

bus 2 lanceolato-ovoideis, ad 8 cm. longis et 2 cm. latis, siccitate coriaceis, apicem versus angustatis, extra conspicue impresso-reticulatis.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, alt. 50–100 m., *Brass & Versteegh 13550* (TYPE), April 10, 1939 (tree 24 m. high, occasional in primary rain-forest on lower mountain-slopes, the trunk 72 cm. diam., the crown fairly wide-spreading, the bark 10 mm. thick, black, scaly, with some white latex, the wood yellow-brown; flowers white; young fruits green, the ripe ones red), *Brass 14065* (tree about 20 m. high, common in flooded rain-forest of river-plain; fruits green).

The position of this plant in *Pentaphalangium* is indicated by the leaf-texture, fruit-shape (suggesting that of *P. carolinense* Lauterb.), and position of the flowers, as well as by the presence of staminodial phalanges on the petals of the pistillate flowers. On the type-specimen very few flowers are available, and the above description, based only on two dissections, may require future amplification; no. 14065 bears only foliage and fruits. Of the two flowers dissected, one has six petals with obvious but not conspicuous phalanges, while the other, curiously, has five entirely smooth petals.

From its only close ally, *P. latissimum* (Miq.) Lauterb., the new species differs in its somewhat smaller leaves, proportionately broader sepals and petals, and much longer and proportionately narrower fruits.

***Pentaphalangium Brassii* sp. nov.**

Arbor glabra ad 20 m. alta, ramulis crassis apicem versus 4–8 mm. diametro valde rugosis, novellis complanatis vel leviter quadrangulatis demum subteretibus; petiolis rugosis 2–4 mm. crassis canaliculatis 10–25 mm. longis, basi foveola elliptica margine valde crassa et elevata praeditis; laminis subcoriaceis oblongo-ellipticis, 13–32 cm. longis, 6–16 cm. latis; basi acutis vel attenuatis et in petiolum decurrentibus, apice rotundatis vel leviter emarginatis, margine integris et paullo recurvatis, costa valida supra elevata subtus prominente, nervis lateralibus utrinsecus numerosis (1–3 mm. distantibus, alternatis debilioribus) rectis plerumque simplicibus utrinque prominulis nervo marginali conjunctis, rete venularum inconspicuo vel in laminis novellis leviter prominulo; inflorescentiis ♀ terminalibus crassis 1.5–2.5 cm. longis cymosis vel breviter spicatis 3–7-floris, pedunculo brevi rugoso 3–4 mm. crasso, bracteis basi ramulorum inconspicuum oblongis acutis ad 8 mm. longis; floribus sessilibus sub anthesi 22–25 mm. diametro, bracteis papyraceis deltoideis acutis carinatis 3–4 mm. longis subtentis; sepalis 4 coriaceis imbricatis late ovato-semiorbicularibus, 4–6 mm. longis, 7–8 mm. latis,

rotundatis, margine scariosis et integris; petalis 5 papyraceis obovato-oblongis, 13–14 mm. longis, 8–9 mm. latis, basim versus angustatis, margine integris vel obscure erosulis, venulis distaliter inconspicue reticulatis; phalangibus inconspicuis 1.5–2 mm. longis pauciramosis basi petalorum adnatis; ovario breviter subcylindrico sulcato sub anthesi 3–5 mm. diametro apicem versus obscure ruguloso, stigmatе conspicuo carnosio convexo 6–7 mm. diametro minute ruguloso, loculis 3 uniovulatis; fructibus ovoideis, maturitate ad 9 cm. longis et 5 cm. latis, basi rotundatis et sepalis persistentibus suffultis, apice stigmatе ad 1 cm. diametro coronatis, pericarpio coriaceo siccitate 2–5 mm. crasso utrinque sublevi, dissepimentis subcoriaceis, seminibus 3 (interdum 1 vel 2) oblongo-ovoides, ad 7 cm. longis et 3 cm. latis, siccitate valde coriaceis, apicem versus gradatim angustatis, testa subcoriacea inconspicue impresso-reticulata.

BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass* 8206 (TYPE), Oct. 1936 (dense-foliaged tree 20 m. high, common on banks of river in flood-plain rain-forest, the trunk cylindric, the bark dark, rough, fissured, the latex cream colored, the branches short and weak; flowers white, the stigma yellow; ripe fruit red).

Pentaphalangium Brassii bears a close resemblance to the preceding new species (*P. pachycarpum*), but differs in its slightly more slender pistillate inflorescence with acute and carinate rather than rounded bracts, in its longer and proportionately narrower petals with the staminodial phalanges at the base rather than higher on the face of the petal, in its 3 rather than 2 ovary-locules, in the thinner pericarp of its fruit, and in its proportionately broader seeds with less obvious surface reticulation. The flowers dissected all agree in having 4 sepals, 5 petals, and 3 ovary-locules, but of course additional material may prove these numbers unstable.

***Pentaphalangium solomonense* sp. nov.**

Arbor glabra 10 m. alta, ramulis fuscis apicem versus subcomplanatis et 3–4 mm. crassis demum subteretibus rugosis lenticellatis; petiolis rugosis semiteretibus circiter 2 mm. crassis 10–15 mm. longis, basi foveola elliptica margine coriacea et valde (ad 2 mm.) elevata praeditis; laminis crasse coriaceis siccitate fuscis obovato-ellipticis, 7–13.5 cm. longis, 3.5–7 cm. latis, basi subattenuatis et in petiolum decurrentibus, apice rotundatis vel inconspicue emarginatis, margine integris et leviter recurvatis, costa supra subplana vel paullo elevata subtus prominente carinata, nervis secundariis utrinsecus numerosis (1–1.5 mm. distantibus) erecto-patentibus utrinque prominulis vel supra subimmersis mar-

ginem versus saepe furcatis nervo marginali conjunctis, rete venularum subtus interdum leviter prominulo; inflorescentiis ♀ terminalibus ad 3 cm. longis trichotome cymosis (3-)9-15-floris (sub anthesi floribus paucis), pedunculo brevi et ramulis paucis rugosis 2-3 mm. crassis saepe leviter angulatis, bracteis basi ramulorum coriaceis oblongis subacutis 4-7 mm. longis, floribus sessilibus bracteis coriaceis deltoideo-semiorbicularibus rotundatis circiter 2 mm. longis et 3-4 mm. latis subtentis; sepalis 4 late imbricatis coriaceis concavis semiorbicularibus, 3.5-5 mm. longis, 5-6 mm. latis, rotundatis, margine scariosis et integris; petalis 5 (raro 4) carnosis obovato-oblongis (in specimine nostro immaturis), 6-7 mm. longis, 3-4 mm. latis, apice rotundatis, basim versus angustatis, margine integris; phalangibus trienti inferiori petalorum adnatis inconspicuis simplicibus stamina 1-3 sterilia gerentibus (filamentis carnosis circiter 0.2 mm. longis, antheris subglobosis vel transverse ellipsoideis 0.5-0.8 mm. diametro); ovario obovoideo-cylindrico ante anthesim 2-3 mm. diametro sulcato carnosio, stigmate conspicue ruguloso circiter 2.5 mm. diametro margine irregulariter lobulato, loculis 2 uniovulatis; fructibus juvenilibus elliptico-subglobosis, basi rotundatis et sepalis persistentibus suffultis, apice stigmate bilobato ruguloso ad 3.5 mm. diametro coronatis, pericarpio coriaceo.

SOLOMON ISLANDS: N'Gela Group (Florida Islands), Olevuga: Brass 3484 (TYPE), Jan. 16, 1933 (tree 10 m. high, solitary in a rain-forest gully on grassland, the branches stiffly spreading, the bark hard, rough, dark brown, with a white sticky latex, the leaf-blades stiff, with pale midribs; immature fruits pale yellow, with black persistent stigmas).

Compared with the species thus far known in *Pentaphalangium*, *P. solomonense* is unusual in having the staminodial phalanges of the petals of its pistillate flowers composed of 1-3 abortive stamens; as a rule these phalanges are merely irregularly laciniate tissue with no approximation of true anthers. Conspicuously different from the Papuan species thus far known, *P. solomonense* seems most closely related to *P. carolinense* Lauterb., from which it differs in its much thicker leaf-texture; in *P. carolinense* the phalanges of the pistillate flowers have numerous branches (Kanehira, Fl. Micrones. 241. fig. 112, C. 1933).

ARNOLD ARBORETUM,
HARVARD UNIVERSITY.

PLANTAE PAPUANAE ARCHBOLDIANAE, VII*

E. D. MERRILL AND L. M. PERRY

THIS paper is a continuation of our study of the smaller families of the Papuasian collections. Lack of authentic material for comparison, coupled with the fluidity of generic lines, has made the identification of the Vitaceae a particularly difficult task. The family is in great need of critical revision, and, in order to clear up some of the loose concepts, it should be surveyed as a whole rather than geographically.

VITACEAE

Ampelocissus Planchon

Ampelocissus acetosa Planchon, Vigne Améric. 96. 1885; Planchon in DC. Monog. Phan. **5**: 381. 1887; Domin, Bibl. Bot. **22**: 925. 1927.

Cissus acetosa F. v. Muell. Trans. Phil. Inst. Vict. **3**: 24. 1859.

Vitis acetosa F. v. Muell. Pl. Vict. **1**: 94. 1860–62; Benth. Fl. Austr. **1**: 449. 1863; F. M. Bail. Queensl. Fl. **1**: 282. 1899.

BRITISH NEW GUINEA: Western Division, Wassi Kussa River, Tarara, *Brass* 8647, January 1937, rambling amongst grass in savannah-forest (branches, petioles and lower surface of leaves glaucous; inflorescence red); Daru Island, *Brass* 6448, April 1936, rare small climber in edge of light rain-forest (large bunches of grape-like fruit); Laloki River, Haga, *Brass* 900, January 1926, coast savannahs (flowers reddish; fruit black, edible, slightly acrid).

With no available material for comparison, and with the similarity between the Papuan specimens and the description of this Queensland species so marked, we have hesitated to place these collections elsewhere at present. *Ampelocissus pauciflora* Merr. of the Philippine Islands is a closely related species.

Tetrastigma Planchon

Tetrastigma Pullei Lauterb. Bot. Jahrb. **59**: 514. 1925.

NETHERLANDS NEW GUINEA: 9 km. northeast of Lake Habbema, *Brass* 10247A, October 1938, alt. 2800 m., common climber of second growths in forest openings.

*(Botanical Results of the Richard Archbold Expeditions) See Jour. Arnold Arb. **22**: 254–270. 1941.

Although this collection seems to belong to *Tetrastigma Pullei* Lauterb., it seems worth mentioning that the leaves are coriaceous or very firmly chartaceous, the terminal leaflets vary from 1.7 to 4 cm. long and up to 3.2 cm. broad, the widely spreading primary veins are impressed above (sometimes also branched so that the upper leaf-surface appears rugose) and prominent beneath.

Tetrastigma Lauterbachianum Gilg in Engler & Prantl, Nat. Pflanzenfam. 3(5): 447, f. 218 A-E. 1896; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 430. 1900; Lauterb. Bot. Jahrb. 59: 510. 1925.

SOLOMON ISLANDS: Malaita Island, Quoimonapu, *Kajewski* 2319, December 1930, common in rain-forest at sea level.

The species has been recorded previously from New Guinea and the Bismarck Archipelago.

Cissus Linnaeus

Cissus conchigera Ridley, Trans. Linn. Soc. Bot. II. 9: 31. 1916.

NETHERLANDS NEW GUINEA: 4 km. southwest of Bernhard Camp, Idenburg River, *Brass* 13075, March 1939, alt. 850 m., climbing in *Saccharum* on flood banks of river (flowers greenish yellow; fruit black). BRITISH NEW GUINEA: Palmer River, 1 mile above Black River Junction, *Brass* 6942, June 1936, wet clayey soil on riverside landslip (low scrambling brown-pubescent shrub; flowers yellow); Lake Daviumbu, Middle Fly River, *Brass* 7479, rain-forest, very common large canopy liana.

Without access to the type-specimens, we are unable to distinguish *Cissus Ledermannii* Lauterb. from this species. The lower leaf-surfaces in the Fly River collections are much more pubescent than those of the collection from Netherlands New Guinea, but all surely belong to the same species.

Cissus indica Rottler, Ges. Naturf. Freund. Berl. Neu. Schrift. 4: 183. 1803.

Cissus adnata Roxb. Fl. Ind. 1: 423. 1820.

On account of some doubt as to the identity of the plant, the name *Cissus indica* Rottler was discarded by Planchon. There seems to be, however, an authentic specimen in Willdenow's herbarium, and, in the light of the numerous present day collections, this ought to be re-examined together with the originals of *C. adnata* Roxb. and *C. assamica* (Laws.) Craib. These species have been variously interpreted. Of

the Indo-Malaysian material at hand, all of the earlier Indian collections have been distributed under the specific name *adnata*. In this are three entities as to types of pubescence: (1) pubescence of single several-celled hairs; (2) pubescence of malpighioid hairs, the leaf tending to become glabrous except along the nerves on the lower surface; (3) pubescence of malpighioid hairs, the leaf tending to remain densely pubescent on the lower surface. In addition, in the flowers of plants clothed with simple hairs, there are a few hairs around the base of the style on the disk; in the other two, the disk of the flowers is glabrous. The first, Gagnepain, Not. Syst. 1: 353. 1911, has interpreted as *C. adnata* Roxb., a species unquestionably distinct from the other two entities designated as *C. assamica* (Laws.) Craib, and var. *pilosissima* Gagnep. respectively. Whether Gagnepain's interpretation is correct we cannot say, since he gives no indication of having had access to authentic material of *C. adnata* Roxb. and both species are reported from the same region. As a matter of fact, in the early and historic collections (some of which are cited by Gagnepain) at hand the material is badly mixed; hence, without the opportunity to examine the original specimens, and, considering the rather vague original descriptions, any decision in the matter must, of necessity, be arbitrary.

In the Papuan collections under consideration there are specimens which, we believe, represent both *C. adnata* Roxb. and *C. assamica* (Laws.) Craib as interpreted by Gagnepain. Of the former, we have a single specimen, *Schlechter 18896*, cited by Lauterbach, Bot. Jahrb. 59: 519. 1925, under *C. repens* Lam. Unfortunately, we have not a single collection cited by Lauterbach under *C. adnata* Roxb.; hence, we are at a loss to know what entity he considered to be *C. adnata* Roxb. Further, we do not find in his work, "Die Vitaceen Papuasians," any mention of *Hollrung 419*, the one collection of this complex from New Guinea cited by Gagnepain. In view of the nomenclatural dilemma outlined above, for the present we have assigned the following collections to:

Cissus assamica (Laws.) Craib, Kew Bull. 1911: 31. 1911.

Vitis assamica Laws. Fl. Brit. Ind. 1: 648. 1875.

NETHERLANDS NEW GUINEA: 15 km. southwest of Bernhard Camp, Idenburg River, *Brass 12397*, January 1939, alt. 1500 m., rain-forest, climbing in undergrowth on open bank of stream (flowers yellow; fruit immature); 4 km. southwest of Bernhard Camp, Idenburg River, *Brass 13064*, March 1939, alt. 850 m., in rain-forest seral growths, common scrambling shrub on river banks. BRITISH NEW GUINEA:

Jawarere, *Brass* 679, November 1925, alt. $\pm$ 300 m., rain-forest. NORTHEASTERN NEW GUINEA: Bulung River, *Clemens* 5341, February 1937, alt. $\pm$ 800 m. SOLOMON ISLANDS: Bougainville Island, without definite locality, *Kajewski* 1605, March 1930, alt. 100 m., rain-forest (fruit black when ripe, 6 mm. long, 7 mm. diameter); Kugimaru, Buin, *Kajewski* 1811, June 1930, alt. 150 m., rain-forest (fruit shiny black when ripe, 6 mm. long 5.5 mm. diameter); Marmaromino, *Kajewski* 2215, September 1930, alt. 50 m., climbing in rain-forest trees.

Somewhat doubtfully we add *Kajewski* 2410, Berande, Guadalcanal Island. The leaves of this are larger and more membranaceous than in the other collections cited.

Cissus simplex Blanco Fl. Filip. 72. 1837; Merr. Enum. Philip. Fl. Pl. 3: 7. 1923.

Cissus pyrrhodasy Miq. Fl. Ind. Bat. Suppl. 1: 517. 1860.

SOLOMON ISLANDS: Guadalcanal Island, Uulolo, Tutuve Mountain, *Kajewski* 2640, May 1931, alt. 1200 m., common in rain-forest; Malaita Island, Quoimonapu, *Kajewski* 2362, December 1930, alt. 50 m., rain-forest.

These collections represent a small range extension eastward. The species is known from India through Malaysia. Possibly this is the entity which Lauterbach designated as *Cissus adnata* Roxb. var. *montana* in New Guinea.

Cissus* ? *hypoglauca A. Gray, Bot. U. S. Expl. Exped. 272. 1854; Planchon in DC. Monog. Phan. 5: 519. 1887.

Vitis hypoglauca F. v. Muell. Pl. Vict. 1: 94. t. 10. 1860-62; Benth. Fl. Austral. 1: 450. 1863.

NORTHEASTERN NEW GUINEA: Ogeramnang, *Clemens* 4970, January 1937, alt. $\pm$ 1700 m., tall vine in forest.

This rather young specimen shows a very strong likeness to our Australian material of *Cissus hypoglauca* A. Gray. It differs in that the midrib on the lower surface of the leaflets, the petioles, petiolules, and the axis of the inflorescence are clothed more or less with a brownish tomentum. This is obviously partly deciduous, but whether it is wholly so as the plant arrives at maturity we cannot say.

***Cayratia* Jussieu**

Cayratia grandifolia (Warb.) comb. nov.

Cissus grandifolia Warb. Bot. Jahrb. 18: 199. 1893; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 428. 1900; Lauterb. Nov. Guin. 8: 302. 1910; Rechinger, Denkschr. Math.-Naturw. Kaiserl.

Akad. Wissensch. **89**: 574 (Bot. Zool. Ergeb. Wiss. Forsch. Samoa-I. Neug.-Arch. Salomonsins. **5**: 132). 1913; Ridl. Trans. Linn. Soc. Bot. II. **9**: 31. 1916; Lauterb. Bot. Jahrb. **59**: 527. 1925.

BRITISH NEW GUINEA: Western Division, Daru Island, *Brass* 6396, March 1936, rare in second growth rain-forest (robust liana); Sturt Island, Lower Fly River, *Brass* 8195, October 1936, rain-forest (large climber ascending to the tree-tops); Central Division, Nakeo District, Baroka, *Brass* 3771, April 1933, alt. 30 m., fairly common in the rain-forests (very large climber with thick flexible stems; leaflets somewhat convex, shining on both surfaces, nerves pale; petals greenish yellow). SOLOMON ISLANDS: Bougainville Island, Kieta, *Kajewski* 1577, March 1930, at sea-level, rain-forest (common vine; fruit white-green when ripe, semi-transparent, flattened at the apex and the base, 9 mm. long, 14 mm. diameter, when dry 6 mm. long, 8 mm. diameter, $\pm$ rugose).

Although we have no authentic material for comparison, these collections agree reasonably well with the description of this species except that the pubescence on the lower surface of the leaves is confined to the midrib and the larger nerves.

Cayratia megacarpa (Lauterb.) comb. nov.

Cissus megacarpa Lauterb. Bot. Jahrb. **59**: 526. 1925.

This species is represented in our herbarium only by *Schlechter* 16878, a specimen cited in the original description.

Cayratia lineata (Warb.) comb. nov.

Cissus lineata Warb. Bot. Jahrb. **13**: 370. 1891.

Cayratia lineata var. **fusco-lanata** (Lauterb.) comb. nov.

Cissus lineata var. *fusco-lanata* Lauterb. Bot. Jahrb. **59**: 528. 1925;
C. T. White, Jour. Arnold Arb. **10**: 236. 1929.

The two specimens of this variety at hand are *Schlechter* 16775, an isotype, and *Brass* 1137.

Cayratia japonica (Thunb.) Gagnep. Not. Syst. **1**: 349. 1911, Fl. Gén. Indo-Chine **1**: 983. t.26. f.11-16. 1912.

Vitis japonica Thunb. Fl. Japan 104. 1784.

SOLOMON ISLANDS: Guadalcanal Island, Uulolo, Tutuve Mountain, *Kajewski* 2600, April 1931, alt. 1200 m., common in rain-forest (fruit black when ripe, flattened, 8 mm. long, 1.4 cm. diameter).

This collection agrees reasonably well with the material of this species from tropical Asia. *Cayratia japonica* (Thunb.) Gagnep. appears to be a wide-spread species, having been reported from China, Indo-China, Japan, Formosa, Java, the Philippines, Australia, New Caledonia, the

Loyalty Islands, and the Bismarck Archipelago. This seems to be the first record from the Solomon Islands.

Leea Linnaeus

Leea indica (Burm. f.) Merr. Philip. Jour. Sci. **14**: 245. 1919, Enum. Philip. Fl. Pl. **3**: 11. 1923.

Staphylea indica Burm. f. Fl. Ind. 75. t. 23, f. 2. 1768.

Leea sambucina Willd. Sp. Pl. **1**: 1177. 1797; Benth. in Hook. Lond. Jour. Bot. **2**: 214. 1843; Hemsl. Kew Bull. **1895**: 134. 1895; Valetton, Bull. Dept. Agric. Néerl. **10**: 31. 1907; Rechinger, Denkschr. Math.-Naturw. Kaiserl. Akad. Wissensch. **89**: 574. 1913; C. T. White, Proc. Roy. Soc. Queensl. **34**: 43. 1923; Lauterb. Bot. Jahrb. **59**: 531. 1925; Lam, Nat. Tijdschr. Nederl. Ind. **88**: 208. 1928; C. T. White, Jour. Arnold Arb. **10**: 237. 1929.

BRITISH NEW GUINEA: Fly River, 528 mile Camp, *Brass* 6809, common on river banks from camp to coast; Lower Fly River, east bank opposite Sturt Island, *Brass* 8201A, plentiful on river banks (sparsely branched tree 6–7 m. high; stem and branches hollow and inhabited by ants; branchlets corrugated; flowers green).

In addition to the above are two other collections which may possibly belong here; at least without further material we are hesitant about placing them elsewhere at present. The leaves are very much like those of *L. indica* (Burm. f.) Merr. but are minutely pilose on the nerves on the lower surface of the leaflets, and the leaflets have a very long acumen (up to 3 cm.); the inflorescence (in early anthesis) is very short (up to 12 cm. long) as compared to the usual form in this species.

NETHERLANDS NEW GUINEA: 6 km. southwest of Bernhard Camp, Idenburg River, *Brass* 12764, February 1939, alt. 1200 m., on open banks of a small stream (tree 3 m. high). SOLOMON ISLANDS: San Cristobal Island, Waimamura, *Brass* 2591, August 1932, common in lowland rain-forests (sparsely branched tree 12 m. tall, supported on stilt roots 1 m. long; stems pithy; bark brown, lenticellate; flowers yellowish green; fruit compressed, fleshy, purple-black, 1.3 cm. diameter).

Leea solomonensis sp. nov.

Arbor usque 7 m. alta; ramulis minute ferrugineo-pubescentibus; foliis simpliciter pinnatis, in specimine typico 2-jugis; petiolo circiter 6 cm. longo et rhachi 7 cm. longa minute crispule ferrugineo-pubescentibus; foliolis ellipticis, $\pm$ 18 cm. longis, 8–10 cm. latis, basi obtusis vel late cuneatis, apice fractis, margine repando-dentatis, chartaceis, supra glabris, subtus parce crispule pubescentibus, subclathrato-reticulatis, venis primariis utrinsecus 15–17, patentibus adscendentibus prope marginem

arcuatis, supra distinctis, subtus prominulis; petiolulis lateralibus 1.4–2 cm. longis, terminali 4.2 cm. longo; paniculis minute crispule pubescentibus, in fructu 35 cm. longis; alabastris immaturis, calyce puberulo; petalis 5 basi connatis, apice inflexo-mucronatis valvatis, 6 mm. longa, extus apicem versus puberulis; staminibus 5; ovario glabro, stylo glabro striato; baccis depressis globosis, in sicco $\pm$ 1.5 cm. longis, 2.5 cm. diametro, 6-spermis.

SOLOMON ISLANDS: Guadalcanal Island, Ma-massa, Konga, *Kajewski* 2488 (TYPE), February 1931, alt. 400 m., common in rain-forest (a very small tree up to 7 m. high; fruit red when ripe, 2.4 cm. long, 3 cm. diameter, flattened at the apex and the base).

In its loosely branching inflorescence *Leea solomonensis* appears to be related to *L. macropus* Lauterb. & K. Schum. It may be readily distinguished however, by the elliptic leaves obtuse rather than rounded at the base, and the minute crisp pubescence on the lower surface of the leaves.

***Leea suaveolens* sp. nov.**

Arbor usque 10 m. alta; foliis simpliciter pinnatis, ? bijugis, petiolo $\pm$ 7 cm. longo, glabro vel puberulo; foliolis oblongo-ellipticis, 15–20 cm. longis, 7–9 cm. latis, basi subrotundatis paullo obliquis, apice acuminatis, acumine 2–2.5 cm. longo, margine grosse serrato-crenatis, subcoriaceis, glabris vel subtus costa atque axillis inter venas ac costam parce pubescentibus, tenuiter subclathrato-reticulatis, venis primariis utrinsecus 11–13, patentibus adscendentibus prope marginem arcuatis, in dentes marginis ipsius excurrentibus; petiolulis $\pm$ 1.5 cm. longis, puberulis interdum consperse glandulosis; paniculis puberulis subdivaricatis ramosis; floribus pentameris ad apices ramulorum 2–4-natis; pedicellis 5–6 mm. longis; calyce 3 mm. longo, campanulato, $\pm$ irregulariter lobato, extus puberulo interdum parce glanduloso; corolla 7 mm. longa, laciniis oblongis, 4.5 mm. longis, apice brevissime subcucullatis inflexo-mucronulatis, extus puberulis; staminibus 5, filamentis prope basim disci extus insertis atque in sulcis longitudinalibus disci immersis, antheris in alabastro intra discum inflexis, 1.8 mm. longis; disco cylindrico, 5 mm. longo, 5-dentato, dentibus emarginatis; ovario glabro, 1 mm. longo, stylo striato 3 mm. longo puberulo; baccis globosis, siccis 2.5 cm. diametro, 6-spermis.

SOLOMON ISLANDS: Ysabel Island, Tiratona, *Brass* 3343 (TYPE), December 1932, alt. 600 m., common in rain-forests (densely foliaged tree up to 10 m. tall; leaves pale below; flowers cream-colored, sweetly perfumed; fruit globose, smooth, brown, up to 5 cm. diameter).

In the oblong-elliptic leaflets and the open inflorescence *Leea suaveolens* shows some resemblance to *L. macropus* Lauterb. & K. Schum. The latter, however, is a glabrous tree with flowers densely crowded at the apices of the ultimate branches of the inflorescence. In *L. suaveolens* the inflorescence is puberulous with scattered glands on the calyx and occasionally on the axis and the branches of the inflorescence; glands also occur on the rachis and the petiolules of the leaflets. Unfortunately, our material is too scanty to determine whether these are sufficiently constant to be used as a specific diagnostic character. The fruit of this species is somewhat larger than that reported for the other related species.

Leea macropus Lauterb. & K. Schum. Notizbl. Bot. Gart. Berl. **2**: 130. 1898; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 430. 1900, Nachtr. 313. 1905; Valetton, Ic. Bogor. **3**: 147. *t.* 258. 1908; Bak. f. Jour. Bot. **61**: Suppl. 11. 1923, l. c. **62**: 54. 1924; Lauterb. Bot. Jahrb. **59**: 530. 1925; Kaneh. & Hatus. Bot. Mag. Tokyo **52**: 415. 1938.

SOLOMON ISLANDS: San Cristobal, Balego-Nagonago, *Brass* 2825, September 1932, alt. 500 m., mountain rain-forests (sparsely branched spreading tree 6 m. tall; branches pithy, rather fleshy; leaves smooth and shining; flower buds yellow; unripe fruit brown, broadly pyriform, 2.5 cm. diameter).

Although we have no authentic material of this species for comparison, this collection corresponds too closely with Valetton's description and plate of K. Schumann's species to be placed elsewhere at present. Closely allied or possibly belonging to the same species is *Kajewski* 1865, a fruiting specimen with open inflorescence and bipinnate leaves. This material was collected on Bougainville Island.

Leea papuana sp. nov.

Arbustula 2–2.5 m. alta, ramosa vel eramosa; foliis paucis sub apice caulis congestis, simpliciter pinnatis, 5-jugis; petiolo 17 cm. longo, rhachi 31 cm. longa 4-angulatis, supra canaliculatis, marginibus ventralibus alatis vel subalatis, glabris; petiolulis 6–12 mm. longis, crispulatis; foliolis anguste oblongis, 18–38 cm. longis, 6.5–10 cm. latis, basi obtusis vel subrotundatis, apice longe acuminatis, acumine 1.5–3 cm. longo, margine remotiuscule sinuato-dentatis, glabris, coriaceis, crebre clathrato-reticulatis, venis primariis utrinsecus 10–17, supra distincte manifestis, subtus perspicuis; panícula terminali conferta; axi 5–6 cm. longa; baccis brunneis globosis, $\pm$ 3.5 cm. diametro, 6-spermis.

BRITISH NEW GUINEA: Palmer River, 2 miles below Black River

Junction, *Brass* 7325 (TYPE), July 1936, alt. 100 m., restricted to the muddy banks of flood-plain streams; uncommon (small tree, branched or unbranched, 2–2.5 m. high; leaves few, clustered at the apex of the stem below a dense terminal cluster of soft brown globose fruit $\pm$ 3.5 cm. diameter).

Leea tuberculata Lauterb., *L. coryphantha* Lauterb., and *L. heterodoxa* Lauterb. & K. Schum., all have more or less the aspect of *L. papuana*. Nevertheless, our new species may be distinguished from the first by its simply pinnate leaves, from the second by the coriaceous narrower and sinuate-dentate leaflets, and from *L. heterodoxa* Lauterb. & K. Schum. by the narrowly winged rachis.

CAMPANULACEAE

Wahlenbergia Schrader

Wahlenbergia confusa sp. nov.

Herba gracilis glabra; caulibus decumbentibus hinc inde ramosis; ramis 5–15 cm. longis, adscendentibus, saepe confertis, inferne foliosis, insuper nudis (1–6 cm.), unifloris; foliis alternis, sessilibus, lineari-oblongis vel fere lanceolatis, 4–7 mm. longis, 1.5–2 mm. latis, remote minuteque serrato-dentatis; calyce glabro, tubo circiter 2 mm. longo, cyathiformi, lobis lineari-lanceolatis acuminatis, 3 mm. longis; corolla cyanea, 1.6 cm. longa, infundibuliformi, 5-fida, lobis ovatis; staminibus in alabastris prope anthesim 5 mm. longis, antheris 2 mm. longis, filamentis post anthesim 3 mm. longis, minute pilosis, basi applanatis sursum gradatim angustatis, versus apicem filiformibus; stylo longitudine tubi corollae, a medio ad apicem puberulo; stigmatibus 3, post anthesim revolutis; capsulis $\pm$ 5 mm. diametro, subglobosis, calycis lobis reflexis coronatis, 3-locularibus, apice 3-valvis, dehiscentibus; seminibus ellipsoideis, vix 1 mm. longis.

NETHERLANDS, NEW GUINEA: 5 miles northeast of Wilhelmina-top, *Brass* 9399 (TYPE), August 1938, alt. 3440 m., plentiful under the banks of grassland streams (ascending herb with striking blue flowers); 11 km. northeast of Wilhelmina-top, *Brass & Myer-Drees* 9721, September 1938, alt. 3400 m., rather wet open places along a small river (herbaceous; corolla blue).

The species most closely approaches the description of *Wahlenbergia eurycarpa* Domin, but that is an erect plant with a larger capsule. As compared with *W. gracilis* A. DC., this plant is readily separated by the one-flowered inflorescence, and the flowers are distinguishable by the outline of the filaments; in this species the filament gradually tapers

to a filiform apex, in *W. gracilis* A. DC. the flattened and pubescent base of the filament very abruptly narrows into the short filiform apex; the capsules too are slightly different in outline, and the calyx lobes crowning the capsule of *W. gracilis* A. DC. are erect.

Wahlenbergia gracilis A. DC. Monog. Campan. 142. 1830; F. v. Muell. Pap. Pl. 2: 11. 1885; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 593. 1900; White & Francis, Proc. Roy. Soc. Queensl. 38: 260. 1927.

NETHERLANDS NEW GUINEA: Balim River, *Brass* 11627, December 1938, alt. 1600 m., plentiful on grassy deforested slopes. BRITISH NEW GUINEA: Central Division, Wharton Range, Murray Pass, *Brass* 4640, June-September 1933, alt. 2840 m., sporadic on grasslands.

We believe these collections represent *Wahlenbergia gracilis* A. DC. in the wider sense. They appear to be more like the Australian material passing as *W. gracilis* A. DC. than the Asiatic material labelled *W. marginata* A. DC. It is to be noted, however, that there has been a tendency to regard the two as the same species, although specialists working on the group state very definitely that the Australian material is different from the Asiatic. Nannfeldt, Act. Hort. Gothob. 5: 32. 1929 (Campanulaceae in H. Smith, Pl. Sinenses) indicated that N. E. Brown, Gard. Chron. 54: 316. 1913, discussed and defined *Wahlenbergia gracilis*, attributing the combination to Schrader who did not complete it, and pointing out that *W. gracilis* A. DC. is a mixture of at least a half dozen perfectly distinct species; also that the entities cannot be untangled without considerable study of the types.

Pentaphragma Wallich

Pentaphragma macrophyllum Oliver, Jour. Linn. Soc. Bot. 15: 29. 1875; F. v. Muell. Pap. Pl. 1: 28. 1876; Valetton, Bull. Dept. Agric. Néerl. Ind. 10: 68. 1907; Pulle, Nov. Guin. Bot. 8: 407. 1910, l. c. 691. 1912; Lam, Nat. Tijdschr. Nederl.-Ind. 88: 213, 218. 1928.

NETHERLANDS NEW GUINEA: 6 km. southwest of Bernhard Camp, Idenburg River, *Brass* 12904, alt. 1200 m., in sheltered gully in rain-forest; 4 km. southwest of Bernhard Camp, Idenburg River, *Brass* 13275, alt. 850 m., occasional on shady banks of rain-forest streams. BRITISH NEW GUINEA: Fly River, 528 mile Camp, *Brass* 6622, May 1936, alt. 80 m., casual in gullies of forest (a striking fleshy unbranched shrub $\pm$ 1 m. high; leaves smooth and shining, nerves deeply impressed above, prominent below; sepals greenish white; petals yellow; fleshy white fruit containing very small brown seeds).

The collections from Netherlands New Guinea agree closely with the original description. These have a practically glabrous flower, somewhat pubescent at the base and also on the subtending bracts and along the axis of the inflorescence. The lower surface of the leaves is pubescent chiefly along the nerves. In the Fly River material, the calyx-tube is pubescent outside even when mature, the axis of the inflorescence and the floral bracts are densely so, and the entire lower surface of the leaves is sparsely pubescent. Possibly further collections will reveal other differences.

Lobelia Linnaeus

Lobelia brachyantha sp. nov.

Herba prostrata paullo ramosa, consperse pilosa, trichomatibus simplicibus pluricellularibus; caulibus gracillimis; foliis parvis, late reniformi-orbicularibus, 2.5–5 mm. longis, 3–7 mm. latis, petiolatis, petiolo $\pm$ 2 mm. longo; margine undulato-dentatis, dentibus mucronulatis, supra consperse pilosis, subtus glabris; floribus axillaribus; pedunculis 4–5 mm. longis; hypanthio brevissimo, calycis lobis 2–2.5 mm. longis, lineari-lanceolatis obtusiusculis, margine utroque prope medio lobulum unum gerentibus; corolla purpurea, oblique subcampanulata, 3 mm. longa, tubo brevi intus maculato atque minute piloso, lobis extus pilosis, 3 anticis ovatis, 2 posticis paullo oblique lanceolatis; staminibus connatis, fere 3 mm. longis, filamentis glabris, antherarum tubo extus postico parce glanduloso, antheris 2 inferioribus minoribus apice setigeris, 3 superioribus apice nudis; capsulis vix 3 mm. longis, bivalvis; seminibus compressis ovoideis.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass* 11570 (TYPE), November 1938, alt. 2350 m., creeping on bare rock on a sparsely vegetated limestone precipice (flowers a very dark purple).

Lobelia brachyantha is a very small species with a *Pratia*-like habit belonging to the section *Hemipogon*. It differs from the description of *L. arfakensis* Gibbs in the very shallowly sinuate-dentate leaf-margins, the much smaller flowers and capsules, the very short hypanthium, and the minutely lobed or toothed calyx-lobes. The hairs of the pubescence are distinctly several-celled.

Lobelia microcarpa C. B. Clarke in Hook. f. *Fl. Brit. Ind.* 3: 424. 1881, *vel aff.*

BRITISH NEW GUINEA: Oriomo River, Wuroi, *Brass* 5737, January-March 1934, alt. 10–30 m., common throughout the savannahs (fleshy



Merrill, Elmer D. and Perry, Lily M. 1941. "Plantae Papuanae Archboldianae, VII." *Journal of the Arnold Arboretum* 22(3), 375–388.

<https://doi.org/10.5962/p.185436>.

View This Item Online: <https://www.biodiversitylibrary.org/item/33598>

DOI: <https://doi.org/10.5962/p.185436>

Permalink: <https://www.biodiversitylibrary.org/partpdf/185436>

Holding Institution

Missouri Botanical Garden, Peter H. Raven Library

Sponsored by

Missouri Botanical Garden

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Arnold Arboretum of Harvard University

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.