

NOTES ON SOME PAPUAN COLLECTIONS OF MARY STRONG CLEMENS

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THIS PAPER consists of records of various species of flowering plants occurring in Northeastern New Guinea, formerly Kaiser Wilhelms Land; 20 species and 2 varieties are described as new. The collector, Mrs. Mary Strong Clemens, has prosecuted field work in the region for several years, sending her material to Berlin for identification previous to the development of the present world war. When Germany became involved in war she commenced to send her botanical material to Professor H. H. Bartlett of the University of Michigan and he in turn provided us with a study-set. Thus the species discussed in this paper are represented in the Herbarium of the University of Michigan and in the Herbarium of the Arnold Arboretum. The actual types are preserved in the latter institution.

Late in December, 1941, or early in January, 1942, Mrs. Clemens was evacuated from Lae, with other Caucasian residents, to Port Darwin, Northern Territory, Australia, and is now at Brisbane, Queensland, Australia. Being evacuated from New Guinea by airplane she was forced to leave behind all of her equipment and her assembled botanical collections and it is highly probable that all this material has been lost or destroyed. Our work on the Clemens New Guinea collection has been prosecuted in connection with our studies of the extensive botanical collections made by Mr. L. J. Brass on the three Richard Archbold Expeditions to New Guinea — Port Moresby and the Owen Stanley Range; the Fly River region; and the Mount Wilhelmina region in the Snow Mountains of Netherlands New Guinea. We also have the Brass and Kajewski collections made for the Arnold Arboretum in New Guinea and the Solomon Islands which are being studied in conjunction with the New Guinea collections from other sources.

BALANOPHORACEAE

Balanophora Oosterzeeana Valetton, Nov. Guin. 8: 919. *t.* 161. 1913; Ridl. Jour. Linn. Soc. Bot. II. 9: 147. 1916; Lam, Nat. Tijdschr. Nederl.-Ind. 88: 277, 294. 1928, 89: 131. 1929; Harms in Engler & Prantl, Pflanzenfam. ed. 2, 16b: 334. 1935.

NORTHEASTERN NEW GUINEA: Boana, *Clemens* 4169, May–November 1940, alt. 750–1630 m.

The species has been reported from several localities in Netherlands New Guinea, but this seems to be the first record from Northeastern New Guinea.

ARISTOLOCHIACEAE

Aristolochia dictyophlebia sp. nov.

Scandens; caulibus tortis teretibus inconspicue pubescentibus; foliis rigide coriaceis pellucido-punctatis, petiolatis, petiolo 2–2.5 cm. longo $\pm$

dense pubescente, lamina late lanceolata 10–19 cm. longa 3–7 cm. lata apice longe acuminata basi auriculata, supra subnitida, novella consperse minute pilosa, subtus minute pilosa, nervis basalibus tantum 3 ceteris utrinsecus 3 vel 4 supra distinctis subtus prominentibus, reticulo clathrato supra manifesto subtus prominulo; inflorescentiis axillaribus 4 cm. longis axi dense pubescente; floribus pedicellatis, pedicellis $\pm$ 1 cm. longis dense pilosis, bracteis minutis; perianthio 3 cm. longo extus pubescente intus glabro, basi dilatato vix 1 cm. longo hinc augustato sursum dilatato, tubo curvato 1.5 cm. longo, limbo hypocrateriformi trilobo lobis 1 cm. diametro rotundatis apiculatis costatis; gynostemio 3.5 mm. longo, antheris 6 oblongis 1.8 mm. longis; stigmatibus 6 circiter 2 mm. longis; ovario 1 cm. longo, 6-loculari, longitudinaliter sulcato.

NORTHEASTERN NEW GUINEA: Ogeramang, *Clemens* 4901 (TYPE), January 1937, alt. about 1650 m., forest hill (vine; flowers dull wine-purple with yellow); Sattelberg, *Clemens* 1927, March 1936, alt. 1020 m., roadside up mountain (vine on small tree or shrubby bamboo; flowers dark purple or wine with pale markings).

These collections were sent to us under the name *Aristolochia pithecurus* Ridl. The flower does not at all correspond with the original description of that species. We have indicated elsewhere that this type ought to be re-examined.

We have another collection from this same region: Kulungbufu, *Clemens* 6520, June 1937, alt. about 1600 m. The leaves are shortly acuminate or at times almost obtuse with a very short acumen. With the leaf-specimen was a single detached 6-winged immature fruit 5.5 cm. long. In the axils of the leaves are branching axes of inflorescences up to 10 cm. long with scars 5 mm. or more apart. Whether or not the fruit belongs here we cannot say. The venation of the leaves is similar to that in our species but the leaves are shorter in proportion to their width, the axis of the inflorescence is stouter and much longer than in the material we have chosen for the type. The fruit is unlike that of any other described New Guinean *Aristolochia*.

Aristolochia crassinervia O. C. Schmidt, Bot. Jahrb. 58: 491. 1923.

NORTHEASTERN NEW GUINEA: Boana, *Clemens* 41750, August 1940, alt. about 900 m., small vine near drome at mountain base.

This collection agrees well with the description of the type. We note, however, that on all the veins of the lower leaf-surface are short fine spreading hairs, a character not mentioned in the original diagnosis.

Aristolochia tagala Cham. Linnaea 7: 207, t. 5. f. 3. 1832; Merr. Enum. Philip. Fl. Pl. 2: 120. 1923.

Aristolochia megalophylla K. Schum. in K. Schum. & Holtr. Fl. Kaiser Wilhelms Land 104. 1889; Warb. Bot. Jahrb. 13: 300. 1891; K. Schum. Notizbl. Bot. Gart. Berl. 2: 113. 1898; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 302. 1900; Rechinger, Denkschr. Math.-Nat. Kl. Akad. Wiss. Wien 89: 549. 1913; Lauterb. Bot. Jahrb. 52: 106. 1914.

NORTHEASTERN NEW GUINEA: vicinity of Kajabit Mission, *Clemens* 10769, alt. 240–600 m.; Boana, *Clemens* 41622, alt. 750–1350 m.

Although the leaves of this specimen are a little larger than are those in our Philippine collections, we fail to note any characters by which the two

species may be distinguished. Lauterbach in his summary of the New Guinea species recognized this and suggested that the two might be varietal. *Aristolochia tagala* Cham. is a species of wide geographic distribution.

POLYGONACEAE

Polygonum attenuatum R. Br. Prodr. Fl. Nov. Holl. 420. 1810; Danser, Bull. Jard. Bot. Buitenz. III. 8: 162. f. 5. 1927.

NORTHEASTERN NEW GUINEA: vicinity of Kajabit Mission, *Clemens* 10601, August 1939, alt. 240 m., near a small lake.

This species has been recorded by Danser from Australia and Timor.

CHENOPODIACEAE

Chenopodium carinatum R. Br. Prodr. Fl. Nov. Holl. 407. 1810; F. M. Bail. Queensl. Fl. 4: 1243. 1901.

NORTHEASTERN NEW GUINEA: vicinity of Kajabit Mission, *Clemens* 10814, November 1939, alt. $\pm$ 540 m., open place near village.

This seems to be the first *Chenopodium* record for New Guinea. The species is Australian, and judging by the habitat and Mrs. Clemens' note, "have seen this in Markham Valley growing with tobacco," this is an adventive rather than a native species in New Guinea.

RANUNCULACEAE

Clematis Gouriana Roxb. ex DC. var. *malaiana* Miq. Ann. Mus. Bot. Lugd.-Bat. 4: 66. 1869.

Clematis Vitalba Linn. var. *javana* (DC.) O. Ktze. Verh. Bot. Ver. Prov. Brandenb. 26: 100. 1885; K. Schum. & Hollr. Fl. Kaiser Wilhelms Land 47. 1889; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 311. 1900.

Clematis Gouriana Roxb. sensu Kaneh. & Hatus. Bot. Mag. Tokyo 52: 354. 1938.

NORTHEASTERN NEW GUINEA: Wantoat, *Clemens* 11027A, January 1940, alt. 1050–1800 m. (small vine; flowers white).

Miquel's name is the oldest varietal one for this plant, although it seems to have been overlooked.

Clematis Pickeringii A. Gray var. *novo-guineensis* var. nov.

A forma typica differt foliis interdum simplicibus coriaceis, nervis primariis conspicuis, reticulo manifesto.

NORTHEASTERN NEW GUINEA: Yunzaing, *Clemens* 4148 (TYPE of var.), September 1936, on small trees of forest hills (small vine; flowers white).

In the *Clematis* collections from Papuasias, this specimen is the closest to Fijian material representing typical *Clematis Pickeringii* A. Gray. This is a staminate collection with somewhat obovate flower-buds and anthers with a very short appendage at the apex of the connective as in the Fijian material; the leaves, on the other hand, are sometimes simple and definitely coriaceous, and the primary venation is conspicuous.

Clematis papuasica Merr. & Perry var. *pubescens* var. nov.

A typo recedit ramulis novellis crispe hirtellis, foliolis supra parce, subtus $\pm$ dense hirtellis; pedicellis brevibus 0.5–1 cm. longis.

NORTHEASTERN NEW GUINEA: Matap, *Clemens* 40979 (TYPE of var.), February–April 1940, alt. 1500–1800 m. (vine with cream flowers); Wantoat, *Clemens*

11170, February 1940, alt. 1050–1800 m.; Sattelberg, *Clemens* 1098, December 1935, alt. 750–900 m.; Wareo, *Clemens* 1356, December 1935, alt. 600 m.

This variety differs from the type in the more copious pubescence of the branchlets, the inflorescences and the leaves. In the specimens cited there is considerable variation in pubescence. *Clemens* 1356 has leaves almost glabrous enough to belong to the species.

Clematis perspicuinervia sp. nov.

Frutex scandens; ramulis novellis leviter sulcatis glabris; foliis simplicibus valde coriaceis ellipticis 6–12 cm. longis 3–6 cm. latis, basi rotundatis apice abrupte acuminatis, acumine 1–1.5 cm. longo, margine integris vel supra medium parce dentato-serratis, 5-nervatis, trabeculis et reticulo utrinque prominulis; petiolo 1.5–7 cm. longo; paniculis axillaribus quam foliis longioribus; axi, ramulis et pedunculis minute fulvo-pubescentibus; sepalis 4; staminibus 4, antheris aristatis; achaeniis $\pm$ 20, immaturis, ovato-oblongis 1 mm. longis hirtellis in stylum persistentem, pilis longis plumosum, curvatum 1–2 cm. longum attenuatis.

NORTHEASTERN NEW GUINEA: Ogeramang, *Clemens* 4447 (TYPE), November 1936, alt. 2300 m.

The number of sepals and the anther-characters are drawn only from very small undeveloped buds. The specimen is very fragmentary, but it appears to be distinct enough by its simple strongly coriaceous leaves, the larger ones dentate above the middle, and the venation being very obvious on both surfaces.

Ranunculus Keysseri Schlechter in Diels, Bot. Jahrb. 62: 479. 1929.

NORTHEASTERN NEW GUINEA: Golinteng, Sarawaket, *Clemens* 5307, February 1937, alt. 2100–2400 m., wet open place; Ulap Trail, *Clemens* 41149, April 1940, alpine. Previously known only from the type-collection.

LEGUMINOSAE

Maniltoa lenticellata C. T. White, Jour. Arnold Arb. 8: 130. 1927, op. cit. 10: 220. 1929.

NORTHEASTERN NEW GUINEA: vicinity of Kajabit Mission, near Markham River, *Clemens* 10617bis, August 1939, alt. 240–600 m. Previously known from British New Guinea.

Cassia Absus Linn. Sp. Pl. 376. 1753; J. G. Baker in Hook.f. Fl. Brit. Ind. 2: 265. 1878; Koorders, Exkursionsfl. Java 2: 368. 1912.

NORTHEASTERN NEW GUINEA: vicinity of Kajabit Mission, *Clemens* 10692, September 1939, alt. 240–270 m., Markham Valley grassland (flowers reddish yellow). Probably introduced.

Crotalaria alata Hamilt. ex D. Don Prodr. 241. 1825; Roxb. Hort. Beng. 98. 1814, *nomen nudum*, Fl. Ind. ed. 2, 3: 274. 1832; K. Schum. Notizbl. Bot. Gart. Berl. 2: 119. 1898; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 350. 1900.

NORTHEASTERN NEW GUINEA: vicinity of Kajabit Mission, *Clemens* 10654, 40775, August–December 1939, alt. 240–600 m. Previously reported from Papuasias on the basis of a collection from the Bismarck Archipelago.

Crotalaria chinensis Linn. Syst. ed. 10, 1158. 1759; Merr. Enum. Philip. Fl. Pl. 2: 272. 1923.

NORTHEASTERN NEW GUINEA: vicinity of Kajabit Mission, *Clemens* 10776, August–December 1939, alt. 240–600 m. India, southern China, Malaya, and the Philippines.

Desmodium velutinum (Willd.) DC. Prodr. 2: 238. 1825; Schindl. in Rep. Spec. Nov. 21: 6. 1925.

Hedysarum velutinum Willd. Spec. Pl. 3(2): 1174. 1802.

Hedysarum lasiocarpum Beauv. Fl. Oware Benin 1: 32. t. 18. 1804 [1805].

Hedysarum latifolium Roxb. Fl. Ind. ed. 2, 3: 350. 1832.

Desmodium latifolium DC. Prodr. 2: 328. 1825; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 355. 1900.

Desmodium lasiocarpum (Beauv.) DC. Prodr. 2: 328. 1825.

NORTHEASTERN NEW GUINEA: vicinity of Kajabit Mission, *Clemens* 10632D, 10830K, August-December 1939, alt. 240-600 m. Reported from several places in Papuaasia as *D. latifolium* DC.

Desmodium tortuosum (Swartz) DC. Prodr. 2: 332. 1825.

Desmodium purpureum Fawcett & Rendle, Fl. Jamaica 4: 36. 1920, non Hook. & Arn.

NORTHEASTERN NEW GUINEA: Finschhafen, *Clemens* 4215, September 1936, near harbor; Kajabit, Markham Valley, *Clemens* 10509, July 1939, alt. 2400-3000 m. An American species introduced.

Glycine tomentosa Benth. Fl. Austr. 2: 245. 1864; F. M. Bail. Queensl. Fl. 2: 423. 1900; C. T. White, Proc. Roy. Soc. Queensl. 34: 35. 1922; Merr. Enum. Philip. Fl. Pl. 2: 304. 1923.

NORTHEASTERN NEW GUINEA: Kajabit, Markham Valley, *Clemens* 10542, August 1939, alt. 2400-3000 m., grassland. Previously reported for New Guinea from Yule Island, Papua.

Mucuna Clemensiae sp. nov.

Scandens; ramulis petiolis petiolulis pedunculisque fulvo-tomentosis; petiolo 5-6 cm. et rhachi 1.5-2.5 cm. petiolulisque 7 mm. longis, foliolis ovatis vel late ellipticis, 9-12 cm. longis, 6-8.5 cm. latis basi rotundatis lateralibus obliquis apice acutis vel acutiusculis, supra pubescentibus subtus subadpresse villosulis, nervis primariis utrinsecus 6-7 supra distinctis subtus prominulis; inflorescentiis axillaribus racemosis cum alabastris 12 cm., cum fructu 18 cm. longis; alabastro: calyce dense pubescente pilis urentibus conspersis hispido, tubo 8 mm. longo, 6-7 mm. lato, campanulato, lobo superiore 3 mm. longo bilobo rotundato, lobis lateralibus 4 mm. longis 2 mm. latis acutiusculis, lobo infimo 6 mm. longo breviter acuminato; vexillos fere ala aequante; legumine 17 cm. longo 3.5 cm. (suturis alatis 7 mm. inclusis) lato, valvis oblique transversim lamellatis, lamellis circiter 7 mm. latis; seminibus cinereis subnitidis leviter compressis 1.5-2 cm. longis, 1.3-1.5 cm. latis, 1 cm. crassis hilo nigro.

NORTHEASTERN NEW GUINEA: Tobou, *Clemens* 6573 (TYPE), June 1937, alt. circiter 1300 m.; Salamaua, *Clemens* 46, August 1935, alt. $\pm$ 200 m.; Ewat, *Clemens* 11366, April 1940, alt. 1200 m.

Mucuna Clemensiae is closely related both to *M. cyanosperma* K. Schum. and *M. amblyodon* Harms. The latter apparently has larger flowers and the former a shorter calyx tube with narrower acuminate lobes.

Pueraria textilis Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsch. Schutzg. Südsee 368. 1900.

NORTHEASTERN NEW GUINEA: vicinity of Kajabit Mission, *Clemens* 10770, 40781, August-December 1939, alt. 240-600 m.; Boana, *Clemens* 41730, May-November 1940, alt. 750-1350 m. (flowers purple with cream-colored spot on banner).

In these collections the long hairs on the branches are strongly reflexed.

The flat immature minutely pubescent pods with somewhat undulating margins and curved tips are reflexed along the axis of the inflorescence; fruiting pedicels about 2 mm. long; flowers almost sessile.

Rhynchosia minima (L.) DC. Prodr. 2: 385. 1825; F. M. Bail. Queensl. Fl. 2: 440. 1900; Merr. Enum. Philip. Fl. Pl. 2: 316. 1923.

NORTHEASTERN NEW GUINEA: vicinity of Kajabit Mission, *Clemens 10618bis*, August 1939, alt. 240–600 m.

Apparently this is the first record of this tropical and subtropical species for New Guinea.

MELIACEAE

Dysoxylum intermedium sp. nov.

Arbor $\pm$ 25 cm. diametro; foliis $\pm$ 5-jugis impari-pinnatis petiolatis; petiolo 12 cm., rhachi $\pm$ 30 cm. longo; foliolis subalternis, 15–22 cm. longis et 8–13 cm. latis, chartaceis, late ellipticis, basi inaequilaterali-rotundatis vel interdum cuneatis, apice breviter et obtuse acuminatis, supra glabris vel costa et interdum nervis pubescentibus, subtus velutino-pubescentibus; nervis primariis utrinsecus $\pm$ 12 utrinque manifestis patentibus ad marginem arcuatis, venis subinconspicuis; petiolulis $\pm$ 3 mm. longis; paniculis supra-axillaribus (?) vel lateralibus (?) ante anthesi $\pm$ 30 cm. longis irregulariter ramosis, ramis $\pm$ 10 cm. longis; floribus pedicellatis, pedicellis 3 mm. longis pubescentibus; calyce 3-sepalo, sepalis late rotundatis 3 mm. longis 4 mm. latis extus minute pubescentibus ciliolatis; petalis 5, circiter 13 mm. longis extus dense et adpresse pubescentibus usque $\frac{1}{2}$ longitudinem cum tubo stamineo adnatis; tubo stamineo 11 mm. longo, extus et margine pilosulo, intus infra antheris $\pm$ parce pilosulo, antheris 9, circiter 1 mm. longis; tubulo 3.5 mm. longo extus parce, intus dense et retrorse pubescente; ovario cum stylo fere ad apicem dense hirtellis; stigmate capitato.

NORTHEASTERN NEW GUINEA: Matap, *Clemens 11299* (TYPE), February–April 1940, alt. 1500–1800 m. (tree 25 cm. diameter; flowers cream); Ogeramng, *Clemens 5377*, February 1937, alt. 1750 m.

This species has several characters in common with *Dysoxylum dolichobotrys* Merr. & Perry, of the Solomon Islands, but the inflorescence is not so long and open, the flowers are pedicellate, the buds are more slender, the staminal tube is hairy outside and along the margin and within below the anthers sparingly pilose, and the leaflets are more obtuse.

Chisocheton Weinlandii Harms. in K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee Nachtr. 283. 1905.

NORTHEASTERN NEW GUINEA: Heldsbach, *Clemens 103*, September 1935, forest margin (tree 50 feet; fruit red); Heldsbach, Finschhafen, *Clemens 856*, November 1935; vicinity of Kajabit Mission, *Clemens 10903*, December 1939, alt. 300–600 m., in mountain bush (fruit reddish); Boana, *Clemens 41342*, May–November 1940, alt. 750–1350 m. (tree about 35 cm. diameter; flowers white).

Although we have only the incomplete original description as a basis for the identification of these collections, we venture to add something more about the flowers and fruits. *Clemens 850* was probably collected near the type-locality, and the very young inflorescence is comparable to that of the type. *Clemens 41342* is in a condition approaching anthesis, and

the other two numbers are fruiting material. *Clemens 41342*: dried flower-buds scarcely sericeous very minutely pubescent, petals 13 mm. long; staminal tube 8–8.5 mm. long with crenulate upper margin, glabrous outside, within densely villous from the middle down to the narrow region above the base pressed against the disk; anthers 10, 2.5–3 mm. long, locellate; pistil 9–9.5 mm. long, densely short-hirsute to about 2 mm. below the apex of the style; stigma capitate, ovary 4-loculed; fruit globose, 2.5–3 cm. diameter, younger ones velutinous and apiculate by means of the short style-base; locules 1-seeded.

Aglaia Clemensiae sp. nov.

Arbuscula; trunco 5–12 cm. diametro, ramulis cinereo-brunnescentibus, novellis brunneis adpresse stellato-pubescentibus vel fere lepidotis deinde glabrescentibus; foliis impari-pinnatis 1–3-jugis petiolatis, petiolo 4–7 cm., rhachi 4–8 cm. longo, novellis $\pm$ stellato-pubescentibus cito glabratis; foliolis saepissime ellipticis 8–15 cm. longis 5–10 cm. latis basi obtusis vel rotundatis interdum cuneatis leviter inaequalibus apice subrotundatis, novellis consperse (costa venisque densius) et minute stellato-pubescentibus, maturis glabris, venis primariis utrinsecus $\pm$ 10 utrinque distincte manifestis; petiolulis 5–10 mm. longis; paniculis axillaribus interdum a basi ramosis, $\pm$ 15 cm. longis, ramulis dense minuteque adpresse stellato-pubescentibus, inferioribus $\pm$ 5 cm. longis; sepalis 5 late ovatis vel subrotundatis 0.6–0.8 mm. longis latisque, extus stellato-pubescentibus ciliolatis; petalis glabris ellipticis subinaequalibus 1.5 mm. longis 1 mm. latis; tubo stamineo utrinque glabro 0.5 mm. longo margine crenulato, antheris ovatis 0.6 mm. longis in crenulis tubi sessilibus, fere horizontaliter ad centrum inclinatis; ovario minuto pubescente, stigmate globoso glabro.

NORTHEASTERN NEW GUINEA: vicinity of Kajabit Mission, *Clemens 10691* (TYPE), *10561*, Markham Valley woods, August–September 1939, alt. 270 m. (small tree 2–5 inches in diameter; flower-buds greenish yellow); Sattelberg, *Clemens 1859*, February 1936, alt. 900 m.; Ogeramnang-Malang, *Clemens 4635*, December 1936, alt. 1350 m.

This species belongs to the section *Hearnia* and is perhaps related to *Aglaia Gjellerupii* C. DC. Its best characters are the appressed stellate-pubescent indument and the broad blunt leaves mostly rounded at both base and apex though occasionally cuneate at the base.

CALLITRICHACEAE

Callitriche verna Linn. Fl. Suec. ed. 2, 2: 1755; C. B. Clarke in Hook.f. Fl. Brit. Ind. 2: 434. 1878; F. M. Bail. Queensl. Fl. 2: 558. 1900.

NORTHEASTERN NEW GUINEA: Ulap Trail, *Clemens 41125*, April 1940; Sarawaket, *Clemens 5733*, April 1937, alt. 2700 m.

This is the second species of *Callitriche* L. to be reported from New Guinea. The first was collected by the Archbold Expedition to Netherlands New Guinea.

ANACARDIACEAE

Euroschinus papuanus sp. nov.

Arbor 15–18 m. alta; ramulis minute puberulis; foliis 5–7-jugis; petiolo

± 15 cm. longo sub lente puberulo, rhachi 30–40 cm. longo; foliolis vix oppositis disjunctis vel alternis, coriaceis, utrinque glabris, 12–23 cm. longis 4.5–9 cm. latis, oblongo-ellipticis vel infimis ovato-ellipticis basi subrotundatis leviter obliquis vel subaequalibus apice brevissime obtuse acuminatis, nervis primariis utrinsecus 11–14 patenti-adscendentibus marginem versus arcuatim conjunctis prominentibus, venis secundariis prominulis; petiolulo 1–1.5 cm. longo; paniculis in fructu ± 40 cm. longis, ramis inferioribus 6–8.5 cm. longis, ramulis ultimis brevissimis ± 5 mm. longis, puberulis; bracteis lanceolatis 2–3 mm. longis ferrugineo-pubescentibus; pedicello ± 2 mm. longo; calycis lobis 5, circiter 1 mm. longis obtusis glabris; petalis 4 vel 5, oblongis 2.5 mm. longis 1.5 mm. latis obtusis; staminibus 8 vel 10 extra disco insertis, filamentis 1 mm. longis, antheris oblongis 1 mm. longis, connectivo non apiculato; disco 4–5-lobato lobis leviter emarginatis; ovario parvo ± 0.6 mm. longo sessili ovoideo, ovulo infra apicem loculi suspenso; stylo nullo; stigmatibus 3-lobato; drupis 7–8 mm. longis 6 mm. latis, carnosius compresso-ovoideis leviter obliquis, apice vestigio stigmatico coronatis; semine valde compresso.

NORTHEASTERN NEW GUINEA: Mosum, near Lae, *Clemens 10438* (TYPE), July 1938, alt. ?900 m., open mountain forest (tree ± 18 m.; specimen from branchlets fallen to earth); Sattelberg, *Clemens 177, 599*, September, October 1935, alt. 900 m., forest margin (tree 15–20 cm. diameter; flowers white, stamens yellow; fruit green).

We have been unable to locate any description to match these collections which appear to represent a single species. The flowers differ from those described for *Euroschinus* in that the style is lacking and the anthers are not apiculate. The fruit seems to agree very well with that of the genus.

Rhus lamprocarpa sp. nov.

Arbor 12–15 m. alta; ramulis lenticellatis novellis sparsim pubescentibus cito glabratis; foliis 3–4-jugis, petiolo 3–4 cm., rhachi 7–10 cm. longo, fere glabro, foliolis subcoriaceis 4.5–13 cm. longis 2.5–5.5 cm. latis oblongis vel anguste ellipticis basi leviter obliquis vel interdum subaequalibus rotundatis deinde brevissime cuneatis, apice acutiusculis vel acutis margine integris, supra glabris subtus praecipue costa nervisque pilosulis, nervis primariis utrinsecus 12–14 subtus prominulis, reticulis manifestis; petiolulo 3–8 mm. longo; paniculis ± 10 cm. longis, ramulis minute pubescentibus; pedicellis ± 1 mm. longis, puberulis; floribus glabris; calycis segmentis 5 ovatis obtusis vix 1 mm. longis; petalis 5, oblongis apice rotundatis, 2 mm. longis 1 mm. latis; disco leviter 5-crenulato glabro; staminibus 5, filamentis 0.4 mm. longis, antheris late oblongis 1 mm. longis; ovario circiter 0.6 mm. longo ovoideo, stylis brevibus; drupis compresso-subglobosis 5 mm. longis 6 mm. latis; exocarpio levi nitido, mesocarpio fibroso, endocarpio osseo.

NORTHEASTERN NEW GUINEA: vicinity of Kajabit, *Clemens 10622, 10817* (TYPE), August–December 1939, alt. 240–600 m. (tree 30 cm. or more diam.); Wantoat, *Clemens 10961*, January 1940, alt. 1050–1800 m. (tree 10–15 m. tall; fruits green to bronze); between Bulung River and Kaile, *Clemens 4964*, January 1937, alt. 1200 m., in hill scrub forest.

The species may be near *Rhus novo-guineensis* Lauterb. but the leaves are not usually entirely glabrous, and the disk and the ovary are both

glabrous. The leaves are shorter and the inflorescence less crowded than in *R. taitensis* Guill.

PASSIFLORACEAE

Hollrungia aurantioides K. Schum. Bot. Jahrb. 9: 212. 1888; K. Schum. & Holtr. Fl. Kaiser Wilhelms Land 82. 1889; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 456. 1900; Harms, Nat. Pflanzenfam. 3(6a): 86. fig. 25, *E. F.* 1893, op. cit. ed. 2, 21: 495. fig. 218, *E. F.* 1925.

NORTHEASTERN NEW GUINEA: Ogeramang, *Clemens* 5435, May 1937, alt. 1680 m.

In the references given above only the type-collection is cited. The species has been collected in fruit in Netherlands New Guinea.

BEGONIACEAE

Begonia Bartlettiana sp. nov. § *Diplocinium*

Planta parva; caule repente nodis radicante, internodiis brevibus 1–2 cm. longis; foliis 4–7 cm. longis 3–6 cm. latis, membranaceis, oblique suborbiculari-reniformibus apice saepissime obtusiusculis basi cordatis margine subintegris densiuscule crispule setuloso-ciliatis, supra glabris, subtus ad nervos consperse crispule ferrugineo-pilosis, nervis basalibus 5–7 bi- vel tri-furcatis; petiolo 3–6 cm. longo crispule piloso vel interdum glabro; stipulis glabris lanceolato-ovatis 5–6 mm. longis apice acuminatis; inflorescentiis axillaribus flores ♂ atque ♀ vel tantum ♀ gerentibus; ♂ : pedunculo circiter 4 cm. longo; tepalis 4 glabris, 2 exterioribus rotundatis circiter 5 mm. longis latisque, 2 interioribus oblongis, 4 mm. longis 1.5 mm. latis; staminibus 40–50, filamentis $\pm$ 2.5 mm. longis, antheris 0.6–0.8 mm. longis obovatis truncatis vel leviter retusis; ♀ : pedunculo 3–4 cm. longo; tepalis 3 glabris, 2 exterioribus subrotundatis 5–6 mm. longis, uno interiore oblongo, 4–5 mm. longo 2 mm. lato; stylis 3, basi paullo connatis, 3 mm. longis, ad $\frac{1}{2}$ longitudinem in crura 2 spiraliter papillosa fissis; ovario ellipsoideo glabro, alato; capsula cernua 1 cm. longa, 1.2 cm. (alis inclusis) lata, alis 3 rotundatis, 2 circiter 2–2.5 mm. medio latis, una 4 mm. prope basim lata sursum oblique angustata.

NORTHEASTERN NEW GUINEA: Kajabit Mission, *Clemens* 10762 (TYPE), October 1939, alt. 300–600 m., in mountain bush on a rock (flowers white).

This species appears to be an ally of *Begonia Sharpeana* F. v. Muell. but is smaller in all its parts; the inflorescence is few-flowered and scarcely at all branched, the stamens are more numerous and the third wing is broadest near the base obliquely sloping towards the apex.

Begonia brachyptera sp. nov. § *Sphenanthera*

Planta in toto non visa; caule glabro in sicco sulcato; foliis chartaceis novellis minute glanduloso-pubescentibus maturis glabratibus, 12–20 cm. longis 10–15 cm. latis, oblique ovato-ellipticis apice abrupte breviter acuminatis, margine inconspicue denticulatis, basi sinu lato cordatis, palmatim 9-nerviis, nervis semel vel bis furcatis; petiolo 14–23 cm. longo; stipulis caducis non visis; inflorescentiis axillaribus flores ♂ et ♀ gerentibus; axi 1–1.5 cm. longa; bracteis rotundatis caducis; ♂ : pedicello 2 cm. longo; tepalis 2 late rotundatis 7 mm. longis 9 mm. latis; staminibus 45–65, filamentis 1–3 mm. longis, antheris 0.8 mm. longis obovato-ellipticis truncatis vel leviter retusis; ♀ : pedicello 1–1.5 cm. longo; tepalis 5 ellipticis 10

mm. longis 7 mm. latis; stylis 3, basi connatis 3 mm. longis ad $\frac{1}{2}$ longitudinem in crura 2 spiraliter papillosa fissis; ovario subtriangulari-ellipsoideo; capsula turbinato-inflato- vel subgloboso-ellipsoidea 1.5 cm. longa 1.1 cm. lata, alis minimis angustissimis versus apicem crassiusculis.

NORTHEASTERN NEW GUINEA: Wantoat, *Clemens* 40896 (TYPE), 41205, January and April 1940, alt. 1200 m.; Busu River, *Clemens* 6327, May 1937, alt. 1800–2100 m.; Upper Ramu, *Clemens* 40750 (U. of M.), Sept. 1939, alt. 1200–1500 m. (?), mountain bush.

This species appears to be closely related to *Begonia aptera* Bl. and *B. pseudo-lateralis* Warb. It differs from the former in the 3-loculed ovary and from the latter in the much less sharply cut margin of the leaves and less developed wings of the capsule.

Begonia Clemensiae sp. nov. § Petermannia.

Planta in toto non visa; caule glabro verisimiliter erecto in sicco paullo sulcato; foliis novellis subtus sparsim pilosulis, maturis glabris ovato-oblongis 12–18 cm. longis 5.5–7 cm. latis, apice obtuse acuminatis, basi latere exteriori in lobum cordatum productis nervis basalibus 5, interiore rotundatis nervis basalibus 1–2, margine minute denticulatis setulosis grosse et profunde incis; petiolo $\pm$ 1 cm. longo; stipulis glabris 1.5 cm. longis oblongo-lanceolatis apice in setam longiusculam angustatis; inflorescentiis probabiliter terminalibus paucifloris flores δ et η gerentibus; δ flore immaturo: pedunculo 1.5 cm. longo; pedicello 4 mm. longo; tepalis 2 late rotundatis 7 mm. longis 9 mm. latis, staminibus in specimine valde mancis; η : pedunculo 1.5 cm. longo; tepalis 5 ovatis 11 mm. longis 7 mm. latis, acutiusculis; stylis 3 circiter 4 mm. longis basi 1.5 mm. connatis, apice in crura 2 circiter 1.5 mm. longa spiraliter papillosa fissis; ovario ellipsoideo 1.5 cm. longo, alis 3 membranaceis venosis subaequalibus basi apiceque ultra loculos 2 mm. productis, margine superiore truncatis basi rotundatis, 3 mm. atque 4 mm. medio latis.

NORTHEASTERN NEW GUINEA: Boana, *Clemens* 41672 (TYPE), May–November 1940, alt. 750–1350 m.; Matap, *Clemens* 41102, February–April 1940, alt. 1500–1800 m.; Wantoat, *Clemens* 11159, February 1940, alt. 1200 m., bush (leaves bronze iridescent above, red-purple beneath; flowers reddish golden).

The species shows some similarity with *Begonia serratifolia* Irmsch. in the incised margin of the leaves, but it lacks the pubescence of the latter species, the inflorescence is more open, and the parts of the η flower are relatively different in size.

LECYTHIDACEAE

Planchonia papuana R. Knuth, Pflanzenr. 105(IV. 219): 56. 1939; vel aff.

NORTHEASTERN NEW GUINEA: Kajabit Mission, *Clemens* 10544, 10698, 40652, August–December 1939, alt. 240–600 m.

We have recorded these collections to point out that the full-grown fruit of *Clemens* 10698 is 5 cm. long 4.5 cm. diameter, and filled with numerous seeds. *Planchonia* has usually few to several (2–8) seeds.

HALORAGACEAE

Haloragis chinensis (Lour.) Merr. Trans. Amer. Philos. Soc. 24(2): 290. 1935.

Gaura chinensis Lour. Fl. Cochinch. 225. 1790.

Goniocarpus scaber Koenig in Koenig & Sims Ann. Bot. 1: 547. t. 12. f. 6. 1805.

Haloragis scabra (Koenig) Benth. Fl. Hongk. 139. 1861.

Haloragis scabra var. *elongata* Schindl. Pflanzenr. 23(IV. 225): 29. 1905.

NORTHEASTERN NEW GUINEA: Salamau, *Clemens* 40, August 1935, alt. $\pm$ 270 m., on grassy hill trail; Wantot (Wantot), *Clemens* 10951, January 1941, alt. 1050–1800 m. (flowers brick-purple).

Both collections cited consist of material, a part of which is in good condition and part immature or perhaps depauperate. The size of the flowers and fruits shows some variation. It may be that we have included here plants which might be designated as *H. scabra* var. *novo-guineensis* Val., but we are inclined to believe all belong to a single species.

Haloragis sanguinea sp. nov.

Frutex valde ramosus 38–45 cm. altus; ramis $\pm$ dense hirsutis; ramulis hirtellis, pilis saepe basi bulbosis; foliis subverticillatis vel oppositis, subsessilibus (petiolo vix 0.5 mm. longo) ovato-lanceolatis 2.5–5 mm. longis 1.5–2.4 mm. latis, acutis, basi rotundatis margine remote 3–5-denticulatis vel minoribus, tum integris nitidis subconcavis supra glabris vel interdum consperse pilosulis, subtus glabris vel costa saepissime parce pilosula vel verruculosa, nervis obscuris, costa tantum manifesta; inflorescentiis ad apicem caulis ramorumque; floribus in bractearum glabrarum axillis solitariis, bracteis 2.5 mm. longis lanceolatis, bracteolis 0.8–1 mm. longis circiter pedicellos aequantibus; calycis tubo 1 mm. longo, obovato, quadrangulato, 8-costato, in costis parce piloso, lobis 4 glabris ovatis 1 mm. longis acutiusculis, tubi apice adpressis vel patentibus; gompho parvo, calloso transverso; petalis 4 navicularibus 2–2.5 mm. longis apice cucullatis acutis, in dorso ad nervum pilosis; staminibus 8, filamentis brevibus, antheris 1.4–1.8 mm. longis; stigmatibus sessilibus.

NORTHEASTERN NEW GUINEA: Matap, *Clemens* 11345 (TYPE), February–April 1940, alt. 1500–1800 m. (shrub; flowers dull sanguine color); Rawlinson Range, head of Bonzok River, *Clemens* 41378, 41949, May and June 1940, alt. 2100–3600 m., in open (shrub 15–18 inches high; inflorescence brick-red).

Amongst the New Guinean species of *Haloragis* J. R. & G. Forst., this shows some likeness to *H. suffruticosa* Gibbs and its varieties, in the subverticillate arrangement of the leaves. The leaves, however, are much smaller as are also the flowers in some measure. The copiously branching habit of the collections here cited suggests *H. fruticosa* F. W. Went, but here again the leaves are much smaller, shining and almost glabrous (except for the midrib on the lower surface), the habit is more compact and the flowers are slightly smaller.

PRIMULACEAE

Lysimachia japonica Thunb. var. *papua* S. Moore, Trans. Linn. Soc. Bot. II. 9: 102. 1916.

NORTHEASTERN NEW GUINEA: Wantot, *Clemens* 10959, January 1940, alt. 1050–1800 m.

The plant is unquestionably the same as *Brass* 11425 collected at Bele River, Netherlands New Guinea. The leaves are about the same size as those described in *Lysimachia suborbicularis* Went (afterwards reduced

by van Steenis to *L. Japonica* Thunb.) or about half as large as those of the typical species. This variety was described from Netherlands New Guinea.

LOGANIACEAE

Cynoctonum Mitreola (L.) Britton, Mem. Torrey Bot. Club 5: 258. 1894.

Ophiorrhiza Mitreola Linn. Sp. Pl. 150. 1753.

Mitreola petiolata Torr. & Gray, Fl. North Amer. 2: 45. 1841.

Cynoctonum oldenlandioides (Wall.) B. L. Robinson, Proc. Amer. Acad. Arts. & Sci. 45: 396. 1910 (Contrib. Gray Herb. 38: 396).

NORTHEASTERN NEW GUINEA: vicinity of Kajabit Mission, *Clemens* 40766, August-December 1939, alt. 240-600 m.

This collection is here recorded to call attention to the validity of the generic name *Cynoctonum* J. F. Gmelin (1791) which has been adopted by most American botanists, although it seems to have been overlooked in many works on Old World species. Our material is too meager to say with definite assurance whether there is more than one widespread tropical and subtropical species, but in the material at hand we can distinguish only one species. A fuller discussion and a more complete list of synonymy is to be found in Merrill, Pap. Mich. Acad. Sci. 23: 188. 1937 (1938).

Couthovia yunzaingensis sp. nov.

Frutex vel arbor; ramulis teretibus; foliis subcoriaceis petiolatis, petiolo 0.5-1.5 cm. longo; stipulis interpetiolaribus ovatis acutis demum longitudinaliter fissis; lamina obovata 8.5-12 cm. longa, 4-6.5 cm. lata, apice obtusa vel interdum acutiuscula, basi cuneata, costa utrinque prominula, nervis lateralibus utrinsecus 4-5, utrinque prominulis oblique adscendentibus, venis inconspicuis; floribus in apice ramorum in corymbo multifloro saepius circiter 4-partito, pedunculis 1-2 cm. longis, cymae ramis primariis 3-4 cm. longis, secundariis atque tertiariis valde abbreviatis, glabris; pedicellis brevibus; sepalis 1-1.5 mm. longis, rotundatis ciliolatis basi connatis; corollae tubo 2 mm. longo extus glabro intus parte intermedia inter antheras parce pubescente, fauce dense pilosa, lobis 1.5 mm. longis acutis; filamentis brevissimis, antheris 1.5 mm. longis glabris; ovario ovoideo, stylo 1-1.5 mm. longo, stigmatibus capitatis; fructu immaturo (abnormi?) subfusiformi, apice anguste conico basi cuneato.

NORTHEASTERN NEW GUINEA: Yunzaing, *Clemens* 2346 (TYPE), April 1936, alt. 1200-1500 m.; Ogeramang, *Clemens* 4741, 5391, December and February 1936, 1937, alt. 1650-1770 m.; Kulungbubu, *Clemens* 6617A, July 1937, alt. $\pm$ 1650 m.

Couthovia yunzaingensis suggests *C. novo-britannica* Kaneh. & Hatus. but the flowers are larger and less densely clustered on the ultimate branches of the inflorescence, the anther-sacs are pointed rather than rounded, and the fruit, although apparently stung by insects and hence probably abnormal is much more pointed. The stipe is scarcely at all developed but we take this to be an abnormal condition in the fruit.

APOCYNACEAE

Clitandropsis Clemensiae sp. nov.

Scandens; ramulis tomentosis; foliis oppositis firme chartaceis oblongo-

lanceolatis, 10–15 cm. longis 3.5–5 cm. latis, basi obtusiusculis, apice acuminatis, acumine 1–1.5 cm. longo, supra costa pubescente excepta glabris, subtus in lamina sparse in costa dense pubescentibus, nervis lateralibus late patentibus $\pm$ remotis utrinsecus 11–14, utrinque distinctis; petiolo vix 1 cm. longo pubescente; inflorescentiis axillaribus paucifloris $\pm$ 4 cm. longis pubescentibus; bracteis oblongo-lanceolatis; pedicellis brevibus; calycis lobis lanceolatis acutis 3 mm. longis, extus sparse pubescentibus intus eglandulosis; corolla albida hypocrateriformi, tubo 1.3–1.5 cm. longo extus glabro intus versus basim excepto pubescente, lobis lineari-lanceolatis acutis $\pm$ 1.3 cm. longis, fauce squamis oppositilobis fimbriatis 3–4 mm. longis; staminibus medio tubo insertis, antheris lineari-lanceolatis 3 mm. longis, apice caudatis glabris, basi leviter curvatis; ovario 1.5 mm. longo 1 mm. lato, ovoideo glabro haud bene 2-loculato; stylo 2 mm. longo, stigmatibus 2.5 mm. longo bicaudato.

NORTHEASTERN NEW GUINEA: Wantoat, *Clemens* 41192 (TYPE), April 1940, alt. 1200–1500 m. (flower white turning soft yellow).

This species is very close to *Clitandropsis acuta* Markgr. but the latter is glabrous and has smaller flowers.

Alyxia scabrida Markgr. Bot. Jahrb. 61: 184. 1927.

NORTHEASTERN NEW GUINEA: Kajabit, Markham Valley, *Clemens* 10566, alt. $\pm$ 600 m.

Previously known only from the type-collection.

Parsonsia Brassii Markgr. Brittonia 2: 139. 1936.

NORTHEASTERN NEW GUINEA: Ogeramnang, *Clemens* 4489, 5214, December 1936, alt. 1800 m.; A-mieng, Yaneng River, *Clemens* 12362, July 1941, alt. 1500–1800 m.; Matap, *Clemens* 41047, February–April 1940, alt. 1500–1800 m.

Previously recorded only from the type collection, *Brass* 4921, from British New Guinea.

Parsonsia buruensis (Teysm. & Binn.) Boerl. Handl. Fl. Ned. Ind. II. 2: 397. 1899; Markgr. Bot. Jahrb. 61: 218. 1927.

NORTHEASTERN NEW GUINEA: Quembung, *Clemens* 2163, March 1936, alt. about 600 m.

Known from the Moluccas, Netherlands New Guinea and British New Guinea.

RUBIACEAE

Neonauclea Clemensiae sp. nov.

Arbor magna; ramulis crassiusculis, cortice $\pm$ ruguloso; internodiis ultimis compressis, brevibus, 1–2 cm. longis, 4–6 mm. crassis, sparsim pubescentibus vel glabris; stipulis non visis; foliis crasse papyraceis, obovatis, 18–24 cm. longis, 12–14 cm. latis, apicem versus late obtusis deinde breviter obtuse subapiculatis, basim versus angustatis deinde anguste obtusis vel interdum subauriculatis, breviter petiolatis (petiolo vix 5 mm. longo) vel subsessilibus, supra glabris, subtus lamina consperse, costa venisque dense patentibus pilosis, nervis lateralibus utrinsecus 10–12 oblique patentibus prope marginem arcuatim conjunctis, supra impressis, subtus perspicuis et prominentibus, venis subclathratis; inflorescentiis pedunculatis, pedunculo 0.5–2.5 cm. longo; capitulis 3, florentibus sine stylis $\pm$ 3 cm. diametro, sine floribus 1 cm. diametro; pedunculis secun-

dariis $\pm$ 3 cm. longis, bractearum caducarum cicatrice pubescente infra apicem vix 1 cm. munitis; calycis loborum partibus deciduis 5 mm. longis, spathulatis, parte incrassata obtuse fusiformi vel rotundato-ovoidea acutiuscula, dense pubescente, calycis parte persistente cum ovario 2 mm. longa extus glabra intus dense pubescente, ovario basi pilis sericeis circumdato; corolla tubuloso-infundibulari, 11 mm. longa, glabra; antheris in fauce; stylo fere 2 cm. longo.

NORTHEAST NEW GUINEA: vicinity of Kajabit Mission, *Clemens* 10800 (TYPE), Oct. 1939, alt. about 270 m., in Markham valley bush; Sattelberg, *Clemens* 990, Nov. 1935, alt. about 900 m.

This species is apparently related to *Neonauclea reticulata* (Havil.) Merr. reported from the Philippine Islands and Formosa. The leaves are not so coriaceous, and more pubescent on the under surface; the flowers are surrounded at the base by a ring of hairs; the deciduous lobes of the calyx are smaller at the apex and more pubescent, also mostly cinereous in color.

Randia Bartlettiana sp. nov.

Arbuscula circiter 13 cm. diametro; ramulis atro-cinerascentibus vel brunnescentibus leviter sulcatis vel longitudinaliter rugulosis glabris; foliis chartaceis oblongis vel ellipticis, 10–22 cm. longis, 4–10 cm. latis, basi cuneatis, apice laesis, utrinque glabris vel subtus nervis consperse minute pubescentibus, nervis lateralibus utrinsecus 7–10 oblique adscendentibus marginem versus arcuatis, supra manifestis, subtus prominulis in axillis domatia ferentibus, venis inconspicuis; petiolo circiter 5 mm. longo, sparsim pubescente; stipulis connatis subtruncatis abrupte 4-denticulatis vel acuminatis; inflorescentiis in ramis axillaribus brevibus paniculatis, multifloris; bracteis late ovatis acuminatis intus dense hirtellis; floribus subsessilibus vel breviter pedicellatis, pedicellis 1–2 mm. longis, sparsim pubescentibus; calyce subcampanulato extus consperse minute pubescente, intus dense hirtello, pauci-glanduloso, tubo 2 mm. longo, lobis linearisubulatis, 1.5–2 mm. longis; corolla in alabastro pubescente, tubo 2 cm. longo, fauce et inter antheras pubescentibus, lobis oblongis $\pm$ 1 cm. longis; antheris linearibus circiter 7 mm. longis, inclusis; stylo glabro, stigmaticis lobis 6 mm. longis subclavatis, ovario 2.5 mm. longo sparsim minute pubescente.

NORTHEASTERN NEW GUINEA: Boana, *Clemens* 41472, 41473, 41856 (TYPE), May–November 1940, alt. about 900 m. (small tree 5 inches in diameter; flowers white).

This species probably belongs to the section *Gynopachys* Hook. The inflorescence and an opposite leaf appear to terminate a very short axillary or slightly supra-axillary shoot usually a single node in length. The flowers are smaller and much more numerous than those of *Randia insignis* Val. but the floral characters of *R. Bartlettiana* are somewhat similar. The calyx is densely hirtellous within, but the glands are nearer the base than those pictured for *R. insignis* Val. The corolla is pubescent outside, and the stamens inclosed although their apex is nearer the margin of the throat than in Valetton's species.

The species is named for Professor H. H. Bartlett who made this material available for study.

Gardenia invaginata sp. nov.

Planta glabra; ramulis teretibus inconspicue sulcatis; internodiis 2.5–4 cm. longis; foliis anisophyllis coriaceis ellipticis, 5–11 cm. longis, 2.2–4.5 cm. latis, basi decurrentibus cuneatis vel interdum obtusis, apice breviter acuminatis, acumine 5–9 mm. longo obtusiusculo, venis primariis utrinsecus 7–11 utrinque prominulis, subtus in axillis domatia minuta ferentibus, reticulo laxo utrinque manifesto; petiolo 0.8–1.4 cm. longo glabro; stipulis lineari-lanceolatis 1.5 cm. longis 2–3 mm. latis acutis; floribus in axillis foliorum superiorum; pedicellis brevissimis 2–4 mm. longis; calyce membranaceo spathaceo-tubulato apice lateraliter fisso longiuscule acuminato summo apice pubescente margine inflexo, 3.5 cm. longo, corollae tubo $\pm$ 7 cm. longo utrinque glabro fauce paullo dilatato, lobis 1.5 cm. longis, subovatis; antheris 6 linearibus basi angustatis 1 cm. longis, loculis circiter 8 mm. longis; stylo versus basim glabro in parte superiore hirsuto, stigmaticis lobis glabris, ovario 5 mm. longo glabro; fructu globoso circiter 2 cm. diametro, exocarpio carnoso, endocarpio lignoso vel lapideo; seminibus numerosis complanatis foveolatis $\pm$ horizontaliter placentis immersis; placentis 6.

NORTHEASTERN NEW GUINEA: Bulung River, *Clemens* 5337 (TYPE), February 1937, alt. circiter 870 m.

Gardenia invaginata is closely allied with *G. Lamingtonii* F. M. Bail. In fact this is the only collection we have examined which obviously shows a sterile appendage at the base of the anther, a character given by Bailey in his original description. However, *G. invaginata* may be distinguished by the difference in the shape of the lobes of the corolla and the unribbed ovary. The collections we have taken for Bailey's species also have a pubescent throat, a feature not mentioned by Bailey.

Gardenia Clemensiae sp. nov.

Arbor alta; ramulis cinerascentibus subangularibus lenticellatis glabris; foliis plerumque anisophyllis subcoriaceis vel chartaceis glabris, ellipticis, 8–17 cm. longis, 3–7.5 cm. latis, utrinque angustatis, apice breviter acuminatis, acumine 0.5–1 cm. longo obtuso, basi anguste cuneatis vel acutis, nervis primariis utrinsecus 9–11 oblique patentibus prope marginem arcuatis, supra manifestis, subtus perspicuis in axillis domatia minuta ferentibus, reticulo denso manifesto; petiolo 1.2–3 cm. longo glabro; stipulis lanceolatis 3 cm. longis, 5–6 mm. latis, glabris, acutis; floribus axillaribus, pedicellis vix 5 mm. longis; calyce inflato-tubulato 2.5–3.5 cm. longo, 1–1.3 cm. lato, copiose venoso, apice inaequaliter lobato vel fisso, laciniis prope marginem hirtellis; corolla hypocrateriformi, tubo 12–15 cm. longo, infra medium glabro superne consperse hirtello; fauce elongata (circiter 2.3 cm. longa) intus crispe pilosa inter anthera; lobis 6, lanceolato-oblongis, 3 cm. longis, infra medium $\pm$ 1 cm. latis, apice rotundatis; antheris 2.2 cm. longis paullo exsertis; stylo basim versus glabro deorsum apicem versus (5–7 cm.) hirsuto; stigmaticis lobis glabris; ovario circiter 5 mm. longo glabro; placentis 6.

NORTHEASTERN NEW GUINEA: Sattelberg, *Clemens* 1005 (TYPE), 1221, 3108, November, December 1935, May 1936, alt. 1500–1650 m.

One of the collections was earlier identified as *Gardenia Lamingtonii* Bail., although both have the same general habit. Here the calyx is more

inflated than in *F. M. Bailey's* species, the corolla tube above the middle is sparsely hirtellous outside, and the anthers are longer although the corolla tube is somewhat shorter. It is true that perhaps the anthers suggest those of Bailey's species in that the anther-sacs appear to open a little above the base of the connective although the pressed specimens do not give the impression of having a filiform appendage. It must be remembered that Bailey's descriptions were drawn up from fresh material which might appear somewhat differently when dried. *Clemens 3108* is a specimen with one fruit globose-ellipsoid, 3 cm. long, 2.5 cm. diameter, the calyx is only a remnant scarcely more than 5 mm. long.

CUCURBITACEAE

Melothria filipes sp. nov. § *Eumelothria*

Monoica, scandens; caulibus gracilibus, sulcatis, pubescentibus vel glabris et nodis tantum sparsim pilosis; foliorum petiolo 1.5–2 cm. longo, patenti-pilosulo; lamina tenuiter chartacea pedato-5-partita, supra scabra, subtus costa et venis patenti-pilosis, segmentis lineari-lanceolatis, margine irregulariter repandis vel consperse et inconspicue dentatis, obtusis vel acutis et mucronatis, segmento intermedio 5.5–7 cm. longis, 0.7–0.8 cm. latis, ceteris paullo minoribus, exterioribus saepe bilobatis, sinu basilari late rotundato, 3–6 mm. profundo; cirrhis gracilibus elongatis; ♂ inflorescentiis probabiliter racemosis, paucifloris, floribus immaturis; calyce 1 mm. longo, campanulato, dentibus subulatis; corolla glabra, 2 mm. longa, lobis late ovatis; staminum filamentis brevissimis, antheris subquadratis, loculis apice paullo divergentibus; ♀ floribus parvis, solitariis; pedunculis usque 4 cm. longis, filiformibus; ovario ovoideo apice attenuato; corollae lobis oblongis, fauce puberulis; stylo 1 mm. longo, basi disco annulari, stigmatibus capitatis; fructibus globosis, $\pm$ 1 cm. diametro, glabris, seminibus obovatis, levibus, 5 mm. longis, 3 mm. latis, marginatis, margine crassiusculo.

NORTHEAST NEW GUINEA: Wantoat (Wantot), Morobe District, *Clemens 11027* (TYPE), Jan. 1940, alt. 1050–1800 m. (flowers cream-colored; fruits pink); Matap, Morobe District, *Clemens 11225A*.

BRITISH NEW GUINEA: Bella Vista, Central Division, *Brass 5449*, Nov. 1933, alt. 1450 m., twining in brush on an old garden clearing (flowers white).

Among the species of *Melothria* described previously, this seems to be most like *M. pentaphylla* Naud. from New Caledonia. The latter differs from our species in having leaves with lower surface glabrous, and fruit oblong-ovoid, with much smaller seeds.

Melothria morobensis sp. nov. § *Eumelothria*

Scandens; caulibus glabris, angulatis, nodis tantum minute pubescentibus; foliorum petiolo 1.5–3 cm. longo, dense et breviter hispidulo; lamina chartacea, triangulari-hastata, 4–8 cm. longa, 5–9 cm. lata, apice acuminata vel acuta, lobis basilaribus acutis vel rotundatis, margine dentatis vel subintegris, supra scabris, subtus scabriusculis et pubescentibus, pilis in nervis $\pm$ patentibus, sinu basilari usque 7 mm. profundo vel fere nullo; cirrhis glabris, gracilibus; ♂ floribus (alabastris tantum visis) ut videtur, solitariis vel 1–3 in axilla, pedunculo consperse patenti-pubescente, usque

2.5 cm. longo, gracili, calyce campanulato, 2 mm. longo, dentibus subulatis, 2.5 mm. longis; corolla pubescente; antheris late ellipsoideis, loculis rectis; ♀ floribus non visis; fructibus 3–5.5 cm. longis, vix 1.5 cm. diametro, oblongis, basi acutis, apice rostellatis; in sicco longitudinaliter pluricostatis; seminibus subobovatis, 5–6 mm. longis, 1.5–2 mm. latis, basi alato-appendiculatis.

NORTHEAST NEW GUINEA: vicinity of Kajabit Mission, Morobe District, *Clemens* 10721, Oct. 1939, alt. about 400 m., mountain bush trail; vicinity of Wantoat, *Clemens* 11330 bis (TYPE), March 1940, alt. 1050–1350 m., open woods (fruit green); Boana, *Clemens* 41687, Aug. 1940, alt. about 900 m.

This species in some characters suggests *Melothria scaberrima* Merr. but the fruit of the later is smaller and more shortly peduncled, and the leaves are of very different size and contour. Unfortunately the Papuan specimens are fragmentary, and it is difficult to say definitely whether the flowers are monoecious or dioecious, or how many grow from the axil of a leaf.

***Melothria Clemensiae* sp. nov.**

Monoica, scandens; caulibus gracilibus, sulcatis, glabris, tantum apicibus juvenilibus et nodis pilosis; foliorum petiolo $\pm$ 1 cm. longo, crispe pilosulo; lamina submembranacea, subpellucida, angusto-triangulari, $\pm$ 6 cm. longa, 3 cm. lata, basi truncata vix sagittata, apice acuminata, margine minute et inconspicue denticulata, supra minute scabriuscula, costa basim versus pilosula, subtus levi, costa nervisque patentipilosis, sinu basilari nullo; cirrhis glabris simplicibus; ♂ floribus solitariis vel geminatis, $\pm$ 2 cm. pedunculatis; calyce campanulato, 3 mm. longo, lobis 1 mm. longis; corolla circiter 1 cm. longa, lobis ovatis, minute puberulis, 7 mm. longis, fauce $\pm$ dense piloso; ♀ floribus solitariis, longe pedunculatis, pedunculo 4 cm. longo, ovario 1–1.5 cm. longo, 1 mm. lato, apice 2–3 mm. attenuato; fructu non viso.

NORTHEAST NEW GUINEA: Sugu-Gaeng, Morobe, *Clemens* 41287 (TYPE: Univ. Mich.), April 1940, alt. about 1050 m., wet bank of mountain trail (flowers white).

This and the preceding species have some characters in common with *M. Rauwenhoffii* Cogn. The latter, however, has glabrous leaves, and flowers about half the size of those in the Clemens' specimen.

***Gynostemma pentaphyllum* (Thunb.) Makino**, Bot. Mag. Tokyo 16: 179. 1902.

Vitis pentaphylla Thunb. Fl. Japon. 105. 1784.

Gynostemma pedatum Blume Bijdr. 23. 1825; Harms, Bot. Jahrb. 60: 161. 1925.

NORTHEAST NEW GUINEA: Yunzaing, *Clemens* 3838, Aug. 1936, alt. about 1350 m., open hill in forest (small vine with minute whitish green flowers and green fruits).

This widespread species is recorded here only to call attention to the oldest specific epithet. The plant is ordinarily known by Blume's name.

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