

REVISION OF THE SAPOTACEAE OF THE MALAYSIAN AREA
IN A WIDER SENSE

IVa. *Ganua* Pierre ex Dubard
(Additional Notes)

by

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and

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G. kingiana (Brace) Van den Assem, *Blumea* VII², 1953, 373.

Var. *kingiana*, l. c. 373.

MALAY PENINSULA. Singapore Isl., Bukit Timah: *Ridley 6294*, fl. and y. fr. (SING).

Remarks. This specimen has been cited by Lam (*Bull. Jard. bot. Buit. Sér. III, VII, 1925, 160*) under *Madhuca kingiana* (Brace) H. J. Lam. The remark made by Lam in his second paper (same journal VIII, 1927, 444) is incorrect. The indumentum, if any, is pubescent and disappears with age.

Var. *euphlebica* Van den Assem, l. c. 374.

BORNEO. N. Borneo, Elphinstone Prov., Tawao: *Elmer 21613*, fr. (NY, SING, SYSB); Sandakan, Kabili For. Res., 6 m alt.: *BNB For. Dept. (Agama) 4356* (K, L, SAN), flow. March, cream-coloured, tree 15 m; nat. n.: nyatoh, monongan.

Remarks. The fruits are globose when young, but tend to grow oblong or obovate and $2.3-2.7 \times 1.3-1.6$ cm when mature. The flowers (*B. N. B. 4356*) are large: pedicels 0.6-0.7 cm, stout, densely pubescent as is calyx outside; sepals broadly ovate, apex rounded, glabrous inside, about 1 cm long; corolla tube glabrous outside, hairy at insertion of stamens inside, 0.9-1.0 cm high, lobes ± 11 , hairy outside, fimbriate, semicircular, 0.25 cm high; stamens about 23 in two rows, glabrous but for the protruding apex of the anthers, filaments 0.1, anthers 0.3 cm; pistillum 1.35 cm, appressedly hairy at base, style gradually contracted, glabrous, ovary with 6-7 ovules and imperfect septa.

G. pallida (Burek) H. J. Lam; Van den Assem l. c. 377.

BORNEO. E. Borneo, Loa Djanan, sandy loam soil ridge, 30 m alt.: *Kostermans 6677* (BO, L), old flow. Apr., tree 15 m (never more), bark dark brown, deeply fissured, reddish inside, as is wood; nat. n.: njato palong.

Remarks. The pedicels evidently elongate after flowering. In the above specimen they are up to 2.6 cm long. The branchlets are up to 1 cm in diam. and very rough by numerous scars. Leaves up to 22 × 5 cm.

G. motleyana (De Vriese) Pierre ex Dub.; Van den Assem l. c. 382.

Var. motleyana l. c. 382.

MALAY PENINSULA. Perak, Sg. Perak, kg Lambar Kiri, freshwater swamp: *Strugnell 57306*, ster. (KEP), tree 12 m high, important soft wood, nat. n.: bengku; Pahang, Kuala Terpai, Chenai Res., Rompin, in swamp: *Watson C. F. 3172*, ster. (KEP), tree with knee pneumatophores, latex white, nat. n.: ketiau; Pekan, Ulu Bebar, in swamp on sea level: *Windsor 65669*, ster. (KEP), tree abt. 30 m high, girth 1.8 m, latex white. — Johore, Jemluang F. R. Comp. 17 E: *For. Res. Inst. Kepong (Sulong) 72909* (KEP), flow. Aug., greenish, tree 26 m.

BORNEO. N. Borneo, Kimanis For. Res., freshwater swamp forest, 3 m in alt.: *Mail bin Aliho A 3001*, flow. and fr. (SING), tree, 45 m high, 1.8 m in girth, flow. greenish, fr. green, oil from seeds for cooking, nat. n.: ketiau; Pertayo, Klias, freshwater swamp: *Apostol 22* (= *Wood 2418*, *For. Dept.*), ster. (SING), tree, 15 m high, 0.3 m in diam., nat. n.: ketiau; Elopura For. Distr., Kimanis, swamp, *BNB For. Dept. (Pangkalan) 10153* (K, L, SAN), tree 21 m, nat. n.: ketiau; Sabah For. Distr., Lumat, 30 m alt., swampy, *BNB For. Dept. (Naik) 10313* (K, L, SAN), fr. in March, tree 6 m, edible oil fruit, nat. n.: ketiau; Sabah For. Distr., Sepalit, Bongawan, freshwater swamp: *BNB For. Dept. (Rahman) 10703* (K, L, SAN), fr. in Febr., tree 18 m, latex for chewing gum, nat. n.: ketiau; ibidem, swamp, 50 m alt.: *BNB For. Dept. (Rahman) 8873* (K, L, SAN), fr. in March, tree 18 m, flow. yellow, fr. green, latex for chewing gum, nat. n.: ketiau, flow. galls — Brunei, A.E.S., forest, 24 m alt.: *Keith 5921*, flow. (K, L, SAN, SING), tree 9 m high, 0.15 m in diam., edible oil nut, nat. n.: ketiau. — E. Borneo, West of Samarinda, Loa Haur, sandstone, low ridges, loam soil, 40 m alt.: *Kostermans 6787* (BO, L), tree 35 m, latex white, flow. white, in May, nat. n.: njato hitam. — Sarawak, Mupong, *For. Dept. Sar. S. 0671* (SING), fr. Jan. 1954, large tree, white latex, bark with shallow fissuring, seeds collected by natives for fat.

G.? palembanica (Miq.) Van den Assem & Kostermans, nov. comb. — *Podocarpus palembanica* Miq., Fl. Ind. Bat. Suppl. 1860, p. 252, 589; Wasseher, *Blumea* 4, 1941, 471 sub spec. excl.

Type specimen and basonym: *Teysmann 3891* H. B., type of *Podocarpus palembanica* Miq.

Distribution: Sumatra, Borneo.

SUMATRA. Palembang, Muaradua: *Teysmann 3891* H. B. (BO, U), ster., type of *Podocarpus palembanica* Miq.; Lematang Ilir, nr Tandjong, 95 m in alt., old forest, dry land: *FRI T.B. 644* (BO), ster., tree 24 m high, nat. n.: balem tekong (b. terong); Lematang ulu, nr Lubuk botong, fairly common in old forest on dry land, 400 m alt.: *FRI T.B. 657* (BO), ster., tree 20 m, latex little, white, fr. (not found in herb.) green, bitter.

BORNEO. S. E. Borneo, Puruktjahu, nr Biha, 90 m, fairly common in old forest on dry land: *FRI bb. 10600* (BO), ster., tree 31 m, latex little, white, nat. n.: puntik, or njatu.

Remarks. In Reinwardtia II², 1953, 362, Kostermans suggests that the type specimen of *Podocarpus palembanica* Miq., viz. *Teijsmann 3891* (U), and some other specimens he is convinced to be conspecific with it, actually belong to the Sapotaceae, possibly to either *Ganua*, *Madhuca* or *Palaquium*. We checked up the type which is being preserved in Utrecht. The specimen is sterile and undoubtedly *no Podocarpus*. Its stipules (fili-form and c. 0.8—1 cm long) and locally crowded (not whorled) glabrous leaves (acutely lanceolate, very long and narrow, 30 × 2 cm, petiole 1—1.5 cm) as well as the (faint) nervation render Kostermans's suggestion likely, but the specimen possibly represents a juvenile form.

This can, however, not be said of the other specimens which were kindly loaned to us by the Bogor Herbarium. In all of these the leaves are shorter and relatively broader than in the type but, on account of the similar stipules and venation type, they are most likely to be conspecific mutually and with *Teijsmann* 3891. Some particulars may follow here:

T. B. 644: leaves glabrous, lanceolate, small (6×1.4 cm, petiole 1.5 cm, abt. 15 secondary nerves) to rather large (17×3.7 cm, petiole 3 cm, abt.



Ganua molleyana — Loop-roots, 18" high in freshwater swamp forest, Jurong, Singapore. Lenticels large, inner bark pink, latex white — Courtesy E. J. H. Corner.

20 sec. nerves), base decurrent, apex acutely or bluntly acute, stipules filiform 0.1 cm long.

T. B. 657: leaves as in preceding number, rather large, $8-19 \times 2-3.9$ cm, petioles 1.5—2.7 cm, secondary nerves 15—20.

FRI bb. 10600: leaves rather small and comparatively broad, abt. 10×1.5 cm, petiole abt. 2.5 cm, secondary nerves faint, abt. 15.

Our conclusion is that the specimens are undoubtedly sapotaceous and probably belong to *Ganua*. They cannot be combined, however, with one of the known species. This is why it was considered best to create a new combination.