments, especially the posterior one, are conspicuously shortened and mostly short-stalked.

POLYPODIACEAE

***Acrophorus raiateensis*, species nova.**

Rhizoma 1 cm. crassum decumbens raduculis pluribus longis gracilibus instructum, folia 3-4-pinnato-pinnatifida ad 1 metrum alta, petiolus ad 50 cm. longus 5 mm. crassus nitidus ad basin fuscissimus supra stramineus elatis squamarum deciduarum basibus lunatis persistentibus notatus, paleae ad basin petioli ovato-lanceolatae membranaceae fuscae circa 12 mm. longae 5 mm. latae, lamina late deltoideo-ovata acuminata circa 60 cm. lata, rachis straminea et squamis plurimis minutissimis crispatis et squamis sparsis majoribus ad 1 mm. longis instructa, pinnae imae maximae pedicellis 5 mm. longis instructae circa 25 cm. longae 20 cm. latae falcatae ascendentes, pinnae secundariae ad 10 cm. longae 3½ cm. latae oblongo-lanceolatae moliter attenuatae in apicem pinnatisectam, laciniae ultimae circa 6 mm. longae 3 mm. latae lobis oblongis vel ovato-oblongis ad apicem rotundatis vel leviter emarginatis incisae utrinque crispato-squamosae praesertim in nervis liberis simplicibus vel 1-2-furcatis in singulo lobo, sori majores in venulis

apicales vel subapicales, indusia squamiformia marginibus fimbriatis vel interdum 2-3-lobis elongatis fimbriatis profunde incisa, sporangia $264 \times 264 \mu$ et pedicellis et corporibus pilis cephaloideis instructa his unicellularibus illis plerumque bicellularibus, sporae $20 \times 45 \mu$ ad $26 \times 40 \mu$.

Field number 738, April 15, 1927, altitude 700 meters; in shady, moist gully, south end of Temehani Range. Endemic.

Acrophorus raiateensis differs from *Acrophorus nodosus* (Blume) Presl in having more slender, distantly placed pinnules, smaller scales at the base of the pinnae, fimbriate or dissected indusia, and larger scales on the rhizome and stipes.

Dryopteris nuna, species nova.

Rhizoma repens subpilosum ad 10 mm. crassum squamis latis membranaceis nitidis fuscis circa 5 mm. longis instructum, folia lanceolata herbacea ad 2 m. longa 35 cm. lata pinnato-pinnatisecta ad apicem in caudam circa 2 cm. longam attenuata, petiolus 5-6 cm. longus, squamis similibus eis rhizomatis instructus, septa cellularum squamarum tenuiora fusca, rachis glabrata straminea nitida, pinnae ad pares 40 ad basis fere truncatae sessiles in costis supra pilis plurimis longis stramineis instructae, pinnae imae ad auriculas minimas minutae, pinnae mediae falcatae ascendentes ad 25 cm. longae $3\frac{1}{2}$ cm. latae laciniis 4 mm. latis, pinnae superiores magnitudine moliter minutae, lobus imus anterior pinnarum inferiorum majorum aliquarum ad $2\frac{1}{2}$ cm. longus $1\frac{3}{4}$ cm. latus dilatatus 1-pinnatisectus, nervi omnes liberi pinnati circa 12 pares in laciniis ultimis, lacinae ultimae in marginibus ciliatae et supra et infra in venulis pilis paucis dispersis longis rigidis stramineis instructae, sori prope intermedii inter costam et marginem, indusium bene manifestum reniforme in margine et dorso pilis brevibus unicellularibus cephaloideis instructum, sporae $36.3 \times 21.4 \mu$ fusci exsporio bene manifestato instructi.

Field number 743, April 15, 1927, altitude 700 meters; in wet clay soil, west facing slope, south end of Temehani Range. Endemic.

Dryopteris nuna differs from *Dryopteris Grantii* Copeland in having broader, more closely placed pinnules, a much narrower, acute sinus, a persistent indusium, and broader, thinner paleae on the stipes and rhizome. The paleae differ also from those of the latter species in the shape and size of their cells.

The native name in Raiatea is *nuna*.

Tectaria hymenodes (Mettenius), combinatio nova.

Aspidium hymenodes Mettenius ex Kuhn in Linnaea, vol. 36, p. 123, 1869.

This species was first described as *Aspidium hymenodes* by Kuhn, who attributed the name to Mettenius. The species is a *Tectaria* and not an *Aspidium* and must therefore be transferred to the former genus.

Lindsaya societatis, species nova.

Rhizoma longum repens squamosum circa $2\frac{1}{2}$ mm. crassum, squamae membranaceae nitidae aurato-fuscae anguste lanceolatae subcontortae apicibus filiformibus instructae, folia 1-pinnata ad 55 cm. longa $3\frac{1}{2}$ cm. lata, petioli distantes straminii infra subpaleacei circa $2\frac{1}{2}$ cm. longi, laminae linearo-lanceolatae et ad apices et ad basis attenuatae supra in caudas lobatas graciles 1-2 cm. longas, pinnae imae circa 5 mm. longae subprofunde digitate incisae, pinnae utrinque parce glanduloso-pilosae 60-65 altero

latere racheis parce glanduloso-pilosae 3-4 mm. distantes stipitatae, pinnae mediae dimidiatae ad 17 mm. longae 6-8 mm. latae, pars quarta inferior marginis anterioris truncata rachi parallela, hujus reliquae prope rectae subprofundae lobatae rachi normalis, margo posterior integra leviter curvata tertiis inferioribus costa arcuata fictis reliquiis lamina angusta $\frac{3}{4}$ mm. lata instructis, nervi liberi vel (quum sori coalescunt) summitatibus adjunctis 1-2 furcatae vel simplices, sori plurimi intramarginales liberi vel soris duobus vicinis adjuncti, indusium minimum reniforme liberum et de margine lobi remotum, sporangia $151 \times 127 \mu$, sporae $29.7 \times 23 \mu$.

Field number 515, January 11, 1927, altitude 300 meters; climbing on *Pandanus* trees, Avera Valley. Endemic.

Lindsaya societatis differs from *Lindsaya Macraeana* (Hooker and Arnot) Copeland in having more attenuated fronds, more deeply lobed and generally upward curved pinnae, and very different paleae on the stipes and rhizome, and from *Lindsaya repens* (Thwaites) Beddome in having more attenuated fronds, the distal end of the costa more remote from the margin, the pinnae gradually reduced from the middle toward both ends and arched upward, not downward.

***Lindsaya propinqua* Hooker varietas simplicior, varietas nova.**

Speciei similis sed omnibus partibus minor ac frondibus 1-pinnatis.

Field number 182, October 7, 1926, altitude 400 meters; on wet clay soil under *pandanus* trees, Mt. Temehani. Endemic.

With the characters of the species but smaller in all its parts; the fronds only 1-pinnate; rhizome about $1\frac{1}{2}$ mm. in diameter; stipe up to 12 cm. long, 1 mm. in diameter; blade up to 15 cm. long; pinnae up to 1 cm. long, 6 mm. wide, and only shallowly crenate-lobed on the upper edge.

***Lindsaya raiateensis*, species nova**

Rhizoma repens squamosum circa 3 mm. crassum, squamae dispersae crassae fuscissimae lanceolatae circa 1 mm. longae, folia ad 70 cm. longa 21 cm. lata laciniis terminalibus elongatis singulis instructa, petioli quadrati ad 30 cm. longi 4 mm. crassi squamosi infra breviter glanduloso-pilosi supra sparse glanduloso-pilosi pilis obscuris ut etiam sunt raches et utrinque pinnae secundariae, laminae 2-pinnatae ovato-oblongae pinnae primariae ad 8 pares oblong-lanceolatae circa 12 cm. longae 22 mm. latae ad apices lobatos sensim attenuatae, pinnae secundariae membranaceae dimidiatae oblongae in apice late rotundatae breviter stipitatae 10-11 mm. longae 4 mm. latae distantes circa 2-3 mm., nervi seriebus areolarum duabus ficti, margo anterior inferior angulo depresso acuto rachi ficta hac superior tenuiter incisa, dimidium marginis posterioris inferius costa formatum reliquiae hujus marginis lamina angusta $\frac{1}{2}$ - $\frac{3}{4}$ mm. lata instructae, pinnae secundariae imae 1-2 anteriores contractae, sori marginales plerumque circa 5 in quaque pinna quorum 1 apicalis est, indusium margini prope par sporangia $177 \times 152 \mu$, sporae $33 \times 30 \mu$.

Field number 541, January 15, 1927, altitude 300 meters; in moist, red, clay soil, upper end of fourth valley south of Uturoa. Endemic.

Lindsaya raiateensis differs from *Lindsaya decomposita* Willdenow in having nearly horizontal, subopposite pinnae, a different venation and distinct sori.

***Blechnum raiateense*, species nova.**

Rhizoma ad 8 mm. crassum repens squamosum et vetis stipitum basibus vestitum, squami linearo-lanceolati acuminati contorti fuscissimi nitidi ad 7 mm. longi 1 mm. lati, folia biformia ad 75 cm. longa, petioli foliorum sterilium ad 5 cm. longi 4 mm. crassi, laminae ad 16 cm. latae 1-pinnatae, summitate pinnatifida, lacinia apicali caudam serrulata ad 3 cm. longam faciente, pinnae lineares singulatim minutatimque serrulatae rachi adnatae contiguae vel ad basin subimbricatae ad $8\frac{1}{2}$ cm. longae 17 mm. latae propter apicem abrupte contractae in caudam sursum curvatam serrulata 1 cm. longam, nervi simplices vel 1-furcati nonnihil irregulatim distantes, folia fertilia sterilibus superantia, petioli 15 cm. longi, laminae laciniis angustibus liniaribus acuminatis ad 15 cm. longis $2\frac{1}{2}$ mm. latis rachi adnatis et decurrentibus incisae, laciniis imis ad auriculas minimas steriles minutis, sori continui, indusium angustum serrulatum, sporangia $462 \times 346.5 \mu$, sporaes leves $46.2 \times 33 \mu$.

Field number 514, January 11, 1927, altitude 300 meters; in wet, clay soil, in *Pandanus* grove, Avera Valley. Endemic.

Blechnum raiateense constitutes a very distinct species. The fronds are spirally arranged at the ascending end of the stout rhizome and give the plant a basket-like appearance. *Blechnum raiateense* differs from *Blechnum attenuatum* (Swartz) Mettenius in having the reduced pinnae of the sterile fronds extending much farther down on the stipes, the sterile pinnae shorter and more closely placed, and the fertile pinnae narrower and provided with narrower indusia.

***Cheilanthes Arnottiana*, nomen novum.**

Notholaena pilosa Hooker and Arnott: Bot. Beechey's Voy., p. 74, 1832.

Not *Cheilanthes pilosa* Goldmann: Nova Acta, vol. 19, suppl. 1, p. 455, 1843.

This fern from the Society Islands was named *Notholaena pilosa* by Hooker and Arnott. Although the plant is somewhat intermediate in character between *Notholaena* and *Cheilanthes*, it seems to be closer to the latter generic type, and as Copeland indicates, is very closely related to *Cheilanthes tenuifolia* (Burmenn) Swartz. Drake and Copeland have united the Society Islands fern with the Asiatic *Notholaena hirsuta* (Lamarck) Desvaux, which appears to be a true *Notholaena* and sufficiently distinct from the plant now under discussion. In transferring Hooker and Arnott's plant to *Cheilanthes*, their original specific name becomes unavailable, as it is preoccupied by *Cheilanthes pilosa* of Goldmann, a South American fern.

***Polypodium societense*, nomen novum.**

Polypodium expansum Baker: Jour. Bot., vol. 14, p. 12, 1876; not Poiret: Enc., vol. 5, p. 523, 1804.

Drynaria sylvatica Brackenridge: U. S. Expl. Exped., Bot., vol. 16, p. 343, 1854; not *Polypodium sylvaticum* Schkuhr: Kr. Gew., vol. 1, tab. 8b, p. 22, 1806.

This species was first described from Savaii, Samoa, by Brackenridge and was called *Drynaria (acuminata by error) sylvatica* (as given in the corrections in volume 16). The species is a true *Polypodium*, but the specific name *sylvaticum* cannot be used because there already exists a *Polypodium sylvaticum* of Schkuhr. In 1876 Baker named the species *Polypodium expansum*, but this name, too, was already preempted, having previously been applied by Poiret to another *Polypodium*. Therefore a new name must be assigned to the species.

The native name in Raiatea is *mairé*.

***Polypodium marginelloides*, species nova.**

Rhizoma breve repens vel suberectum radicibus plurimis gracilibus squamisque nitidis rufo-fuscis vestitum, squami ad 8 mm. longi $\frac{3}{4}$ mm. lati ex basi ad apicem apiculatum sensim attenuatae, folia ad 15 cm. longa 7 mm. lata simplicia (raro furcata) sessilia linearo-lanceolata, super medium latissima hinc ad basin sensim attenuata et super partem soros ferentem angustata in apicalem laciniam sterilem obtusam 2-2½ cm. longam, margines foliorum crassatae rufo-fuscissimae pilis brevibus furcatis glandulosis instructae (ut etiam sunt costae infra) nervi sursum arcuati simplices vel interdum furcati plerumque prope suas extremas apicales interdum apicibus nervorum proximorum adjunctis, sori in parti tertia foliae superiore infra partem contractam apicalem et prope costam sublatis elliptici circa 1 mm. lati, sori juniores distincti seniores confluentes, sporangia sine appendicibus $207 \times 199 \mu$, sporae rugosae $26 \times 26 \mu$.

Field number 108, September 21, 1926, altitude 470 meters; on moss-covered *Pandanus* branches, Temehani Plain. Endemic.

Polypodium marginelloides differs from *Polypodium marginellum* Swartz in having caudate, sterile tipped fronds, shorter stipes, more numerous, closely placed, and less branched veins, inconspicuous cilia on the margins, and larger paleae. From *Polypodium Hessii* Maxon it differs in having upwardly arched veins, a more attenuated sterile tip, and different paleae.

***Polypodium raiateense*, species nova.**

Rhizoma breve repens vel suberectum squamosum, squami ovato-lanceolati vel lanceolati acuminati integri stramineo-fusci nitidi translucidi ad 3 mm. longi, folia 3-5 cm. longa, petioli 1-2 mm. longi circa $\frac{1}{2}$ mm. crassi fuscissimi pilis setaceis rufo-fuscis circa 1 mm. longis instructi, laminae 3½-5 mm. latae simplices (raro furcatae) prope lineares integrae subcoriaceae quam juvenales tandem coriaceae marginibus ciliatae atque et supra et infra praesertim in costis pilis rufo-fuscis pubescentes, abrupte attenuatae 3-5 mm. infra apicem in summitatem obtusam vel acutam ad basin sensim attenuatae in petiolum, nervi plurimes proximi simplices vel medie inter costam et marginem 1-furcati obscuri in foliis vetis sed in foliis juvenibus sat evidentes luce transmissa, sori contigui prope costam ovati confluentes senectute, sporangia cum vel sine appendicibus spinosis $280 \times 255 \mu$, sporae $51 \times 46 \mu$.

Field number 183, October 7, 1926, altitude 400 meters; on moist rocks along stream, Mt. Temehani. Endemic.

Polypodium raiateense differs from *Polypodium ligulatum* Baker in having shorter fronds which are rather conspicuously broadened in the fertile apical portion and more or less hairy on both surfaces. The forked veins are fewer and the sori are contiguous instead of distant.

***Polypodium raiateense* John W. Moore varietas temehaniense varietas nova.**

Speciei similis magnitudine et forma sed debus sequentibus differt: petiolus et lamina prope glabra, simplices nervi pauciores, nervi alii propius costae quam margini furcati, sporangia $248 \times 208 \mu$, spores $50 \times 46 \mu$.

Field number 104, September 21, 1926, altitude 470 meters; on moist rocks and *Pandanus* stems, swamp of Temehani Plain. Endemic.

This variety is similar to the species in size and shape of fronds but differs in having the stipe and blade nearly glabrous, simple veins fewer, forked veins divided nearer the midrib than the margins, sporangia $248 \times 208 \mu$, spores $50 \times 46 \mu$.

***Polypodium minutissimum*, species nova.**

Rhizoma breve repens vel suberectum squamosum, squami ad 2 mm. longi fusci lanceolati integri summatibus spiniferi folia petiolata ad 23 mm. longa, petioli ad 5 mm. longi circa $\frac{1}{2}$ mm. lati pilis simplicibus vel compositis et alis decurrentibus ad basis instructi, lamina ad 3 mm. lata pilis spinosis circa $\frac{1}{2}$ mm. longis instructa, in dimidio superiore soros ferens profunde 1-pinnatissecta rachi angustissime alatae in laciniis aequales oblongas ad $1\frac{1}{2}$ mm. longas $1\frac{1}{3}$ mm. latas apicibus rotundatas vel obtusas, margo anterior laciniarum rachi prope normalis margo posterior deorsum obliquus et in angulo acuto cum rache composita nervi singuli in laciniis singulis simplices clavati ad $\frac{2}{3}$ longitudinis laciniarum excurrentes, sori in nervis mediales, sporangia sine appendicibus $166 \times 144 \mu$, spores $33 \times 33 \mu$ — $56 \times 56 \mu$.

Field number 187, October 7, 1926, altitude 400 meters; in holes in rock, east facing slope, Mt. Temehani. Endemic.

Polypodium minutissimum differs from *Polypodium decorum* Brackenridge in having smaller fronds, with shorter pinnae, the lower pinnae but little reduced, and different paleae.

***Scleroglossum mauruense* (Nadeaud), combinatio nova.**

Taeniopsis mauruensis Nadeaud: Jour. de Bot., vol. 13, p. 8, 1899.

Vittaria mauruensis (Nadeaud) C. Christensen: Index Filicum, p. 654, 1906.

This species was first named *Taeniopsis mauruensis* by Nadeaud. Christensen transferred it to the genus *Vittaria* but later decided to combine it with *Scleroglossum sulcatum* (Kuhn) van Alderwerelt van Rosenburgh, a distinct Ceylon species. *Scleroglossum mauruense* differs from *Scleroglossum sulcatum* in having somewhat wider fronds with acute, not thick, margins, the lower surface of the frond forming a straight line, the midvein thickened. The base of the grooves is situated at a greater distance from the midrib.

Elaphoglossum societarum Copeland: B. P. Bishop Mus., Bull. 93, p. 12, 1932, varietas minus, varietas nova.

Rhizoma breve repens sparse squamosum radicibus plurimis filiformibus instructum, squami ad $1\frac{3}{4}$ mm. longi anguste lanceolati acuminati fuscissimi margine uncis brevibus retrorsis instructi, folia sterilia ad 9 cm. longa, petioli ad 5 cm. longi $\frac{3}{4}$ mm. crassi lineis crassis decurrentibus praeter 1 cm. imum instructi et per omnes partes longitudinis suae squamis fuscis angustissimis capillaceis ad 2 mm. longis instructi, laminae foliorum sterilium ad $4\frac{1}{2}$ cm. longae $1\frac{1}{2}$ cm. latae ovato-lanceolatae vel oblongo-lanceolatae apice obtusae ad basin cuneatae decurrentes squamis ferrugineis angustis longe attenuatis acuminatis et supra et infra instructae, nervi liberi simplices vel 1-2-furcati, laminae foliorum fertilium ad 16 mm. longae 9 mm. latae ovatae apice rotundatae ad basin late cuneatae squamis ferrugineis et in superficie supra et in costa infra instructae, sporangia $252 \times 211 \mu$, spora (cum exosporis) $55 \times 43 \mu$, corpora sporarum $40 \times 30 \mu$.

Field number 186, October 7, 1926, altitude 400 meters; in moist holes of rock, south facing slopes of Mt. Temehani. Endemic.

With the characters of the species except that it is smaller in all its parts and has obtuse instead of acuminate fronds.

LYCOPODIACEAE

Lycopodium raiateense, species nova.

Caules 2-3 mm. crassis per omnes partes breviter spinoso-setosis repentes interrupte radicati ramos erectos ad 30 cm. vel plures altos emittentes foliis nonnihil distantibus subverticillatis instructi, folia ad basin ramorum erectorum principalium ab caule arcuata vel reflexa, folia supra valde appressa ad 3 mm. longa circa $\frac{1}{2}$ mm. lata, rami primi pauci et distantes, rami superiores plurimi cristis flabellatis aggregati, folia ramorum breviorum saepe brevia decurrentia ab caule manifesto arcuata acuminata et apicibus inflexa spinoso-setosa in parte decurrente, strobili apicales praesertim erecti obtusi ad 8 mm. longi circa $2\frac{1}{2}$ mm. crassi, squami crassi ovato-lanceolati breve acuminati breve lacero-serrati $1\frac{1}{2}$ mm. longi $\frac{3}{4}$ mm. lati, spora $17 \times 17 \mu$.

Field number 480, January 1, 1927, altitude 460 meters; in wet, moss-covered clay soil, Mt. Temehani. Endemic.

Lycopodium raiateense differs from *Lycopodium cernuum* Linnaeus in having the distal branches numerous and aggregated into flabellate tufts, thicker, arcuate leaves and erect cones. The cone-scales are provided on the margin with very short, thick serratures.

Lycopodium societense, species nova.

Planta epiphytica pendula, caules ad 75 cm. longi ad basin ad $1\frac{1}{2}$ mm. crassi 1-6-furcati, folia ad basin caulis patentia ea ramorum superiorum ascendentia valde imbricata decurrentia linearia plana acuta remote serrulata subcoreacea ad $6\frac{1}{2}$ mm. longa circa 1 mm. lata, sporophylla plurima in ramis superioribus conferta ascendentia lanceolata serrulata circa 4 mm. longa circa $1\frac{3}{4}$ mm. lata ad basin, sporangium quam latitudo ima sporophylli angustus, spora $17 \times 17 \mu$.

Field number 686, March 24, 1927, altitude 800 meters; pendant from moss-covered trees on the west side of the highest mountain. Endemic.

Lycopodium societense differs from *Lycopodium Haeckelii* Herter in having broader shoots, longer, serrulate, thinner and non-carinate leaves.

SELAGINELLACEAE

***Selaginella societatis*, species nova.**

Caulis ascendens ad 30 cm. longus 1-1¼ mm. crassus distanter foliatus ad basin rhizophoris circa ¾ mm. crassis instructus supra pinnatim ramosus, suboles primariae (cum foliis) ad 7½ mm. latae foliis in parte inferiore subappressis in parte superiore ascendentibus, folia lateralialia subolium primariarum 3½-4 mm. longa 2¼ mm. lata 1-2 mm. distantia conspicue dimidiata margine inferiore parti ⅓ proximae recta hinc ad apicem obtusum abrupte rotundata hac superiore dentibus 7-50 μ longis instructa parti ½ proximae late rotundata supra recta, folia intermedia subolium primariarum 3 mm. longa 1½ mm. lata ad basin marginis inferioris auriculatissima ovato-lanceolata valide falcata dentibus 10-43 μ longis cuspidaque 495-726 μ longa instructa, rami primarii (cum foliis) ad 6 mm. lati 5-10 cm. longi 6-20 mm. distantes, folia lateralialia ramorum primariarum 3½ mm. longa 1½ mm. lata 1-1½ mm. distantia subdimidiata margine parti ⅓ proximae prope recta hinc ad apicem obtusum abrupte rotundata, hac superiore dentibus 3-30 μ longis instructa parti ⅓ proximae rotundata supra recta, folia intermedia ramorum primariarum 2 mm. longa ¾ mm. lata ad basin marginis inferioris auriculatissima ovato-lanceolata subfalcata dentibus 3-23 μ longis cuspidaque 396-495 μ longa instructa, ramuli (cum foliis) circa 8-15 mm. longi 3½-4 mm. lati circa ¾ mm. distantes, folia lateralialia ramulorum 2¼-2½ mm. longa 1 mm. lata ¼-½ mm. distantia subdimidiata margine inferiore parti ⅓ proximae recta supra ad apicem obtusum abrupte rotundata, hac superiore dentibus 7-26 μ longis instructa parti ⅓ proximae rotundata supra prope recta, folia intermedia ramulorum 1 mm. longa ½ mm. lata ad basin marginis inferioris auriculatissima ovato-lanceolata subfalcata dentibus 7-30 μ longis cuspidaque 314-363 μ longa instructa, strobili terminales quadrati 4-18 mm. longi 1-1½ mm. lati sporophylla 1 mm. longa ¾ mm. lata conspicue patentia ad apicem attenuata dentibus 7-23 μ longis et carina prominente instructa, macrospora 241-264 μ in diametro, exospora crasse reticulata altitudine striae altissimae 13-20 μ.

Field number 638, March 1, 1927, altitude 50 meters; on moist rocks below cliffs, first valley north of Fatuna. Endemic.

Selaginella societatis differs from *Selaginella Menziesii* Spring in having straight, not arcuate, and fewer branches. The lateral leaves are distant instead of contiguous. The strobili are somewhat more slender and the sporophylls not cuspidate.

***Selaginella temehaniensis*, species nova.**

Caulis ascendens ad 15 cm. longus ½ mm. crassus foliatus ad basin rhizophoris circa ¼ mm. crassis instructus, supra pinnatim sparse ramosus suboles primariae steriles (cum foliis) ad 4 mm. latae eae fertiles ad 3 mm. latae foliis in parte inferiore subappressis distantibus iis in parte superiore ascendentibus, folia lateralialia subolium primariarum ad 2¼ mm. longa 1 mm. lata manifesto dimidiata apice acuto margine inferiore rotundata et ad basin auriculata, margine superiore dentibus 10-63 μ longis instructa parte ½ proximae late rotundata supra recta, folia intermedia subolium primariarum 1¼ mm. longa ¾ mm. lata ad basin marginis inferioris conspicue auriculata late ovato-lanceolata subfalcata dentibus 10-55 μ longis cuspidaque 231-330 μ longa instructa, rami primarii steriles (cum foliis) ad 4 mm. lati rami fertiles ad 3 mm. lati 2-3 cm. longi circa 3-6 mm. distantes, folia lateralialia ramorum primariarum 1¾ mm. longa ¾ mm. lata subdimidiata contigua vel ¼ mm. distantia margine inferiore ad basin auriculata hinc parte ⅓ proximae recta supra ad apicem acutum vel obtusum abrupte rotundata hac superiore dentibus 7-53 μ longis instructa parte ½ proximae late rotundata supra recta, folia intermedia ramorum primariarum 1 mm. longa ½ mm. lata ad basin marginis inferioris conspicue auriculata ovato-lanceolata subfalcata dentibus 13-43 μ

longis cuspidaque 231-330 μ longa instructa, rami steriles (cum foliis) circa 4 mm. lati, ramuli strobiliferi (cum foliis) circa 3 mm. lati 1 cm. longi 2-5 mm. distantes, folia lateralialia ramulorum 1 mm. longa $\frac{1}{2}$ mm. lata contigua dimidiata margine inferiore parti $\frac{2}{3}$ proximae recta supra ad apicem acutum vel obtusum abrupte rotundata ad basin auriculata hac superiore dentibus 10-59 μ longis instructa parti $\frac{1}{2}$ proximae late rotundata supra prope recta, folia intermedia ramulorum $\frac{3}{4}$ mm. longa $\frac{1}{4}$ mm. lata ad basin marginis inferioris conspicue auriculata ovato-lanceolata subfalcata dentibus 20-59 μ longis cuspidaque 198-248 μ longa instructa, strobili terminales quadrati 4-6 mm. longi $1\frac{1}{4}$ mm. lati, sporophylla $1\frac{1}{4}$ mm. longa $\frac{3}{4}$ mm. lata patentia dentibus 10-33 μ longis et carina cum dentibus paucis prope apicem instructa, macrospora 231-248 μ in diametro, exospora subtiliter reticulata altitudine striae altissimae 20-29 μ .

Field number 184, October 7, 1926, altitude 400 meters; on wet soil under mosses, above the "hole", Mt. Temehani. Endemic.

Selaginella temehaniensis differs from *Selaginella arbuscula* Spring in having more slender stems, fewer branches above, narrower, differently shaped lateral leaves, and smaller intermediate leaves. The sporophylls are non-cuspidate.

***Selaginella exilis*, species nova.**

Caulis ascendens ad 16 mm. longus $\frac{3}{4}$ mm. crassus foliatus ad basin rhizophoris circa $\frac{1}{4}$ mm. crassis instructus pinnatim et copiose ramosus ex vicinia basis suboles primariae (cum foliis) ad $5\frac{1}{2}$ mm. latae foliis in parte inferiore subappressis iis in parte superiore ascendentibus, folia lateralialia subolium primariarum $2\frac{3}{4}$ mm. longa $1\frac{1}{2}$ mm. lata conspicue dimidiata margine inferiore parte $\frac{2}{3}$ proximae recta hinc ad apicem obtusum abrupte rotundata ad basin subauriculata hac superiore dentibus 7-40 μ longis instructa parti $\frac{1}{3}$ proximae late rotundata supra recta, folia intermedia subolium primariarum 2 mm. longa 1 mm. lata ad basin marginis inferioris conspicue auriculata ovato-lanceolata subfalcata dentibus 7-23 μ longis cuspidaque 330-396 μ longa instructa, rami primarii (cum foliis) 4-6 cm. longi $4\frac{1}{2}$ mm. lati 6-15 mm. distantes, folia lateralialia ramulorum primariarum 2 mm. longa $1\frac{1}{4}$ mm. lata circa $\frac{1}{2}$ m. distantia subdimidiata margine inferiore parti $\frac{2}{3}$ proximae prope recta hinc ad apicem obtusum abrupte rotundata, hac superiore dentibus 7-40 μ longis instructa parti $\frac{1}{3}$ proximae rotundata supra prope recta, folia intermedia ramulorum primariarum $1\frac{1}{2}$ mm. longa $\frac{3}{4}$ mm. lata ovato-lanceolata subfalcata ad basin marginis inferioris conspicue auriculata dentibus 7-13 μ longis cuspidaque circa 330 μ longa instructa, ramuli (cum foliis) circa $1\frac{1}{2}$ -2 cm. longi 3 mm. lati 4-10 mm. distantes, folia lateralialia ramulorum 2 mm. longa 1 mm. lata circa $\frac{1}{4}$ mm. distantia subdimidiata margine inferiore parti $\frac{2}{3}$ proximae prope recta supra ad apicem obtusum abrupte rotundata hac superiore dentibus 7-26 μ longis instructa parti $\frac{1}{3}$ proximae rotundata supra prope recta, folia intermedia ramulorum 1 mm. longa $\frac{1}{2}$ mm. lata ovato-lanceolata subfalcata ad basin marginis inferioris conspicue auriculata dentibus 7-17 μ longis cuspidaque 214-264 μ longa instructa, strobili terminales quadrati ad 12 mm. longi 2 mm. lati, sporophylla 1 mm. longa $\frac{3}{4}$ mm. lata ea inferiora conspicue patentia ea superiora ascendentia dentibus 10-20 μ longis et carina cum dentibus paucis prope apicem instructa, macrospora 248-264 μ in diametro, exospora crasse reticulata altitudine striae altissimae 7-17 μ .

Field number 252, October 27, 1926, altitude 30 meters; on wet cliff face, third valley south of Uturoa. Endemic.

Selaginella exilis differs from *Selaginella societatis* John W. Moore in having more slender rhizophores and the lateral leaves of the upper branched

portion of the main stem shorter and more pointed. The lateral leaves of the ultimate branches are smaller, and the intermediate leaves of the ultimate branches are provided with shorter cusps.

***Selaginella arbusculoides*, species nova.**

Caulis ascendens ad 15 cm. longus $1\frac{1}{2}$ mm. crassus foliatus ad basin rhizophoris circa $\frac{1}{2}$ mm. crassis instructus supra pinnatim et copiose ramosus, suboles primariae (cum foliis) ad 4 mm. latae foliis in parte inferiore subappressis subdistantibus iis in parte superiore patentibus, folia lateralialia subolium primariarum ad $2\frac{1}{4}$ mm. longa $1\frac{3}{4}$ mm. lata dimidiata margine inferiore ad basin subauriculata hac superiore late rotundata ad apicem obtusum dentibus 7-43 μ longis (interdum cum paucis dentibus ad 66 μ longis) instructa, folia intermedia subolium primariarum 2 mm. longa 1 mm. lata ad basin marginis inferioris auriculata ovato-lanceolata subfalcata dentibus 7-39 μ longis cuspidaeque ad 310 μ longa instructa, rami primarii (cum foliis) ad $3\frac{1}{2}$ mm. lati 5 cm. longi 6-8 mm. distantes, folia lateralialia ramorum primariorum 2 mm. longa 1 mm. lata subdimidiata contigua margine inferiore parti $\frac{2}{3}$ proximae prope recta hinc ad apicem obtusum abrupte rotundata, hac superiore rotundata dentibus 3-43 μ longis instructa, folia intermedia ramorum primariorum $1\frac{1}{4}$ mm. longa $\frac{1}{2}$ mm. lata ovato-lanceolata subfalcata ad basin marginis inferioris auriculata dentibus 10-23 μ longis cuspidaeque 390 μ longa instructa, ramuli (cum foliis) ad $2\frac{1}{2}$ mm. lati 10 mm. longi lineares vel oblongati ad apicem breviter attenuati, folia lateralialia ramulorum $1\frac{1}{4}$ mm. longa $\frac{3}{4}$ mm. lata dimidiata subimbricata margine inferiore parti $\frac{2}{3}$ proxima prope recta supra ad apicem obtusum rotundata hac superiore rotundata dentibus 10-33 μ longis instructa, folia intermedia ramulorum 1 mm. longa $\frac{1}{2}$ mm. lata ovato-lanceolata subfalcata ad basin marginis inferioris conspicue auriculata dentibus 7-23 μ longis cuspidaeque 400 μ longa instructa, strobili terminales quadrati 5-8 mm. longi circa $1\frac{1}{8}$ mm. lati sporophylla circa 1 mm. longa $\frac{3}{4}$ mm. lata patentia dentibus 10-26 μ longis et carina levi, macrospora 231-270 μ in diametro; exospora confertim reticulata altitudine striae altissimae 10-20 μ .

Field number 71, September 16, 1926, altitude 320 meters; on partially decomposed lava, east path to Mt. Temehani. Endemic.

Selaginella arbusculoides differs from *Selaginella arbuscula* Spring in having the lateral leaves of the ultimate branches less imbricated and the intermediate leaves of the ultimate branches smaller and with a shorter cusp. The sporophylls are non-cuspidate. It differs from *Selaginella temehaniensis* John W. Moore in having thicker rhizophores and narrower ramuli.

***Selaginella raiateensis*, species nova.**

Caulis ascendens ad 13 cm. longus 1 mm. crassus foliatus ad basin rhizophoris circa $\frac{1}{2}$ mm. crassis instructus supra pinnatim et abundanter ramosus suboles primariae steriles (cum foliis) ad $3\frac{1}{2}$ mm. latae eae fertiles ad $2\frac{1}{2}$ mm. latae foliis in parte inferiore subappressis iis in parte superiore ascendentibus, folia lateralialia subolium primariarum $1\frac{1}{2}$ mm. longa $1\frac{1}{4}$ mm. lata manifesto dimidiata margine inferiore parti $\frac{1}{2}$ - $\frac{2}{3}$ proximae recta hinc ad apicem subacuminatum abrupte rotundata ad basin conspicue auriculata hac superiore dentibus 10-50 μ longis instructa ad apicem late rotundata, folia intermedia subolium primariarum $1\frac{1}{4}$ mm. longa 1 mm. lata ad basin marginis inferioris conspicue auriculata late ovato-lanceolata subfalcata dentibus 7-33 μ longis cuspidaeque 165-314 μ longa instructa, rami primarii steriles (cum foliis) ad 3 mm. lati 22 mm. longi 5-8 mm. distantes, rami fertiles ad 2 mm. lati 22 mm. longi circa 5 mm. distantes, folia lateralialia ramorum primariorum $1\frac{1}{4}$ mm. longa $\frac{3}{4}$ mm. lata conspicue dimidiata circa $\frac{1}{2}$ mm. distantia margine inferiore ad basin conspicue auriculata hinc

parti $\frac{3}{8}$ proximae prope recta supra ad apicem rectiusculum abrupte rotundata hac superiore dentibus 7-33 μ longis instructa ad apicem late rotundata, folia intermedia ramorum primariorum 1 mm. longa $\frac{1}{2}$ mm. lata ad basin marginis inferioris conspicue auriculata late ovato-lanceolata subfalcata dentibus 10-30 μ longis cuspidateque 165-182 μ longa instructa, ramuli steriles (cum foliis) circa $2\frac{1}{4}$ mm. lati 4-5 mm. longi, ramuli strobiliferi (cum foliis) ad $1\frac{3}{4}$ mm. lati 12-20 mm. longi ad strobilos, folia lateralialia ramulorum 1 mm. longa circa $\frac{1}{2}$ mm. lata conspicue dimidiata margine inferiore parti $\frac{3}{8}$ proximae prope recta ad apicem obtusum abrupte rotundata ad basin auriculata hac superiore dentibus 7-30 μ longis instructa parti $\frac{1}{2}$ proximae late rotundata supra recta, folia intermedia ramulorum 1 mm. longa $\frac{1}{2}$ mm. lata late ovato-lanceolata subfalcata ad basin marginis inferioris valde auriculata dentibus 7-23 μ longis cuspidateque 99-132 μ longa instructa, strobili terminales quadrati 5-7 mm. longi $1\frac{1}{4}$ mm. lati, sporophylla $1\frac{1}{4}$ mm. longa 1 mm. lata ea inferiora conspicue patentia ea superiora ascendentia dentibus 10-30 μ longis cuspidateque 99-165 μ longa et carina prominente cum dentibus paucis prope apicem instructa, macrospora 188-215 μ in diametro, exospora haud regulariter reticulata altitudine striae altissimae 7-13 μ .

Field number 477, January 1, 1927, altitude 470 meters; in wet, clay soil, Mt. Temehani. Endemic.

Selaginella raiateensis differs from *Selaginella temehaniensis* John W. Moore in having a thicker stem, thicker rhizophores, more numerous, shorter, and narrower sterile ultimate branches and cuspidate sporophylls. The macrospores average somewhat less in size.

SPERMATOPHYTA

PANDANACEAE

***Pandanus tamaruensis*, species nova.**

Arborescens, caules ad 5 m. alti supra ramosi, infra radicibus crassis aeriis descendentibus instructi, folia prope apices ramorum fasciculata ad 180 cm. longa $5\frac{1}{2}$ cm. lata attenuato-caudata carina angulata ad 3 mm. alta partibus $\frac{3}{8}$ superioribus aculeata instructa, margines foliorum (praeter 10-20 cm. ima) aculeis 1-2 mm. longis 3-4 per cm. instructi, inflorescentia staminifera ignota, syncarpium singulum in ramo singulo pendulum ellipsoideale vel globoso-ellipsoideale circa 25 cm. longum 20 cm. crassum, phalanges (drupae) 16 vel paucioribus carpellis compositae late cuneatae apicibus prope truncatae ad 7 cm. latae 7-8 cm. longae in sectione transversa angulatae ad basin $1\frac{1}{2}$ -2 cm. crassam attenuatae lateribus rectis vel late rotundatis haud sulcatis instructae, apices carpellorum angulati conici circa 10 mm. alti sulcis profundis erectis singulis infra stigmata instructi, vertices series exterioris carpellorum summitate impressi, ii carpellorum interiorum minores impressi vel stigmatate prominente terminati, stigma hippocrepiforme valde obliquum 2-2 $\frac{1}{2}$ mm. longum, endocarpium castaneum prope phalangis basin positum infra concavum supra convexum $2\frac{1}{2}$ -3 cm. altum, mesocarpium apicale fibroso-medullosum lacunis plurimis et parvis et magnis completum in loculos carpellares distinctos haud divisum, mesocarpium apicale induratum 1-3 mm. crassum, mesocarpium inferius fibris circa 1 cm. altis instructum, semina 9-12 mm. longa ad 5 mm. crassa.

Field number 707, April 2, 1927, altitude 100 meters; in moist valley west side of highest mountain. Endemic.

Pandanus tamaruensis differs from *Pandanus tectorius* Solander in having larger phalanges and subbasally placed endocarp.

Pandanus temehaniensis, species nova.

Arborescens, caules recti supra ramosi circa 2 m. alti, rami laterales prope perpendiculares ad caulem, folia prope apices ascendentes ramorum aggregata 120 cm. vel pluribus longa 4½-5 cm. lata attenuato-caudata carina angulata 1-1½ mm. alta partibus ½ superioribus aculeata instructa, margines foliorum aculeis circa 1 mm. longis 1-2 per cm. (interdum partibus ½ inferioribus aculeis tabescentibus vel nullis) instructi, florentia staminifera ignota, syncarpium singulum in ramo singulo erectum breve pedicellatum prope sphaericum circa 18 cm. in diametro, phalanges (drupae) 18 vel paucioribus carpellis compositae late cuneatae apice leviter convexae lateribus rectis vel late rotundatis haud sulcatis ad 4½ cm. latae 4½-5 cm. longae in sectione transversa angulatae ad basin 1¼-1½ cm. crassam attenuatae, apices carpellorum angulati conici circa 5 mm. alti sulcis profundis erectis singulis infra stigmata instructi, vertices series exterioris carpellorum summitate impressi, ii carpellorum interiorum minores impressi vel stigmatate prominente terminati, stigma hippocrepiforme valde obliquum vel prope rectum 1½-2 mm. longum, endocarpium prope phalangis basin positum infra concavum supra convexum circa 2 cm. altum, mesocarpium apicale fibroso-medullosum 1½-2 cm. altum lacunis plurimis magnis completum et plus minusve in loculos carpellares distinctos divisum, mesocarpium apicale induratum 1-2 mm. crassum, mesocarpium inferius fibrosum ½-¾ cm. altum, cava seminum circa 10 mm. longa.

Field number 630, February 19, 1927, altitude 450 meters; in wet clay soil, Mt. Temehani. Endemic.

Pandanus temehaniensis differs from *Pandanus tamaruensis* John W. Moore in the dwarf stature of the tree and in having a narrower keel on the under side of the leaves, a straight, not recurved, peduncle, and smaller phalanges.

The native name is *fara oporo* (*fara ute*).

Pandanus tectorius Solander in Parkinson: Jour. Voy. H. M. S. Endeavour, p. 46, 1773, varietas **Parksii** (Martelli), combinatio nova.

Pandanus odoratissimus Linnaeus filius: Suppl., p. 424, 1781, varietas *Parksii* Martelli: Univ. Cal. Pub. Bot., vol. 12, no. 10, p. 356, 1930.

The specific name *tectorius* has priority over the name *odoratissimus*. This variety should therefore be called *Pandanus tectorius* varietas *Parksii*.

Pandanus tahitensis Martelli: Webbia, vol. 2, p. 428, 1907, varietas **exiguus**, varietas nova.

Arborescens, caules ad 4 m. alti supra ramosi infra radicibus aeriis descendentibus instructi, folia prope apices ramorum aggregata ad 125 cm. longa 6½ cm. lata attenuato-caudata carina angulata ad 2 mm. alta partibus ½ superioribus aculeata instructa, margines foliorum (praeter 10 cm. imis) aculeis 1-2 mm. longis 1-2 per cm. instructi vel interdum spatiis longioribus integri, inflorescentia staminifera ignota, syncarpium globoso-oblongum circa 22 cm. longum 20 cm. crassum diametro, phalanges (drupae) pyriformes rotundo-compressae in sectione transversa prope ellipticae, circa 4½ cm. longae 3 cm. latae 2¼ cm. crassae ad basin 1 cm. crassam attenuatae, fossae inter carpella parum depressae vel saepe prope oblitteratae, stigma circa 2 mm. longum hippocrepiforme apice carpelli positum, endocarpium subapicale osseum castaneum infra concavum supra convexum 2-2¼ cm. altum, mesocarpium apicale fibroso-medullosum ¾-1 cm. altum plerumque sine loculis carpellaribus bene definitis, mesocarpium apicale induratum 1½-2½ mm. crassum, mesocarpium inferius fibrosum 2½-3½ cm. altum, semina 1-1½ cm. longa 4-5 mm. crassa.

Field number 631, February 26, 1927, altitude 20 meters; in valley at Tioo. Endemic.

With the characters of the species except that the leaves are somewhat smaller, the phalanges smaller, and the endocarp relatively larger and proportionally longer.

The native name is *fara rea rea*.

GRAMINEAE

Schizostachyum glaucifolium (Ruprecht) Munro: Linn. Soc., Trans. vol.

26, p. 137, 1868, forma *gracile*, forma nova.

Speciei typicae omnibus sobolium characteribus similis nisi quod caules diametro majori quam $2\frac{1}{2}$ cm. et altitudini majori quam 4 m. nunquam accrescunt atque parietes culmorum sunt subcrassiores quam ii species typicae.

Field number 617, February 18, 1927, altitude 20 meters; in small valley 2 miles north of Avera.

Similar to the species in all shoot characters except that the stems never attain a greater diameter than $2\frac{1}{2}$ cm. or a height greater than 4 meters. The culm walls are somewhat thicker than those of the typical form.

Garnotia raiateensis, species nova.

Gramen caespitosum perenne, culmi arcuati ascendentes valde ramosi ad 25 cm. alti, laminae ad 8 cm. longae $4\frac{1}{2}$ mm. latae acuminatae planae vel siccitate subconvolutae infra glabrae supra et marginibus scaberrimae atque ad basin pilis tuberculatis paucis submarginalibus 4-6 mm. longis plerumque instructae, junctura vaginae et laminae extrinsecus glaberrima vel cristula pilorum subalbidorum ad 1 mm. longa instructa, vaginae nudae et margine scaberrimae ligulae circa $\frac{1}{2}$ mm. altae truncatae contra regulam setulosae, panícula stricta 5-8 cm. longa circa 5-8 mm. lata, spiculae imae in vagina superrima inclusae, spiculae geminae erectae ad basin cristulae pilorum subalbidorum circa $\frac{1}{2}$ mm. longae instructae, pedicelli angulati scabri clavati, glumae steriles circa 3 mm. longae in nervis scabrae, gluma sterilis primaria in apice bidentulo arista $1\frac{1}{2}$ -3 mm. longa scabra instructa, gluma sterilis secunda in apice bidentulo arista circa $\frac{1}{4}$ mm. longa scabra instructa, lemma subaequalis glumis sterilibus ad basin pilis paucis submarginalibus et in apice bidentulo arista scabra 4-6 mm. longa instructa, palea brevior quam lemma supra in marginibus et in apice obtuso pubescens.

Field number 623A, February 19, 1927, altitude 450 meters; in wet moss near the "hole," Mount Temehani. Endemic.

Garnotia raiateensis differs from *Garnotia Sandwicensis* Hillebrand in having shorter, much branched culms, shorter leaf blades, shorter panicles, and smaller glumes with shorter awns.

Garnotia depressa, species nova.

Gramen perenne caespitosum ad basin iterum atque iterum ramosum, culmi erecti vel ascendentes glaberrimi ad 12 cm. alti, laminae ad $3\frac{1}{2}$ cm. longae circa $1\frac{1}{2}$ mm. latae subulatae convolutissimae infra glabrae supra et in marginibus scabrae, junctura vaginae et laminae extrinsecus glaberrima, vaginae glabrae marginibus scabrae supra auriculis

acutis setulosis ad $\frac{1}{2}$ mm. longis binis et ligulis circa $\frac{1}{4}$ mm. altis contra regulam setulosis singulis instructae, panícula stricta 2-4 cm. longa 3-5 mm. lata, basis paniculae 2-6 cm. supra vaginam superrimam, spiculae geminae erectae ad basin cristula pilorum $\frac{1}{4}$ mm. vel minus longa instructae, pedicelli angulati scabri clavati, glumae steriles circa 3 mm. longae in nervis scabrae, gluma sterilis primaria apice bidentulo arista $1\frac{1}{2}$ -3 mm. longa scabra instructa, gluma sterilis secunda apice bidentulo arista circa $\frac{3}{4}$ mm. longa scabra instructa, lemma glabra subaequalis glumis sterilibus apice bidentulo arista circa 5 mm. longa instructa, palea lemmae subaequalis marginibus supra et apice obtuso pubescens.

Field number 623B, February 19, 1927, altitude 450 meters; in wet moss near the "hole," Mount Temehani. Endemic.

Garnotia depressa differs from *Garnotia raiateensis* John W. Moore in its smaller stature, in having awl-like, much shorter leaf blades, much narrower, exserted panicle, and in the differently shaped auricles of the palea.

***Digitaria fuscescens* (Presl), combinatio nova.**

Paspalum fuscescens Presl: Rel. Haenk., vol. 1, p. 213, 1830.

Syntherisma fuscescens (Presl) Scribner: Rept. Mo. Bot. Gard., vol. 10, tab. 10, fig. 1, p. 49, 1899.

Paspalus chinensis Nees: Hooker and Arnott, Bot. Beechey's Voy., p. 231, 1836.

Syntherisma chinensis (Nees) Hitchcock: U. S. Nat. Herb., Contr., vol. 22, p. 468, May, 1922.

Syntherisma Helleri Nash ex Heller in Minnesota Bot. Studies, vol. 1, p. 798, 1897.

This species of *Digitaria* was first given the specific name *fuscescens* by Presl in 1830 and placed in the genus *Paspalum*. Nees called the species *Paspalus chinensis* in 1836 and Nash in 1897, finding it distinct from *Panicum filiforme* Linnaeus—so called by Hillebrand (25)—called it *Syntherisma Helleri*. Hitchcock in 1922 transferred Nees' name to *Syntherisma*, apparently having overlooked the older name. There already exists a validly published *Digitaria chinensis* of Hornemann (30), the type specimen of which is preserved in the University Botanical Museum at Copenhagen. The species under consideration should therefore be called *Digitaria fuscescens*.

CYPERACEAE

***Cyperus raiateensis*, species nova.**

Perennis stolonifera, caules circa 1 mm. alti triquetri erecti caespitiosi, folia caulibus aequalia vel eis longiora aliquae vaginis redacta, vaginae straminiae vel rufo-fuscissimae ad 35 cm. longae, laminae ad 12 mm. latae planae lineares acuminatae in marginibus et (supra) in carina serrulatae in superficie superiore porcis duabus prominentibus circa aequaliter distantibus inter costam et marginem instructae, inflorescentia umbellata ad 15 cm. lata circa 10 bracteis inaequalibus ad 60 cm. longis 12 mm. latis foliis similibus subtensa, radii primarii ad 15 cm. longi bracteis ad $2\frac{1}{2}$ cm. longis subtensi paniculate

ramosi ramulis brevibus secundariis alternatis in axillis bractearum instructi, radii secundarii 1 cm. longi vel minores, spiculae 5-30 mm. longae turgidae sessiles alternae plerumque subflexae subdistantes 2-16-floriferae, rachilla prominenter alata articulata, bracteae spicularum circa 6-20 ad rachillae segmenta $1\frac{1}{2}$ mm. longa prominenter fictae ad 3 mm. longae, 7-nervosae costa tabescente, obtusae breviter apiculatae, in dorso rotundatae carina recta crassiore subviridi lateribusque rufo-fuscissimis instructae, margines bractearum integrae in parte superiore $\frac{3}{8}$ late rotundatae, stamina 3, rami styli 3 elongati, fructus circa 2 mm. longus triquetrus in uno latere late rotundatus in aliis lateribus prope rectus obovatus oblongus abrupte acutus fuscissimus breviter stipitatus (stipes circa $\frac{1}{4}$ mm. longus) subtiliter et ordine punctatus.

Field number 65, September 14, 1926, altitude 300 meters; in swamp, about 2 kilometers south of Uturoa. Endemic.

Cyperus raiateensis differs from *Cyperus ferox* Richard in having a less branched inflorescence, broader spikes, differently shaped scales, and larger fruits.

Mariscus elevatus, species nova.

Perennis, rhizoma repens squamis $1-1\frac{1}{2}$ cm. longis ovatis integris fuscissimis striatis vestita, caules ad $1\frac{1}{2}$ m. alti triquetri erecti validi, folia caulibus aequalia vel eis longiora, vaginae foliorum plerumque rufo-fuscae striatae parti cylindratae caulem intime vestentes in intima facie nitidae in parte libera marginibus scariosae, laminae 8-10 mm. latae, lineares prope planae rigidiores in summitatem longam acuminatam sensim attenuatae glabratae acute carinatae supra marginibus carinaeque prominenter serrulatae, inflorescentia angusta ad 10 mm. lata paniculata, rami primarii inflorescentiae 3-4 cm. longi plerumque in axillis vaginarum superiorum tabescentium erecti axi primario appressi, rami secundarii prominenter curvati, spiculae 2-6 summitate ramorum ultimorum congregatae circa 3 mm. longae 1-floriferae ovoideae acutae obscurae fuscae, prophyllum spiculae 2-nervatum 2-carinatum emarginatum carinis scabrum, bracteae 3-4 imae spiculae $1\frac{1}{4}-1\frac{3}{4}$ mm. longae late ovatae obtusae 1-nervatae, bracteae 3 mediae $2-2\frac{1}{2}$ mm. longae late ovatae obtusae 1-nervatae, flos perfectus magnus in axilla bracteae bene cretae supremae, flos staminiferus in axilla bracteae inferioris proximae latus, stamina 2, stylus profunde 2-3-divisus, fructus circa $2\frac{1}{2}$ mm. longus ovatus acutus subteretus obscure fuscus potius subtiliter clathratus nitidus.

Field number 771, May 18, 1927, near sea level; in swampy ground on Tevitoa road, three kilometers south of Uturoa. Indigenous in the Society Islands.

This is probably the species listed by Forster filius (20, no. 494, p. 89), as *Schoenus elevatus*. The name there is a nomen nudum, and has never been validly published.

The native name in Raiatea is *mou utu*.

Mariscus Bidwellii (Stapf), nomen novum.

Vincentia Bidwellii Stapf: W. A. Setchell, American Samoa, Carnegie Inst., Wash., Dept. Marine Biol., vol. 20, p. 112, 1924. Nomen subnudum.

Perennis, caules ad 80 cm. alti circa 4 mm. crassi caespitosi erecti leves valde compressi, folia maxima longitudini caulis prope aequalia vaginae foliorum equitantes valde compressae striatae glabrae leves stramineae vel infra fuscissimae marginibus paulum latis membranaceis fuscissimis instructae, laminae foliorum inferiorum valde tabe-

scentes, laminae mediae subbasales 12-18 mm. latae erectae lineares subfalcatæ acuminatæ leves marginibus levibus integris costaque indistincta instructæ, inflorescentia paniculata 25-30 cm. longa fasciculis 7-8 primariis instructa; fasciculi in axillis vaginarum compresso-tubularum lati (fasciculus imus circa 7 mm. latus) laminis valde tabescentibus acuminatis vel subulatis instructarum, axes secundarii valde inaequales plus minusve flexuosi quorum longissimi ad 10 cm. longi sunt, ramuli fasciculati inaequales flexuosi angulati angulis spinoso-setosi, bractee ultimæ vaginantæ rufo-fuscissimæ supra carinatae (carina insummitatem acuminatum producta) ciliolatae lineis duabus conspicuis pilorum brevium spinosorum et pilis paucis sparsis instructæ, spiculae lanceolato-oblongae 6 mm. longae, prophyllum spiculae circa 2 mm. longum ovatum dorso rotundatum obtusum marginibus serrulatum, bractea prima spiculae $2\frac{1}{2}$ -3 mm. longa ovato-lanceolata carinata carina parce serrulata et marginibus insigniter serrulata summitate breve extrinsecus curvata acuta vel acuminata instructa, flores perfecti 2 et flores staminiferi 2 in axillis bractearum 5 mm. longarum ovato-lanceolarum supra carinatarum obtusarum apiculatarum 17-nervatarum supra in marginibus serrulatarum lateribus prope apice spinoso-setosarum subviridium striis rufo-fuscis virgatarum vel in omnibus partibus rufo-fuscissimarum, bractea prima vacua supra flore staminifero $3\frac{1}{2}$ mm. longa straminea vel subfusca, bractea supra tabescens, perianthium nullum, stamina 3, antherae 3 mm. longae lineares (post dehiscentia contortissimæ) appendice breve complanato acuto apicale instructæ, filamenta complanata post florescente ad 7 mm. elongata vel longiora, ovarium breve-stipitatum alis prominentibus membranaceis instructum, styli 6 mm. longi prope ad medium divisi subtiliter spinoso-setosi.

Field number 88, September 16, 1926, altitude 355 meters; on open south facing slope of mountain along east path to Mount Temehani. Indigenous in the Society Islands.

Stapf, in notes quoted by Setchell, incidentally mentions the name *Vincentia Bidwellii* Stapf and points out certain characters distinguishing it from *Cladium samoense*. It appears very doubtful whether this constitutes a valid publication of the name, wherefore it has seemed best to give a full diagnosis at this point. Comparison of Tahitian material with that from Raiatea proves that the plant is identical on the two islands. It is a distinct species of *Mariscus*.

Mariscus societensis, species nova.

Perennis, caules caespitiosi granuloso-rugosi erecti compressi ad 50 cm. vel magis alti circa 3 mm. crassi, folia longissima caulibus superantia, vaginae foliorum equitantes subcompressi striatae subtiliter granulares infra cinnamomeae vel stramineae supra subalbido-virides marginibus angustis scariosis fuscissimis instructæ, laminae et vaginae foliorum inferiorum squamis acuminatis redactis, laminae medianae et superae caulinae 4-6 mm. latae erectae lineares subfalcatæ acuminatæ faciebus marginibusque granuloso-rugosae, costa indistincta, vaginae tubulatae supra expansae in lateribus compressae (vaginae imae circa 5 mm. latae) lamina folii imi inflorescentiae subtendentis subtabescens, inflorescentia paniculata 10-20 cm. longa fasciculis primis 5-7 instructa, fasciculi in axillis vaginarum plus minusve tabescentium ficti, axes secundi inaequalissimi plus minusve flexuosi ad 5 cm. longi, ramuli fasciculati inaequales flexuosi angulati setis brevissimis ad basin crassis rectis vel diverse cuneatis in angulis instructi, bractee vaginantæ ultimæ cinnamomeae carinatae acuminatæ dorso subtiliter setulosae marginibus ciliolatae 1-2-spiculæ subtendentes, spiculae ovatae compressae $4\frac{1}{2}$ -5 mm. longae flore singulo perfecto instructæ, prophyllum spiculae 2 mm. longum 2-carinatum oblongum emargina-

tum, bractea ima spiculae 3 mm. longa vacua vel squamae brevi tabescenti subtendens scabra ovata acuta cinnamomea supra in carina et lateribus breviter spinoso-pilosa, bractee medianae $4\frac{1}{4}$ mm. longae primae similes inter quas sola flori perfecto subtendit, bractee superae tabescentes vacuae leviter coloratae, suprema minuta, perianthium nullum, staminae 3 antherae 2 mm. longae lineares summitate attenuata $\frac{1}{2}$ mm. longa instructae, filamenta complanata post florescente elongata et persistentia ad $4\frac{1}{2}$ mm. longa, ovarium breve-stipitatum triquetrum, stylus 6 mm. longus ad medium divisus infra tomentosus, basis styli persistens circa 1 mm. longus $\frac{1}{3}$ mm. latus subalbo-tomentosus, corpus fructi globosum $2\frac{1}{2}$ mm. longum straminium ovatum triquetrum breve-stipitatum (stipes circa $\frac{1}{2}$ mm. longis) sulco profundo in latere singulo instructum.

Field number 135, September 25, 1926, altitude 320 meters; on partially decomposed lava, east path to Mount Temehani. Endemic.

Mariscus societensis is most closely related to the Hawaiian species, *Mariscus Meyenii* (Kunth), combinatio nova,¹ from which it differs in having narrower, non-glaucous leaves, a shorter inflorescence, smaller spikelets, and a more slender style base.

ARACEAE

Cyrtosperma Nadeaudianum, species nova.

Cyrtosperma Merkusii Schott varietas *gigantea* Nadeaud: Jour. de Bot., vol. 11, p. 116, 1897.

Cyrtosperma Nadeaudianum was published by Nadeaud as *Cyrtosperma Merkusii* Schott variety *gigantea*. Nadeaud was apparently following Engler's earlier, very broad conception of the species, *Cyrtosperma Merkusii* as expressed in De Candolle (8, vol. 2, p. 271). In his later work (18, p. 17) Engler recognizes *Cyrtosperma edule* Schott (42, p. 367) as a good species, and cites Nadeaud's variety as a synonym. Nadeaud's plant, however, differs from *Cyrtosperma edule* in having a shorter spathe, longer filaments, a smaller ovary, and coiled, not reniform, seeds. It appears to be an entirely distinct species. In raising the variety to specific rank the epithet *gigantea* can not be used, as there already exists a *Cyrtosperma giganteum* of Engler.

The native name in Raiatea is *ape veo*.

LILIACEAE

Astelia raiateensis, species nova.

Caulis circa 1 cm. crassus brevis ascendens, folia ad 50 cm. longa 3 cm. lata linearia 3-seriata longi-attenuata utrinque argenti-pubescentia (sed supra magis pubescentia quam infra) nervis 3 prominentibus et nervis compluribus gracilibus parallelis instructa, vaginae villosae pilis longis sericeis albis fragilibus complanatis, pedunculi ad 35 cm. longi 3 mm. crassi triquetri in omnibus partibus tomento candido lanato dense vestiti,

¹ *Mariscus Meyenii* (Kunth), combinatio nova.

Baumea Meyenii Kunth: Enum. Pl., vol. 2, p. 314, 1837.

Fernald (19, vol. 25, p. 49) points out that *Mariscus*, and not *Cladium*, is the proper name for this genus. *Baumea* can not be maintained as a genus distinct from *Mariscus*.

panicula foliis brevior in omnibus partibus dense tomentosa circa 6 ramis primariis bracteatis instructa ex quibus imus ad 15 cm.; longus est, bractea rami imi maxima ovato-lanceolata longi-attenuata ad 30 cm. longa 2 cm. lata, pedicelli solitarii vel interdum geminati e basi singulo, flores dioici, segmenta perianthii 4 mm. longa flavescentia patentia vel recurvata intime glabra extra lanata, segmenta perianthii exteriora ovato-lanceolata obtusa, ea interiora lanceolata subacuta, pedicelli florum staminiferorum circa 5 mm. longi patentes, stamina circa $\frac{2}{3}$ longitudinis segmentorum perianthii, filamenta circa $1\frac{1}{2}$ mm. longa, antherae $\frac{3}{4}$ mm. longae ovatae, ovarium tabescens ovatum supra attenuatum, pedicelli florum pistilliferorum circa 3 mm. longi ascendentes, ovarium late ovatum 1 mm. altum 1-loculare in stylum 1 mm. longum supra attenuatum, stigmata $\frac{1}{2}$ mm. longa ovata obliqua, staminodia $\frac{3}{4}$ mm. longa clavata, fructus suborbicularis 4 mm. vel magis in diametro, semina circa $1\frac{1}{2}$ mm. longa recta ovata compressa nigra alveolata appendice plus minusve uncinato in extremo uno instructa.

Field number 176, October 7, 1926, in flower; January 1, 1927, in fruit; altitude 450 meters; in swampy ground among mosses, Temehani Plain. Endemic.

Astelia raiateensis differs from *Astelia Nadeaudi* Drake in having a glabrous ovary, a spherical, not oblong, fruit, and straight, not curved, smaller seeds.

Cordyline fruticosa (Linnaeus) A. Chevalier: Cat. Pl. Jard. Bot. Saigon, p. 66, 1919, varietas *ferrea* (Linnaeus), combinatio nova.

Dracaena ferrea Linnaeus: Syst., 12th ed., p. 246, 1767.

Taetsia ferrea (Linnaeus) Medikus: Theod., p. 82, 1786.

Cordyline terminalis (Linnaeus) Kunth varietas *ferrea* (Linnaeus)

Baker: Jour. Linn. Soc., vol. 14, p. 540, 1875.

Linnaeus described this plant as a species of *Dracaena*. Baker correctly reduced Linnaeus' species to a variety of *Cordyline terminalis* (Linnaeus) Kunth. The oldest specific name for the latter, however, is *fruticosa* published as *Convallaria fruticosa* by Linnaeus (32, p. 16). The variety, therefore, must be given a new combination under the correct specific binomial.

The native name is *auti uteute*.

AMARYLLIDACEAE

Atamosco candida (Herbert), combinatio nova.

Zephyranthes candida Herbert: Curtis's Bot. Mag., vol. 53, tab. 2607, 1826.

The oldest generic name is *Atamosco* published by Adanson in 1763, so that *Zephyranthes* of Herbert 1821 must be rejected, as pointed out by Greene (23, p. 187). This species should therefore be called *Atamosco candida*.

ZINGIBERACEAE

Languas purpurata (Vieillard), combinatio nova.

Guillainia purpurata (Vieillard): Bull. Soc. Linn. Norm., vol. 10, p. 92, 1866.

Alpinia purpurata (Vieillard) K. Schumann: Engler, Das Pflanzenr. iv, 46, Heft 20, p. 323, 1904.

The genus *Alpinia* of Linnaeus was based on a tropical American plant as pointed out by E. D. Merrill (35, vol. 1, pt. 2, p. 230) and the various Old World species commonly listed under that genus should be treated as species of the genus *Languas* of Koenig.

ORCHIDACEAE

Dendrobium emarginatum, species nova.

Caules ad 90 cm. alti 2 mm. crassi firmi nitidi straminei internodiis 1-2½ cm. longis instructi, laminae ad 7 cm. longae 1 cm. latae lanceolatae breve stipitatae (stipes circa ½ mm. longus) emarginatae in apice inaequilaterali nervis 3 prominentibus et nervis compluribus gracilibus instructae, vaginae costatae circa internodiis aequales subfuscae laminae oppositae sub apice (circa 2 mm.) inflorescentiis perforatae, inflorescentia biflora racemosa squamis 2 ovatis obtusis cartilagineis et squamo uno hyalino membranaceo omnibus circa 12 mm. longis ad basin vestita, pedicelli cum ovario circa 12 mm. longi, sepala 15-17 mm. longa anguste lanceolata obtusa in mentum circa 3 mm. longum rectangulum oblique truncatum producta, petala sepalis similia 13-15 mm. longa anguste lanceolata obtusa, labellum ad 15 mm. longum 5 mm. latum late rhomboideum 3-lobum, lobi laterales obtusi 6-7 mm. longi, lobus medius triangulus lacerato-fimbriatus supra papillatus praeter apice acuminato 1½ mm. longo, columna circa 4 mm. alta, fructus (immaturus) 3 cm. longus 8 mm. crassus infra in pedicellum attenuatus subcapitatus costis 3 prominentibus circa ¾ mm. latis instructus.

Field number 522, January 11, 1927, altitude 250 meters; on branches of trees, Avera Valley. Endemic.

Dendrobium emarginatum differs from *Dendrobium biflorum* (Forster) Swartz in having emarginate, not acuminate, leaf tips, wider leaf blades, shorter cartilaginous scales at the base of the inflorescence, and a differently shaped labellum.

Sarcochilus societatis, species nova.

Caules ad 5 cm. longi (an longiores ?), vaginis foliorum imbricatis absconditi, radices plures longi filis metallicis similes subalbidi (1¼ mm. lati et prominenter sulcati quum sicci), folia disticha patentia 3 vel 4, laminae ad 7 cm. longae 16 mm. latae virides lineare-oblongae vel elliptico-oblongae obtusae articulatae supra basin vaginantem apice emarginatae et inaequilaterales, vaginae truncatae vel late rotundatae emarginatae ex adverso laminarum, spicae ad 2½ cm. longa singulae vel binae ex axillis foliorum circa 20-floriferae, internodia angularia, bractae late ovatae, acutae carinatae, flores ignotae, capsulae ad 24 mm. longae 4 mm. latae lineares sessiles circa 1 mm. ex apice constrictae alis 3 ad ½ mm. latis et costis 3 prominentibus alternatis instructae, semina 231-264 μ longa 59-76 μ lata oblongo-elliptica interdum terminis attenuatis instructa.

Field number 411, December 11, 1926, altitude 100 meters; on decayed branches of old mape tree, Opoa Valley.

Sarcochilus societatis differs from *Sarcochilus adversus* Hooker in having shorter inflorescences, and longer, sessile capsules.

***Vanilla tahitensis*, species nova.**

Caules circa 4 mm. crassi (quum sicci 3 mm. crassi) emittentes radices singulas e nodis, internodia ad 5 cm. longa, laminae 12-14 cm. longae $2\frac{1}{2}$ -3 cm. latae ovato-lanceolatae acutae nervis circa 20 longitudinalibus prominentibus (quum siccis) instructae, petiolus circa 1 cm. longus supra (quum siccus) prominenter canaliculatus, inflorescentia racemosa pauciflora, flores flavo-virentes, sepala petalaeque similia inter se circa 6 cm. longa 1 cm. lata ovato-lanceolata subcuta, labellum circa $4\frac{1}{2}$ cm. longum convolutum parte $\frac{3}{4}$ proxima columnae conjunctum apice retusum carinis longitudinalibus crenulatis et circa 3 cm. supra basin crista pilorum retrorsorum instructum, margines labellorum revoluti lacerato-serrati, lobus medius recurvus obtusus vel subcutus, columna superficiei anteriore pubescens, circa $3\frac{1}{2}$ cm. longa, capsula 12-14 cm. longa circa 1 cm. lata complanata ad apicem truncata, semina late obovata circa $400\ \mu \times 330\ \mu$ nitida nigra contra regulam reticulata.

Field number 294, November 11, 1926, altitude 20 meters; on trees, escaped from cultivation, third valley south of Faaroa Bay. Cultivated in the Society Islands.

Vanilla tahitensis differs from *Vanilla fragrans* (Salisbury) Ames (*Vanilla planifolia*) in having more slender stems, narrower leaves, longer perianth segments, a lip that is shorter than the sepals, a longer column, and shorter pods. Gnadinger (21) pointed out the presence of anisyl alcohol in the beans of the Tahitian vanilla and the absence of this substance in the beans of the Mexican vanilla.

PIPERACEAE

***Peperomia abscondita*, species nova.**

Caules ad 25 cm. longi 4 mm. crassi erecti ad basin decumbentes sparse setulosi vel prope glabri plus minusve ramosi, rami alterni vel oppositi, folia plerumque opposita, laminae foliorum maturorum ad 5 cm. longae 3 cm. latae ovatae ad basin cuneatae apice obtusae vel rotundatae marginibus et utrinque sparse pubescentes nervis 5 petiolisque ad 15 mm. longis instructae, laminae surculorum circa 8 mm. longae orbiculares vel ovatae petiolis circa 3 mm. longis instructae, spicae interdum dichotomae terminales et axillares singulae—quarternae ad nodos superiores 3 mm. crassae 3-6 cm. longae folia supra subtabescentia plerumque multum superantes, pedunculi ad 15 mm. longi puberuli, bractae orbiculares peltatae subsessiles quam ovaria parum latiores, stigma plagiotropum minimum minute papillatum, fructus $\frac{1}{2}$ mm. in diametro glomosis conspicue glandulosi-punctatus.

Field number 260 (type), October 28, 1926, altitude 60 meters; on wet rocks, third valley south of Uturoa. Field number 238, October 25, 1926, altitude 150 meters; on moist rocks in shade, third valley south of Faaroa Bay. Field number 353, November 25, 1926, altitude 150 meters; on moist rocks in creek bed, fifth valley south of Uturoa. Endemic.

Peperomia abscondita differs from *Peperomia rhomboidea* Hooker in

having all vegetative parts setose and smaller leaves which are cuneate at the base and obtuse at the apex.

***Peperomia societatis*, species nova.**

Caules 45 cm. longi (an longiores ?) circa 3 mm. crassi prostrati valde ramosi cum summitatibus ramorum ascendentibus, folia alterna, laminae foliorum maturorum ad 6½ cm. longae 3 cm. latae ovato-lanceolatae ad basin cuneatae in summitatem acutam vel acuminatam abrupte contractae supra in costa puberulae et ad apicem ciliolatae 7-nervatae petiolis ad 6 mm. longis glabris instructae, laminae surculorum 3-10 mm. longae orbiculares vel ovatae vel late ovato-lanceolatae petiolis circa 3 mm longis instructae, spicae plerumque binae subterminales ad 4 cm. longae circa 3 mm. crassae, pedunculi ad 1 cm. longi glabri, bractee orbiculares peltatae subsessiles circa bis latiores ovariis, ovarium attenuatum in uno latere truncatum, stylus huic ex centro fictus circa 20 µ longus, stigma magnum hemisphaericum dense longi-papillatum.

Field number 354, November 25, 1926, altitude 100 meters; on moist rocks near stream, fifth valley south of Uturoa. Endemic.

Peperomia societatis differs from *Peperomia pallida* (Forster filius) A. Dietrich in having upper leaves with broader, acuminate, more numerous nerved blades, and in the larger bracts, smaller stamens, and very prominent papillae on the stigma.

***Peperomia raiateensis*, species nova.**

Caules ad 25 cm. longi circa 4 mm. crassi erecti ad basin decumbentes glabrescentes supra plus minusve ramosi, folia alterna marginibus ciliolata, laminae foliorum medianorum ad 3 cm. longae 18 mm. latae avotae vel late ellipticae plus minusve rhomboideae ad basin apicemque obtusae utrinque glabrae nervis 5-7 petiolisque ad 8 mm. longis instructae, laminae superiores similes sed conspicue tabescentes, laminae surculorum circa 3 vel 4 mm. longae prope orbiculares petiolis 1-2 mm. longis instructae, spicae et terminales et axillares 2-3 cm. longae circa 2 mm. crassae folia supera multum superantes singulae—ternae ad nodos, pedunculi ad 10 mm. longi glabri, bractee prope orbiculares peltatae subsessiles ovariis parum latiores, stigma magnum hemisphaericum dense longi-papillatum subsessile ex centro in apice truncato ovarii ficta, fructus oblongus truncatus conspicue glandulosi-punctatus stigmate persistente coronatus.

Field number 352, November 25, 1926, altitude 200 meters; on wet rocks along creek, fifth valley south of Uturoa. Endemic.

Peperomia raiateensis differs from *Peperomia pallida* (Forster filius) A. Dietrich in having leaves that are about as wide as long and not emarginate at the apex. The upper leaves are conspicuously reduced in size, the stamens are much smaller, and the stigma differs in having longer papillae.

CHLORANTHACEAE

***Ascarina subfalcata*, species nova.**

Arbor parva 3 m. alta, rami graciles glabri subvirides (sicci striati) internodiis 1-2 cm. longis instructi, laminae ad 7 cm. longae 18 mm. latae obovatae subfalcatae obtusae in petiolos 2 mm. longos ad basin connatos et poculum truncatum circa 1½ mm. altum facientes attenuatae supra virides et nitidae infra pallidiores parte ½ superiore crenatae paribus nervorum secundariorum 10 instructae, inflorescentia staminifera ignota,

inflorescentia pistillifera racemosa cum spica solitaria terminali et spicis axillaribus binis divaricatis e nodis superioribus, spicis omnibus 3 cm. longis robustis, bractee inferiores foliaceae superiores in poculum redactae, pedunculi plerumque haud ramosi, flores singuli in axillis bractearum late ovatarum obtusarum 3-dentatarum lati bracteolis parvis suborbicularibus obtusis binis intructi, ovarium depresso-globosum $\frac{1}{2}$ mm. in diametro, stigma plagiotropum 2-labiatum persistens, fructus (immaturus) 2 mm. longus obovatus.

Field number 657, March 5, 1927, altitude 200 meters; in wet clay soil, west facing slope, south end of Opoa Mountain. Endemic.

Ascarina subfalcata differs from *Ascarina lucida* Hooker in having larger, crenate-margined leaves, the bract subtending the flower obtuse, the pistillate flowers always solitary, and the stigma 2-lobed.

SANTALACEAE

Santalum multiflorum, species nova.

Frutex $2\frac{1}{2}$ m. altus, caules glabri teretes, ramuli complanati linea singula prominente decurrente inter nodos instructi, laminae ad 7 cm. longae 4 cm. latae ellipticae vel ovato-lanceolatae obtusae vel acutae coriaceae glabrae flavovirentes paribus 6-12 nervorum secundariorum instructae, petioli 3-8 mm. longi, inflorescentiae ad 7 cm. longae cymosae paniculatae et terminales et in axillis foliorum summorum fictae, ramuli inflorescentiae circa 7 mm. longi 3-floriferi, bractee caducae, eae ramulis subtendentes $2\frac{1}{2}$ mm. longae lanceolatae, eae floribus subtendentes circa 1 mm. longae ovato-lanceolatae serrulatae arista circa $\frac{1}{3}$ mm. longa instructae, flores $5\frac{1}{2}$ m. longi $3\frac{1}{2}$ mm. lati flavo-albidi, perianthium campanulatum segmentis circa 2 mm. longis instrustum, lobi disci truncati $\frac{3}{4}$ mm. lati dimidio longitudinis segmentorum perianthii longi, antherae circa $\frac{3}{4}$ mm. longae late ovatae, stylus 1 mm. longus $\frac{1}{4}$ mm. crassus columnaris parti ovarii conicae liberae aequilongus lobis 3 prominentibus carnosus stigmatiferis instructus, pars adnata ovarii $1\frac{1}{4}$ mm. longa, fructus ignotus.

Field number 87, September 16, 1926, altitude 355 meters; on northeast exposure of mountain, east path to Mount Temehani. Endemic.

Santalum multiflorum differs from *Santalum paniculatum* Hooker and Arnott in having larger, entirely glabrous leaves, a glabrous inflorescence, larger flowers and pistils with shorter styles.

The native name is *ahi*.

Santalum raiateense, species nova.

Frutex 1-3 m. altus, caules glabri teretes, ramuli complanati linea singula prominente decurrente inter nodos instructi, laminae ad $7\frac{1}{2}$ cm. longae 43 mm. latae ovatae vel ovato-lanceolatae obtusae coriaceae glabrae flavo-virentes paribus 10-14 nervorum secundariorum instructae, petioli 6-10 mm. longi, inflorescentiae cymosae ad 5 cm. longae terminales et etiam interdum in axillis foliorum summorum, cymae paribus singulis vel binis ramorum primariorum instructae, ramuli inflorescentiae ad 1 mm. longi 3-floriferi, bractee caducae, flores $6\frac{1}{4}$ mm. longi $3\frac{1}{2}$ mm. lati subflavi, perianthium anguste campanulatum segmentis circa $2\frac{1}{4}$ mm. longis instructum, lobi disci truncati $\frac{1}{2}$ mm. lati longi triente longitudinis segmentorum perianthii, antherae circa $\frac{3}{5}$ mm. longae late ovatae, stylus $1\frac{1}{2}$ mm. longus $\frac{1}{4}$ mm. crassus columnaris duplo longior quam pars conica libera ovarii lobis 3 prominentibus stigmatiferis instructus, pars adnata ovarii $\frac{3}{4}$ mm. longa, fructus 17 mm. longus 15 mm. in diametro subglobosus breve stipitatus (stipes 2 mm. longus) apice cono 1 mm. alto et cicatrice (perianthio disjuncto) 5 mm. crassa coronatus.

Field number 615, February 16, 1927, altitude 200 meters; on ridge, south end of the island. Endemic.

Santalum raiateense differs from *Santalum multiflorum* John W. Moore in having the leaves provided with more numerous secondary veins, shorter peduncles and therefore more congested inflorescences. In floral characters it differs in the longer styles, larger anthers and in the shorter, narrower lobes of the disc.

The native name is *ahi*.

CUNONIACEAE

Weinmannia ovalifolia, species nova.

Frutex ad 2 m. altus, caules graciles teretes cinerei, ramuli complanati sparse setulosi castanei, folia simplicia, laminae ad $5\frac{1}{2}$ cm. longae $2\frac{1}{2}$ cm. latae ovatae acutae profunde cernatae subcoriaceae costa conspicua subrubra et 10-12 nervis secundariis instructa, petioli 1-3 mm. longi, stipulae 5 mm. longae $3\frac{1}{2}$ mm. latae ellipticae obtusae integrae, inflorescentiae ad 6 cm longae cymosae et axillares et terminales paribus ramorum secundariorum 1 vel 2 instructae, rami inflorescentiarum sparse setulosi, flores plurimi 1 mm. longi $1\frac{1}{2}$ mm. lati albi, pedicelli $1\frac{1}{2}$ mm. longi tenues, sepala $\frac{3}{4}$ mm. longa ovata ad basin connata, petala $1\frac{1}{4}$ mm. longa late ovata obtusa, lobi disci $\frac{1}{4}$ mm. longi ligulati obtusi, filamenta $\frac{3}{4}$ mm. longa apiculata, antherae $215\ \mu$ longae cordatae flavae connectivis in caudas singulas $33\ \mu$ longas productis instructae, ovarium $\frac{3}{4}$ mm. altum sparse setulosum ovatum, ovula 6 in singulis placentis, stylus circa $\frac{1}{2}$ mm. longus tenuis, stigma subcapitatum minute papillatum, fructus circa $2\frac{3}{4}$ mm. longus ellipticus normaliter ad suturam complanatus, semina $\frac{3}{4}$ mm. longa ovato-oblonga uno latere profunde sulcata subfusca ad terminos ambos cristis pilorum subalbidorum ad $\frac{1}{2}$ mm. longorum instructa, testa per longitudinem striata.

Field number 95, September 18, 1926, altitude 355 meters; on south facing slope along path to Mount Temehani. Endemic.

Weinmannia ovalifolia differs from *Weinmannia parviflora* Forster filius in having shorter, denser inflorescences, more numerous ovules, oblong, angular capsules, and narrowly oblong seeds.

Weinmannia raiateensis, species nova.

Frutex 1-2 m. altus, caules graciles teretes fuscii, ramuli complanati sparse setulosi castanei, folia simplicia vel saepius trifoliolata 11-13 paribus nervorum secundariorum instructa, laminae ovato-lanceolatae acutae crenulatae subcoriaceae costa conspicua setulosa subrubra instructae, laminae foliolorum terminalium $8\frac{1}{2}$ cm. longae 22-25 mm. latae in petiolulum 1 cm. longum sensim attenuates, laminae foliolorum lateralium ad $\frac{1}{2}$ cm. longae 12 mm. latae ad basin inaequilaterales subsessiles, stipulae ad 10 mm. longae ad basin $4\frac{1}{2}$ mm. latae ovatae obtusae, inflorescentiae ad $3\frac{1}{2}$ cm. longae cymosae et axillares et terminales paribus singulis ramorum secundariorum instructae, rami inflorescentiarum sparse setulosi, alabastra 1 mm. longa subsphaerica plurima subflava, pedicelli 1 mm. longi graciles, sepala $\frac{3}{4}$ mm. longa ovata obtusa ad basin connata, petala 1 mm. longa late ovata obtusa, lobi disci quadrati $132\ \mu$ longi et lati, antherae $297\ \mu$ longae late cordatae flavae connectivis in caudas singulas $40\ \mu$ longas productis instructae, ovarium $\frac{3}{4}$ mm. altum ovatum, ovula 8 in placentis singulis, stylus circa $\frac{1}{4}$ mm. longus, stigma subcapitatum.

Field number 396, December 3, 1926, altitude 300 meters; on high ridge between Vairahi and Avera Rahi valleys. Endemic.

Weinmannia raiateensis differs from *Weinmannia ovalifolia* John W. Moore in having trifoliolate leaves with narrower and longer leaflets, more numerous ovules in the ovary, and more strongly cupped calyx segments.

LEGUMINOSAE

***Canavalia raiateensis*, species nova.**

Caulis scandentes ad 10 m. alti circa 3 mm. crassi teretes striati villosi laete virentes, folia trifoliolata, laminae ciliatae utrinque sparse setosae nervis secundariis circa 10 utro latere costae instructae ad apicem in extremitatem acutam apiculatam abrupte contractae haec foliolorum terminalium ad 9 cm. longae $5\frac{1}{2}$ cm. latae late ovatae ad basin obtusae illae foliorum lateralium ad 8 cm. longae 5 cm. latae ovatae inaequilaterales, racemi 1- $1\frac{1}{2}$ cm. longi paucifloriferi pedunculis circa 1 cm. longis ficti, flores circa 3 cm. longi subrubri, calyx 1 cm. longus 5-lobatus lobis lateralibus 2 sparse setosis late rotundatis ad 5 mm. latis et lobis superioribus 3 obtusis circa $2\frac{1}{4}$ mm. latis longitudine circa $\frac{1}{2}$ loborum lateralium, vexillum late ovatum emarginatum reflexum circa 5 mm. supra basin auriculis 2 incurvatis 3 mm. longis et inter eas callo prominenter crassato instructum, callus supra auriculas lobis 2 crassatis instructus, alae lineare-oblongae falcatae circa 6 mm. supra basin auriculatae callo extendente sursum ex auriculis circa 7 mm. instructae, carina circa 25 mm. longa 7 mm. lata valide falcata, discus circa $1\frac{1}{2}$ mm. longus, antherae circa $1\frac{1}{2}$ mm. longae $1\frac{1}{4}$ mm. latae ellipticae apiculatae, ovarium stipitatum (stipes 1 mm. longus) sericeum 2-ovulatum, legumen 5 cm. longum $3\frac{1}{2}$ cm. latum stipitatum (stipes 3 mm. longus) plerumque 1-seminiferum valde complanatum semiligneum fuscissimum termino obtusum et rostro gracile (ad 1 cm. longo) instructum, (fructus interdum 2-seminiferus et ad 6 cm. longus), suturae laterales prominentissimae ad 7 mm. ex margine superiore, pedicellus fructus ad 8 mm. longus, endocarpium chartaceum adherens ad valves prope lateribus seminis, semina ad 24 mm. longa 16 mm. lata ovata aequaliter fulva, hilum circa 17 mm. longum 2 mm. latum nigrum.

Field number 507, January 10, 1927, altitude 200 meters; climbing over trees and bushes, cliff south of Faaroa Bay. Endemic.

Canavalia raiateensis differs from *Canavalia microcarpa* (A. P. De Candolle) Piper in having villous stems, and more numerous secondary veins on each side of the midrib of the leaflets. The shorter pods, provided with a shorter stipe but longer beak, are generally one- (rarely two-) seeded. The seeds are fully three times as large as those of *Canavalia microcarpa*.

EUPHORBIACEAE

***Acalypha Wilkesiana* J. Mueller Arg.: A. P. De Candolle, Prod., vol. 15, pt. 2, p. 187, 1866, forma *appendiculata*, forma nova.**

Cum characteribus speciei nisi quod: folia ad 15 cm. longa $\frac{1}{2}$ - $2\frac{1}{2}$ cm. lata ovato-lanceolata vel linearia saepe conspicue appendiculata obtusa apiculata saepe ad basin auriculata marginibus ciliata atque plus minusve subalbida vel subrubra.

Field number 594, February 6, 1927, altitude 2 meters; cultivated in old garden, Tioo. Cultivated in Raiatea.

This form has the characters of the species except that the leaves are up to 15 cm. long, $\frac{1}{2}$ - $2\frac{1}{2}$ cm. wide, ovate-lanceolate to linear, often notably appendiculate, obtuse and apiculate, ciliate and more or less whitish or pinkish margined, and auriculate at the base.

***Glochidion emarginatum*, species nova.**

Frutex depressus $\frac{1}{8}$ - $\frac{1}{4}$ m. altus, ramuli angulares plus minusve pubescentes pilis subfuscis, laminae ad 3 cm. longae 15 mm. latae ellipticae vel ovato-lanceolatae acutae glabrae nervis secundariis 5-6 utro latere costae instructae, petiolus circa 1 mm. longus glabrus vel sparse pubescens, stipulae $1\frac{1}{2}$ mm. longae $\frac{3}{4}$ mm. latae anguste cuneatae glabrae vel sparse pubescentes persistentes, inflorescentia fasciculata in juventute axillaris in senectute supraaxillaris in pedunculis 1 mm. longis ficta, flores monoici flavi 3-6 in fasciculis singulis bracteatis, flores staminiferi $2\frac{1}{4}$ mm. lati crateriformes in pedicellis gracilibus ad 4 mm. longis ficti, sepala sex $1\frac{1}{2}$ mm. longa 1 mm. lata infra paulum connata glabra, ea in serie exteriori elliptica apice rotundata, ea in serie interiore ovato-lanceolata obtuse, columna staminifera $1\frac{1}{4}$ mm. alta, antherae 6 connectivis ($\frac{1}{2}$ mm.) superatae, flores pistilliferi circa 3 mm. longi $1\frac{1}{2}$ mm. lati in pedicellis gracilibus glabris ad 5 mm. longis ficti, sepala 6 ad $1\frac{1}{4}$ mm. longa $\frac{3}{4}$ mm. lata elliptica obtusa infra plus minusve connata omnia inter se similia glabra, ovarium $\frac{3}{4}$ mm. longum subglobosum 4-5-loculare glabrum tubo styli 2 mm. longo accrescente coronatum, stylus ramis 4-5 emarginatis instructus, fructus ignotus.

Field number 476A, January 1, 1927, altitude 470 meters; in moss-covered clay soil, Mount Temehani. Endemic.

Glochidion emarginatum differs from *Glochidion Manono* H. Baillon in having much smaller leaves, smaller staminate flowers, smaller pistillate flowers with obtuse calyx lobes. From *Glochidion tahitensis* H. Baillon it differs in having brownish pubescence, much smaller leaves, the calyx lobes of the pistillate flowers obtuse and glabrous exteriorly, and a shorter style column.

***Glochidion raiateense*, species nova.**

Frutex depressus $\frac{1}{8}$ - $\frac{1}{2}$ m. altus, ramuli angulares paulo pubescentes pilis subfuscis, laminae ad 4 cm. longae 18 mm. latae ellipticae obtusae vel subacutae glabrae nervis secundariis 8-9 utro latere costae instructae, petiolus circa 1 mm. longus glabrus, stipulae circa $1\frac{1}{4}$ mm. longae 1 mm. latae denique ad $1\frac{1}{2}$ mm. in latitudine amplificatae ovatae obtusae vel acutae glabrae persistentes, inflorescentia fasciculata axillaris sessilis, flores monoici flavi 2-3 in fasciculis singulis bracteatis, flores staminiferi $1\frac{1}{2}$ mm. lati crateriformes in pedicellis gracilibus 5 mm. longis ficti, sepala 6 similia $1\frac{1}{4}$ mm. longa 1 mm. lata elliptica apice obtusa vel rotundata infra paulum connata glabra, columna staminifera minora quam 1 mm. alta, antheae 6 connectivis ($\frac{1}{5}$ mm.) superatae, flores pistilliferi circa $2\frac{1}{2}$ mm. longi 1 mm. lati in pedicellis gracilibus glabris ad 5 mm. longis ficti, sepala sex 1 mm. longa $\frac{3}{4}$ mm. lata late ovata obtusa vel subacuta infra plus minusve connata glabra, ovarium 1 mm. longum globosum 4-5-loculare glabrum tubo styli $1\frac{1}{2}$ mm. longo coronatum stylus summitate lobis 4-5 gracilibus instructus, fructus ignotus.

Field number 476B, January 1, 1927, altitude 470 meters; in moss-covered clay soil, Mount Temehani. Endemic.

Glochidion raiateense is closely related to the preceding species but differs in that the staminate flowers have shorter calyx lobes and less-projecting

connectives. The pistillate flowers have a more slender style column with non-emarginate lobes.

Macaranga attenuata, species nova.

Arbor 7 m. alta, rami glabri fulvi, ramuli glabri glauci, laminae ad 12 cm. longae 6½ cm. latae ovatae in caudam acuminatam gracilem potius abrupte attenuate peltatae ad basin rotundatae margine undulatae glabratae nervis secundariis 15-19 ascendentibus instructae, petiolus ad 9½ cm. longus gracilis glaucus glaber, stipulae ad 22 mm. longae linearo-lanceolatae longi-acuminatae caducae fuscae, inflorescentia staminifera ad 5 cm. longa racemosa multiflorifera prope basin ramo uno instructa, bractae ad 2½ mm. longae late ovato-lanceolatae supra abrupte attenuatae, flores in capitula densa aggregati, calyx circa 1¼ mm. latus globosus crateriformis 2-4-dentatus glaber sufflavus, stamina 5-7, antherae 4-loculares, inflorescentia pistillifera 3-4-florifera, rachis glaber, bractae 1½ mm. longae eis inflorescentiae staminiferae similes, calyx 3 mm. longus 2½ mm. latus ovatus supra angustatus bifidus demum valvis 2 divisus, ovarium 2½ mm. altum subglobosum glabrum 2-loculare, rami styli 2 ad 5½ mm. longi latae patentes contra regulam distanter papilloso, fructus 7 mm. altus 8-9 mm. latus depresso-globosus glaber levis plerumque semen singulum maturescens, semen 4 mm. longum 5 mm. latum paulo a latere complanatum contra regulam rugosum, testa spumescens fulva nitida.

Field number 232, October 25, 1926, in fruit; December 9, 1926, with staminate flowers; altitude 25 meters; on west facing slope of valley wall, third valley south of Faaroa Bay. Endemic.

Macaranga attenuata differs from *Macaranga tahitensis* J. Mueller in having glabrous, narrower leaf blades, the petioles glabrous and shorter than the blades, shorter stipules, and a 3- to 4-flowered pistillate inflorescence with a glabrous rachis. The calyx of the pistillate flower is 2-cleft, and that of the staminate flower is larger, 2- to 4-dentate and glabrous.

AQUIFOLIACEAE

***Ilex tahitensis* (A. Gray), combinatio nova.**

Byronia tahitensis A. Gray: U. S. Expl. Exped., Bot., vol. 15, pt. 1, tab. 25B, p. 297, 1854.

Ilex anomala Hooker and Arnott: Bot. Beechey's Voy., tab. 25, p. 111, 1832, forma β *tahitensis* (A. Gray) Nadeaud ex Loesener, Nova Acta, Acad. Leop.-Carol. Nat. Cur., vol. 78, p. 67, 1901.

The genus *Byronia* does not seem to be sufficiently distinct from the genus *Ilex* to retain them as separate genera. The reduction of *Byronia* to *Ilex* by Loesener seems to be a proper course. The Society Islands species seems to be sufficiently distinct to retain specific rank.

MALVACEAE

× ***Hibiscus corrugatus*, species nova.**

Arbor multi-ramosa 5 m. alta, laminae 10-12 cm. longae 8-10 cm. latae orbiculari-cordatae corrugatae abrupte acutae in superficie superiore et inferiore plus minusve

pubescentes marginibus crenulatae palmate 7-10-nervatae, nervi laterales 2 glanduliferi ad basin decurrentes, petioli ad 12 cm. longi pilis brevibus vestiti, stipulae circa 2 cm. longae 1 cm. latae elliptici-oblongae obtusae caducae.

Field number 608, February 12, 1927, altitude $\frac{1}{2}$ meter; on the beach at Fatuna. Indigenous in the Society Islands. The flowers are said to be yellow.

Hibiscus corrugatus is intermediate between *Hibiscus tiliaceus* Linnaeus and *Hibiscus tricuspus* Banks in all characters observed. It is probably a hybrid between the two. This hybrid is easily recognized by the corrugate condition of its leaf blades.

THYMELAEACEAE

Wikstroemia raiateensis, species nova.

Frutex prostratus $\frac{1}{2}$ m. altus, rami castanei glabrescentes praeter cristas pilorum in axillis foliorum, ramuli sparse pubescentes, laminae ad $4\frac{1}{2}$ cm. longae $2\frac{1}{2}$ cm. latae obovatae vel elliptico-lanceolatae ad basin cuneatae glabrae subcoriaceae in marginibus subcrassae nervis secundariis 7-9 utro latere costae instructae, petiolus 3 mm. longus glabrus, inflorescentia terminalis subumbellata 6-8-florifera in pedunculis arcuatis vel recurvatis ad 4 mm. longis ficta, flores 12 mm. longi flavi in pedicellis $1\frac{1}{2}$ mm. longis, perianthium crateriforme extus sparse pubescens 6 mm. inferioribus cylindricum supra lobis 4 ovatis circa 4 mm. longis instructum, stamina 8 ad perianthium adnata, antherae $\frac{2}{3}$ mm. longae ovato-oblongae subsessiles contra regulam prope summitatem tubi fictae, squami hypogyni $1\frac{1}{4}$ mm. longi oblongi obtusi glabri, ovarium $2\frac{1}{4}$ mm. longum obovatum, stylus $\frac{1}{10}$ mm. longus gracilis, stigma $\frac{1}{8}$ mm. altum subglobosum breviter pillosum, fractus circa 5 mm. longus elliptico-oblongus obtusus roseus.

Field number 471, January 1, 1927, altitude 470 meters; in moss-covered clay soil, Mount Temehani. Endemic.

Wikstroemia raiateensis differs from *Wikstroemia indica* (Linnaeus) Meyer in having prostrate stems, smaller, thicker leaves, fewer flowered inflorescences and smaller fruits.

MYRTACEAE

Decaspermum lanceolatum, species nova.

Frutex prostratus gracilis, rami glabrescentes in senectute subfusi, ramuli sparse pubescentes, laminae ad 2 cm. longae 7 mm. latae lanceolatae acutae ad basin attenuatae in superficie inferiore glanduloso-punctatae in superficie superiore nitidae sparse pubescentes in juventute subcoriaceae venulis secundariis 7-8 utro latere costae instructae, petiolus $1\frac{1}{2}$ mm. longus, setae ad 1 mm. longae in axillis foliorum fictae, flores solitarii in exillis foliorum superiorum ficti, pedunculi 5 mm. longi sparse pubescentes 2-bracteolati bracteolis circa $2\frac{1}{2}$ mm. longis, flores ad 7 mm. lati pedicellis sparse pubescentibus circa 1 mm. longis ficti, tubus calycis extus sparse sericeo-pubescentibus, lobi calycis circa $\frac{3}{4}$ mm. longi $\frac{3}{4}$ mm. lati obtusi glabrescentes, petala 3 mm. longa obovata apice rotundata alba glanduloso-punctata, stamina cum petalis inserta, filamenta filiformia circa $1\frac{1}{2}$ mm. longa, antherae $\frac{1}{2}$ mm. longae flavae thecis connectivo angusto separatis, ovarium 1 mm. longum subhemisphaericum, stylus $1\frac{1}{2}$ mm. longus filiformis, stigma parvum subglobosum, fructus circa 5 mm. in diametro globosus subniger, semina $2\frac{1}{2}$ mm.

longa $1\frac{1}{2}$ mm. lata $1\frac{1}{4}$ mm. crassa plus minusve cuneata in dorso rotundata obscure rugosa fusca.

Field number 105, September 21, 1926, altitude 470 meters; in wet moss on rocks, Temehani Plain. Endemic.

Decaspermum lanceolatum differs from *Decaspermum fruticosum* J. R. and G. Forster in having a dwarf stature, smaller leaves, and axillary flowers.

***Pimenta racemosa* (Miller), combinatio nova.**

Myrtus caryophyllata N. J. Jacquin: Obs., vol. 2, p. 1, 1767; not Linnaeus, 1753.

Caryophyllus racemosus Miller: Gard. Dict., 8th ed., no. 5, 1768.

Myrtus acris Swartz: Prod., p. 79, 1788 (excl. var. β).

Myrcia acris A. P. De Candolle: Prod., vol. 3, p. 243, 1828.

Pimenta acris Kosteletzky: Allg. Med. Pharm. Fl., vol. 4, p. 1526, 1835.

Amonis acris Berg: Handb. Pharm. Bot., 1st ed., vol. 3, p. 339, 1855.

Amomis caryophyllata (N. J. Jacquin) Krug and Urban: Engler, Bot. Jahrb., vol. 19, p. 573, 1894.

The oldest name applied to this species is *Myrtus caryophyllata* N. J. Jacquin 1767. This is, however, unavailable, as it duplicates the earlier *Myrtus caryophyllata* published by Linnaeus (33) in 1753 and applied to a different plant. Jacquin's specific name was not validated under any other combination prior to Miller's publication of *Caryophyllus racemosus*. The application of Miller's name is evident and it thus becomes the earliest valid name for this common species. The genus *Amomis* is not sufficiently distinct from *Pimenta*, as its putative character, the amount of coiling of the embryo, is variable even in the same species.

MELASTOMACEAE

***Astronia ligulata*, species nova.**

Arbor parva 2 m. alta, rami glabrescentes subfusci, ramuli crassi quadrangulares squamis effusis scariosis vestiti, laminae ad $4\frac{1}{2}$ cm. longae 28 mm. latae ellipticae supra in summitatem brevem obtusam abrupte contractae subcoriaceae flavo-virides in superficie inferiore squamis minutis effusis instructae, nervi primarii 3, nervi transversi 7-9 inter costam et nervos singulos laterales positi, petioli ad 12 mm. longi supra canaliculati, inflorescentia 3 cm. longa $3\frac{1}{2}$ cm. lata umbellata terminalis, pedunculi 3-4-floriferi angulares squamis effusis minutis subfuscis vestiti, flores 15 mm. longi flavi in pedicellis squamosis 5 mm. longis ficti, tubus calycis 4 mm. longus $5\frac{1}{2}$ mm. latus campanulatus extus sparse squamosus lobis 4 late rotundatis circa $1\frac{1}{2}$ mm. longis instructus, petala 5 mm. longa ovata apice rotundata libera flava, stamina 8, filamenta 6 mm. longa complanata parte superiore ($1\frac{1}{4}$ mm.) magis attenuata, antherae 4 mm. longae supra squamosae appendice liguliforme 2 mm. longo ad basin instructae, stylus post anthesin ad 7 mm. longitudinis productus, stigma subcapitatum, fructus (immaturus) hemisphaericus 3 mm. latus lobis calycis brevibus patentibus connatis coronatus.

Field number 479, January 1, 1927, altitude 460 meters; in wet clay soil, Mount Temehani. Endemic.

Astronia ligulata differs from *Astronia fraterna* A. Gray in having smaller, broadly ovate, obtuse leaves, shorter flower clusters, and differently shaped stamens.

***Astronia saccata*, species nova.**

Frutex 2-3 m. altus, rami glabrescentes fusci in senectute, ramuli graciles quadrangulares squamis subfuscis scariosis dense vestiti, laminae ad $3\frac{1}{2}$ cm. longae 22 mm. latae obovatae supra insummitatem paulum elongatam obtusam abrupte contractae subcoriaceae flavo-virides in superficie inferiore conspicue squamosae pinnatinervosae venulis secundariis 7-9 utro latere costae instructae, petiolus ad 7 mm. longus squamosus, inflorescentia ad $3\frac{1}{2}$ cm. longa 6 mm. lata vel saepe minor umbellata terminalis, pedunculi 3-floriferi quadrangulares squamis subfuscis dense vestiti, flores 7 mm. longi in pedicellis squomosis $1\frac{1}{2}$ mm. longis ficti, tubus calycis circa 3 mm. longus 3 mm. latus extus sparse squamosus crateriformis lobis 4 truncatis circa $\frac{1}{2}$ mm. longis instructus, petala $2\frac{1}{2}$ mm. longa esquamosa flava connata in calyptram conicam ex toto deciduam, stamina 8, filamenta $1\frac{1}{2}$ mm. longa complanata in superficie anteriore canaliculata antheris paulum lattia, antherae $1\frac{1}{2}$ mm. longae infra saccatae, pars apicalis antherae circa $\frac{1}{2}$ mm. longa cuneata, ovarium 4-loculare, stylus post anthesin ad 6 mm. longitudinis productus, stigma subcapitatum, fructus $2\frac{1}{2}$ mm. longus globosus lobis connatis calycis coronatus, semina $\frac{3}{4}$ mm. longa plus minusve curvata clavata complanata in uno latere utriculo aereo instructa.

Field number 82 (type), September 16, 1926, altitude 350 meters; on east face of mountain, along path to Mount Temehani. Field number 685A, March 24, 1927, altitude 800 meters; on ridge west side of highest mountain. [This is a host plant of *Korthalsella rubescens* (Van Tieghem) H. Lecomte.] Endemic.

Astronia saccata differs from *Astronia ovalifolia* Decaisne in having scurfy branchlets, larger, subacute leaves with more prominent secondary nerves, very short calyx segments, and permanently fused petals.

ARALIACEAE

***Meryta lucida*, species nova.**

Arbor parva $2\frac{1}{2}$ m. alta, caulis glaber cortice inciso odoratus, laminae ad 20 cm. longae 4 cm. latae anguste obovato-oblongae acutae ad basin cuneatae coriaceae superficie superiore nitidae venulis secundariis 23-25 utro latere costae instructae, petioli ad $3\frac{1}{2}$ cm. longi, inflorescentia terminalis 3-4-ramosa, ramis singulis bracteatis fasciculis florum sessilium instructis, flores dioici, inflorescentia staminifera 8 cm. longa, flores in fasciculis 8-10-floriferis lati, fasciculis singulis bractea gibba concava obtusa instructis, bractee 5 mm. latae subimbricatae ramulis brevissimis fictae, sepala nulla, petala 4 obovato-oblonga obtusa plerumque 5-nervata 3 mm. longa flava, stamina 4, filamenta filiformia 4 mm. longa, antherae 1 mm. longae ovato-oblongae emarginatae ad basin cordatae, inflorescentia pistillifera 6-7 cm. longa, flores 6 mm. longi fasciculis 5-6-floriferis lati, singuli in axillo bractee carnosae obtusae 2 mm. longae ficti, sepala nulla, petala obovatum circa 1 mm. longa, rudimenta staminum minuta, ovarium 5 mm. longum obovatum 5-loculare ad basin aliis proximis plus minusve connatum, rami styli 5 crassi acuti 2 mm. longi parte $\frac{1}{2}$ proxima connati, fructus $1\frac{1}{2}$ cm. longus subglobosus angularis ad basin cum membris proximis fasciculi connatus stylis persistentibus coronatus.

Field number 619, February 19, 1927, altitude 100 meters; on north ridge of third valley south of Uturoa. Endemic.

Meryta lucida differs from *Meryta lanceolata* J. R. and G. Forster in having oblanceolate leaves with glossy upper surfaces, tetramerous staminate flowers, obtuse petals, and stamens longer than the petals.

***Polyscias reflexa*, species nova.**

Arbor haud ramosa 4 m. alta, caules graciles erecti glabri, folia ad cm. longa imparipinnata paribus foliolorum oppositorum 7-8 instructa, vaginae ad 5 cm. longae, laminae foliolorum ad 20 cm. longae $5\frac{1}{2}$ cm. latae subfalcatae acutae maxime inaequaliterales ad basin carnosae glabrae valde virides venulis secundariis 17-21 utro latere costae instructae, petioli 2-3 cm. longi, inflorescentia paniculata ad 70 cm. lata, rami primarii 2-3 ramosissimi, bracteae ad basin ramorum primariorum 1 cm. vel plus longae ovatae acutae caducae, rami secundarii senescentes conspicue reflexi, pedunculi 5-6-floriferi bracteolati in axillis bractearum ovatarum acutarum circa 2 mm. longorum ficti, flores $4\frac{1}{2}$ mm. longi umbellis bracteatis ficti, pedicelli 1 mm. longi glabri, tubus calycis $1\frac{1}{2}$ mm. longus parti libera circa $\frac{1}{8}$ mm. longa, sepala 5 minuta, petala $3\frac{1}{2}$ mm. longa carnosae obovato-oblonga obtusa flavo-viridia singulis appendicibus incurvis apicalibus ad 1 mm. longis instructa, discus annularis lobis 5 subtruncatis $\frac{1}{2}$ mm. latis compositus, stamina $2\frac{1}{2}$ mm. longa 5, filamenta $1\frac{1}{2}$ mm. longa, antherae $1\frac{3}{4}$ mm. longae ovato-oblongae emarginatae ad basin cordatae flavae, ovarium $1\frac{1}{4}$ mm. latum hemisphaericum 2-loculare conspicue complanatum, styli $\frac{3}{4}$ mm. longi conici erecti ad basin plerumque connati, fructus 6 mm. longus $6\frac{1}{2}$ mm. latus obovatus ad basin rotundatus apice truncatus parte libera tubi calycis persistente stylisque reflexis connatus.

Field number 508, January 11, 1927, altitude 300 meters; in wet clay soil of ridge, central part of Avera Valley. Endemic.

Polyscias reflexa differs from *Polyscias tahitensis* (Nadeud) Harms in having larger leaves with the blades of the leaflets larger and larger, more numerous flowers, and the branches of the inflorescence reflexed.

ERICACEAE

***Vaccinium raiateense*, species nova.**

Frutex 10-70 cm. altus, caulis crassus sparse ramosus plus minusve lanatus, laminae ad 22 mm. longae 15 mm. latae ellipticae obtusae ad basin rotundatae distante glandulososerratae sparse pubescentes in costa venulisque atque ad basin in utraque superficie in superficie inferiore glandibus prominentibus effusis ad $\frac{1}{4}$ mm. longis instructae, petioli ad 3 mm. longi sparse lanati, flores ad 1 cm. longi 7 mm. lati ex axillis foliorum superiorum singuli vel bini in pedicellis ad 6 mm. longis ficti, pedicelli ad basin bracteolis 2 spathulatis $3\frac{1}{2}$ mm. longis 1 mm. latis instructi, tubus calycis $4\frac{1}{2}$ mm. longus prope glaber lobis cuneatis circa $2\frac{1}{2}$ mm. longis instructus, corolla circa 8 mm. longa urceolata extus glabra intus sparse pubescens in lobis circa $1\frac{1}{2}$ mm. longis cuneatis roseis, discus $\frac{1}{2}$ mm. altus annularis integrus, stamina 5 mm. longa 10, filamenta 3 mm. longa ad apicem attenuata pubescentia, antherae $2\frac{1}{2}$ mm. longae in dorso appendicibus binis gracilibus 1 mm. longis instructae, ovarium $2\frac{1}{2}$ mm. longum hemisphaericum, stylus 6 mm. longus columnaris, stigma subcapitatum, fructus ignotus.

Field number 741, April 15, 1927, altitude 750 meters; in wet clay, moss covered soil, south end of Temehani Range. Endemic.

Vaccinium raiateense differs from *Vaccinium cereum* Forster filius in having smaller, narrower, nonglaucous leaves. In addition the calyx and corolla are glabrous, the pedicels shorter, bracteoles spathulate, and calyx segments obtuse.

EPACRIDACEAE

***Styphelia brevistyla*, species nova.**

Frutex caulibus prostratis fuscissimis et ramis ad 30 cm. altis instructus, ramuli graciles fusci pilis minutis vestite, folia juvenalia ascendentia in senectute patentia vel reflexa, laminae variabilis ad $7\frac{1}{2}$ mm. longae $1\frac{1}{2}$ mm. latae (plerumque 1 mm. latae) obovatae obtusae breviter apiculatae coriaceae in superficie inferiore glaucae ad apicem in juventute ciliatae, petiolus 1 mm. longus sparse setosus, nervi primarii saepe ad marginem furcati, squami alabastri ovati obtusi marginibus ciliolati trade delapsi, ei ad basin reducti, flores $2\frac{3}{4}$ mm. longi $1\frac{1}{2}$ mm. lati in axillis foliorum superiorum singuli ficti, pedunculi $1\frac{1}{4}$ mm. longi bracteis parvis ovatis marginibus ciliolatis confertim imbricatis vestiti, calyx sepalis 5 liberis imbricatis ovatis marginibus ciliolatis subfuscis $1\frac{3}{4}$ mm. longis circa 1 mm. latis compositus, corolla $2\frac{1}{2}$ mm. longa urceolata extus glabra lobis 5 anguste triangularibus patentibus instructa, lobi corollae $1\frac{1}{4}$ mm. longi ad basin $\frac{1}{2}$ mm. lati superficie interiore pilis 1 vel 2 subalbidis circa $\frac{1}{4}$ mm. longis instructi, stamina $1\frac{1}{2}$ mm. longa 5, antherae $\frac{1}{4}$ mm. longae ovatae, ovarium 1 mm. in diametro globosum, stylus $\frac{1}{2}$ mm. longus columnaris, stigma truncatum, fructus $2\frac{1}{4}$ mm. longus 3 mm. latus depresso-globosus roseus, pyren $1\frac{1}{2}$ mm. longus $2\frac{1}{2}$ mm. latus inter strias 8 prominentes rugosus.

Field number 106, September 21, 1926, altitude 470 meters meters; in wet moss, Temehani Plain. Endemic.

Styphelia brevistyla is related to *Styphelia Pomarae*² of Tahiti. It differs from that species in having smaller, narrower leaves without a pronounced tuft of hairs at the apex, a relatively shorter corolla, and a style that is shorter than the ovary.

MYRSINACEAE

***Rapanea fasciculata*, species nova.**

Arbor parva 2-3 m. alta, caules supra multi-ramosi, ramuli glabri verrucosi patentes, laminae ad 22 mm. longae 12 mm. latae ellipticales vel obovatae glabrae integrae obtusae coriaceae glandulosi-punctatae laete virides in superficie superiore nitidae atque ad apicem canaliculatae venulis secundariis 6-9 utro latere costae instructae, petioli ad $2\frac{1}{2}$ mm. longi glabri, flores circa 3 mm. lati 3 vel 4 in axillis foliorum in fasciculis bracteatis ficti, pedicelli 1- $1\frac{1}{2}$ mm. longi glandulosi punctati, calyx 1 mm. longus crateriformis glandulosi-punctatus lobis marginibus glandulosis late ovatis obtusis $\frac{3}{4}$ mm. longis instructus, petala $2\frac{3}{4}$ mm. longa $1\frac{1}{4}$ mm. lata ovato-lanceolata obtusa parte inferiore ($\frac{1}{4}$ mm.) connata valde conspicue glandulosi-punctata albida, stamina 2 mm. longa, filamenta $1\frac{1}{4}$ mm. longa basi petalorum adnato, antherae $1\frac{1}{4}$ mm. longae $\frac{1}{4}$ mm. latae ovotae summitate glandulosae, ovarium 1 mm. longum ovatum, stylus $\frac{1}{2}$ mm. longus scalpriformis, fructus circa 3 mm. in diametro globosus punctis lineisque (ad $\frac{1}{2}$ mm. longis) glandulosus crassus instructus, pyren circa $2\frac{1}{2}$ mm. in diametro striis circa 20 longitudinalibus instructus.

² *Styphelia Pomarae*, combinatio nova.

Cyathodes Pomarae A. Gray: Proc. Am. Acad., vol. 5, p. 324, 1862.

I follow Drude (17, p. 78) in reducing *Cyathodes* to a subgenus under *Styphelia*.

Field number 469 (type), January 1, 1927, in flower, altitude 450 meters; in wet clay soil, Mount Temehani. Field number 76, September 16, 1926, in fruit, altitude 350 meters; on northeast exposure of Mount Temehani. Endemic.

Rapanea fasciculata differs from *Rapanea collina* (Nadeaud) Mez in having glabrous branchlets, smaller leaves, shorter petioles, and obtuse calyx lobes.

***Rapanea fusca*, species nova.**

Arbor parva 2-3 m. alta, rami graciles numerosi glabri fusci, ramuli graciles glabri subflavi, laminae 2-4½ cm. longae 7-16 mm. latae obovatae obtusae ad basin cuneatae coriaceae glabrae integrae ad apicem canaliculatae nitidae in superficie superiore inconspicue et minute glandulosi-punctatae laete virides venulis secundariis 10-12 utro latere costae instructae, petiolus 5-12 mm. longus glaber, flores circa 3 mm. lati 3-4 in axillis foliorum in fasciculis bracteatis ficti, pedicelli 1-2 mm. longi glandulosi-punctati, calyx 1 mm. longus crateriformis glandulosi-punctatus lobis marginibus glandulosis obtusis late ovatis ¾ mm. longis instructus, petala 1¾ mm. longa 1 mm. lata conspicue reflexa ovata obtusa glandulosi-punctata marginibus glandulosa, stamina 1¼ mm. longa, filamenta circa ½ mm. longa basibus petalorum adnata, antherae ¾ mm. longae conspicue curvatae sagittatae summitate glandulosae, ovarium circa ½ mm. longum subglobosum stigmatate sessili ad bain incrassato ramis 2 unilateralibus ad 1½ mm. longis ½ mm. latis obtusis vel subacutis instructo coronatum, fructus 4 mm. in diametro globosus stigmatate marcescente coronatus punctis glandulosis atque lineis ¾ mm. longis signatus, pyren circa 3½ mm. in diametro striis 20 longitudinalibus instructus.

Field number 669A, March 18, 1927, altitude 100 meters; on ridge, south side of mountain north of Vahuti (south end of the island). Endemic.

Rapanea fusca differs from *Rapanea collina* (Nadeaud) Mez in having glabrous branchlets, smaller leaves, longer petioles and obtuse calyx lobes. It differs from *Rapanea fasciculata* John W. Moore in having larger leaves, longer petioles, longer pedicels and prominent bilobed stigmas.

***Rapanea obovata*, species nova.**

Arbuscula 2½ m. alta ramuli glabri crassi fusci, alabastris terminales 6 cm. longi conici acuminati, laminae ad 20 cm. longae 6½ cm. latae obovatae glabrae integrae obtusae vel subacutae subcoriaceae punctis glandulosis et lineis brevibus dense et contra regulam signatae, superficie superiore valde virides superficie inferiore pallidiores venulis secundariis 20-24 utro latere costae instructae, petioli 3-7 mm. longi glabri, inflorescentia fasciculata, fasciculi 3-5-floriferi in nodis inferioribus defoliatis lati, pedicelli 5-9 mm. longi, calyx 1½ mm. longus crateriformis lobis cuneatis glabris marginibus glandulosis 1¼ mm. longis instructus, drupae circa 6½ mm. in diametro globosae subroseae signis crassis glandulosis ad 2½ mm. longis signatae, pyren 4½ mm. in diametro striis 26-28 longitudinalibus instructus, semen 3½ mm. in diametro globosum.

Field number 521, January 11, 1927, altitude 300 meters; in wet clay soil, on ridge, Avera Valley. Endemic.

Rapanea obovata differs from *Rapanea Vescoi* (Drake) Mez in having larger leaves, fewer flowers in the fascicles, and longer pedicels.

Rapanea viridis, species nova.

Arbor parva 2 m. alta, rami graciles numerosi glabri subfusci, ramuli graciles subfasciculati glabri castanei, laminae ad $2\frac{1}{2}$ cm. longae 9 mm. latae obovatae obtusae emarginatae ad basin cuneatae coriaceae glabrae ad apicem subdentatae et canaliculatae nitidae in superficie superiore valde conspicue glandulosae viridissimae venulis secundariis 5-6 utro latere costae instructae, petiolus 1-2 mm. longus glabrus, flores ignoti, pedicellus 2 mm. longus, calyx circa 1 mm. longus $2\frac{1}{4}$ mm. latus crateriformis lobis 4 deltoideis 1 mm. longis marginibus glandulosis instructis, fructus circa 7 mm. in diametro globosus roseus, pyren circa 5 mm. in diametro striis 22-24 longitudinalibus instructus, semen circa $3\frac{1}{4}$ mm. in diametro globosum laete fuscum nonnihil rugosum ad extremum umbilicatum fissuris 3-4 profundis instructum.

Field number 739 (type), April 15, 1927, in fruit, altitude 750 meters; on south end of Temehani Range. Field number 716, April 4, 1927, altitude 950 meters; on north end of the highest mountain. Endemic.

Rapanea viridis differs from *Rapanea fasciculata* John W. Moore in the shorter petioled, dark green leaves with conspicuous gland dotting and strongly ascending secondary nerves. The flowers have longer pedicels and larger calyx lobes and the mature fruits are larger.

LOGANIACEAE

Geniostoma clavatum, species nova.

Frutex perennis $\frac{1}{2}$ - $\frac{1}{2}$ m. altus, caules glabri graciles sparse ramosi, ramuli graciles glabri supra foliosi in siccatione subnigri, laminae $1\frac{1}{2}$ - $2\frac{1}{2}$ cm. longae 8-18 mm. latae obovatae vel ellipticae obtusae ad basin cuneatae vel rotundatae coriaceae venulis secundariis 4-5 utro latere costae instructae, petioli 1-2 mm. longi, stipulae interpetiolares in tubum truncatum ad 1 mm. longum connatae, inflorescentiae axillares 1-3-floriferae in pedunculis 3-4 mm. longis gracilibus bracteolatis fictae, pedunculi 2-3 paribus bracteolarum oppositarum ovatarum acutarum ad 1 mm. longarum instructi, flores circa 4 mm. longi $5\frac{1}{2}$ mm. lati, calyx 2 mm. longus 4 mm. latus lobis 5 lanceolatis acutis marginibus glandulosis circa $1\frac{1}{2}$ mm. longis instructus, corolla 4 mm. longa infera in tubum 2 mm. longum connata lobis 5 ovato-lanceolatis patentibus marginibus glandulosis acutis ad basin in superficie interiore pubescentibus instructa, stamina in fauce corollae ficta, antherae $\frac{3}{4}$ mm. longae $\frac{1}{2}$ mm. latae sagittatae in filamentis $\frac{3}{4}$ mm. longis subpubescentibus elevatae, ovarium circa $\frac{1}{2}$ mm. longum ovatum glabrum, stylus $\frac{3}{4}$ mm. longus gracilis, stigma $\frac{3}{4}$ mm. longum $\frac{1}{2}$ mm. latum clavatum minute papillatum, fructus ad 7 mm. longus $3\frac{1}{4}$ mm. in diametro oblongus acutus stylo persistente coronatus, semina 1 mm. longa $\frac{3}{4}$ mm. lata anguste ovata in uno latere complanata sulcatae contra regulam reticulata.

Field number 473, January 1, 1927, altitude 470 meters; in wet clay soil near the "hole," Mount Temehani. Endemic.

Geniostoma clavatum differs from *Geniostoma rupestr(is)e* J. R. and G. Forster in having smaller leaves, larger flowers and smaller capsules and from *Geniostoma astylum* A. Gray in having smaller leaves, lanceolate calyx lobes, a definite style, and a clavate stigma.

APOCYNACEAE

***Alstonia elliptica*, species nova.**

Arbustula $\frac{1}{3}$ -1 m. alta, caules glabri crassi subvirides supra ramosi, ramuli graciles subvirides glabri, laminae ad 9 cm. longae 4 cm. latae ellipticae subacutae ad basin cuneatae coriaceae glabrae venulis secundariis 12-14 utro latere costae instructae, petioli ad 18 mm. longi glabri, inflorescentiae ad 12 cm. alta paniculatae, flores 12 mm. longi odorati, pedicelli 5-8 mm. longi interdum bracteolati, bracteolae $\frac{3}{4}$ mm. longae ovatae obtusae, calyx $2\frac{1}{2}$ mm. longus $2\frac{1}{4}$ mm. latus ovoideus lobis 5 imbricatis ovatis obtusis glabris $1\frac{1}{2}$ mm. longis instructus, corolla fauce pubescens in alabastro circa 8 mm. longa paulum contracta circa 3 mm. supra basin, flore expanso 10 mm. lata lobis 5 anguste lanceolatis acutis in superficie interiore sparse pubescentibus instructa, summitas staminum 3 mm. supra basin tubi corollae, filamenta tubo corollae in parte ($1\frac{1}{8}$ mm.) proxima adnata supra ($\frac{1}{2}$ mm.) libera pars adnata filamentorum pubescens, antherae $1\frac{1}{4}$ mm. longae ovato-lanceolatae, ovarium 1 mm. longum ellipsoideum, stylus $\frac{1}{2}$ mm. longus, stigma $\frac{1}{2}$ mm. longum ad basin expansum, fructus plerumque circa 10 cm. longi 3 mm. in diametro acuti, semina $3\frac{1}{2}$ mm. longa 2 mm. lata ovata ciliata superficie utraque breviter papillata fulva altero extremo emarginata altero extremo caudis 2 gracilibus pubescentibus ad $\frac{3}{4}$ mm. longis instructa.

Field number 746, April 16, 1927, altitude 600 meters; in red clay soil, Red Temehani. Endemic.

Alstonia elliptica differs from *Alstonia costata* R. Brown in having smaller, elliptical leaves with fewer secondary nerves. The flowers are larger with strongly imbricated obtuse calyx lobes. In addition the fruits are shorter and the seeds are broadly ovate-oblong.

***Alstonia fragrans*, species nova.**

Arbor parva 3 m. alta, caules glabri crassi subvirides supra ramosi, ramuli crassi subvirides glabri, laminae 12 cm. longae 4 cm. latae lanceolatae in apicem acuminatum abrupte contractae ad basin cuneatae coriaceae glabrae venulis secundariis 18-20 utro latere costae instructae, petioli ad $3\frac{1}{2}$ cm. longi glabri, inflorescentiae ad 7 cm. longae paniculatae, flores ad 10 mm. longi albi odorati, pedicelli 4 mm. longi graciles interdum bracteolati, bracteolae $\frac{3}{4}$ mm. longae ovatae obtusae, calyx $2\frac{3}{4}$ mm. longus 2 mm. latus lobis 5 conspicue imbricatis late ovatis obtusis $1\frac{1}{2}$ mm. longis $1\frac{1}{2}$ mm. latis instructus, corolla fauce pubescens alba in alabastro circa 9 mm. longa circa 3 mm. supra basin conspicue contracta, flore expanso 12 mm. lata lobis 5 anguste lanceolatis obtusis in superficie interiore ad basin sparse pubescentibus, summitas staminum $3\frac{3}{4}$ mm. supra basin tubi corollae, filamenta tubo corollae in parte ($2\frac{1}{4}$ mm.) proxima adnata supra ($\frac{1}{8}$ mm.) libera, pars adnata filamentorum pubescens, antherae $1\frac{1}{4}$ mm. longae lanceolatae, ovarium $1\frac{1}{4}$ mm. longum ovoideum, stylus 1 mm. longus, stigma $\frac{3}{4}$ mm. longum ad basin expansum, fructus ad 21 cm. longi 4 mm. crassi, semina 4 mm. longa $1\frac{1}{2}$ mm. lata anguste ovata conspicue ciliata superficie utraque papillata fusca altero extremo appendiculata (appendice $\frac{1}{8}$ mm. longa) altero extremo caudis 2 gracilibus pubescentibus ad $\frac{3}{4}$ mm. longis instructa.

Field number 84, September 16, 1926, altitude 350 meters; south facing slope of mountain, east path to Mount Temehani. Endemic.

Alstonia fragrans differs from *Alstonia costata* R. Brown in having the leaf blades less abruptly contracted at the apex, the nerves obscure on the lower surface when dry, shorter, obtuse sepals, broader corolla lobes, and an ovoid ovary.

GESNERIACEAE

***Cyrtandra longiflora*, species nova.**

Frutex multo-ramosus erectus 1-1½ m. altus, caules glabri cinerei ramuli glabri graciles 4-angulares, laminae ad 13 cm. longae 5 cm. latae ovato-lanceolatae acuminatae ad basin cuneate glabrescentes superficie superiore virides superficie inferiore pallidiores crenatae carnosae (siccae chartaceae) venulis secundariis patentibus 8-10 utro latere costae instructae, petioli ad 1½ cm. longi glabri, cymata 3-florifera cernua pedunculis pilis brevibus fuscis sparse pubescentibus 2½-4 cm. longis fictae, bractee floribus subtendentes 3 mm. longae anguste lanceolatae obtusae sparse pubescentes, pedicelli sparse pubescentes, hic floris medii ad 2½ cm. longus, illi florum lateralium ad 1 cm. longi, flores circa 4 cm. longi, calyx 2 cm. longus (in alabastro 4½ mm. latus pyriformis rostro gracili ad 6 mm. longo instructus) extus glabrescens per latus alterum fissus deciduus, corolla 2 mm. lata bilabiata alba sparse glanduloso-pubescentis tubo 3 cm. longo instructa, petalum medium 7 mm. longum 8 mm. latum, stamina fertilia 3 cm. longa, pars libera filamentorum circa 2½ mm. longa glabra infra contorta, antherae 2 mm. longae oblongae ad apicem rotundatae, pars libera staminum sterilium circa 2 mm. longa, ovarium 15 mm. longum circa 2 mm. latum lineare glabrum in stylum glabrum 10 mm. longum sensim attenuatum, stigma 2½ mm. longum bilobatum lobis in parte superiore (½ mm.) liberis, fructus 3 cm. longus 1 cm. latus oblongus obtusus basi styli persistente coronatus, semina 396-512 μ × 198-231 μ fusca crasse reticulata.

Field number 457, December 22, 1926, altitude 90 meters; in wet soil, in deep shade, north facing slope of third valley south of Faaroa Bay. Endemic.

Cyrtandra longiflora differs from *Cyrtandra apiculata* C. B. Clarke in having glabrous branchlets, larger, acuminate leaves which are obscurely crenate on the margins, and a longer calyx which splits down one side. The opening of the corolla is less oblique and the central lobe of the corolla is narrower.

***Cyrtandra raiaensis*, species nova.**

Frutex sparse ramosus erectus 2 m. altus, rami glabrescentes 4-angulares subfusci, ramuli carnosi 4-angulares crassi dense pilis brevibus fuscissimis vestiti, laminae ad 12½ cm. longae 6½ cm. latae ovatae obtusae apiculatae ad basin obtusae biserratae carnosae (siccae crasse chartaceae) superficie superiore glabrae superficie inferiore praesertim in venulis pilis brevibus fuscissimis vestitae, venulis secundariis 8-10 utro latere costae arcuatis conspicuis in superficie inferiore instructae, petioli ad 5 cm. longi pilis brevibus fuscissimis dense vestiti, cymata plerumque 3-florifera pedunculis 3½-6½ cm. longis glabrescentibus ficta, bractee floribus subtendentes 3½ mm. longae anguste lanceolatae acutae pilis brevibus fuscissimis dense vestitae, flores ad 6½ cm. longi pedicellis pubescentibus 8-12 mm. longis ficti, calyx 25 mm. longus (in alabastro 8 mm. latus pyriformis rostro gracile ad 8 mm. longo instructus) extus pilis brevibus fuscissimis dense vestitus plerumque per latus alterum fissus deciduus, corolla 4½ cm. lata bilabiata albida sparse pubescens tubo 3 cm. longo instructa, petalum medium 18 mm. longum 20 mm. latum, stamina fertilia 27 mm. longa, pars libera filamentorum 3 mm. longa glabra infra contorta, antherae 2 mm. longae ovatae obtusae, pars libera staminum sterilium circa 1 mm. longa, ovarium 13 mm. longum 2 mm. latum anguste conicum glabrum in stylum 6 mm. longum sensim attenuatum, stigma 2 mm. longum bilobatum lobis liberis dense brevi-papillatis marginibus recurvatis, fructus 18 mm. longus 12 mm. crassus oblongus obtusus albidus basi styli persistente coronatus, semina 445-495 μ longa 215 μ lata fusca crasse reticulata.

Field number 661, March 5, 1927, altitude 350 meters; on ridge, south end of Opoa Mountain. Endemic.

Cyrtandra raiateensis differs from *Cyrtandra vestita* Drake in having doubly serrate leaf margins, longer peduncles, pear-shaped buds, and a calyx that usually splits down one side.

***Cyrtandra raiateensis* John W. Moore varietas *elliptica*, varietas nova.**

Cum characteribus species nisi quod: frutex 1 m. altus, folia ellipticalia venulis secundariis 7-8 utro latere costae instructa, flores 5 cm. longi, calyx 20 mm. longus rostro ad 4 mm. longo instructus, corolla 22 mm. lata tubo $2\frac{1}{2}$ cm. longo instructa, petalum medianum 13 mm. longum 12 mm. latum, fructus (immaturus) 15 mm. longus 10 mm. crassus.

Field number 328, November 18, 1926, altitude 300 meters; in moist clay soil along small stream, fourth valley south of Uturoa. Endemic.

This variety differs from the species in being only 1 meter high, and in having elliptical leaves with 7-8 secondary nerves on each side of the midrib. The flowers and the several flower parts are consistently smaller.

RUBIACEAE

***Coprosma glabrata*, species nova.**

Frutex 1-3 m. altus, caules multi-ramosi glabri subfusci, ramuli graciles 4-angulares glabri grisei, laminae $4-7\frac{1}{2}$ cm. longae $2-3\frac{1}{2}$ cm. latae elliptico-oblongae obtusae ad basin cuneatae glabrae subcoriaceae ad apicem superficie superiore canaliculatae venulis secundariis circa 5 utro latere costae instructae, petioli 6-10 mm. longi glabri, inflorescentia staminifera ignota, inflorescentia pistillifera axillaris cymosa 2-3-florifera in pedunculis 4-6 mm. longis ficta, flores ad 9 mm. longi sessiles, calyx circa $1\frac{1}{2}$ mm. longus crateriformis glaber lobis 5 obtusis circa $\frac{1}{4}$ mm. longis instructus, corolla $2\frac{1}{2}$ mm. longa campanulata tubo $1\frac{1}{2}$ mm. longo glabro atque lobis 1 mm. longis 1 mm. latis deltoideis recurvatis in senectute instructa, ovarium 1 mm. longum, stylus circa $\frac{3}{4}$ mm. longus, stigma 2-lobatum lobis 7 mm. longis complanatis linearibus dense papillatis, fructus 5 mm. in diametro globosus subroseus (siccus 4 mm. latus oblongus), pyren 6 mm. longus 4 mm. latus 2 mm. crassus ovato-oblongus fulvus in dorso juxta lineam elevatam angustam mediam obscure transverse rugosus.

Field number 525, January 13, 1927, altitude 150 meters; on peak of ridge, upper end of third valley south of Faaroa Bay. Endemic.

Coprosma glabrata differs from *Coprosma tahitensis* A. Gray in having broader leaves, long peduncles and smaller fruits. *Coprosma glabrata* differs from *Coprosma Nadeaudiana* Drake in having elliptic-oblong, obtuse leaves and glabrous branchlets, petioles, and peduncles. In addition, the peduncles are about equal in length to the petioles and the fruits are globose.

***Coprosma raiateensis*, species nova.**

Frutex 1-2 m. altus, caules multi-ramosi glabrescentes fusci 4-angulares, ramuli graciles pilis minutis setulosis dense vestiti, laminae ad 30 mm. longae 22 mm. latae ellipticae truncatae apiculatae ad basin obtusae glabrae subcoriaceae venulis secundariis 5-6 utro latere costae instructae, petioli 3 mm. longi pilis minutis setulosis dense vestiti, inflorescentia staminifera ignota, inflorescentia pistillifera axillaris cymosa 3-florifera in pedunculis 5-7 mm. longis ficta, flores pistilliferi 12 mm. longi subsessiles, calyx $1\frac{1}{2}$ mm. longus urceolatus ciliolatus parte libera crateriforme $\frac{1}{2}$ mm. alta et lobis 4 minutis obtusis instructus, tubus corollae $1\frac{1}{2}$ mm. longus $\frac{3}{4}$ mm. latus glaber,

lobi corollae circa $\frac{3}{4}$ mm. longi $\frac{1}{2}$ mm. lati lanceolati supra glandulosi-papillati recurvati, ovarium 1 mm. longum, stylus $\frac{1}{4}$ mm. longus, stigma 2-lobatum lobis 11 mm. longis filiformibus dense papillatis, fructus 8 mm. in diametro sphaericus luteo-roseus, pyren 6 mm. longus $3\frac{1}{2}$ mm. latus $2\frac{1}{2}$ mm. crassus elliptico-oblongus fulvus in dorso transverse rugosus ad utrumque latus lineae mediae elevatae angustae.

Field number 468, January 1, 1927, altitude 450 meters; in clay soil, top of sharp ridge, Mount Temehani. Endemic.

Coprosma raiateensis differs from *Coprosma glabrata* John W. Moore in having the branchlets densely clothed with minute setose hairs, smaller, elliptical leaves with more closely placed secondary nerves and shorter petioles densely clothed with minute setulose hairs. The styles are longer, the fruits larger, and the stones more rugose.

***Coprosma setosa*, species nova.**

Frutex ad 1 m. altus, caules multi-ramosi glabrescentes castanei 4-angulares, ramuli graciles 4-angulares subfusci pilis brevibus setosis dense vestiti, laminae ad 22 mm. longae 16 mm. latae orbiculares ovatae vel ellipticae ad apicem truncate vel obtusae ad basin obtusae sparse setoso-pubescentes ciliolatae subcoriaceae venulis secundariis 3-4 utro latere costae instructae, petioli 2-4 mm. longi pilis setosis dense vestiti, inflorescentia staminifera ignota, inflorescentia pistillifera axillaris cymosa 1-3-florifera in pedunculis $1\frac{1}{2}$ -2 mm. longis ficta, flores pistilliferi $3\frac{1}{2}$ mm. longi subsessiles, calyx 2 mm. longus crateriformis ciliolatus extus sparsissime setulosus lobis 5 obtusis circa $\frac{1}{4}$ mm. longis instructus, corolla $2\frac{3}{4}$ mm. longa tubo $\frac{1}{4}$ mm. longo extus setoso intus glabro atque lobis $1\frac{1}{2}$ mm. longis $\frac{1}{2}$ mm. latis anguste lanceolatis extus setosis recurvatis in senectute instructa, ovarium circa 1 mm. longum, fructus 6 mm. longus $4\frac{1}{2}$ mm. latus, pyren 5 mm. longus 3 mm. latus 2 mm. crassus subfuscus ovoideus in altero extremo acutus in dorso juxta lineam elevatam angustam mediam transverse rugosus.

Field number 472, January 1, 1927, altitude 470 meters; in moss-covered, wet, clay soil, Mount Temehani. Endemic.

Coprosma setosa differs from *Coprosma raiateensis* John W. Moore in having the branchlets densely clothed with conspicuous, bristly hairs, and smaller, orbicular leaves with fewer secondary nerves. The peduncles are shorter and the fruits and stones smaller.

***Ixora raiateensis*, species nova.**

Frutex 3 m. altus, caules multi-ramosi nodosi glabri subfusci, laminae 4-6 cm. longae $1\frac{1}{2}$ - $4\frac{1}{2}$ cm. latae lanceolatae vel ovatae acutae apiculatae ad basin obtusae vel cordatae in superficie superiore nitidae glabrae venulis secundariis patentibus 8-12 utro latere costae instructae, petioli 4-7 mm. longi glabri, inflorescentia terminalis fasciculata, flores $1\frac{1}{2}$ cm. longi sessiles, calyx 3 mm. longus glaber sensim dilatatus ex basi ad partem subexpansam crateriformem liberam, pars libera 1 mm. longa $1\frac{1}{2}$ mm. lata intus pubescens, lobi calycis 4 circa $\frac{1}{4}$ mm. longi acuti, corolla 19 mm. longa alba, tubus corollae 11 mm. longus 1 mm. in diametro glaber, lobi corollae 8 mm. longi 3 mm. lati oblanceolati acuminati glabri, pars filamentorum libera 1 mm. longa fauci corollae affixa, antherae $3\frac{3}{4}$ mm. longae lanceolatae acuminatae ad basin caudatae caudis circa $\frac{1}{2}$ mm. longis, ovarium $2\frac{1}{2}$ mm. longum, stylus 14 mm. longus infra pubescens exsertus circa $1\frac{1}{2}$ mm., stigma 2-lobatum lobis 3 mm. longis lanceolatis acutis reflexis, fructus 12 mm. longus 5 mm. crassus stipite 2 mm. longo stipitatus rostro 2-3 mm. longo rostratus fusiformis.

Field number 96, September 18, 1926, altitude 355 meters; on south facing slope of mountain, along path to Mount Temehani. Endemic.

Ixora raiateensis differs from *Ixora vitiensis* A. Gray in having smaller leaves with more numerous, conspicuous secondary nerves, and stipules about 3 mm. long. The flowers are sessile with white corollas, longer stamens, and stigma lobes.

***Ixora temehaniensis*, species nova.**

Arbor 3 m. alta, caules haud ramosi glabri subfusci, folia ad summitatem caulis aggregata, laminae 40 cm. longae 14½ cm. latae ellipticae supra in summitatem acutam ad 3 cm. longam abrupte contractae ad basin obtusae glabrae coriaceae venulis secundariis patentibus 20-22 utro latere costae instructae, petioli 1 cm. longi glabri superficie superiore complanati, inflorescentiae fasciculatae prope basin caulis fictae, bracteolae prope basis florum in serie bina, flores 6½ cm. longi subsessiles, calyx 5 mm. longus sparse setosipubescentis sensim dilatatus ex basi ad partem subexpansam liberam, pars calycis libera ¾ mm. longa 1½ mm. lata intus subpubescens, lobi calycis 4 circa ¼ mm. longi acuminati, corolla 72 mm. longa, tubus corollae circa 60 mm. longus 1½ mm. crassus glaber, lobi corollae 4 circa 12 mm. longi 5 mm. lati oblanceolati subacuti glabri, pars libera filamentorum 3 mm. longa fauci corollae affixa, antherae 7 mm. longae lineares acuminatae ad basin caudatae caudis 1 mm. longis conspicue reflexae, ovarium 4½ mm. longum, stylus 6½ cm. longus circa 5 mm. exsertus, stigma 2-lobatum lobis 4 mm. longis linearibus obtusis conspicue reflexis, fructus 15 cm. longus 5 mm. latus ovato-oblongus.

Field number 536, January 15, 1927, altitude 250 meters; on south bank of stream in red clay soil, fourth valley south of Uturoa. Endemic.

Ixora temehaniensis constitutes a very distinct species. The unbranched stems, exceedingly large leaves, and the cauliflorous condition set this species off from the other indigenous species of the Society Islands. *Ixora temehaniensis* seems to be a near relative of *Ixora cauliflora* Montrousier of New Caledonia but differs in having longer and much wider leaves, acuminate calyx lobes, and a strongly bilobed stigma.

***Kadua raiateensis*, species nova.**

Frutex 1½ m. altus, caules supra ramosi griseo-virides 4-angulares, ramuli graciles subvirides, laminae ad 11½ cm. longae 5½ cm. latae ovatae vel ellipticae supra in apicem acuminatum circa 1 cm. longum abrupte contractae ad basin obtusae glabrae subcoriaceae venulis secundariis 6-8 utro latere costae instructae, petioli 1-2 cm. longi glabri, inflorescentiae 3-5 cm. longae cymosae paniculatae in pedunculis 7-15 mm. longis fictae, flores 15-18 mm. longi in pedicellis 2-4 mm. longis ficti, calyx 2¼ mm. longus infundibuliformis glaber lobis 4 obtusis ¼ mm. longis instructus, corolla 15-16 mm. longa subviridis tubo ad 13 mm. longo intus glabro atque lobis 3 mm. longis 1¾ mm. latis obtusis uncinatis patentibus glabris instructa, pars libera filamentorum circa ½ mm. longa, antherae 2 mm. longae lineares obtusae, ovarium 2 mm. longum, stylus 4 mm. longus glaber, stigma 2-lobatum lobis ¾ mm. longis linearibus, fructus 1 cm. longus 5 mm. latus anguste turbinatus, semina circa 1¼ mm. longa ¾ mm. lata ½ mm. crassa nigra minute rugosa.

Field number 671, March 18, 1927, altitude 200 meters; in wet clay soil, south ridge of mountain back of Vahuti. Endemic.

Kadua raiateensis differs from *Kadua Cookiana* Chamisso and Schlechtendal in being taller and in having ovate or elliptic leaves with prominent nerves and minute bracts. The calyx lobes are very short, the anthers are placed above the middle of the corolla tube, the stigmatic lobes are shorter, and the fruit is turbinate. Up to this time the genus *Kadua* has been known only from Hawaii.

***Mussaenda raiateensis*, species nova.**

Frutex 2½ m. altus, caules fuscissimi pubescentes, ramuli graciles pilis brevibus subfuscis setaceis vestiti, laminae ad 14 cm. longae 5½ cm. latae ovato-lanceolatae in apicem acuminatum longum attenuatae ad basin cuneatae laete virides superficie utraque pilis diffusis fulvis setaceis vestitae in costa et venulis secundariis superficies inferioris pilis similibus dense vestitae et in juncturis costae et venularum secundariarum cristis pilorum instructae, venulae secundariae 7-9 utro latere costae, petioli 1 cm. longi pilis brevibus setaceis vestiti, inflorescentia terminalis paniculata cymosa, flores 40 mm. longi in pedicellis pubescentibus bracteolatis 2 mm. longis ficti, calyx 1 cm. longus turbيناتus pilis setaceis vestitus lobis 5 setaceis ad 6 mm. longis instructus quorum unus accrescens fit in anthesi ad 6 cm. longus 28 mm. latus ovato-lanceolatus flavo-albidus, corolla 4 cm. longa 1½ cm. lata flava extus atque intus supra lanata, tubus corollae 3 cm. longus 2 cm. supra basin expansus, lobi corollae ad 10 mm. longi 3 mm. lati obovati acuti intus glabri, pars libera filamentorum ½ mm. longa, antherae 5 mm. longae inclusae lineares acutae ad basin cordatae, ovarium 4 mm. longum, stylus 25 mm. longus filiformis pubescens inclusus, stigma 1½ mm. longum 2-lobatum, fructus 14 mm. longus 9 mm. latus turbيناتus truncatus stipite 2-3 mm. longo stipitatus, semina ½-¾ mm. longa ¼-½ mm. lata elliptica vel suborbicularia complanata nigra minute reticulata.

Field number 684, March 24, 1927, altitude 900 meters; in wet gully, west side of highest mountain. Endemic.

Mussaenda raiateensis differs from *Mussaenda frondosa* Linnaeus in having leaves with very long attenuated apices, a more open inflorescence, filiform bracts, more slender calyx lobes, and broader corolla lobes. The tube of the corolla gradually broadens upward.

***Ophiorrhiza longituba*, species nova.**

Frutex 1 m. altus, caules subfusci leves glabri, ramuli subvirides glabri, laminae ad 8 cm. longae 28 mm. latae glabrae ellipticae vel ovato-lanceolatae in apicem acutum abrupte contractae ad basin cuneatae superficie superiore valde virides superficie inferiore pallidiores venulis secundariis arcuatis 12-14 utro latere costae instructae, petioli 5-7 mm. longi glabri, inflorescentiae terminales et axillares corymbosae, flores ad 45 mm. longi pedicellis bracteolatis 1-8 mm. longis ficti, bracteolae ad 10 mm. longae filiformes glabrae, calyx 3½ mm. longus urceolatus lobis 5 glabris lanceolatis acutis 1¼ mm. longis instructus, corolla 43 mm. longa glabra rosea, tubus corollae 39 mm. longus 1½ mm. latus, lobi corollae ad 4 mm. longi 2 mm. lati obovati obtusi, pars libera filamentorum 1½ mm. longa, antherae 3 mm. longae lineares obtusae sagittatae inclusae, ovarium 2 mm. longum, stylus 32 mm. longus filiformis glaber inclusus, stigma 3½ mm. longum bilobatum lobis ½ mm. longis, fructus 3 mm. longus 9 mm. latus conspicue complanatus glaber, semina ½ mm. longa in sectione transversa quadrata vel 5-angularia angulis crassis obscure et minute reticulata.

Field number 484, January 1, 1927, altitude 450 meters; on wet rocks, in shade, below waterfall, Mount Temehani. Endemic.

Ophiorrhiza longituba differs from *Ophiorrhiza tahitensis* Seemann in the smaller leaves, the 5- to 10-flowered cymes which exceed the leaves, the shorter corolla tube, and the obtuse corolla lobes.

***Plectronia raiateensis*, species nova.**

Arbor parva 2½ m. alta, caules multi-ramosi subgrisei, ramuli graciles glabri griseo-virides, laminae 4½-7½ cm. longae 1½-3½ cm. latae ovatae vel ovato-oblongae supra in caudam ½-1½ cm. longam abrupte contractae ad basin obtusae glabrae subcoriaceae venulis secundariis 6-8 utro latere costae instructae, petioli 4 mm. longi glabri, inflorescentiae axillares plerumque 2-floriferae in pedunculis glabris circa 2 mm. longis fictae, flores 14 mm. longi in pedicellis gracilibus glandulosis 5-7 mm. longis ficti, calyx 1½ mm. longus crateriformis glanduloso-punctatus lobis 5 obtusis ½ mm. longis instructus, corolla 12 mm. longa flavo-viridis tubo 9 mm. longo fauce dense pubescente atque lobis 3 mm. longis 2 mm. latis ovatis acutis reflexis in senectute instructa, pars libera filamentorum circa ¼ mm. longa, antherae 2½ mm. longae obovatae supra in apicem acutum abrupte contractae, ovarium 2 mm. longum, stylus 9 mm. longus glaber, stigma 1¼ mm. longum clavatum 2-lobatum lobis rursus subdivisis ad summitatem crateriforme, fructus ignotus.

Field number 748, April 22, 1927, altitude 400 meters; on south facing slope of mountain, north side of Faaroa Bay. Endemic.

Plectronia raiateensis differs from *Plectronia barbata* (Forster) Benth and Hooker in having smaller leaves, fewer flowered inflorescences, glandular pedicels and calyces, and a longer corolla tube.

***Plectronia temehaniensis*, species nova.**

Frutex decumbens, caules multi-ramosi subgrisei, ramuli graciles 4-angulares griseo-virides, laminae 3-5½ cm. longae 1½-3½ cm. latae ovatae in caudam 5-8 mm. longam abrupte contractae ad basin rotundatae vel subcordatae glabrae nitidae in superficie superiore venulis secundariis 6-8 utro latere costae instructae, venulae in superficie superiore impressae, inflorescentiae axillares plerumque 2-floriferae in pedunculis glabris 2 mm. longis fictae, flores 12 mm. longi in pedicellis gracilibus haud glandulosi 3 mm. longis ficti, calyx 2 mm. longus crateriformis lobis 5 obtusis ciliolatis ¼ mm. longis instructus, corolla 10 mm. longa flavo-viridis tubo 7 mm. longo intus supra pubescente et fauce dense pubescente atque lobis 3 mm. longis 2¼ mm. latis ovatis tandem reflexis instructa, pars libera filamentorum circa ½ mm. longa, antherae 1¼ mm. longae obovatae supra in caudam ½ mm. longam abrupte contractae, ovarium 2 mm. longum, stylus 7 mm. longus glaber, stigma 1½ mm. longum clavatum 2-lobatum lobis rursus subdivisis ad summitatem crateriforme, fructus ignotus.

Field number 98, September 18, 1926, altitude 355 meters; intermixed with shrubs along path to Mount Temehani, south facing slope. Endemic.

Plectronia temehaniensis differs from *Plectronia raiateensis* John W. Moore in having ovate, subcordate, nearly sessile leaves, with the nerves impressed on the upper surface. The corolla tube is shorter, the pedicel and calyx are nonglandular, and the anthers are shorter.

***Psychotria raiateensis*, species nova.**

Frutex 3 m. altus, caules ramosi subalbidi, ramuli crassi glabri subvirido-albidi, laminae 6-12 cm. longae 2½-5 cm. latae elliptico-oblongae vel oblanceolatae obtusae vel subacutae ad basin cuneatae glabrae subcoriaceae venulis secundariis 8-10 utro latere costae instructae, petioli 8-25 mm. longi glabri, inflorescentiae 7-9 cm. longae terminales

corymbosae in pedunculis glabris ad 5 cm. longis fictae, flores 5 mm. longi in pedicellis 1-1½ mm. longis ficti, calyx 1½ mm. longus infundibuliformis glaber glanduloso-punctatus lobis 5 obtusis ¼ mm. longis instructus, corolla 4 mm. longa albida glanduloso-punctata tubo 2 mm. longo intus supra pubescente atque lobis 2 mm. longis 1½ mm. latis obtusis glabris instructa, pars libera filamentorum 1 mm. longa, antherae 1¼ mm. longae elliptico-oblongae obtusae, ovarium ¾ mm. longum, stylus 2 mm. longus glaber, stigma 2-lobatum lobis circa ½ mm. longis, fructus ignotus.

Field number 553, January 20, 1927, altitude 400 meters; on ridge of mountain, north of Faaroa Bay. Endemic.

Psychotria raiateensis differs from *Psychotria tahitensis* Drake in the thinner leaves not turning purple upon drying, a more branched inflorescence, a shorter corolla tube, and gland-dotted calyx and corolla.

***Psychotria temehaniensis*, species nova.**

Frutex 2 m. altus, caules ramosi subfusci, ramuli crassi glabri subvirides, folia pilis castaneis in axillis instructa, laminae 5-9 cm. longae 2½-5½ cm. latae ellipticae vel obovatae apice obtusae ad basin rotundatae vel obtusae glabrae coriaceae venulis secundariis 8-10 utro latere costae instructae, petioli 3-5 mm. longi glabri, inflorescentia circa 2½ cm. longa axillaris cymosa in pedunculis glabris 12-15 mm. longis ficta, flores 15 mm. longi in pedicellis 2-3 mm. longis ficti, calyx 4 mm. longus infundibuliformis glaber lobis 5 minutis obtusis instructus, corolla circa 12 mm. longa albida tubo 6 mm. longo intus supra pubescente atque lobis 6 mm. longis 1¼ mm. latis linearibus recurvatis in senectute superficie interiore prope basin pubescentibus instructa, pars libera filamentorum circa ¼ mm. longa, antherae 1¼ mm. longae oblongae apiculatae, ovarium 1½ mm. longum, stylus 11 mm. longus glaber circa 5 mm. exsertus, stigma 2-lobatum lobis circa 1 mm. longis clavatis, fructus 7 mm. longus 6 mm. latus obovoideus parte libera aclycis crateriforme persistente coronatus, pyren 7 mm. longus 5¾ mm. latus 2½ mm. crassus in dorso rugosus linea singula media elevata prominente ex mediis ad alterum extremum extendente instructa.

Field number 83 (type), September 16, 1926, altitude 355 meters; on east facing slope of mountain, along east path to Mount Temehani. Field number 470, January 1, 1927, altitude 460 meters; in wet clay soil, Mount Temehani. Endemic.

Psychotria temehaniensis differs from *Psychotria Franchetiana* Drake in having smaller leaves with conspicuously inrolled margins when dry and fewer secondary nerves on each side of the midrib. The inflorescences are fewer flowered, the flowers are larger, and the calyx, which crowns the fruit, is broader.

COMPOSITAE

***Bidens deltoidea*, species nova.**

Planta suffrutescens ad 1 m. alta, caulis erectus supra ramosus glaber subfuscus (siccus striatus), ramuli graciles glabri subvirides ad basin in furca breviter glandulosi-pubescentes, laminae 4-9 cm. longae 1½-4 cm. latae simplices ovatae oblongo-lanceolatae vel lanceolatae caudatae cauda integra 7-18 mm. longa ad basin obtusae parte ¾ superiore crenato-serratae dentibus 2-5 mm. longis summitatibus incrassatis venulis secundariis 5-9 utro lato costae instructae, petioli 5-25 mm. longi ad basin ciliolati in juventute,

inflorescentiae ad 6 cm. longae terminales et in axillis foliorum superiorum subtabescentium, pedunculi ad 24 mm. longi graciles glabri bracteis linearibus acutis ad $2\frac{1}{2}$ mm. longis altitudine vario supra basin instructi, capitula 4 mm. longa ad 7 mm. lata campanulata, bractee involucrales 1-3 mm. longae $\frac{1}{4}$ -1 mm. latae obtusae parte $\frac{1}{2}$ superiore attenuatae in superficie interiore ad summitatem glandulosae extus ad basin pilis brevibus sparse pubescentes, paleae 3 mm. longae $\frac{1}{3}$ -1 mm. latae lineares ad summitatem obtusam glandulosam attenuatae, flores ligulati $3\frac{1}{2}$ - $4\frac{1}{2}$ mm. longi subflavi limbo elliptico 5-9-nervato emarginato vel breviter 3-lobato instructi, flores disci $4\frac{1}{3}$ mm. longi tubo $2\frac{1}{2}$ mm. longo supra basin (1 mm.) inflato atque lobis $\frac{2}{3}$ mm. longis obtusis summitate uncinatis instructi, stamina 2 mm. longa, filamenta parte $\frac{1}{10}$ superiore incrassata, antherae 1 $\frac{1}{10}$ mm. longae appendicibus apicalibus deltoideis circa $\frac{1}{5}$ mm. longis instructae, stylus 2 mm. longus ramis $\frac{3}{4}$ mm. longis acuminatis extus supra dense papillatis, nectarium $\frac{1}{3}$ mm. longum deorsum subattenuatum, ovarium 1 $\frac{1}{4}$ mm. longum setis binis $\frac{1}{2}$ -1 mm. longis retrorse barbatis subcrassis in fructu persistentibus instructum, fructus $3\frac{1}{2}$ -5 mm. longus $1\frac{1}{4}$ mm. latus complanatus fuscissimus rugulosus parte $\frac{1}{2}$ superiore praesertim in angulis setulosus in utraque superficie lineis elevatis prominentibus 5 instructus.

Field number 559, January 20, 1927, altitude 300 meters; on ridge in wet clay soil, mountain north side of Faaroa Bay. Endemic.

Bidens deltoidea differs from *Bidens paniculata* Hooker and Arnott in having leaves with longer caudate tips and fewer secondary nerves. The heads are larger with more numerous flowers, and the involucral bracts have broader apices. The apical appendages of the connectives are deltoid, and the achenes are narrow above and below.

***Bidens raiateensis*, species nova.**

Planta suffrutescens ad 1 m. alta, caulis erectus supra ramosus glaber subfuscus, ramuli graciles glabri subvirides, laminae 3-8 cm. longae $1\frac{1}{2}$ - $2\frac{1}{2}$ cm. latae simplices elliptico-oblongae vel obovatae acutae ad basin cuneatae in parte superiore $\frac{1}{4}$ crenato-serratae dentibus $2\frac{1}{2}$ -5 mm. longis ad basin in superficie superiore pilis rubiginosis pubescentes venulis secundariis 8-10 utro latere costae instructae, petioli 5-15 mm. longi in superficie superiore similiter pubescentes, inflorescentiae ad 8 cm. longae terminales et in axillis foliorum superiorum subtabescentium, pedunculi ad 43 mm. longi graciles glabri in axillis bractearum lanceolarum acutarum 1- $1\frac{1}{2}$ cm. longarum plerumque ficti, capitula 8 mm. longa ad 20 mm. lata campanulata, bractee involucrales 7-10 mm. longae $1\frac{3}{4}$ - $2\frac{1}{2}$ mm. latae spathulatae subacutae ad basin ciliatae parte $\frac{1}{2}$ proxima superficies interioris pilis rubiginosis instructae, paleae 7-8 mm. longae 1 mm. latae ovato-oblongae infra summitatem glandulosi-rugosam truncatam crista pilorum glandulosorum saepe instructae, flores ligulati 7-10 mm. longi subflavi limbo obovate emarginato vel breviter 3-lobato instructi, flores disci $7\frac{1}{2}$ mm. longi tubo $3\frac{1}{2}$ mm. longo supra basin (2 mm.) inflato atque lobis 1 mm. longis subacutis instructi, stamina 3 mm. longa filamenta parte superiore ($\frac{1}{4}$ mm.) incrassata, antherae 1 $\frac{3}{5}$ mm. longae appendicibus apicalibus subacutis $\frac{2}{5}$ mm. longis instructae, stylus $3\frac{3}{4}$ mm. longus ramis $1\frac{1}{2}$ mm. longis acuminatis, nectarium $\frac{2}{5}$ mm. longum deorsum attenuatum, ovarium $2\frac{3}{4}$ mm. longum setis binis caducis $\frac{1}{10}$ mm. longis instructum, fructus 9-10 mm. longus $\frac{3}{5}$ mm. latus subcapitatus fuscissimus parte superiore ($\frac{1}{2}$ mm.) flavus rugulosus superficie utraque lineis 3 elevatis prominentibus instructus.

Field number 467, January 1, 1927, altitude 450 meters; in wet clay soil, Mt. Temehani. Endemic.

Bidens raiateensis differs from *Bidens lantanoides* A. Gray in having glabrous stems, more coarsely serrate leaves, inflorescences which exceed the leaves, and larger heads. The involucre bracts are spatulate, and the achenes are without awns.

***Fitchia cuneata*, species nova.**

Arbor parva $2\frac{1}{2}$ m. alta, caules erecti crassissimi griseo-albidi glabri supra multiramosi, ramuli crassi glabri subvirides (sicci striati), laminae ad 8 cm. longae 5 cm. latae ovatae vel ovato-oblongae acutae ad basin obtusae glabrae integrae marginibus incrassatae venulis secundariis conspicuis 4 utro latere costae contra regulam distantibus instructae, petioli $2-3\frac{1}{2}$ cm. longi glabri amplexicaules in superficie ventrali auricula rotundata 1 mm. longa instructi, capitula 4 cm. longa 6 cm. lata campanulata terminalia solitaria in pedunculis arcuatis glabris circa 4 cm. longis ficta, bractee involucreales glabrae inferiores divaricatae superiores imbricatae, bractee imae 3 mm. longae 7 mm. latae late triangulares, eae parium secundorum et tertiorum semiorbiculatae 6-10 mm. longae, eae superiores ovato-oblongae obtusae ad 15 mm. longae, paleae circa 15 mm. longae 2 mm. latae acutae ad summitatem erosae, flores omnes ligulati subflavi limbo 5-lobato 14 mm. longo instructi, summitates loborum parte superiore (2 mm.) dense setacei-pubescentes, tubus corollae circa 10 mm. longus supra basin 8 mm. conspicue inflatus, stamina 18 mm. longa, filamenta $\frac{1}{8}$ mm. infra colligationem antherarum articulata, antherae $5\frac{1}{2}$ mm. longae appendicibus apicalibus cuneatis 1 mm. longis instructae, stylus ad 30 mm. longus ramis $\frac{3}{4}$ mm. longis acutis, nectarium $2\frac{3}{4}$ mm. longum deorsum attenuatum contra regulam in summitate obliqua 5-6-lobatum, ovarium circa 9 mm. longum dense pubescens seteis papposis binis ad 12 mm. longis gracilibus pubescentibus persistentibus instructum, fructus 10 mm. longus 4 mm. latus conspicue complanatus dense pubescens.

Field number 655, March 5, 1927, altitude 100 meters; on ridge south end of Opoa Mountain. Endemic.

Fitchia cuneata differs from *Fitchia nutans* Hooker filius in having smaller leaves with fewer irregularly placed secondary nerves. The corolla is shorter, with a much more slender tube, and the apical appendages of the connectives are shorter with reference to the anther sacs.

BIBLIOGRAPHY

1. **BARTRAM, E. B.**, Mosses of Raiatea: B. P. Bishop Mus., Occ. Papers, vol. 9, no. 16, 1931.
2. **BEDDOME, R. H.**, The ferns of southern India, 2d ed., Madras, 1873.
3. **BEDDOME, R. H.**, Handbook to the ferns of British India, Ceylon, and the Malay Peninsula, Calcutta, 1883; suppl., Calcutta, 1892.
4. **BOSCH, R. B., VAN DEN**, Hymenophyllaceae Javanicae, pp. 2-67, Amsterdam, 1861.
5. **BRACKENRIDGE, W. D.**, Cryptogamia, Filices, including Lycopodiaceae and Hydropterides: U. S. Expl. Exped., Bot., vol. 16, Philadelphia, 1854 (Atlas, 1855).
6. **BROWN, E. D. W., and F. B. H.**, Flora of southeastern Polynesia II, Pteridophytes: B. P. Bishop Mus., Bull. 89, 1931.
7. **BROWN, F. B. H.**, Flora of southeastern Polynesia I, Monocotyledons: B. P. Bishop Mus., Bull. 84, 1931.
8. **CANDOLLE, ALPHONSE and CASIMIR DE**, Monographiae Phanerogamarum, vol. 2, Paris, 1879.
9. **CANDOLLE, CASIMIR DE**, Piperaceae: De Candolle, Prodrromus systematis naturalis vegetabilis, vol. 16, pt. 1, Paris, 1869.
10. **CANDOLLE, CASIMIR DE**, Piperacearum clavis analytica: Candollea, vol. 1, pp. 65-415, 1923.
11. **CHEESEMAN, T. F.**, Manual of the New Zealand flora, 2d ed., Wellington, 1925.
12. **CHRISTENSEN, CARL**, Taxonomic fern-studies 1: Dansk Botanisk Arkiv, vol. 6, no. 3, 1929.
13. **COPELAND, E. B.**, Ferns of Fiji: B. P. Bishop Mus., Bull. 59, 1929.
14. **COPELAND, E. B.**, Pteridophytes of the Society Islands: B. P. Bishop Mus., Bull. 93, 1932.
15. **DRAKE DEL CASTILLO, EMMANUEL**, Flore de la Polynésie française, Paris, 1892.
16. **DRAKE DEL CASTILLO, EMMANUEL**, Illustrationes florae insularum maris Pacifici, Paris, 1886-1892.
17. **DRUDE, OSCAR**, Epacridaceae: Engler and Prantl, Die natürl. Pflanzenf., Aufl. 1, Teil 4, Abt. 1, 1889.
18. **ENGLER, ADOLF**, Araceae-Lasiodeae: Das Pflanzenr. iv, 23C (Heft 48), Leipzig, 1911.
19. **FERNALD, M. L.**, Nomenclatorial transfers in Mariscus: Rhodora, vol. 25, pp. 49-54, April, 1923.
20. **FORSTER, GEORG**, Florulae insularum australium prodromus, Göttingen, 1786.
21. **GNADINGER, C. B.**, Identification of sources of vanilla extract: Ind. and Eng. Chem., vol. 17, pp. 303-304, March, 1925.
22. **GRAY, ASA**, Phanerogamia: U. S. Expl. Exped., Bot., vol. 15, Philadelphia, 1854 (Atlas, 1854).
23. **GREENE, E. L.**, Pittonia, vol. 3, Washington, D. C., 1896-1898.
24. **HERTER, WILHELM VON**, Lycopodium Haeckelii, new species: Fedde, Rep. Nov. Spec. Reg. Veg., Bd. 5, 1908.
25. **HILLEBRAND, WILLIAM**, Flora of the Hawaiian islands, Heidelberg, 1888.

26. HITCHCOCK, A. S., The grasses of Hawaii: B. P. Bishop Mus., Mem., vol. 8, no. 3, 1922.
27. HOOKER, J. D., editor, Journal of Sir J. Banks . . . during Captain Cook's first voyage, London, 1896.
28. HOOKER, J. D., On *Fitchia*, a new genus of arborescent compositae from Elizabeth Island: London Jour. Bot., vol. 4, pp. 640-643, 1845.
29. HOOKER, W. J., and ARNOTT, G. A. W., The botany of Captain Beechey's voyage, London, 1832-1840.
30. HORNEMANN, J. W., Hortus regius botanicus Hafniensis, Copenhagen, 1819.
31. KRÄNZLIN, F. W. L., Orchidaceae-Monandrae-Dendrobiinae, pt. 1, Engler, Das Pflanzenr. IV, 50, 2B. 21 (Heft 45), Leipzig, 1910.
32. LINNAEUS, CAROLUS, Herbarium Amboinense, Upsala, 1754.
33. LINNAEUS, CAROLUS, Species plantarum, 1st ed., Stockholm, 1753.
34. MARTELLI, UGOLINO, *Pandanus tahitensis*: Webbia, vol. 2, pp. 428-429, 1907.
35. MERRILL, E. D., An enumeration of Philippine flowering plants: Bur. Sci. Manila, Pub. no. 18, vol. 1, 1923-1925.
36. MERRILL, E. D., Bibliography of Polynesian botany: B. P. Bishop Mus., Bull. 13, 1924.
37. MEZ, CARL, Myrsinaceae: Engler, Das Pflanzenr., IV, 236 (Heft 9), Leipzig, 1902.
38. NADEAUD, J., Enumération des plantes indigènes de l'île de Tahiti, Paris, 1873.
39. PAX, F., and HOFFMANN, KÄTHE, Euphorbiaceae-Acalypheae-Mercurialinae: Engler, Das Pflanzenr. IV, 147.7 (Heft 63), Leipzig, 1914.
40. PIPER, C. V., Notes on *Canavalia* with the descriptions of new species: Biol. Soc. Washington, Proc., vol. 30, pp. 174-178, 1917.
41. PRESL, K. B., Tentamen Pteridographiae, Prague, 1836.
42. SCHOTT, H. W., Aroideologisches: Bonplandia, vol. 9, Hanover, 1861.
43. SETCHELL, W. A., American Samoa: Carnegie Inst. Washington, Dept. Marine Biol., Papers, vol. 20, 1924.
44. SPRING, F. A., Monographie de la famille des Lycopodiacees: Roy Acad. Belg., Mem. 15 and 24, 1842, 1849.
45. SWARTZ, OLOF, Synopsis Filicum, Kilia, 1806.

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