

## FURTHER NOTES ON THE FERNS OF FIJI

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THE IMPETUS for the preparation of these notes comes from a study of a collection of 377 numbers of ferns collected in Fiji by Dr. A. C. Smith in 1947.<sup>1</sup> My earlier publication on Fijian Ferns<sup>2</sup> contains numerous binomials which, in my present opinion,<sup>3</sup> are outmoded; the sequence followed in my Bulletin of 1929 is also outmoded, but for convenience of reference it is followed in the present report. In this treatment I insert brief notes on most of the species which have been reported from Fiji since my earlier report, and I also indicate the correct binomial for each species there discussed, in cases where such a change is needed. Five new species are here described, and several combinations are proposed as new. The first set of Dr. Smith's ferns is deposited in the Gray Herbarium and an essentially complete set, including types of the novelties here described, is in the herbarium of the University of California.

*Botrychium daucifolium* Wall. is reported as occurring in Fiji by Christensen in Bishop Mus. Bull. 177: 7. 1943. I have seen no specimens in support of this record, but such an occurrence is to be expected.

*Angiopteris opaca* Copel., previously thought to be a Fijian endemic, is now reported from Samoa by Christensen in Bishop Mus. Bull. 177: 8. 1943.

TRICHOMANES OMPHALODES (Vieill.) C. Chr. = *Microgonium omphalodes* Vieill.

TRICHOMANES VITIENSE Baker = *Microtrichomanes vitiense* (Baker) Copel., ranging from Queensland to Samoa.

TRICHOMANES BIMARGINATUM v. d. B. = *Microgonium bimarginatum* v. d. B.

TRICHOMANES SAXIFRAGOIDES Presl = *Gonocormus minutus* (Blume) v. d. B.

TRICHOMANES ERECTUM Brack. and T. ALTERNANS Carr. = *Crepidophyllum Endlicherianum* (Presl) Reed in Am. Fern Jour. 38: 89. 1948.

TRICHOMANES HUMILE Forst. = *Crepidophyllum humile* (Forst.) Reed, loc. cit.

<sup>1</sup> Dr. Smith's collections were made under the auspices of the Arnold Arboretum of Harvard University and the John Simon Guggenheim Memorial Foundation, with the aid of grants from the Penrose Fund of the American Philosophical Society and the Bache Fund of the National Academy of Sciences.

<sup>2</sup> Bishop Mus. Bull. 59: 1-105. 1929.

<sup>3</sup> Copeland, E. B. *Genera Filicum*. 1947.

- TRICHOMANES BIPUNCTATUM Poiret = *Crepidomanes bipunctatum* (Poiret) Copel.
- TRICHOMANES MEIFOLIUM Bory = *Macroglena meifolium* (Bory) Copel.
- TRICHOMANES APHLEBIOIDES Christ = *Vandenboschia aphlebioides* (Christ) Copel., ranging westward to Sumatra.
- TRICHOMANES MAXIMUM Blume = *Vandenboschia maxima* (Blume) Copel.
- TRICHOMANES CAUDATUM Brack. = *Macroglena caudata* (Brack.) Copel., ranging from Queensland to Tahiti.
- TRICHOMANES ASAE-GRAYI v. d. B. = *Macroglena Asae-Grayi* (v. d. B.) Copel., a species structurally similar to the preceding; it is *Trichomanes longisetum* Brack., and Carr., *nec* Bory; known also from Samoa and Tahiti.
- TRICHOMANES CARTILAGINEUM Vieill. & Pancher, at least in part, as well as T. DENTATUM v. d. B. and T. SEEMANNII Carr. = *Selenodesmium dentatum* (v. d. B.) Copel., common in Fiji and neighboring archipelagos.
- TRICHOMANES HARVEYI Carr. = *Nesopteris intermedia* (v. d. B.) Copel., ranging from New Guinea to Polynesia.
- TRICHOMANES APIIFOLIUM Presl = *Callistopteris apiifolia* (Presl) Copel.
- "TRICHOMANES AUSTRALICUM v. d. B." was an error in citation in Bishop Mus. Bull. 59: 27. 1929. The correct name is *Cephalomanes Boryanum* (Kunze) v. d. B.
- HYMENOPHYLLUM FLABELLATUM Labill. = *Mecodium flabellatum* (Labill.) Copel.
- HYMENOPHYLLUM DILATATUM (Forst.) Sw., which = *Mecodium dilatatum* (Forst.) Copel., is endemic in New Zealand. Fijian plants passing under this name and as H. FORMOSUM Brack. = *Mecodium imbricatum* (Blume) Copel., ranging from Tahiti to Java.
- Mecodium polyanthos* (Sw.) Copel., a pantropic species, is represented, among other Fijian collections, by *Parks 20614* and *20769*.
- HYMENOPHYLLUM AUSTRALE Willd., which = *Mecodium australe* (Willd.) Copel., is known only from New Zealand and Tasmania and perhaps Victoria. Fijian plants so identified represent *Mecodium samoense* (Baker) Copel., known also from Samoa and Queensland.
- Hymenophyllum affine* Brack. looks like a real *Hymenophyllum*.
- HYMENOPHYLLUM MULTIFIDUM (Forst.) Sw., which = *Meringium multifidum* (Forst.) Copel., is endemic in New Zealand. Its Fijian vicar, HYMENOPHYLLUM FEEJEENSE Brack., = *Meringium feejeense* (Brack.) Copel.
- HYMENOPHYLLUM DENTICULATUM Sw. = *Meringium denticulatum* (Sw.) Copel.
- Meringium Macgillivrayi* (Baker) Copel. in Philip. Jour. Sci. 67: 44.

1938 (*Trichomanes Macgillivrayi* Baker; *Hymenophyllum Macgillivrayi* Copel.), was overlooked in Bishop Mus. Bull. 59 (1929).

To *Schizaea*, in my treatment of 1929, should be added:

*Schizaea (Actinostachys) melanesica* Selling in Svensk Bot. Tidsk. 38: 208. 1944.

MOTURIKI: *Seeman 793*. VANUA LEVU: Thakaundrove: Maravu, near Salt Lake, alt. 0–450 m., *Degener & Ordoñez 14144* (in dense wet forest); Mathuata: "Mudthuata Mts." [Mathuata Range, on mainland opposite Mathuata Island], *U. S. Expl. Exped.*; summit ridge of Mt. Numbuiloa, east of Lambasa, alt. 500–590 m., *Smith 6518* (also observed in dry forest on upper northwestern slopes).

In his original discussion Selling cites only two specimens, the type from New Caledonia and *Seeman 793* (without locality) from Fiji. The species is now known to occur from New Caledonia to Tonga, but it is rare at least in Fiji; Dr. Smith reports seeing it in only the one locality cited above, during his two collecting trips.

GLEICHENIA OCEANICA Kuhn = *Sticherus oceanicus* (Kuhn) Ching.

GLEICHENIA BRACKENRIDGEI Fournier (in Ann. Sci. Nat. Bot. V. 18: 269. 1873) = *Sticherus Brackenridgei* (Fournier) comb. nov.

GLEICHENIA LINEARIS (Burm.) Clarke = *Dicranopteris linearis* (Burm.) Underw.

GLEICHENIA CAUDATA Copel. (in Bishop Mus. Bull. 59: 9. pl. 2. 1929) = *Dicranopteris caudata* (Copel.) comb. nov.

GLEICHENIA JAPONICA Spreng. = *Hicriopteris glauca* (Thunb.) Copel.

CYATHEA HORNEI (Baker) Copel. (*Alsophila Hornei* Baker) = *Gymnosphaera Hornei* (Baker) Copel. Gen. Fil. 99. 1947.

ALSOPHILA DISSITIFOLIA Baker, judging by the description, must also be a species of *Gymnosphaera*.

*Cyathea microlepidota* sp. nov.

*C. gregis* *C. affinis*, stipite 60 cm. alto, deorsum atropurpureo griseo-furfuraceo paleis albidis anguste lanceolatis valde attenuatis 15 mm. longis sparso, sursum fusco glabrescente cicatricibus linearibus ornato; lamina 1.5 m. alta, ovata, rhachibus inferne stramineis subglabris; pinnis infimis 25–30 cm., medialibus 50 cm. longis, 20 cm. latis, sessilibus; pinnulis 10 cm. longis, 2 cm. latis, subacuminatis, infimis brevi-pedicellatis, profunde pinnatifidis, segmentis infimis basicopicis modo reductis et interdum liberis, segmentis sequentibus 5 mm. latis, rotundatis, fere integris, costis superne setulis inflexis atrocastaneis, inferne squamulis concoloribus minutis in setulas dissolutis obsitis, sursum glabrescentibus, costulis fere glabris, venis furcatis; soris medialibus, globosis, indusiis in segmenta magna persistentia ruptis.

VANUA LEVU: Mathuata: Seangangga Plateau, in drainage of Korovuli River, vicinity of Natua, alt. 100–200 m., in patches of forest in open rolling country, Nov. 25, 1947, *Smith 6654* (TYPE in herb. Univ. Calif.) ("Mbalambala." Caudex 2–4 m. high, about 5 cm. diam.; fronds about 7–9

per plant, about 1.5 m. long, the stipe about 60 cm. long, the pinnae 7–9 pairs.)

Well characterized by the minute, dark, dissected squamulae on the nether face of the costa; and notable, in the group of indusiate species with broad segments, for the long stipe and only moderately reduced lowest pinnae.

*Cyathea subsessilis* Copel. in Philip. Jour. Sci. 6C: 359. 1911.

Christensen (in Bishop Mus. Bull. 177: 25. 1943) has identified *Smith 1902*, from Mt. Ndikeya, Thakaundrove, Vanua Levu, as this species, described from Samoa. The collection is indeed not typical *C. propinqua* Mett., under which name it was distributed; but neither is it typical *C. subsessilis*.

*Cyathea plagiostegia* Copel., previously considered endemic to Fiji, is now reported from Samoa by Christensen, who lists several collections in Bishop Mus. Bull. 177: 28. 1943.

*Cyathea truncata* (Brack.) Copel. is common in Samoa (cf. Christensen in Bishop Mus. Bull. 177: 30. 1943).

*Cyathea subbullata* Copel. in Bishop Mus. Occ. Papers 15: 79. 1939.

VITI LEVU: M b a : Immediate vicinity of Nandarivatu, alt. 800–900 m., in dense forest along stream, *Smith 5045*; hills east of Nandala Creek, about 3 miles south of Nandarivatu, alt. 850–970 m., in dense forest, *Smith 5925*; Naitasiri: Northern portion of Rairaimatuku Plateau, between Mt. Tomanivi [Mt. Victoria] and Nasonggo, alt. 870–970 m., in dense forest, *Smith 6145*.

Previously known from the type, *St. John 18304*, from mountains west of Matawailevu, now in the Province of Naitasiri [formerly Tholo East]. The species is very near to the Tahitian *C. decurrens* (Hook.) Copel. and the New Caledonian *C. alata* (Fournier) Copel.

*Lastrea Archboldiae* sp. nov.

*L. rhizomate brevi-repente*, basibusque stipitum paleis fuscis lanceolatis integris 5 mm. longis vestitis; stipitibus gracilibus, 30 cm. longis, sursum glabrescentibus; lamina 25 cm. longa, basi truncata 16 cm. lata, apice acuminata, profunde bipinnatifida, rhachi sparse setifera; pinnis fere omnibus breviter pedicellatis, infimis basi angustatis, acuminatis, costis superne velutinis, inferne setis albis sparsis vestitis; segmentis erecto-patentibus, maximis 1 cm. longis 3–4 mm. latis, rotundatis, integris, sparse ciliolatis, herbaceis, viridibus, superne et ad venas et ad laminam sparse setosis; venis ca. 7-paribus, fere omnibus simplicibus, infimis supra sinus excurrentibus; soris medialibus, indusiis parvis setulosis.

VITI LEVU: M b a : Vicinity of Nandarivatu, alt. 750–900 m., Feb.-March, 1941, *Degener 14273* (TYPE in herb. Univ. Calif.) (in open forest).

Apparently near to *Dryopteris savaiensis* (Baker) C. Chr., as described by Christensen in Bishop Mus. Bull. 177: 82. 1943, but with distinctly stalked pinnae, and without evident aerophores.

DRYOPTERIS PRENTICEI (Carr.) Kuntze = *Lastrea Prenticei* Carr.

DRYOPTERIS BRACKENRIDGEI (Mett.) Kuntze = *Lastrea Brackenridgei* (Mett.) Carr.

DRYOPTERIS HARVEYI (Mett.) Kuntze = *Lastrea Harveyi* (Mett.) Carr.

DRYOPTERIS VISCOSA (J. Sm.) Kuntze = *Lastrea viscosa* J. Sm.

Christensen (in Bishop Mus. Bull. 177: 82. 1943) cites *Smith 1669* from Fiji as *Dryopteris pubirachis* (Baker) C. Chr. This is probably correct, but I am still unable to distinguish it satisfactorily from *Lastrea viscosa*. Two supposed species of New Guinea, *Dryopteris subnigra* Brause and *D. oligolepia* v. A. v. R., represent the same species or group.

DRYOPTERIS GORDONI (Baker) C. Chr. = *Ctenitis Gordoni* (Baker) Copel. Gen. Fil. 123. 1947.

DRYOPTERIS SETIGERA (Blume) Kuntze probably = *Lastrea Torresiana* (Gaud.) Moore.

DRYOPTERIS LEUCOLEPIS (Presl) Maxon = *Lastrea leucolepis* Presl.

DRYOPTERIS SQUAMIGERA (Hook. & Arn.) Kuntze = *Ctenitis squamigera* (Hook. & Arn.) Copel. Gen. Fil. 125. 1947.

DRYOPTERIS TENUIFRONS C. Chr. = *Ctenitis tenuifrons* (C. Chr.) Copel. Gen. Fil. 125. 1947.

DRYOPTERIS FIJIENSIS (Hook.) C. Chr. = *Ctenitis fijiensis* (Hook.) Copel. Gen. Fil. 124. 1947.

*Ctenitis davallioides* (Brack.) comb. nov.

*Lastrea davallioides* Brack. U. S. Expl. Exped. 16: 202. 1854.

*Dryopteris davallioides* Kuntze, Rev. Gen. 812. 1891; Copel. in Bishop Mus. Bull. 59: 44. 1929, 93: 34, pl. 6. 1932; C. Chr. in Bishop Mus. Bull. 177: 97. 1943.

*Dryopteris microtricha* Copel. in Bishop Mus. Bull. 59: 10, 44. 1929.

*Ctenitis microtricha* Copel. Gen. Fil. 124. 1947.

Without yet feeling certain, I agree with Christensen (loc. cit.) that my *Dryopteris microtricha* is probably a synonym of *Lastrea davallioides*. I am also uncertain as to the proper genus for this plant. By its pubescence it seems to be a *Ctenitis*, but the anadromic dissection of the frond indicates *Rumohra*. The best developed known specimen is probably *Smith 5188*, from the summit of Mt. Tomanivi [Mt. Victoria], Mba, Viti Levu, alt. 1290–1323 m., an epiphyte in mossy forest. This specimen has fronds more than a meter long, including the stipe, and hexapinnatifid in the lower part.

DRYOPTERIS GONGYLODES (Schkuhr) Kuntze = *Cyclosorus gongyloides* (Schkuhr) Link, the type of its genus.

DRYOPTERIS HAENKEANA (Presl) Kuntze, at least as to its Guam type, is not distinguishable from *Cyclosorus unitus* (L.) Ching; see Wagner & Grether in Bishop Mus. Occ. Papers 19: 52. 1948.

DRYOPTERIS INVISA (Forst.) Kuntze = *Cyclosorus invisus* (Forst.) Copel. Gen. Fil. 142. 1947.

DRYOPTERIS ARIDA (Don) Kuntze = *Cyclosorus aridus* (Don) Ching.

- DRYOPTERIS ARBUSCULA (Willd.) Kuntze = *Cyclosorus arbuscula* (Willd.) Ching; but the presence of this species in Fiji is doubtful.
- DRYOPTERIS NYMPHALIS (Forst.) Copel. = *Cyclosorus*; but its distinctness from *C. parasiticus* (L.) Farwell and *C. dentatus* (Forst.) Ching is uncertain.

*Cyclosorus Degeneri* sp. nov.

*C. stipitibus fasciculatis, ad vestigia infima pinnarum 2–8 cm., ad pinnas normales 15 cm. longis, basi paleis paucis parvis lanceolatis atrofusis praeditis, ubique pubescentibus; vestigiis pinnarum 5–15-paribus, approximatis, triangularibus, 2–4 mm. longis et latis; lamina usque ad 45 cm. longa et 10 cm. lata, acuminata, basi gradatim angustata, pinnata, rhachi ubique minute setulosa; pinnis approximatis, sessilibus, medialibus 5 cm. longis 9 mm. latis, subacutis, basi truncatis, vix medio ad costam lobatis, costis venisque setulosis, facie laminare minutissime setulosa, subcoriaceis, lobis 2–3 mm. latis obtusis; venis 4–5-paribus, 2-paribus anastomosantibus; soris medialibus, indusiis persistentibus, setosis.*

VANUA LEVU: Thakaundrove: Maravu, near Salt Lake, alt. 0–450 m., Jan. 1941, *Degener & Ordoñez 14209* (TYPE in herb. Univ. Calif.) (in coconut grove near ocean).

Not evidently nearly related to any other known species. The numerous vestigial lower pinnae are found on several species, the most similar of which may be *Dryopteris Christophersenii* C. Chr., which is exindusiate.

DRYOPTERIS MAGNIFICA Copel. = *Cyclosorus magnificus* (Copel.) Copel. Gen. Fil. 143. 1947.

DRYOPTERIS MICROSORA Copel. = *Cyclosorus microsorus* (Copel.) Copel. Gen. Fil. 143. 1947.

DRYOPTERIS PENNIGERA (Forst.) C. Chr. = *Cyclosorus pennigerus* (Forst.) Copel., which probably does not occur in Fiji. The local plant of this alliance is *Cyclosorus costatus* (Brack.) Copel. Gen. Fil. 142. 1947.

DRYOPTERIS UROPHYLLUS (Wall.) C. Chr. = *Cyclosorus urophyllus* (Wall.) Copel. Gen. Fil. 143. 1947.

DRYOPTERIS RUBRINERVIS (Mett.) C. Chr. = *Cyclosorus rubrinervis* (Mett.) Copel. Gen. Fil. 143. 1947.

DRYOPTERIS SIMPLICIFOLIA (J. Sm.) Christ = *Cyclosorus simplicifolius* (J. Sm.) Copel. Gen. Fil. 143. 1947.

DRYOPTERIS CESATIANA C. Chr. = *Cyclosorus Beccarianus* (Cesati) Copel. Gen. Fil. 142. 1947.

In *Tectaria*, since my publication of 1929, two additional Fijian species have been described:

*Tectaria Degeneri* Copel. in *Sargentia* 1: 3. 1942; related to *T. Godeffroyi* (Luer.) Copel. but with remarkably slender pinnules and segments.

*Tectaria elegans* Copel. loc. cit.; a relative of *T. leuzeana* (Gaud.) Copel.

**POLYSTICHUM ARISTATUM** (Forst.) Presl = **Rumohra aristata** (Forst.) Ching.

**Polystichum aculeatum** (L.) Schott is the collective designation of several Fijian species which I do not yet venture to identify more accurately.

**Polystichum pilosum** sp. nov.

*P. P. obtuso* J. Sm. et *P. mutico* Copel. simile, stipitibus caespitosis 30–40 cm. altis stramineis gracilibus, deorsum paleis stramineo-ferrugineis 1 cm. longis 2 mm. latis acuminatis inconspicue sublaceris squamulisque laceris albidis vestitis, sursum paleis piliformibus paucis adspersis; lamina 15–20 cm. longa 7–8 cm. lata, bipinnata, rhachibus pilis et paleis piliformibus basibus parvis dilatatis dilaceratis pallidis densius vestitis; pinnis inferioribus oppositis subacutis, infimis deflexis; pinnulis oblique rhomboideis, 7 mm. longis, 4 mm. latis, rotundatis sed interdum minute spinuliferis, lateribus integris vel interdum minute spinuliferis, herbaceis, pallide viridibus, utraque facie pallide pilosis; soris parvis superficialibus, indusiis peltatis, laceris, margines versus perpallidis.

VANUA LEVU: Mathuata: Southern slopes of Mt. Numbuiloa, east of Lambasa, alt. 350–500 m., Nov. 3, 1947, *Smith 6484* (TYPE in herb. Univ. Calif.) (on cliffs in thin forest on rocky slope).

**ATHYRIUM ACCEDENS** (Blume) Milde = **Callipteris prolifera** (Lam.) Bory.

**ATHYRIUM JAVANICUM** (Blume) Copel. = **Diplaziopsis javanica** (Blume) C. Chr.

**ASPLENIUM REMOTUM** Moore. As the oldest name of this extremely polymorphic species, Christensen (in Bishop Mus. Bull. 177: 66. 1943) has chosen **Asplenium marattioides** (Brack.) C. Chr. Brackenridge gave it three specific names.

**ASPLENIUM ADIANTOIDES** (L.) C. Chr. is now known by its most familiar name, **Asplenium falcatum** Lam.

**ASPLENIUM GIBBEROSUM** (Forst.) Mett. = **Loxoscaphe gibberosum** (Forst.) Moore. *Loxoscaphe foeniculaceum* (Hook.) Moore is more finely dissected.

**STENOCHLAENA OLEANDRIFOLIA** Brack. = **Lomariopsis oleandrifolia** (Brack.) Mett.

**STENOCHLAENA BRACKENRIDGEI** (Carr.) Underw. = **Lomariopsis Brackenridgei** Carr.

**Orthiopteris** Copel. in Bishop Mus. Bull. 59: 14, 66. 1929.

*Orthiopteris* was described with one important error: the apex of the stem bears small, dark paleae. The later described genus *Ithycaulon* Copel. is therefore not distinct. For discussion see Copeland, Gen. Fil. 49, 50. 1947.

**SACCOLOMA MOLUCCANUM** (Blume) Mett. = **Orthiopteris minor** (Hook.) Copel.

BALANTIUM STRAMINEUM (Labill.) Diels = *Culcita straminea* (Labill.) Maxon.

I now have on hand 18 Fijian collections representing this species, with a rather firm, entire or lobed or shallowly lacerate indusium. A species distinguished by Brackenridge and Maxon, *C. blepharodes* Maxon, is characterized most definitely by "indusium ample, delicately membranous, long ciliate."

*Dennstaedtia intermedia* sp. nov.

Fronde teste lectore 2–3 m. alta, stipite metrale; rhachi straminea haud rubescente, inferne glabra fere inerme, superne sulcata breviter sordide furfuracea; pinnis ca. 8-pairibus fere oppositis, subsessilibus, infimis maximis 70 cm. vel. ultra longis; pinnulis etiam oppositis, infimis (pinnarum majorum) plus minus reductis, sequentibus usque ad 25 cm. longis, acuminatis, herbaceis, glabris, vix bipinnatis; pinnulis<sup>ii</sup> usque ad 4 cm. longis, acuminatis; pinnulis<sup>iii</sup> ala angusta confluentibus, oblongis, incisus, 2 mm. latis; soris parvis (ca. 0.6 mm. latis).

VITI LEVU: Mba: Valley of Nggaliwana Creek, north of the sawmill at Navai, alt. 725–850 m., in dense forest, July 21, 1947, *Smith 5373* (TYPE in herb. Univ. Calif.).

This genus was overlooked in my *Ferns of Fiji* (Bishop Mus. Bull. 59: 1929), although *Dicksonia incurvata* (miscited by Christensen, in Bishop Mus. Bull. 177: 33. 1943, as *D. involucrata*) had been described from Fiji. This species has since been collected by Degener, no. 14701, from the vicinity of Nandarivatu, alt. 790–900 m. Christensen (Ind. Fil. Suppl. 3: 70. 1934, and Dansk Bot. Ark. 9, No. 3: 42. 1937) has reduced *D. incurvata* (Baker) C. Chr. to *D. glabrata* (Ces.) C. Chr., but it seems to me to be a related but easily distinguishable species.

*Dennstaedtia intermedia* is probably the plant referred to by Christensen (in Bishop Mus. Bull. 177: 34. 1943), "which Baker named *Dicksonia moluccana* var. *inermis*, but it is neither *D. moluccana* nor *D. scandens*." It is intermediate between the group of *D. glabrata* and the body of the genus, being glabrous (except in the groove of the rachis), but without the rough, maroon axes of *D. glabrata*.

SCHIZOLOMA ENSIFOLIUM (Sw.) J. Sm. is certainly no *Schizoloma*; it was better placed when first named, as *Lindsaea ensifolia* Sw.

PTERIS DECUSSATA J. Sm. = *Pteris mertensioides* Willd.

NOTHOLAENA HIRSUTA (Poiret) Desv. is a *Cheilanthes*, apparently best to be known as *Cheilanthes javensis* Moore.

ARTHROPTERIS OBLITERATA (R. Br.) J. Sm., more strictly construed, does not occur in Fiji. The common local plant is *Arthropteris repens* (Brack.) C. Chr. in Bishop Mus. Bull. 177: 48. 1943.

*Arthropteris Archboldiae* Copel. in *Sargentia* 1: 3. 1942, from Viti Levu, is an indusiate relative of *A. tenella* (Forst.) J. Sm., of New Zealand, Norfolk Island, and Australia.



LASTREA ARTICULATA Brack. = *Arthropteris articulata* (Brack.) C. Chr.

OLEANDRA WHITMEEI Baker = *Oleandra Sibbaldii* Grev.

HUMATA GAIMARDIANA (Gaud.) J. Sm., as to the Fijian plant, = *Humata Banksii* Alston (in Philip. Jour. Sci. 50: 176. 1933). Typical *H. Gaimardiana*, of the East Indies, is *H. pectinata* (J. Sm.) Desv.

POLYPODIUM ACCEDENS Blume = *Weatherbya accedens* (Blume) Copel. Gen. Fil. 191, pl. 6. 1947.

POLYPODIUM BROWNII Wikstr. = *Dictymia Brownii* (Wikstr.) Copel.

POLYPODIUM LINGUAIFORME Mett. = *Microsorium linguaeforme* (Mett.) Copel.

POLYPODIUM PUNCTATUM (L.) Sw. = *Microsorium punctatum* (L.) Copel.

POLYPODIUM PARKSII Copel. = *Microsorium Parksii* (Copel.) Copel. Gen. Fil. 196. 1947.

POLYPODIUM NIGRESCENS Blume = *Microsorium alternifolium* (Willd.) Copel. Gen. Fil. 197. 1947.

POLYPODIUM SCOLOPENDRIA Burm. = *Microsorium Scolopendria* (Burm.) Copel.

POLYPODIUM VITIENSE Baker = *Microsorium sylvaticum* (Brack.) Copel. Gen. Fil. 196. 1947. Still another name for this is *Polypodium polynesianum* C. Chr. (in Bishop Mus. Bull. 177: 116. 1943).

POLYPODIUM WILKESII C. Chr. = *Microsorium alatum* (Brack.) Copel. Gen. Fil. 196. 1947.

CAMPIUM PALUSTRE (Brack.) Copel. = *Bolbitis lonchophora* (Kunze) C. Chr.

CAMPIUM QUOYANUM (Gaud.) Copel. = *Bolbitis quoyana* (Gaud.) Ching.

CAMPIUM RIVULARE (Brack.) Copel. = *Bolbitis rivularis* (Brack.) Ching.

*Lomagramma cordipinna* Holttum in Gard. Bull. Straits Settlement. 9: 202. 1937.

This is a second species of *Lomagramma* occurring in Fiji, with simply pinnate fronds, the sterile pinnae with obliquely cordate pinnae or the acroscopic side truncate. The type is from Samoa, but Holttum cited *Meebold 16856* from Fiji, and a later collection is *Degener 14565*, from the vicinity of Nandarivatu, Mba, Viti Levu.

From the group of *Elaphoglossum conforme*, Krajina (in Studia Bot. Cech. 1: 63-70. 1938) has described five species from Fiji, as follows:

*Elaphoglossum vanuaense* Krajina, typified by *Smith 675* and also represented by *Smith 454*, both from Thakaundrove, Vanua Levu.

*Elaphoglossum Dominii* Krajina, typified by a Horne specimen from Ovalau; this seems to be another name for *E. obtusifolium* Brack.

*Elaphoglossum ovalauense* Krajina, typified by a Brackenridge specimen from Ovalau distributed as *E. obtusifolium*.

**Elaphoglossum Milnei** Krajina, typified by *Milne 318*, from Viti Levu without precise locality, and also represented by *Horne 808*, from the province of Namosi, Viti Levu.

**Elaphoglossum Imthurnii** Krajina, typified by *im Thurn 315*, from Nandrau, Province of Nandronga & Navosa [formerly Tholo North], Viti Levu, and also represented by *im Thurn 368*, from southeastern Viti Levu.

**HYMENOLEPIS MUCRONATA** Fée = **Belvisia mucronata** (Fée) Copel. Gen. Fil. 192. 1947. *Smith 6093*, from northern portion of Rairaimatuku Plateau, Naitasiri, Viti Levu, is aberrant, or it may represent a new species.

**POLYPODIUM CONFORME** Brack., **P. LIGULATUM** Baker, **P. HIRTELLOIDES** Copel., and **P. HOOKERI** Brack. are all species of **Grammitis**.

**POLYPODIUM PURPURASCENS** Nad. (Enum. Pl. Indig. Tahiti 26. 1873) = **Ctenopteris purpurascens** (Nad.) comb. nov.

**POLYPODIUM BLECHNOIDES** (Grev.) Hook., as to all the Fijian specimens at hand, = **Ctenopteris Seemannii** (J. Sm.) comb. nov. (*Cryptosorus Seemannii* J. Sm. in *Bonplandia* 9: 262. 1861).

**PROSAPTIA CONTIGUA** Presl, as to the Fijian specimens only, = **Prosaptia pubipes** Copel., an endemic species.

**MONOGRAMMA PARADOXA** (Fée) Bedd., as to the Fijian specimens, = **Vaginularia angustissima** (Brack.) Mett.

**Antrophyum plantagineum** (Cav.) Kaulf. *Smith 6279*, from the escarpment north of Nandarivatu, Mba, Viti Levu, is a small plant with short stipes. It may be a distinct species.

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