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ORCHID STUDIES, IV

BY

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THE ORCHIDS OF THE FIJI ISLANDS

THE FOLLOWING ANNOTATED CATALOGUE of the Fijian orchids was prepared when a large collection made by *John W. Gillespie* and by *H. E. Parks* was received for study and determination at the Botanical Museum of Harvard University. This collection contains about two hundred specimens many of which will be found in the herbarium of Oakes Ames; duplicates of most of the Gillespie numbers, as well as some numbers of the Parks collections, will be found in the Bernice P. Bishop Museum in Honolulu; duplicates of most of the Parks collections and some of those of the Gillespie collection will be found in the herbarium of the University of California.

In addition to the above collections, I have had access to three others from Fiji. The first collection (of about thirty numbers) is that of *A. C. Smith*, of which the study set is in the Ames Herbarium. The second is the *Seemann* collection, of which duplicates of many species are in the Gray Herbarium. This collection is of particular importance because it formed the basis for *H. G. Reichenbach's* treatment of the orchids in *Seemann's Flora Vitiensis*. The third collection is that of the United States South Pacific Exploring Expedition, of which a good representation is to be found in the Gray Herbar-

ium. Most of the specimens of the last collection, in the Gray Herbarium, have been annotated by Reichenbach and some of them are probably isotypes of Reichenbachian species. Unfortunately the specimens of this collection are unnumbered and consequently, unless they have been annotated by Reichenbach, are occasionally difficult to place.

It is hoped that all the species which have been described or reported from the Fiji Islands are included in this paper, but it is quite probable that a few have been overlooked. All the specimens which I have seen and have been able to determine are cited. Those which I have not seen but which were reported in literature as having been collected in Fiji have been included and enclosed in parentheses to indicate that they have not been seen.

There are probably a few species included in this report which do not occur in Fiji. Possibly some of these species, representatives of which I have not seen, may belong to genera other than those to which they have been referred.

The range, beyond Fiji, of all the species of orchids is given in general terms. These statements of range have been taken from various sources. Most of them have been derived from literature, but some have been taken from specimens in the Ames Herbarium and in the Gray Herbarium. No particular attempt has been made to verify the occurrence, outside of Fiji, of any plant reported in literature.

Thanks are due to Professor Oakes Ames who has assisted in many ways and to Professor Elmer D. Merrill who has been kind enough to loan the orchid part from his Polynesian index, thereby greatly simplifying the enumeration of the Fijian orchids.

A LIST OF THE SPECIES

HABENARIA *Willdenow*

Habenaria alaeformis *C. Schweinfurth* in B. P. Bishop Mus. Bull. 141 (1936) 17, fig. 6a.

FIJI: *Smith 257; Gillespie 3759; Parks 20051, 20897.*

Habenaria cynosorchidacea *C. Schweinfurth* in B. P. Bishop Mus. Bull. 141 (1936) 18, fig. 6b.

FIJI: *Smith 1364; Gillespie 3187, 3756; Parks 20897 in part.*

Habenaria maculifera *C. Schweinfurth* in B. P. Bishop Mus. Bull. 141 (1936) 18, fig. 6c.

FIJI: *Smith 427, 1911.*

This species may not be distinct from *H. tradescantifolia*.

Habenaria superflua *Reichenbach filius* in Seemann Fl. Vit. (1868) 293.

FIJI: *Seemann 608; Wilkes U. S. South Pacif. Expl. Exped.; Parks s.n.*

Samoa, Society Islands (?).

Habenaria supervacanea *Reichenbach filius* in Seemann Fl. Vit. (1868) 293.

FIJI: *Wilkes U. S. South Pacif. Expl. Exped.; (Graeffe).*¹
Samoa.

Habenaria tradescantifolia *Reichenbach filius* in Seemann Fl. Vit. (1868) 293.

FIJI: *Seemann 608 in part; Gillespie 2036, 2256, 2438, 2442, 3008, 3278; Parks 20231, 20346; Wilkes U. S. South Pacif. Expl. Exped.; (Gibbs 659).*

Samoa, Society Islands (?).

¹Parentheses indicate that the specimen has not been seen, but the reference taken from literature.

CRYPTOSTYLIS *R. Brown*

Cryptostylis vitiensis *Schlechter* in *Fedde Repert.* 3 (1906) 16.

FIG: (*Thompson*); *Gillespie* 4052; *Smith* 1638.

VANILLA *Swartz*

Vanilla anomala *Ames & Williams* *sp. nov.*

Herba epiphytica [scandens?]. Folia coriacea, lanceolato-oblonga vel oblongo-ovata, acuta vel obtusa. Inflorescentia in ramis lateralibus terminalis, pauciflora; bracteae coriaceae, cucullatae, obtusae. Sepalum dorsale elliptico-lineare, tri- vel quinque-nervium, acutum. Sepala lateralina elliptico-linearina, apice cucullata, acuta. Petala linearina, acuta vel obtusa, leviter falcata. Label- lum obovatum, integrum vel apice paulo laceratum, basi breviter saccatum, callo plano carinato longitudinali omnino percursum et papillis carnosiss ornatum. Columna aliquid dimorphica. Anthera et stigma generis.

A [scandent?] epiphytic herb of unknown length, but in specimens available up to 3 dm. long. Stem strongly fractiflex, angled (at least when dry), enlarged at the nodes; internodes on the apical part 1–10 cm. long; lateral branches short, fractiflex, subtended by a leaf, borne alternately from the nodes and with an air-root opposite to the fertile branch at each node. Leaves coriaceous, lanceolate-oblong to oblong-ovate, acute or obtuse, 1–7 cm. long or probably longer and 0.5–4 cm. broad or probably broader. Inflorescence terminal on the lateral branches, few-flowered, about 1 cm. long; bracts coriaceous, cucullate, obtuse, not deciduous, about 1–2 mm. long. Flowers 2–2.5 cm. long. Dorsal sepal elliptic-linear, 3–5-nerved, acute, 2–2.5 cm. long and about 4 mm. broad. Lateral sepals elliptic-linear, about 9-nerved, slightly cucullate at the apex, acute, 2–2.5 cm. long and about 5

mm. broad. Petals linear, acute or obtuse, slightly falcate, about 5-nerved, 2–2.5 cm. long and 2–3 mm. broad. Lip obovate, entire or the apical portion slightly cut, about 20 mm. long and 12 mm. broad, adnate to the column for only about 2–3 mm. at the base and forming a short sac; a flattened carinate callus (attached to the lip only medianly) extending from the base to the apex; the upper surface of the lip more or less covered with fleshy papillae. Column somewhat dimorphic, slender, slightly arcuate:—form a—with a flattened, fleshy, dorsal process beginning about 2 mm. from the apex of the column and extending over the apex with the anther attached terminally:—form b—with a terete dorsal filament beginning about 3 mm. from the apex of the column and reaching to, or nearly to, its apex, with the anther terminal; anther and stigma of the genus.

Vanilla anomala has much the aspect of a *Galeola* and, in sorting the bundle in which it was contained, it was tentatively labelled *Galeola*. A careful examination, however, indicates that it is best referred to *Vanilla*. Among the species of *Vanilla*, it does not seem to have any near allies. It is possible that the species is one which is somewhat intermediate between the species of *Vanilla* and those of *Galeola*.

The slightly dimorphic condition of the column, described above, is not known to occur in any other species of *Vanilla* (or in *Galeola* for that matter) known to us. A number of flowers were dissected and about an equal number of each column-form was found. It seems, so far as we are able to determine, that flowers having either form of column are functionally perfect. A few very young fruits are to be found on our specimens.

FIJI: Viti Levu, Naitisiri Province, vicinity of Nasinu, 9 miles from Suva. Epiphyte. At 150 meters altitude. October 29, 1927. Gillespie 3630 (TYPE in Herb. Ames Nos. 46907 & 46908).

VANILLA FRAGRANS (*Salisb.*) *Ames* in Sched. Orch.
7 (1924) 36.

Myrobroma fragrans Salisbury Parad. Lond. (1807)
t. 82.

Vanilla planifolia Andrews Bot. Repos. 8 (1808) t.
538.

This species is said by Rolfe (Journ. Linn. Soc. Bot.
32 (1896) 445) to be cultivated in Fiji.

NERVILIA Commerson ex Gaudichaud

Nervilia aragoana *Gaudichaud* in Freycinet Voy.
Uranie et Physic. Bot. (1826) 422, t. 35.

Pogonia flabelliformis Lindley Gen. & Sp. Orch. Pl.
(1840) 415—Duthie in Ann. Roy. Bot. Gard. Cal-
cutta 9 (1906) 158, t. 125.

Pogonia sp. Reichenbach filius in Seemann Fl. Vit.
(1868) 296, probably.

FII: *Wilkes U.S. South Pacif. Expl. Exped.*; *Seemann 604.*

Widely distributed: India, Burma, Malaya to Samoa.

DIDYMOPLEXIS Griffith

Didymoplexis micradenia (*Reichb.f.*) *L.O. Wil-*
liams comb. nov.

Epiphanes micradenia Reichenbach filius in Seemann
Fl. Vit. (1868) 295.

Leucorchis micradenia Bentham & Hooker filius ex
Drake Ill. Fl. Ins. Pacif. (1886) 313.

FII: (*Seemann 610*).

GOODYERA R. Brown

Goodyera anomala *Schlechter* in Fedde Repert. 9
(1910) 86.

FII: *Smith 256, (1576).*

Samoa.

Goodyera rubicunda (*Bl.*) *Lindley* in Bot. Reg. 25 (1839) Misc. p. 61.

Neottia rubicunda Blume Bijdr. (1825) 408.

Rhamphidia rubicunda Reichenbach filius in Seemann Fl. Vit. (1868) 294.

Hetaeria rubicunda Benth. & Hooker filius ex Drake Ill. Fl. Ins. Pacif. (1886) 312.

FIJI: *Gillespie 3121.9.*

Malaya, Java, Sumatra, Celebes, Borneo, Moluccas, Amboina, Philippines, New Caledonia, New Guinea, Samoa.

Goodyera Waitziana *Bl.* var. **vitiensis** *L. O. Williams* var. *nov.*

A specie lobo medio labelli transverse ovali differt.

The variety differs from the species in having the mid-lobe of the lip transversely oval instead of oblong, hence the sinuses are quite noticeable whereas they are obscure in the species.

FIJI: Koro. Terrestrial, dense forest. Perianth yellow and salmon pink. At 300-500 meters altitude. January 29 to February 5, 1934. *Smith 1062* (TYPE in Herb. Ames No. 42090).

ZEUXINE *Lindley*

Zeuxine sphaerocheila *Fleischmann & Reehinger* in Denkschr. Math.-Naturw. Klasse K. Akad. Wiss. Wien 85 (1910) 251, t. 2, fig. 6—C. Schweinfurth in B. P. Bishop Mus. Bull. 141 (1936) 19.

FIJI: *Smith 225, 798.*

Samoa.

Zeuxine stricta (*Rolfe*) *L. O. Williams* comb. *nov.*

Adenostylis stricta Rolfe ex Gibbs in Journ. Linn. Soc. Bot. 39 (1909) 177.

FIJI: (*Gibbs 667*).

Zeuxine vitiensis (*Rolfe*) *L. O. Williams comb. nov.*
Adenostylis vitiensis Rolfe ex Gibbs in Journ. Linn.
Soc. Bot. 39 (1909) 177.

FIJI: (*Gibbs 618*).

ODONTOCHILUS *Blume*

Odontochilus longiflorus (*Reichb. f.*) *Bentham & Hooker filius ex Drake* Ill. Fl. Ins. Pacif. (1886) 312.

Anecochilus longiflorus Reichenbach filius in Seemann
Fl. Vit. (1868) 294.

?*Odontochilus upoluensis* Kränzlin in Mitteil. Instit.
allgem. Bot. Hamb. 5 (1922) 236.

FIJI: (*Seemann 601*); *Wilkes U.S. South Pacif. Expl. Exped.*; *Smith*
1628; (*Gibbs 701*).

?Samoa

ANOECTOCHILUS *Blume*

Anoectochilus vitiensis *Rolfe ex Gibbs* in Journ.
Linn. Soc. Bot. 39 (1909) 176.

FIJI: (*Gibbs 635*).

VRIDAGZYNEA *Blume*

Vrydagzynea purpurea *Blume* Fl. Jav. Orch.
(1858) 60, t. 20—Reichenbach filius in Seemann Fl. Vit.
(1868) 294.

FIJI: (*Seemann 618*).

Java.

Vrydagzynea vitiensis *Reichenbach filius* Otia
Bot. Hamb. (1878) 51.

FIJI: (*Wilkes U. S. South Pacif. Expl. Exped.*).

HETAERIA *Lindley*

Hetaeria forcipata *Reichenbach filius* in Linnaea
41 (1876) 62.

FIJI.

Hetaeria Francisii *Schlechter* in Fedde Repert. 9 (1911) 161.

FIJI: (*Francis*).

Hetaeria oblongifolia *Blume* Fl. Jav. Orch. (1858) 85, t. 32, fig. 3.

? *Hetaeria similis* *Schlechter* in Fedde Repert. 9(1910) 88.

There seems to be only a slight difference between *Schlechter's H. similis* and *H. oblongifolia* and the former is here placed tentatively under that species. Critical work will probably uphold this reduction.

FIJI: *Wilkes U.S. South Pacif. Expl. Exped. (?)*; *Smith 135, 2008*; *Gillespie 2572, 2700, 3007*.

Java, New Guinea, Moluccas, Samoa.

Hetaeria polyphylla *Reichenbach filius* *Otia Bot. Hamb.* (1878) 52; *Xen. Orch.* 3 (1881) 29.

FIJI: *Wilkes U.S. South Pacif. Expl. Exped.*; *Prince s.n.*

TROPIDIA *Blume*

Tropidia ctenophora (*Reichb.f.*) *Bentham & Hooker filius ex Drake* Ill. Fl. Ins. Pacif. (1886) 311.

Cnemidia ctenophora *Reichenbach filius* *Otia Bot. Hamb.* (1878) 51.

Tropidia ctenophora *Reichb.f.* is probably conspecific with *T. effusa* *Reichb.f.* The original description of the lip as given by *Reichenbach* is obviously incorrect as is the drawing made by him which is now contained in his herbarium. The lip is shown as emarginate, and is so described with a query. The species undoubtedly has the apex of the lip strongly reflexed.

FIJI: *Wilkes U.S. South Pacif. Expl. Exped.*; (*Graeffe*).

Tropidia effusa *Reichenbach filius* in *Seemann Fl. Vit.* (1868) 295.

Fiji: Seemann 612; Prince s.n.; Smith 972; Gillespie 2236, 3024, 4719; Parks 20202; (Graeffe).

Samoa, Admiralty Islands.

CORYMBORCHIS *Thouars*

Corymborchis veratrifolia (*Reinw.*) *Blume* Fl. Jav. Orch. (1858) 105, t. 42.

Hysteria veratrifolia Reinwardt in Bot. Zeit. 2 (1825) 5.

Fiji: Gillespie 4541, 4627a; Seemann 603.

Widely distributed in the eastern tropics : India, Malaya to Samoa.

MALAXIS *Solander ex Swartz*

Malaxis brevidentata *C. Schweinfurth* in B. P. Bishop Mus. Bull. 141 (1936) 20, fig. 7a.

Fiji: Smith 1620.

Malaxis comans *C. Schweinfurth* in B. P. Bishop Mus. Bull. 141 (1936) 21, fig. 7b.

Fiji: Smith 1684, 1739.

Malaxis Everardii (*Rolfe*) *L. O. Williams* comb. nov.

Microstylis Everardii Rolfe in Kew Bull. (1921) 54.

Fiji: (*im Thurn*).

Malaxis Imthurnii (*Rolfe*) *L. O. Williams* comb. nov.

Microstylis Imthurnii Rolfe in Kew Bull. (1921) 53.

Fiji: Gillespie 4456; (*im Thurn* 208).

The Gillespie specimen has been determined from the characters.

Malaxis latisegmenta *C. Schweinfurth* in B. P. Bishop Mus. Bull. 141 (1936) 22, fig. 7c.

Fiji: Smith 967.

Malaxis latisepala (*Rolfe*) *C. Schweinfurth* in B. P. Bishop Mus. Bull. 141 (1936) 23.

Microstylis latisepala Rolfe in Kew Bull. (1921) 53.

FIJI: *Smith* 271, 1063; *Gillespie* 4583; *in Thurn* 209.

Malaxis longifolia (*Rolfe*) *L. O. Williams* comb. nov.

Microstylis longifolia Rolfe in Kew Bull. (1921) 54.

FIJI: (*Horne*); *Seemann* 616 (?).

Malaxis platychila (*Reichb.f.*) *O. Kuntze* Rev. Gen. Pl. 2 (1891) 673.

Microstylis platychila Reichenbach filius in Seemann Fl. Vit. (1868) 302—Kränzlin in K. Schumann & Lauterbach Fl. Deutsch. Schutzgeb. Südsee (1901) 242.

FIJI: *Seemann* 590; *Wilkes* U.S. South Pacif. Expl. Exped. German New Guinea.

Malaxis purpurea (*Lindl.*) *O. Kuntze* Rev. Gen. Pl. 2 (1891) 673.

Microstylis purpurea Lindley Gen. & Sp. Orch. Pl. (1830) 20—Reichenbach filius in Seemann Fl. Vit. (1868) 302.

FIJI: *Seemann* 613.
New Zealand.

Malaxis radiculicola (*Rolfe*) *L. O. Williams* comb. nov.

Microstylis radiculicola Rolfe in Kew Bull. (1921) 53.

FIJI: (*in Thurn* 64).

Malaxis Schlechteri (*Rolfe*) *L. O. Williams* comb. nov.

Microstylis Schlechteri Rolfe in Kew Bull. (1921) 53, *in textu*.

Microstylis vitiensis Schlechter in Fedde Repert. 10 (1911) 249, non Rolfe.

FIJI: (*Lucae*).

Malaxis vitiensis (*Rolfe*) *L. O. Williams comb. nov.*
Microstylis vitiensis Rolfe ex Gibbs in Journ. Linn.
Soc. Bot. 39 (1909) 173.

FIJI: (*Gibbs 653*).

OBERONIA *Lindley*

Oberonia glandulosa *Lindley* Fol. Orch. Oberonia (1859) p. 6.

Malaxis glandulosa Reichenbach filius in Walp. Ann. 6 (1861) 215; in Seemann Fl. Vit. (1868) 302.

FIJI: *Seemann 588; Harvey; Wilkes U.S. South Pacif. Expl. Exped.; Parks 20174a, 20477; Smith 1485, 1731.*

Samoa, Society Islands, New Hebrides, Cook Islands.

Oberonia heliophila *Reichenbach filius* Otia Bot. Hamb. (1878) 56, *in textu*.

Malaxis heliophila Reichenbach filius Otia Bot. Hamb. (1878) 56.

Oberonia Betchei Schlechter in Bull. Herb. Boiss. 6 (1906) 303.

FIJI: *Seemann 587, 614; Wilkes U. S. South Pacif. Expl. Exped.; Parks 20174; Gillespie 2877; Smith 1732.*

Samoa.

LIPARIS *L. C. Richard*

Liparis condylobulbon *Reichenbach filius* in Hamb. Gartenz. 18 (1862) 34.

Liparis confusa J. J. Smith Fl. Buitenz. 6 (Orch. Jav.) (1905) 275.

FIJI: *Parks 20441, 20468; Setchell & Parks 15035.*

Malaya and Polynesia.

Liparis longipes *Lindley* in Wallich Pl. Asiat. Rar. 1 (1830) 31.

FIJI: *Seemann 614.*

India, China, Java, Samoa.

The specimen, on which the original report was based, may well be *L.condylobulbon*.

Liparis nesophila *Reichenbach filius* Otia Bot. Hamb. (1878) 56; Xen. Orch. 3 (1881) 31.

FIJI: *Wilkes U.S. South Pacif. Expl. Exped.*

Ridley has cited the Wilkes specimen under *L.longipes* Lindl. and has reduced *L.nesophila* Reichb.f. to that species.

Liparis vitiensis *Rolfe* in Kew Bull. (1921) 54.

FIJI: (*im Thurn 370*); *Parks 20369* (?).

Presumably the Parks specimen belongs to Rolfe's species, but Rolfe's description of *L.vitiensis* is not very good and I have seen no authentic material of the species.

CHRYSOGLOSSUM *Blume*

Chrysoglossum Gibbsiae *Rolfe ex Gibbs* in Journ. Linn. Soc. Bot. 39 (1909) 175.

FIJI: (*Gibbs 886*).

Chrysoglossum ornatum *Blume* Bijdr. (1825) 308; Fl. Jav. Orch. (1858) 136, t. 46.

FIJI: *Gillespie 3196, 3199.1*; *Wilkes U.S. South Pacif. Expl. Exped.* Java, Sumatra, Celebes.

Chrysoglossum vesicatum *Reichenbach filius* in Seemann Fl. Vit. (1868) 304.

FIJI: (*Seemann 611*).

COELOGYNE *Lindley*

Coelogyne sp.

FIJI: *Gillespie 4293*.

The genus *Coelogyne* does not seem to have been re-

ported previously from Fiji. This specimen, which is in fruit, has much the aspect of *C. asperata* Lindl.

PSEUDERIA *Schlechter*

Two species of this genus are known to occur in the Fiji Islands and there is also a third species of which the specimens are inadequate for critical diagnosis.

It seems rather peculiar that the flowering plants of this affinity were unknown to *H. G. Reichenbach* from Fiji at the time when he contributed the orchids to Seemann's *Flora Vitiensis*. Species of this genus have been rather common in recent collections from the Fiji group. An interesting note on *Pseuderia* by *Schlechter* is to be found in *Engler Bot. Jahrb.* 56 (1921) 473.

***Pseuderia platyphylla* L. O. Williams sp. nov.**

Herba epiphytica (vel semi-epiphytica), usque ad 17 dm. alta. Folia lanceolata vel ovato-lanceolata, acuta vel acuminata. Inflorescentiae breves, laterales, pauciflorae; bracteae ovatae. Sepalum dorsale lineari-lanceolatum, acutum, carnosum, trinervium. Sepala lateralibus similia. Petala linearia, acuta, trinervia. Labellum oblongo-ovatum, obtusum, simplex, carinis ornatum. Columna generis.

A robust epiphytic (or semi-epiphytic) herb up to about 17 dm. tall. Stems coarse, up to about 1.5 cm. thick; internodes 2–4 cm. apart. Leaves lanceolate to ovate-lanceolate, acute to abruptly acuminate, comparatively thin when dry yet coriaceous, 10–20 cm. long, 1.5–6 cm. broad. Inflorescences short, lateral and about opposite the base of a leaf, mostly less than 10-flowered, up to 5–6 cm. long (but mostly shorter); bracts ovate, mostly 4–6 mm. long. Flowers relatively large for the genus, about 1.5–2 cm. long. Dorsal sepal linear-lanceolate, acute, fleshy, 3-nerved, about 20 mm. long and 3

mm. broad. Lateral sepals linear-lanceolate, fleshy, acute, arcuate, 3- (5-) nerved, about 18 mm. long and 4 mm. broad. Petals linear, acute, 3-nerved, about 12 mm. long and 2 mm. broad. Lip oblong-ovate, obtuse, simple, with one strong median callus which divides into two carinae at the base and four smaller keels which converge to the main keel toward the base, 8-10 mm. long and about 4-5 mm. broad. Column of the genus.

Pseuderia platyphylla is closely allied to *P. diversifolia* J.J.Sm., a species which was described from Dutch New Guinea. The present species may be distinguished by the generally narrower leaves, by the oblong-ovate (not rhomboid) lip and by the fact that the lip is strongly reflexed near the base and not evenly reflexed for most of its length.

FIJI: Viti Levu, Mt. Konibalevu. Vine climbing tall trees. Flowers white. At 400 meters altitude. July 1927. *Parks* 20928 (TYPE in Herb. Ames Nos. 46919 & 46920).

The following specimens from Fiji doubtless belong to this species: *Gillespie* 2412, 3499, 3629; *Parks* 20927; *Wilkes U. S. South Pacif. Expl. Exped.*

Pseuderia Smithiana C. Schweinfurth in B. P. Bishop Mus. Bull. 141 (1936) 23, fig. 7d.

FIJI: *Smith* 161, 561; *Gillespie* 2166, 2177, 2264, 3639, 3883; *Parks* 20927; *Setchell & Parks* 15083.

DENDROBIUM Swartz

Dendrobium biflorum (*Forst.*) Swartz in Nov. Act. Soc. Sci. Upsal. 6 (1799) 84; in Act. Holm. (1800) 246—Reichenbach filius in Seemann Fl. Vit. (1868) 303.

Epidendrum biflorum Forster Fl. Ins. Austral. Prodr. (1786) 60.

FIJI: *Seemann* 582; *Gillespie* 3862; *Parks* 20027, 20569.
Samoa, Solomon Islands, Society Islands, New Zealand.

Dendrobium catillare *Reichenbach filius* in Seemann Fl. Vit. (1868) 304.

The original description of this species is not very good and Kränzlin, in his monograph of the genus, was not able to clarify the species. The redescription given below is based on *Smith* 871 and 905. These specimens are in the herbarium of The New York Botanical Garden.

An epiphytic caespitose herb with simple stems up to 3 dm. long. Stems multiarticulate, slender, indurated, the segments mostly 1–2 cm. long, yellow, with the leaf-sheaths on the older ones disintegrated, the younger parts of the stem covered with leaf-sheaths. Leaves lanceolate, acute or somewhat obtuse, slightly bilobed, several-nerved, 2.5–5 cm. long, 0.6–1 cm. broad, articulated to the striated sheath which invests the stem, soon deciduous. Inflorescence short, borne on the leafless stems, mostly 2–5-flowered; bracts hyaline, obscurely maculate, lanceolate, acute, 4–7 mm. long, 2–3.5 mm. broad. Flowers medium-sized for the subgenus, about 1.8 mm. long, pink and white. Dorsal sepal lanceolate, obtuse, 3–5-nerved, about 9 mm. long and 3 mm. broad. Lateral sepals attached to the column-foot and forming with it a slightly curved obtuse mentum 8–9 mm. long which is closed for about 2 mm. at the base; free part of the blade lanceolate, acute, 5–7-nerved, about 8 mm. long and 4 mm. broad. Petals elliptic-ob lanceolate, obtuse or acute, 3–5-nerved, about 10 mm. long and 3 mm. broad above the middle. Lip simple, unguiculate; claw slightly cochleate, about 5 mm. long and 2.2 mm. broad, with an inconspicuous callus at the junction with the blade; blade rhombic, the anterior half serrulate, ecallose, acute, several-nerved, 9–10 mm. long and 5–7 mm. broad. Column short, with two ovate lateral wings and a linear dorsal tooth at the apex.

Dendrobium catillare has much the habit of a small

D. Mohlianum Reichb.f., but is easily distinguished by the structure of the flowers. It belongs to the subgenus *Pedilonum*.

FIJI: (Seemann 591); Smith 871, 905.

Dendrobium dactylodes *Reichenbach filius* in Journ. Bot. 15 (1877) 132—Kränzlin in Engler Pflanzenr. IV. 50. II. B. 21 (1910) 189.

FIJI: Wilkes U.S. South Pacif. Expl. Exped.
Samoa, Cook Islands.

This specimen was determined by Reichenbach as *D. dactylodes*. It is sterile, but may well belong to this species.

Dendrobium Everardii Rolfe in Kew Bull. (1921) 55.

FIJI: Gillespie 3172.5, 3830; (in Thurn 316, 326).

Gillespie's number 3830 is somewhat smaller than the other specimen and than the plant described by Rolfe. These determinations have been made from the characters.

Dendrobium glossotis *Reichenbach filius* Otia Bot. Hamb. (1878) 55—Kränzlin in Engler Pflanzenr. IV. 50. II. B. 21 (1910) 101.

FIJI: Wilkes U.S. South Pacif. Expl. Exped.; Parks 20188, 20210, 20544A, 20916.
Society Islands.

Dendrobium Gordonii *S. Moore* in Journ. Linn. Soc. Bot. 20 (1883) 372—Rolfe ex Gibbs in Journ. Linn. Soc. Bot. 39 (1909) 174.

FIJI: Wilkes U.S. South Pacif. Expl. Exped.; Gillespie 2111, 2276, 2942, 4156; Parks 20145, 20292, 20848; (Gibbs 603; Horne 942);
Smith 1956 (?).
Samoa.

The specimens determined as *D. Gordonii* are so named with reservations. I have not seen authentic specimens of that species and the little group (of a dozen or so species) to which it belongs is one of the most difficult in the genus.

Dendrobium Hornei *Baker* in Journ. Linn. Soc. Bot. 20 (1884) 373.

This species is probably not distinct from *D. Tokai* Reichb.f.

FIJI: (*Horne*).

Dendrobium (Subg. *Grastidium* §. *Bambusacea*)
Kraenzlinii *L.O. Williams nom. nov.*

Dendrobium vitiense Kränzlin in Mitteil. Inst. allgem. Bot. Hamb. 5 (1922) 263, non Rolfe 1921.

FIJI: (*Kleinschmidt*).

Dendrobium Mohlianum *Reichenbach filius ex Mohl & Schlechtendal* in Bot. Zeit. 20 (1862) 214—*Reichenbach filius* in Bonpl. 10 (1862) 334, t. 16; in Seemann Fl. Vit. (1868) 303, t. 91.

The two plates cited above, which are copies of the same drawing, show the flowers to be deep red in color. The specimens examined seem to indicate (in the dry state) that the flowers were not red. Smith has noted the color of the five specimens which he collected as “bright orange” or “rich orange”.

FIJI: *Gillespie* 2783b, 3155, 3276, 3298, 5111; (*Gibbs* 620); *Seemann* 578; *Parks* 20608, 20756; *Wilkes U.S. South Pacif. Expl. Exped.*; *Smith* 269, 703, 1650, 1766, 1996; (*Horne* 793).

Samoa, New Hebrides, New Guinea.

Dendrobium Mooreanum *Lindley* in Journ. Hort. Soc. Lond. 6 (1851) 272.

FIJI: *Wilkes U.S. South Pacif. Expl. Exped.*
New Hebrides.

This specimen, which is in the Gray Herbarium, was probably determined by Lindley but what remains of the specimen is sterile and the record cannot be further authenticated.

Dendrobium platygastrium *Reichenbach filius*
Otia Bot. Hamb. (1878) 55; Xen. Orch. 3 (1881) 31.

FIJI: Gillespie 3634; Wilkes U.S. South Pacif. Expl. Exped.

Dendrobium Goldfinchii F.v. Mueller (in Wing South. Sci. Record (Jan. 1883)) is probably a synonym.

The specimens collected by the United States South Pacific Exploring Expedition were annotated by H.G. Reichenbach, but the name applied by him was never published. This unpublished name is similar to the one later adopted and probably Reichenbach altered it before he published his description of the species.

Dendrobium prasinum *Lindley* in Journ. Linn. Soc. Bot. 3 (1859) 11—Reichenbach filius in Seemann Fl. Vit. (1868) 304.

Sarcopodium prasinum Kränzlin in Engler Pflanzenr. IV. 50. II. B. 21 (1910) 322.

FIJI: Agati's drawings; Seemann 596; Wilkes U.S. South Pacif. Expl. Exped.; Parks 20639; (Gibbs 663).

The Agati drawings, in the Gray Herbarium, are doubtless the type of this most interesting species. Lindley in his description says, "A very distinct plant of which I only know a drawing by Agati, in the possession of my learned friend Prof. Asa Gray".

Dendrobium Seemannii *L.O. Williams nom. nov.*
Dendrobium calamiforme Rolfe in Kew Bull. (1921) 55, non Loddiges 1841.

Dendrobium crispatum sensu Reichenbach filius in Seemann Fl. Vit. (1868) 303.

Fiji: Seemann 579; (Horne 1085; in Thurn 376).
New Hebrides, Society Islands.

The Seemann specimens have received considerable attention; determined originally by Seemann as *D. calamiforme* Lodd., a synonym of *D. teretifolium* R. Br., they were placed in *D. crispatum* (Forst.) Sw. by H. G. Reichenbach in Seemann's *Flora Vitiensis*. Rolfe described the plant as new in 1921 under the name *D. calamiforme*, a name which may not be used, according to the present rules, because of the previous *D. calamiforme* Lodd.

Dendrobium serratum Rolfe ex Gibbs in Journ. Linn. Soc. Bot. 39 (1909) 174.

Fiji: (Gibbs 610).

Dendrobium (Subg. *Dendrocoryne* §. Tokai) ***spathulatum*** L. O. Williams sp. nov., t.

Herba epiphytica, robusta, usque ad 7 dm. longa. Caules teretes vel paulo complanati, multiarticulati, foliosi. Folia elliptico-oblonga, obtusa, apice inaequaliter bilobata, mox decidua. Inflorescentiae laterales, folia excedentes; bractae ovato-lanceolatae, obtusae. Sepalum dorsale elliptico-oblongum, obtusum, quinque-ad septem-nervium. Sepala lateralia similia. Petala spathulata, obtusa vel leviter acuta. Labellum late elliptico-obovatum, tricarinatum; lobi laterales erecti, obtusi; lobus medius transverse oblongo-ovatus. Columna generis.

A large epiphytic herb about 7 dm. long. Stem terete or somewhat flattened, multiarticulate, leafy, about 1 cm. thick at the base, segments 1–5 cm. (in the middle of the stem about 4 cm.) apart. Leaves elliptic-oblong, obtuse, unequally bilobed at the apex, coriaceous, many-nerved, probably soon deciduous, 7–9 cm. long, 2.5–3.5 cm. broad. Inflorescence lateral, arising opposite the base

of a leaf toward the top of the plant, much exceeding the leaves in length, 10–20-flowered, the floriferous branches up to about 25 cm. long; bracts ovate-lanceolate, obtuse, 2–3 mm. long. Flowers about 1.5 cm. long. Dorsal sepal elliptic-oblong, obtuse but minutely apiculate, 5–7-nerved, about 10 mm. long and 5 mm. broad. Lateral sepals similar but about 14 mm. long to the base of the mentum which is not closed. Petals spatulate, broadest toward the apex, obtuse or minutely acute, about 12 mm. long and 4 mm. broad. Lip 3-lobed, broadly elliptic-obovate, about 14 mm. long and 11 mm. broad, joined with the column-foot for about 5 mm. at the base thus forming a short spur, with three carinae extending from near the base of the lip to a little beyond the sinuses (the carinae end in raised mamillae); lateral lobes erect, obtuse, 8–10 mm. long; mid-lobe transversely oblong-oval, about 4 mm. long and 6 mm. broad. Column about 4 mm. long with a broad foot of equal length; margin of the clinandrium serrulate and with a lanceolate dorsal mucro about 0.5 mm. long.

Dendrobium spathulatum is an interesting addition to the small section Tokai and is amply distinct from the other species of the section. It is most closely allied to *D. Tokai* Reichb.f., and specimens of the two species without flowers would be difficult to separate. The many contrasts in the flowers, however, will quickly separate them. *Dendrobium spathulatum* has flowers about one half the size of those of *D. Tokai*; the sepals and petals are differently shaped; and the lip is markedly different in shape.

FIJI: Viti Levu, Naitasiri Province, woods near road past Tamavua village, 6 miles from Suva. At 150 meters altitude. August 8, 1927. Gillespie 2145 (TYPE in Herb. Ames No. 47527).

Dendrobium tipuliferum *Reichenbach filius* in Gard. Chron. n.s. 7 (1877) 72.

EXPLANATION OF THE ILLUSTRATION

DENDROBIUM SPATHULATUM *L. O. Williams.* 1, stem and leaves, one half natural size. 2, flower from below, about natural size. 3, flower from the front, about natural size. 4, column and lip seen from the side, enlarged about two and one half times. 5, lip expanded, enlarged about two and one half times.

Drawn by G.W.DILLON

DENDROBIUM *spathulatum*

L. O. Williams



Diplocaulobium tipuliferum Kränzlin in Engler Pflanzenr. IV. 50. II. B. 21 (1910) 335.

Fiji: Smith 800, 1369; Wilkes U. S. South Pacif. Expl. Exped. (?); Gillespie 3831; Parks 20026; (Veitch).

The Wilkes specimen was determined as *D. nitidissimum* Reichb. f. by H. G. Reichenbach. The specimen is sterile but is not that species, and probably is *D. tipuliferum* which apparently is quite common in Fiji.

Dendrobium Tokai Reichenbach filius in Hamb. Gartenz. 21 (1865) 293, t. 92; in Seemann Fl. Vit. (1868) 304, t. 90.

The specific name "Tokai" is said to be the Fijian vernacular name. Smith reports the same vernacular name for the plant.

Fiji: Seemann 584; Wilkes U. S. South Pacif. Expl. Exped.; Parks 20443.

Samoa.

Dendrobium vitiense Rolfe in Kew Bull. (1921) 56.

Fiji: Gillespie 2038, 2399; Parks 20919; (im Thurn 317).

ERIA Lindley

Eria aeridostachya Reichenbach filius ex Lindley in Journ. Linn. Soc. Bot. 3 (1859) 48—Reichenbach filius in Seemann Fl. Vit. (1868) 301.

The group of *Eria* to which this species belongs is most difficult and the delimitation of *E. aeridostachya* is not well understood. The reported distribution should be carefully scrutinized.

Fiji: Seemann 609; Parks 20914.

Malaya, Java, Sumatra, Philippines, Samoa.

Eria bulbophylloides C. Schweinfurth in B. P. Bishop Mus. Bull. 141 (1936) 24, fig. 7e.

Fiji: Smith 452, 1815.

Eria rostriflora *Reichenbach filius* in Seemann Fl. Vit. (1868) 301.

Eria Setchellii Schlechter ex Setchell in Univ. Calif. Publ. Bot. 12 (1926) 162.

FIJI: Seemann 615; Wilkes U. S. South Pacif. Expl. Exped.; Gillespie 3838.
Society Islands.

MEDIOCALCAR *J.J.Smith*

Mediocalcar sp.

This is the first report of the occurrence of *Mediocalcar* in Fiji. Unfortunately the specimen on which this report rests is sterile and cannot be determined. There are three species of the genus *Mediocalcar* known in Polynesia (*M. paradoxicum* (Kränzl.) Schltr., *M. ponapense* Schltr. and *M. vanikorenses* Ames).

FIJI: Parks 20560.

AGROSTOPHYLLUM *Blume*

Agrostophyllum sp.

FIJI: Wilkes U.S. South Pacif. Expl. Exped.; Gillespie 3163, 3247.4.

The specimens at hand are much too mature for specific determination. They have much the aspect of *A. kaniense* Schltr., a native of New Guinea.

EARINA *Lindley*

Earina laxior *Reichenbach filius* Otia Bot. Hamb. (1878) 54; Xen. Orch. 3 (1881) 30—Rolfe ex Gibbs in Journ. Linn. Soc. Bot. 39 (1909) 175.

FIJI: (Gibbs 586).
Society Islands.

Earina plana *Reichenbach filius* Otia Bot. Hamb. (1878) 54; Xen. Orch. 3 (1881) 30.

It is probable that this species is identical with *E. laxior*. Reichenbach may have described *E. plana* from a juvenile specimen which he believed to be different from *E. laxior*. No mention of the flower structure is made in the description of either *E. laxior* or *E. plana* and it may be that the specimens were sterile. The Gillespie specimen is the only one with flowers which I have seen.

FIJI: *U. S. South Pacif. Expl. Exped.*; Gillespie 3179; Smith 618, 2003.

GLOMERA *Blume*

Glomera Gibbsiae *Rolfe ex Gibbs* in *Journ. Linn. Soc. Bot.* 39 (1909) 176.

FIJI: (*Gibbs 807*).

Glomera Macdonaldii (*Schltr.*) *J. J. Smith* in *Nova Guinea* 8 (1909) 44.

Glossorrhyncha Macdonaldii Schlechter in *Fedde Repert.* 3 (1906) 19.

FIJI: *Smith 701*.
New Hebrides.

Glomera montana *Reichenbach filius* in *Linnaea* 41 (1876) 77.

It is remarkable that this species was not included in the *Flora Vitiensis*, since I believe that Reichenbach had seen at least two specimens before the publication of that flora.

FIJI: *Seemann (possibly)*; *Wilkes U. S. South Pacif. Expl. Exped.*; *Smith 681, 786*.

APPENDICULA *Blume*

Appendicula bracteosa *Reichenbach filius* in *Seemann Fl. Vit.* (1868) 299.

Lobogyne bracteosa Schlechter in *Mem. Herb. Boiss.* 21 (1900) 65.

FIJI: *Seemann* 592; *Wilkes U. S. South Pacif. Expl. Exped.*; *Gillespie* 2206, 4691.5; *Parks* 20263, 20449.

Samoa.

Appendicula pendula *Blume* Bijdr. (1825) 298.

Podochilus pendulus Schlechter in *Mém. Herb. Boiss.* 21 (1900) 48.

FIJI: *Smith* 485, 1919.

Java, Philippines, New Guinea, Samoa.

Appendicula reflexa *Blume* Bijdr. (1825) 229.

Appendicula cordata Hooker filius Fl. Brit. India 6 (1890) 83; in *Hooker Icon. Pl. ser. 4, 11* (1893) t. 2148.

Podochilus reflexus Schlechter in *Mém. Herb. Boiss.* 21 (1900) 31.

FIJI: *Gillespie* 2100, 2411, 2509; *Parks* 20105; *Prince s.n.*; *Smith* 631, 660, 854, 1806.

India, Malaya.

CALANTHE *R. Brown*

Calanthe alta *Reichenbach filius* Otia Bot. Hamb. (1878) 53; *Xen. Orch.* 3 (1881) 30—*Drake Ill. Fl. Ins. Pacif.* (1886) 309.

FIJI: reported by Drake on a specimen collected by the “*U. S. Expl. Exped.*” The only specimen of *Calanthe* from Fiji which I have seen, collected on that expedition, is *C. hololeuca*.

Samoa.

Calanthe furcata *Bateman ex Lindley* in *Bot. Reg.* 24 (1838) Misc. p. 28.

FIJI: *Gillespie* 4320, 4644; *Smith* 961, 1487, 1546.

Widely distributed in the eastern tropics: India to Malaya and Australia.

Calanthe gracillima *Lindley* Fol. Orch. *Calanthe* (1854) p. 8.

FIJI: *Smith* 737.

Society Islands.

The material on which my identification rests is inadequate for a satisfactory diagnosis.

Calanthe hololeuca *Reichenbach filius* in Seemann Fl. Vit. (1868) 298.

FIJI: *Wilkes U. S. South Pacif. Expl. Exped.*; *Smith* 403, 1376; *Gillespie* 4627; *Parks* 20066, 20106, 20270a, 20639a; *Setchell & Parks* 15078.

Calanthe ventilabrum *Reichenbach filius* in Seemann Fl. Vit. (1868) 298.

FIJI: *Seemann* 606; *Smith* 591, 667, 1886; *Parks* 20635, 20835; *Gillespie* 2388.

PHAIUS *Loureiro*

Phaius Graeffei *Reichenbach filius* in Seemann Fl. Vit. (1868) 299.

FIJI: *Wilkes U.S. South Pacif. Expl. Exped.*
Samoa.

H.G. Reichenbach determined the Wilkes specimen and it apparently belongs to this species which was originally described from Samoa.

Phaius Tankervilliae (*Banks*) *Blume* Mus. Bot. Lugd.-Bat. 2 (1856) 177.

Limodorum Tankervilliae Banks ex L'Héritier Sert. Angl. (1778) 28.

Phaius grandifolius Loureiro Fl. Cochinch. (1790) 529.

Limodorum Incarvillei Blume Bijdr. (1825) 374.

Phajus Blumei Lindley Gen. & Sp. Orch. Pl. (1831) 127—*Reichenbach filius* in Seemann Fl. Vit. (1868) 299.

Phajus Incarvillei O. Kuntze Rev. Gen. Pl. 2 (1891) 675.

FIJI: *Smith* 398, 909; *Gillespie* 2491, 3212; *Parks* 20270, 20279; (*Seemann* 586).

Widely distributed in Australasia. Introduced in Cuba and Jamaica, possibly also in Brazil.

SPATHOGLOTTIS *Blume*

Spathoglottis pacifica *Reichenbach filius* in Seemann Fl. Vit. (1868) 300.

Fiji: *Harvey s.n.*; *Seemann 585*; *Smith 65, 378*; *Wilkes U.S. South Pacif. Expl. Exped.*; *Gillespie 2012, 2081, 5120*; *Parks 20448, 20724*; *Setchell & Parks 15061*.

New Hebrides, Society Islands, Wallis Islands, Samoa, Tonga Islands.

Spathoglottis plicata *Blume* Bijdr. (1825) 400, t. 76—*Reichenbach filius* in Seemann Fl. Vit. (1868) 300.

Fiji: *Gillespie 3162.6*.

Apparently rare in Fiji. Occurring on many of the Pacific Islands and on the Asiatic mainland. Introduced in Hawaii.

BULBOPHYLLUM *Thouars*

Bulbophyllum longiflorum *Thouars* Hist. Pl. Orch. (Orch. Iles Afr.) (1822) Tabl. Espèc. III & t. 98—*Reichenbach filius* in Seemann Fl. Vit. (1868) 302.

Cirrhopetalum Thouarsii Lindley in Bot. Reg. 10 (1824) sub t. 832—*Hooker filius* in Bot. Mag. 118 (1892) t. 7214.

The nomenclature of this species is confused in literature. I have accepted 'Thouars' name since there seems to be no reason for suppressing it, although the name proposed by Lindley has been more commonly used. Lindley's name is based on 'Thouars' combination which he cites in synonymy.

Fiji: *Seemann 598*; *U.S. South Pacif. Expl. Exped.*; *Gillespie 2550, 4385*.

Widely distributed in the eastern tropics.

Bulbophyllum longiscapum *Rolfe* in Kew Bull. (1896) 45.

Bulbophyllum praealtum Kränzlin (in Notizbl. Bot. Gart. Berlin 5 (1909) 109) is a probable synonym of this species. The relationship of this species is with **Bulbophyllum Macrolepis** *L. O. Williams nom. nov.* (*Macrolepis longiscapa* A. Rich. Sert. Astrolab. (1832) 25, t. 10), a species from the New Hebrides.

FIJI: (Yeoward); Gillespie 2429.

Bulbophyllum rostriceps *Reichenbach filius* Otia Bot. Hamb. (1878) 55; Xen. Orch. 3 (1881) 31.

FIJI: Wilkes U.S. South Pacif. Expl. Exped.

Bulbophyllum vitiense *Rolfe* in Kew Bull. (1893) 5.

FIJI: (Yeoward).

GEODORUM *Jackson*

Geodorum pictum (*R. Br.*) *Lindley* Gen. & Sp. Orch. Pl. (1833) 175—Rendle in Journ. Linn. Soc. Bot. 45 (1911) 251.

Cymbidium pictum *R. Brown* Prodr. Fl. Nov. Holl. (1810) 331.

FIJI: *Smith* 1183.

Australia, New Caledonia, New Guinea.

EULOPHIA *R. Brown*

This genus has not been reported previously from Fiji, so far as I have been able to discover. Two species are here reported, one a widely distributed species, the other known only from Guam and Fiji.

Eulophia Macgregorii *Ames* in Philipp. Journ. Sci. 9 (1914) Bot. 12.

FIJI: *Gillespie* 4769.

Guam.

The type of this species, *Macgregor 631* from Guam, is not very good but the Fiji specimens seem to represent it. The distribution is remarkable since the plant is known only from two islands, by single collections. There seems to be no other species to which the specimens could be satisfactorily referred.

***Eulophia macrostachya* Lindley** Gen. & Sp. Orch. Pl. (1833) 183; in Bot. Reg. 23 (1837) t. 1972—Hooker filius in Bot. Mag. 102 (1876) t. 6246—J.J. Smith Orch. Jav. Figuren-Atlas 2 (1909) t. 164.

Eulophia emarginata Blume Fl. Jav. Orch. (1858) 152.

Eulophia guamensis Ames in Philipp. Journ. Sci. 9 (1914) Bot. 12.

Fiji: Gillespie 3644, 4702; Parks 20915.

Ceylon, Java, Sumatra, New Guinea, Borneo, Philippines, New Hebrides, Guam, Palau.

PHREATIA Lindley

***Phreatia cauligera* Reichenbach filius** Otia. Bot. Hamb. (1878) 55.

Eria cauligera Reichenbach filius Otia Bot. Hamb. (1878) 55; Xen. Orch. 3 (1881) 31.

Fiji: Wilkes U.S. South Pacif. Expl. Exped.

***Phreatia Graeffei* Kränzlin** in Engler Pflanzenr. IV. 50. II. B. 23 (Heft 50) (1911) 26.

Eria sphaerocarpa Reichenbach filius in Seeman Fl. Vit. (1868) 301, non *Phreatia sphaerocarpa* Schltr.

Fiji: (*Graeffe*); Gillespie 4264; Smith 89.

Reported from Samoa by Setchell in Carnegie Inst. Bull. 341 (1924) 103.

***Phreatia oreophylax* Reichenbach filius** Otia Bot. Hamb. (1878) 55; Xen. Orch. 3 (1881) 31—Kränzlin in Engler Pflanzenr. IV. 50. II. B. 23 (Heft 50) (1911) 13.

This species was placed in section Octarrhena by Kränzlin, in his monograph, but it seems to be a *Euphreatia*.

Fiji: *Wilkes U. S. South Pacif. Expl. Exped.*

Phreatia stenostachya (*Reichb.f.*) *Kränzlin* in Engler Pflanzenr. IV. 50. II. B. 23 (Heft 50) (1911) 29.

Eria stenostachya Reichenbach filius in Seemann Fl. Vit. (1868) 301.

Phreatia upoluensis Schlechter may be a synonym.

Fiji: *Seemann 589; Smith 1896; Wilkes U. S. South Pacif. Expl. Exped.*

Samoa.

Phreatia vitiensis *Rolfe ex Gibbs* in Journ. Linn. Soc. Bot. 39 (1909) 175.

Fiji: (*Gibbs 619*).

THRIXSPERMUM *Loureiro*

Thrixspermum Graeffei *Reichenbach filius* in Seemann Fl. Vit. (1868) 297.

Fiji: *Wilkes U. S. South Pacif. Expl. Exped.; Prince s.n.; Smith 1808; Parks 20959; Gillespie 3003, 3071.*

Samoa.

GENUS?

Without doubt this genus belongs among the less highly evolved genera of the Sarcanthinae. The flowers of the specimen examined are old, lack pollinia and have the column somewhat distorted; indeed, this specimen belong to a genus quite unknown to me. The structure of the lip is somewhat similar to that of *Cordiglottis* J.J. Sm., but the plant under consideration is quite distinct from that genus.

Fiji: *Gillespie 3307.*

SARCOCHILUS *R. Brown*

Sarcochilus gracilis *Rolfe ex Gibbs* in Journ. Linn. Soc. Bot. 39 (1909) 176.

FIG: (*Gibbs 727*).

CHRONIOCHILUS *J.J. Smith*

Chroniochilus Godeffroyanum (*Reichb.f.*) *L. O. Williams* comb. nov.

Thriaspium Godeffroyanum Reichenbach filius Xen. Orch. 2 (1867) 122; in Seemann Fl. Vit. (1868) 297, t. 90.

Sarcochilus Godeffroyanus Benth & Hooker filius ex Drake Ill. Fl. Ins. Pacif. (1886) 310.

Chiloschista Godeffroyana Schlechter Orch. Sino-Jap. Prodr. (1919) 275.

This species seems to belong to the genus *Chroniochilus* rather than to any of those genera to which it has been previously referred. The structure of the lip would exclude it from both *Thriaspium* and *Sarcochilus*; from *Chiloschista* it is distinguished easily by means of the vegetative structure.

FIG: *Harvey s.n.*; *Seemann 600*.

SACCOLABIUM *Blume*

There have been eight species of *Saccolabium* described from Polynesia, Micronesia and Melanesia. Six of these species are apparently very closely allied, if one may depend upon published descriptions, in fact so closely allied that specimens at hand cannot be determined from the written descriptions. These species are *Saccolabium Bertholdii* Reichb.f., *S. constrictum* Reichb.f., *S. Graeffei* Reichb.f., *S. Kajewskii* Ames, *S. minus* Reichb.f. and *S. Vaupelii* Schltr. The seventh species, *S. guamensis* Ames, is amply distinct; the eighth species, *S. luteum* Volken, is not well described yet does not seem to be referable to

any of the above species. The additional species described below is not closely allied to any of the species I have mentioned, but reminds one of *S. tenellum* Ames, a native of the Philippines.

Saccolabium Bertholdii *Reichenbach filius* in Seemann Fl. Vit. (1868) 297.

FIG. (*Seemann 595; Graeffe*).

Saccolabium constrictum *Reichenbach filius* Oria Bot. Hamb. (1878) 52; Xen. Orch. 3 (1881) 29.

FIG.

Saccolabium Gillespiei *L. O. Williams sp. nov.*

Herba parva, epiphytica, brevicaulis. Folia lanceolata, acuta, conferta, disticha, apice inaequaliter biloba. Inflorescentia gracilis; bracteae lanceolatae, acutae. Sepalum dorsale oblanceolatum, obtusum, naviculare. Sepala lateralialia oblongo-lanceolata, acuta vel obtusa, leviter falcata. Petala oblongo-lanceolata, acuta vel obtusa, leviter falcata. Labellum obscure trilobatum, saccatum; lobus medius rhombico-ovatus; lobi laterales erecti, obscuri; saccus conicus, ecallosus. Columna generis.

A small epiphytic herb, 6–7 cm. tall including the leaves. Stem terete, about 1 cm. long. Leaves lanceolate, acute, crowded, distichous, unequally bilobed at the apex, 1–5 cm. long, 0.3–0.7 cm. broad. Peduncle and inflorescence slender, as long as the leaves or exceeding them in length, 15–20-flowered; bracts lanceolate, acute, reflexed, about 1 mm. long. Dorsal sepal oblanceolate, obtuse, navicular, about 1.5 mm. long and about 0.5 mm. broad. Lateral sepals oblong-lanceolate, acute or obtusish, slightly falcate, about 1.5 mm. long and 0.5 mm. broad. Petals oblong-lanceolate, slightly falcate, oblique and obtuse or acute at the apex, about 1 mm. long and 0.25 mm. broad. Lip obscurely 3-lobed, strongly saccate; mid-lobe

rhombic-ovate, about 0.75 mm. long; lateral lobes inconspicuous, erect; sac inverse-conic, ecallose, about 1 mm. long. Column of the genus.

Saccolabium Gillespiei is not closely allied to any of the species of *Saccolabium* known to be natives of Polynesia. In size and facies it reminds one somewhat of *S. tenellum* Ames, a native of the Philippine Islands.

Fiji: Viti Levu, Namosi Province, vicinity of Namosi. Growing on a tree. At 400 meters altitude. September 5, 1927. *Gillespie 2594*; Viti Levu, Namosi Province, near Namuamua. "Grows in a tree at waterfall." At 400 meters altitude. September 23, 1927. *Gillespie 2991* (TYPE in Herb. Ames No. 47526).

Saccolabium Graeffei *Reichenbach filius* in Gard. Chron. n.s. 16 (1881) 716.

Fiji: (*Graeffe*).

Saccolabium minus *Reichenbach filius* in Gard. Chron. n.s. 9 (1878) 266.

South Sea Islands (ex Hort. Veitch).

No definite group of islands is given for this species.

SARCANTHUS *Lindley*

Sarcanthus nagarensis *Reichenbach filius* in Seemann Fl. Vit. (1868) 298.

Fiji: (*Seemann 594*).

TAENIOPHYLLUM *Blume*

Taeniophyllum fasciola (*Forst.*) *Reichenbach filius* in Seemann Fl. Vit. (1868) 296—Rolfe ex Gibbs in Journ. Linn. Soc. Bot. 39 (1909) 176.

Epidendrum fasciola Forster Fl. Ind. Austr. Prodr. (1786) 60.

Limodorum fasciola Swartz in Act. Holm. (1800) 230.

Vanilla fasciola Gaudichaud in Freycinet Voy. Uranie et Physic. Bot. (1826) 427.

Fiji: (Gibbs 885).

Guam, Society Islands, Samoa, Tonga Islands.

Taeniophyllum Seemannii *Reichenbach filius* in Seemann Fl. Vit. (1868) 296.

Taeniophyllum fasciola Seemann in Bonpl. 10 (1862) 297, *nomen nudum*, non *Epidendrum fasciola* Forst.

Fiji: Seemann 593; (Storck 907).

Taeniophyllum vitiense *L. O. Williams* sp. nov.

Herba parva, epiphytica, acaulescens. Radices planae, uninerviae. Pedunculi filiformes, pubescentes. Inflorescentia disticha, brevis; bracteae ovatae. Sepalum dorsale oblongo-lineare, obtusum, trinervium. Sepala lateralibus linearilanceolata, obtusa vel acuta, trinervia. Petala linearilanceolata, trinervia. Labellum sagittatum, apice bicarinatum, acutum, basi scrotiformi-saccatum. Columna generis.

A small acaulescent (or semiaculescent) epiphytic herb. Roots flattened, strongly 1-nerved, mostly less than 15 cm. long, 2–4 mm. broad. Peduncles filiform, short glandular-pubescent, 4–5 cm. long. Rachis short, fractiflex. Inflorescence few-flowered, distichous; bracts semipeltate, ovate, obtuse, mostly about 1 mm. apart on the rachis, about 0.75 mm. long. Perianth parts ocellate with crystalline inclusions, slightly fleshy, free to the base. Dorsal sepal oblong-linear, obtuse, 3-nerved, about 3.5 mm. long and 1 mm. broad. Lateral sepals linear-lanceolate, obtuse or acute, 3-nerved, about 3 mm. long and 1 mm. broad. Petals linear-oblong, obtuse, fleshy, 3-nerved, about 3 mm. long and 0.75 mm. broad. Lip sagittate, the apex somewhat bicarinate-thickened, acute, about 3 mm. long and 2.5 mm. broad at the base which is scrotiform-saccate, the sac continued directly back from the

blade, about 2 mm. long and 1.5 mm. in diameter. Column short and broad.

Taeniophyllum vitiense seems to be most closely allied to *T. asperulum* Reichb.f., a species described from Tahiti. It may be easily distinguished as follows:

<i>T. asperulum</i>	<i>T. vitiense</i>
Peduncle rough, but glabrous.	Peduncle glandular-pubescent.
Lip with a distinct sinus between each lateral lobe and the terminal lobe.	Lip without three lobes, hence devoid of sinuses.

An isotype specimen (or type?) of *T. asperulum* is in the Gray Herbarium, but unfortunately it lacks flowers. In addition to this specimen, a copy of Reichenbach's analytical drawings of the species are in the Ames Herbarium. The peduncle of *T. asperulum* was described by Reichenbach (Otia Bot. Hamb. (1878) 53) as "validis asperis" and the drawing confirms this characterization, but the specimen referred to is faintly if at all asperous.

Smith's number 636 was originally confused with Reichenbach's *T. asperulum* and may be found in herbaria under that name.

Fiji: Vanua Levu, Thakaundrove, southwestern slope of Mount Mbatini. Epiphyte, the "leaves" appressed to tree trunks. Perianth pale yellow. At 300-700 meters altitude. November 28, 1933. *Smith 636* (TYPE in Herb. Ames No. 42133).



Williams, Louis O. 1938. "Orchid Studies, IV: The Orchids of the Fiji Islands." *Botanical Museum leaflets, Harvard University* 5(7), 105–142.
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