

MISCELLANEOUS BOTANICAL NOTES XX

C. G. G. J. VAN STEENIS, c.s.

124. VILLARSIA EXILIFLORUM F.v.M. (GENTIANACEAE) AND BYBLIS LINIFLORA SALISB. (BYBLIDACEAE) IN NEW GUINEA

In March 1962 Mr. A. Hoogerwerf collected swamp and savannah plants in the extreme South of New Guinea, about 25 km WNW. of Merauke, near a place Kurik, c. 10 km north of the mouth of the Kali Kumbe. There the Government was planning to start a mechanical rice plant with polders, as has been done in Suriname. As the experimental plot was menaced by too many birds, Mr. Hoogerwerf, an ornithologist, was making an investigation of the avifauna and collected plants in and around the marshes in order to verify later on which plants the birds fed.

Among his collection there were many interesting plant species, especially sedges; *Fimbristylis blepharolepis* Kern was even a new species. *Cyperus* cf. *angustatus* R.Br., *Rhynchospora heterochaeta* Blake, and *Fimbristylis dictyocolea* Blake proved new for Malesia, *Scleria laxa* R.Br. new for the Papuan flora. Further there were much species belonging to the Australian element as *Hardenbergia retusa* Bth., *Philydrum lanuginosum* Gaertn., *Calogyne pilosa* R.Br., *Phacellothrix cladochaeta* F. v. M., *Leptocarpus*, *Ceratanthus longicornis* F. v. M., etc.

The savannah forest consisted largely of *Eucalyptus papuana* F. v. M., *Planchonia papuana* Knuth, *Alstonias*, *Dillenia alata* Martelli, *Antidesma ghaesembilla* Gaertn., *Rhodamnia cinerea* Jack, *Tristania suaveolens* J. Sm., *Alphitonia*, *Parinari nonda* F. v. M., *Schizomeria* sp., *Evodia*, *Elaeocarpus*, *Gmelina*, *Macaranga tanarius* M.H., *Trema cannabina* Lour., *Cryptocarya* sp., *Albizia lebbeckioides* Bth., *Melochia umbellata* (Houtt.) Stapf, *Morinda citrifolia* L., *Terminalia microcarpa* Decne, and several species of *Melaleuca* (*M. cajaputi* Powell, *M. viridiflora* Sol. ex Gaertn., *M. leucadendron* L.) and *Acacia* (*A. mangium* Willd., *A. crassicaarpa* Cunn. ex Bth., *A. leptocarpa* Cunn. ex Bth.).

Among the herbaceous lot there were two which represent genera not earlier recorded for Malesia. One is a *Villarsia* (*Gentianaceae*), which is identified by Miss Helen I. Aston, senior botanist at the Royal Botanic Gardens and Herbarium, South Yarra, as *Nymphoides exiliflorum* (F. v. M.) O.K. Pending a decision about the discrimination of *Villarsia* against *Nymphoides* I have retained this provisionally in *Villarsia*.

The other was a plant almost only in fruit, resembling *Scrophulariaceae*. But the thread-like leaves, set with glands pointed finally to *Byblidaceae*. This proved to be the first representative of that genus (and family) outside the Australian continent.

Villarsia exiliflora F. v. M., *Fragm.* 5 (1865) 46; *ibid.* 6 (1868) 137. — *Limnanthemum exiliflorum* (F. v. M.) F. v. M. ex Bth., *Fl. Austr.* 4 (1869) 381; F. M. Bailey, *Queensl. Fl.* 3 (1900) 1030.

NEW GUINEA. Extreme southern part: Kumbe, c. 25 km WNW. of Merauke, c. 10 km north of the mouth of the Kumbe River, near Kurik, northern swamp, *A. Hoogerwerf* 62, 278 (L), June 1961; *ibid.*

North Polder, *A. Hoogerwerf* 255 (L), March 1962. North New Guinea: Sepik Dist., Maprik, 150 m, aquatic in waterhole in grassland, *J. Smith* 1 (L).

Distribution: Queensland.

Byblis liniflora Salisb., *Paradis. Lond.* (1808) t. 95; DC., *Prod.* 1 (1824) 319; Endl., *Iconogr.* (1841) t. 113; Bth., *Fl. Austr.* 2 (1864) 470; F. M. Bailey, *Queensl. Fl.* 2 (1900) 551; Domin, *Bibl. Bot.* 22 (1929) 702. — *B. filifolia* Planch., *Ann. Sc. Nat.* III, 9 (1848) 305. — *B. coerulea* Planch., l.c. 306.

NEW GUINEA. Extreme southern part: Kumbe, c. 25 km WNW. of Merauke, c. 10 km north of the mouth of the Kumbe River, near Kurik, northern swamp, not common, *A. Hoogerwerf* 273, fr. 24-3-1962.

Distribution: Queensland and North Australia.

125. THE IDENTITY OF POLYGONUM MALAICUM DANSER WITH POLYGONUM AURICULATUM MEISN. (POLYGONACEAE)

Among the Assam collections of Thakur Rup Chand we found a specimen (*n.* 3640, Naga Hills, Kohima, c. 1200 m, in forest, 5 ft), pre-identified by R. R. Stewart as *Polygonum chinense* L. var., which is indubitably the species described by Danser in his revision of the Netherlands Indian species as *Polygonum malaicum* Danser from Sumatra and Malaya (*Bull. Jard. Bot. Btzg* III, 8, 1927, 139, 218, fig. 13).

This was hitherto not reported outside these two areas, but see below.

It is certainly closest allied to *P. chinense*, both forming the section or subsection *Corymbocephalon* Meisn.

The fact that it can easily be distinguished by several characters and that it grows side by side with *P. chinense*, are sufficient reason to recognize it as a distinct species; Henderson noted from the Cameron Highlands: 'both forms grow profusely side by side and look very distinct'.

Also in Sumatra it is found together with *P. chinense*, without intermediates. Only because of the very large variability of *P. chinense*, Danser (l.c. 221) had some hesitation to describe it as a distinct new species.

He keyed them out as follows (l.c. 138) to which I have added some data:

1. Climbing to over 6 m high, rarely prostrate or dwarfed. Leaves mostly elliptic to oblong, rarely wider or narrower to 13 by 9 cm and over. Auricles at base of petiole rarely more than 1 cm wide. Inflorescence often more than 3 times branched, mostly with numerous pea-sized pseudo-spikes of white flowers. Fruit to 2½ mm long. Throughout Malesia, (5—50) 200—3000 m altitude. **P. chinense**
1. Erect or ascending perennial to c. 1½ m high. Leaves broad-elliptic to almost orbicular, mostly 3—10 cm long. Auricles at base of petiole conspicuously large, to 2 cm wide. Inflorescence rarely more than 3 times branched. Pseudo-spikes to over 1 cm long, ovate. Fruit more than 3 mm long. Sumatra, Malaya, (550—650) 1150—2500 m altitude **P. malaicum**

The nomenclature of the name *P. malaicum* was not fully worked out by Danser due to the fact that he performed his revision at Bogor where he had no access to Meisner's monograph. He assumed namely that it might possibly have been described already in 1826 by Meisner, as *P. auriculatum* Meisn., *Mon. Gen. Polyg. Prodr.* (1826) 59, t. 6, which Meisner reduced himself in Wallich's *Plant. Asiat. Rar.* 3 (1832) 60, to *P. chinense* var. *ovalifolium* Meisn.

When revising the *Polygonaceae* for DC., *Prod.* 14 (1856) 130, however, twenty five years later, *P. auriculatum* Meisn. was partly reduced to *P. chinense* var. *thunbergianum*

(as to the name in Wallich's List n. 1705/6) and partly to *P. chinense* var. *ovalifolium* Meisn. which comprised also sheets from the Philippines. Meisner himself appears not to be very certain about his reduction of *P. auriculatum* as he added a question mark after the references referring to it. In Miquel's *Annales Mus. Bot. Lugd. Bat.* 2 (1865) 62, Meisner had the plant in question under *P. chinense* var. α *Thunbergianum* forma *macrophylla* Meisn., and other forms of *P. chinense* under *P. chinense* var. *ovalifolium*.

The first to recognize it as a distinct species in Malesia was Ridley from a Boden Kloss specimen of Mt Kerintji, who accepted Meisner's *P. auriculatum* for it.

Polygonum auriculatum Meisn., *Mon. Gen. Polyg. Prodr.* (1826) 59, t. 6; Ridley, *J. Fed. Mal. Stat. Mus.* 8, 4 (1917) 78. — *P. chinense* var. *ovalifolium* Meisn. in Wall., *Plant. Asiat. Rar.* 3 (1832) 60. — *P. chinense* var. *thunbergianum* f. *macrophylla* Meisn. in Miq., *Ann. Mus. Bot. Lugd. Bat.* 2 (1865) 62. — *P. malaicum* Dans., *Bull. Jard. Bot. Btzg III*, 8 (1927) 139, 218, fig. 13.

INDIA. Assam: Naga Hills, Kohima, 1200 m, Sept. 1950, *Thakur Rup Chand 3640* (L, MICH).

BURMA. Toungoo Dist., Thandoung, damp places at 1200 m, Dec. 1937, *Dickason 6763* (A, L).

EAST JAVA. Idjen Plateau, Mt Suket, 2400 m, *van Steenis 12165* (BO, L), 1st record.

126. STYLOSANTHES IN AUSTRALIA (LEGUMINOSAE)¹⁾

From the Division of Plant Industry, C.S.I.R.O., Canberra, A.C.T., I received material of *Stylosanthes* of Australia which had been identified as *S. sundaica* Taub. Both with Mohlenbrock's key and that of my own (Reinwardtia 5, 1961, 446—450) this appears to belong, however, to *S. humilis* H.B.K. The records are the following:

NORTHERN TERRITORY. North Australia, Darwin, poor ironstone outcrop, *F. W. Hely H.* 81, a. 1943, 'Townsville lucerne', ditto near Parap, 2 miles from Darwin, North Australian Meat Co., good fodder.

QUEENSLAND. Moreton Dist., Glasshouse Mts, in lawn, *H. S. Tuttt s.n.*, Landsborough, June 1958, noticed 4 or 5 months ago, appears to spread rapidly, evidently a prolific seed-bearer and vigorous plant.

127. SHORT NOTE ON TEYSMANNIODENDRON BOGORIENSE KOORD. (VERBENACEAE)

In the first place *Vitex lasiantha* Hall. f., *Meded. Rijksherb.* 37 (1918) 50, based on *J. W. R. Koch 45*, from Etna Bay, West New Guinea, seems not to differ from *Teysmanniodendron bogoriense* Koord. Secondly, *T. pteropodum* (Miq.) Bakh. var. *auriculatum* Kostermans, *Reinwardtia* 1 (1951) 94, seems to belong to *T. glabrum* Merr., re-instated by Kostermans in *Reinwardtia* 6 (1962) 166. Thirdly, in his key Kostermans (1951, 79) noted the mature fruit of *T. bogoriense* as measuring 4—5 cm; *Versteegh BW 4904* has, however, mature fruits $2\frac{1}{4}$ — $2\frac{3}{4}$ by $1\frac{3}{4}$ — $2\frac{1}{4}$ cm.

128. REDUCTION OF THE GENUS KANIA SCHLTR TO METROSIDEROS (MYRTACEAE)

The disposition of this Papuan plant has a somewhat chequered history in that it was originally assigned to the *Saxifragaceae*. Though Schlechter (1914, 120) admitted resemblance to *Guttiferae* and *Myrtaceae*, he accommodated it as an aberrant genus in the *Saxifragaceae*. As usual, vegetative structure was neglected to study and therefore the fine closed venation with intramarginal vein and the pellucid gland dots in the leaves, characteristic of many *Myrtaceae*, escaped his attention. His misidentification gave rise to an astonishing inflation of names of increasing rank.

Hallier f. referred *Kania* to his *Linaceae sens. lat.* (*Beih. Bot. Centralbl.* 39, ii, 1921,

¹⁾ By H. P. Nooteboom, Laboratory for Experimental Plant Taxonomy, Leyden.

140). Engler (in E. & P., Nat. Pfl. Fam. ed. 2, 18a, 1930, 109, 188) made *Kania* the type of a separate subfamily *Kanioideae* of the *Saxifragaceae*. Nakai (Ord., Fam., Trib., etc., App. 1943, 245) created a monotypic family *Kaniaceae*, as a segregate of the *Saxifragaceae*.

Hutchinson maintained *Kania* in the *Philadelphaceae* (Fam. Fl. Pl. ed. 2, 1, 1959, 159), although Erdtman had already in 1954 succinctly pointed to its proper disposition in the *Myrtaceae* on the strength of pollen structure, which he said was supported by anatomical evidence of Metcalfe (Bot. Notis. 1954, 70). This they worked out later in a joint paper (Kew Bull. 17, 1963, 249—250).

Recently Weberling (Kew Bull. 20, 1966, 518—520) called attention to the occurrence of what he calls 'stipules' in *Kania*, a feature common to several *Myrtales* families, arranging *Kania* in a new subtribe *Kaniineae* Web. in *Leptospermoideae-Leptospermeae*.

In passing I may mention that in my opinion the appendages Weberling takes for stipules are merely colleters (trichomes, emergences), similar to those occurring in *Rubiaceae*, *Nothofagus*, etc. They occur there in addition to stipules and have often (?always) a glandular function by secreting resin. But they are also found in many other families or genera, often near or on the nodes intra-axillary, but also on the base of the leaf-blade (in many *Asclepiadaceae*), at the base of the calyx for example in *Apocynaceae* and *Crypteroniaceae* in irregular number, and not only at the base but in *Crypteroniaceae* also on the margin of the sepals.

It seems not necessary to create any special suprageneric rank for *Kania*, because it has appeared to be conspecific with *Metrosideros parviflora* C. T. White of which we have now abundant material which was distributed under various tentative Myrtaceae generic names. The identity was shown by a close comparison with the isotype of *Kania* which was kindly forwarded on loan by the Director of the Royal Botanic Gardens, Kew. White mentioned that the versatile small anthers are topped by a large 'gland' which is the strongly developed apical end of the connective. The unopened anthers are \pm triangular, but the opened ones with the pollen shed have a different appearance. In Schlechter's drawing all stamens are equally long, but this is not true, they are slightly unequal in length. The very narrow ovules are abundant and inserted in the base of the three cells, as in *Lysicarpus* F. v. M.

The species is characteristic and widely distributed in New Guinea and I have summarized its ecology.

***Metrosideros eugenioides* (Schltr) Steen., comb. nov.** — *Kania eugenioides* Schltr, Bot. Jahrb. 52 (1914) 120, fig. 1. — *Backhousia aurea* Ridl., Trans. Linn. Soc. Lond. II, Bot. 9 (1916) 43 (ex descr.). — *M. aureus* (Ridl.) Diels, Bot. Jahrb. 57 (1922) 418. — *Backhousia arfakensis* Gibbs, Phyt. Arfak (1917) 153 (ex descr.). — *M. gibbsiae* Diels, Bot. Jahrb. 57 (1922) 418. — *M. pullei* Diels, l.c. 417; Nova Guinea 14 (1924) 94; C. T. White, J. Arn. Arb. 23 (1942) 80, incl. var. *parvifolia* C. T. White, l.c. — *M. parviflora* C. T. White, l.c. — *M. parallelinervis* C. T. White, l.c.

NEW GUINEA. West New Guinea: Vogelkop Peninsula, Nettoti R., van Royen & Sleumer 8019; Nassau Mts, *Docters van Leeuwen* 10867; Bernhard Camp, Idenburg R., Brass 11929, 13149, 13291, type of *M. parallelinervis* C. T. White, 13516, Brass & Versteegh 11999, type of *M. pullei* var. *parvifolia* C. T. White, 12007, 12503, 12570, type of *M. parviflora* C. T. White, 13516; Cycloop Mts, Mt Rara, van Royen & Sleumer 6040, 6158; *ibid.*, Hills E of Jabau R., van Royen & Sleumer 6278; *ibid.*, from Ifar-Ormu to Mt Baboko, van Royen 3725; Mt Cycloop, BW 4299 Koster, BW 4318; Balim R., Brass & Versteegh 11184; Wissel Lake region, Eyma 4334, BW 3268 R. L. Johannes; Mt Digitara, Eyma 5372; Erica top, Pulle 809, type of *M. pullei* Diels; Habbema Camp, Bele R., Brass & Versteegh 11104; Star Mts, Mt Antares, Kalkman 4453. — Territory of New Guinea: Rani Mts, Schlechter 17733, type of *Kania eugenioides* Schltr (K); Jimmy Valley, Western Highlands, NGF 7774 Womersley & Millar; Morobe Dist., Wau, Upper Watut,

NGF 17294 *Havel & Kongara*; Mt Shungol, *Hartley 12518*; Torricelli Mts, Sepik Dist., *Darbyshire 473*; Eastern Highlands, Okapa area, Purosa, *Brass 31833*. — Papua: Southern Highlands, Lake Kutubu Patrol Post, *Saunders 1068*; below the Gap, *Carr 13836*; Lala R., *Carr 14074*; Boridi, *Carr 13419*.

SOLOMON ISLANDS. Ysabel I.: Tiratona, *Brass 3340*. — NW. New Georgia: Hovoro, *Cowmeadow's coll. BSIP 3771*.

Ecology: Except one all collections come from primary, mixed, midmountain forest, sometimes characterized by *Nothofagus-Phyllocladus*, common tree 8—35 m tall, also on ridges, 450—2400 m, once noted with flattened stilt-roots at base; once noted in New Georgia at only 60 m altitude in a freshwater swamp.

Notes. I have included in the synonymy *M. pullei* which is, as far as I can see, in floral characters not different from *M. eugenioides*. Diels mentioned it to have 25 stamens against 12—19 found in the latter. It was distinguished largely by its microphyllous, condensed foliage which appears more hairy. But all specimens of *M. pullei* are found in exposed ridge situations and these are precisely the edaphomorphoses one could expect from this habitat; they are consequently sometimes of small size, a shrub or treelet up to 5 m.

Though I have not seen the type of *M. brachyanthera* Diels, this seems a different species, said to have coral-red petals (not yellow as in *M. eugenioides*), obviously a glabrous ovary, petals which are as long as wide (which I hope are taken from mature flowers), and filaments with a dark margin at base.

Weberling (1966, 519) mentioned also a Carr number to belong to *M. eugenioides* in Kew, viz. *Carr 13119*, but the duplicate at Leyden of this number is an Ericaceous plant.

129. REDUCTION OF CLAUSENA TRICHOGYNE MIQ. (RUTACEAE) TO WALSORA (MELIACEAE)¹⁾

In 1926 Dr Tanaka, in working out some Malesian *Rutaceae* in the Rijksherbarium, noted on a ticket that *Clausena chrysoygne* Miq. from Sumatra did not belong in the genus; he did not give an alternative. Really this is not a *Rutacea*, but belongs to what was later called *Walsura multijuga* King, a Meliaceous plant. Unfortunately Miquel's epithet is older than that of King.

Walsura chrysoygne (Miq.) Bakh. *f., comb. nov.* — *Clausena chrysoygne* Miq., Fl. Ind. Bat. Suppl. (1861) 502. T: *Teysmann HB 3805* (L), S. Sumatra, Palembang. — *W. multijuga* King, J. As. Soc. Beng. 64, ii (1895) 83; Val., Ic. Bogor. 2 (1906) 156, t. 135; Merr., Philip. J. Sc. 3 (1908) Bot. 148; Ridl., Fl. Mal. Pen. 1 (1922) 412; Merr., En. Philip. 2 (1923) 379. — *W. quadrangularis* Val., Ic. Bogor. 2 (1906) 156, *nomen in synonym.*; Dakkus, Bull. Jard. Bot. Btzg, Suppl. (1930) 295, *nomen*; ed. 2 (1957) 237; ed. 3 (1963) 246. — *W. borneensis* Merr., (Pl. Elm. Born.) Un. Cal. Publ. Bot. 15 (1929) 213.

UPPER BURMA. King, l.c.

SUMATRA. Palembang: Ogan Ulu, *Teysmann HB 3805*, type of *Clausena chrysoygne* Miq.; Tjaban For. Res. near Muara Enim, *Kostermans S 133, 12323*. — Banka: Batu Rusak, *Teysmann s.n., cult. Hort. Bot. III-D-20, III-E-46, III-F-23-23a*.

MALAY PENINSULA. Perak: *King's coll. 10622*; Larut, *King's coll. 5473*; Thaiping, *King's coll. 8400*.

BORNEO. SE. Borneo: Balikpapan area, *Kostermans 4348, 4385, 7454, 7475, 7477*; Mahakam R., *Kostermans 7156, 10064*. — North Borneo: Sandakan, *Elmer 20167*, type of *W. borneensis* Merr.; P. Tiga, *BNB 4817*; Sepilok For. Res., *BNB 10142, S 39135, SAN 32556, SAN A 1952*; Sandakan, *SAN 32586, SAN 35619*; Tawau, *SAN 30498*; Kudat, *SAN 37688*; Sandakan Bay, *SAN 39726*.

PHILIPPINES. Palawan: *Elmer 13158*. — Mindanao: *PNH 38022, PNH 38058, BS 39167*.

¹⁾ Jointly with Dr R. C. Bakhuizen van den Brink Jr.

Notes. Merrill in describing *W. borneensis* pointed out that it differed from *W. multijuga* by a hairy ovary and glabrous stamens, adding, however, that King described the fruit as hairy. This discrepancy must be explained by the occurrence of two sorts of flowers, functionally male and female, the males having a glabrous pistillode. The stamens in Merrill's type are not glabrous but slightly hairy inside, though not so characteristic with a tuft of hairs below the anthers as King described and Valetton pictured. But other Bornean specimens are more or less intermediate in this respect. There seems to be no reason to keep *W. borneensis* apart as a distinct species. In passing it may be noted that both 4- and 5-merous flowers occur.

130. BORTHWICKIA (CAPPARACEAE) FROM YUNNAN AND IN FRUIT¹⁾ — Fig. 1.

Borthwickia was described by W. W. Smith, Trans. Proc. Bot. Soc. Edinb. 24 (1911) 175, pl., with *B. trifoliata* W. W. Sm. as the only species, based on R. W. McGregor 714 (CAL, E!) and 1325 (lectotype, CAL, holo; E! K!), from Burma, S. Shan States, Loi-mwe, 1500 ft, in flower.

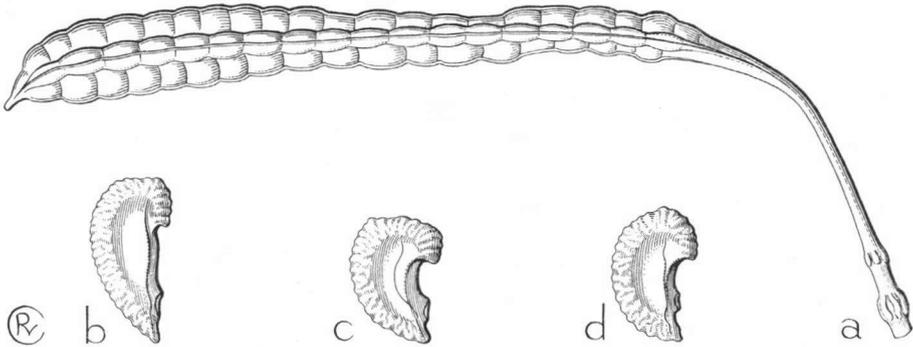


Fig. 1. *Borthwickia trifoliata* W. W. Sm. a. Fruit, $\times 4/3$, b–d. seeds, $\times 6$ (Tsai 61587A).

To the description of these specimens is to be added: young parts brownish pubescent and not glandular; twigs green, flat at the nodes; petiole 8–9½ mm and less, leaflets herbaceous, to 13½ by 4 cm, nerves 5–6 on either side, puberulous on the nerves beneath.

The fruits, hitherto unknown, recently came to hand, collected by H. T. Tsai 61587A (A!), in S. China, Yunnan, Ping-pien Hsien, 1100 m, 22-8-1934, a shrub of 8 feet. Fig. 1. The androgynophore in fruit is 5 mm, the gynophore above the insertion of the stamens is 11–18 mm. Fruit torulose, 3–5-angular, 6½–9 cm by 4½–5 mm, blackish in the herbarium, with \pm acute top. The dehiscence is not clear, seems to be lengthwise in the grooves.

By its androgynophore, many stamens, and torulose fruit, *Borthwickia* is suggestive of *Maerua*, from which it differs in its *Cleome*-like leaves which are opposite (unique in the family), and 6 petals.

¹⁾ By M. Jacobs, Rijksherbarium, Leyden.