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W. SOEGENG REKSODIHARDJO
MIEN A. RIFAI

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NEW and CRITICAL MALESIAN PLANTS VIII*

A. J. G. H. KOSTERMANS **

Meliaceae

Aglaia neotenica Kosterm., *spec. nov.* — Fig. 2

Arbor ramulis gracillibus apicem versus dense minutissime ferrugineo stellato-piloSis foliis membranaceis unifoliolatis lanceolatis longe acuminatis basi acutis supra laevia glabra nervo mediano prominulo costis filiformibus vix prominulis subtus glabris pallidioribus nervo mediano prominentibus glabrescentibus costis utrinque ca 13 gracilis prominulis marginem versus arcuatis nerviis secundariis laxis satis obscuris petiolis pergracilis parte apicalibus incrassatis infructescentiis axillaribus fructibus unicus subsessillibus subobovoideus dense minutissime ferrugineo stellato pilosis.

Typus: *Hallier 2810* (BO).

Tree; branchlets very slender, striate, glabrous, at apex densely, minutely, rusty, stellate-pilose. Leaves membranaceous, lanceolate, 3 X 10-5 X 17cm, long-acuminate, base acute; upper surface dull, smooth, glabrous, midrib and the filiformous lateral nerves prominulous; lower surface paler, glabrous, smooth, midrib prominent, soon glabrous, lateral nerves ca 13 pairs, slender, erect-patent, near the margin arcuate; secondary nerves lax, prominulous. Petioles very slender, densely, minutely stellate-pilose, glabrescent, 2 - 3.5 cm long, consisting of a slightly swollen apical part of 3 - 5 mm, rather distinctly articulated with the basal part. Infructescences consisting of a single subsessile, axillary fruit near the top of the branchlets, subobovoid, up to 28 X 37 mm, slightly tapered at base, densely, minutely, rusty stellate-pilose. Sepals ovate, acute, 2 mm long, densely stellate-pilose, longitudinally ribbed.

Allied to *A. submonophylla* Miq.

Indonesian Borneo, Liang Gagang, fr., *Hallier 2810* (BO, K, L).

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** Forest Research Institute and Herbarium Bogoriense, Bogor.

Aglaia sterculioides Kosterm., *spec. nov.* — Fig. 3

Arbor? ramulis gracilibus apicem versus dense minutissime ferrugineo stellato pilosis mox glabris foliis unifoliolatis alternantibus membranaceis lanceolato-ellipticis longe acuminatis basi acutis supra glabra laevia nervo mediano longitudinaliter canaliculatus costis filiformibus subtus subglabra sublaevia nervo mediano prominentibus stellato pilosis costis utrinque ca 13 filiformibus prominulis petiolis longis dense pilosis infructescentiis subterminalis pergracilis fere glabris fructus sterculioideus indumentum pulverulentum ferrugineum obtectus seminibus unum.

Typus: *Hallier 3114* **(L)**

Tree (?) ; branchlets very slender, striate, glabrous, near the apex densely, minutely, brown stellate pilose. Leaves alternate, simple, membranaceous or thinly chartaceous, lanceolate-elliptical, 5 X 15-10 X 25 cm, long and gradually acuminate (up to 3 cm), base shortly acute; upper surface smooth, glabrous, midrib channeled lengthwise; lateral nerves filiformous; lower surface practically glabrous, smooth, midrib prominent, stellate-pilose; lateral nerves filiformous, ca 12 - 15 pairs, prominulous. Petioles 1.5 - 2.5 cm long, pilose, the apical part slightly thickened and channeled above.

Immature panicles axillary, densely, rusty stellate tomentose, up to 11cm long, few-branched, ramifications up to 2.5 cm long; bracts and bracteoles minute. Peduncle 6 cm. Flowers densely pilose, 1 mm diam., depressed; calyx lobes 5, ovate.

Infructescences very slender, glabrous, up to 11 cm long, hardly, shortly branched. Fruit shaped like the fruit carpel of *Sterculia*, one-seeded, up to 7 cm long, 2.5 cm wide, acute, covered with a pulverulent, rusty indumentum, base often narrowed into a neck-like part; seed without aril, asymmetric, ellipsoid, 1.5 x 4 cm; cots transversal; seedcoat thin.

The fruit consists of two valves, marked on the outside by a strong rib. The possibility is not excluded that the fruit is non-dehiscent and that the opened condition on the herbarium sheet is due to pressure.

Indonesian Borneo, Amai Ambit, fl., fr., *Hallier 3114* (BO, K, L).

Aphanamixis reticulata Kosterm.

This species (Kostermans in Reinwardtia 7: 30. 1965) belongs in ***Chisocheton.***

Dysoxylum acutangulum Miq.

Dysoxylum acutangulum Miquel, Fl. Ind. bat., Stappl. 196. 1860 et 503. 1861; Ann. 4: 26. 1869; DC, Monogr. 1: 525. 1878; Valeton, Icon. Bogor. 1: t. 11. 1897; Koorders, Atlas Baumarten Java t. 169. 1913; Heyne, Nuttige PL Ned. Ind. 892. 1927 — *Teijsmann s.n.,* prope Djebus, Isl. Bangka (U).

New synonym: *Dysoxylum undulatum* Henderson in Gard. Bull., Straits Settl. 7: 90. 1933 — *Henderson 23484* (fl.) et *23624,* fr. (BO, SING).

The species does not occur in Java. The Javanese specimens, enumerated by Koorders belong to another (undescribed ?) species.

The species is close to D, *schultzii* which differs by its visible lateral nerves (invisible in mature leaves of *D. acutangulum)* and by the presence of tiny domatial cavities along the midrib. There are also floral differences. The timber is excellent and one of the most superior of the endemic Meliaceae. The characteristic of opposite leaves in *D. acutangulum* does not hold true absolutely; in some specimens they alternate.

Dysoxylum alatum Harms

Dysoxylum alatum Harms in Schum. & Ltb., Fl. Deutsche Schutzgeb. Siidsee 381. 1901; DC. in Bull. Herb. Boissier, Sér. 2, 3: 166. 1903 (nomen) ; *Epicharis alata* (Harms) Harms in Engler & Pr., Nat. Pfl. fam., ed. 2, 19b. 1: 167, 169. 1940 et 1980; in Engl. bot. Jahrb. 72: 191 et 203. 1942.

New record: W. Irian, McCluer Golf, Jakatu near Babo, alt. 50 m, small tree, fls. white, May, *Act 145* (BO).

The specimen is poor and the 2 detached flowers differ from Harms' description by having an irregularly tearing calyx of 6 mm high; the glabrous tepals are connate and the tubular disc of 1.5 - 2 mm high is free from the corolla.

Dysoxylum schultzii C. DC.

Dysoxylum schultzii (schulzii) C. DC. in A. DC, Monogr. 1: 502'. 1878; typus: *Schultz 573* (K), Port Darwin; Harms in Engl. bot. Jahrb. 72: 199. 1942 *(schultzii); Dysoxylum foveolatum* Radlkofer in Sitz. ber. Math.-Phys. Akad. Muenchen 9: 598. 1879; typus: *Teijsmann 10579* (sphalm. *10770)* (BO).

The number of the type specimen of *D. foveolatum* is misquoted by Radlkofer, as it was very unclearly written on the label; it should be 10579.

Of *Dysoxylum enantiophyllum* Harms (in Engl. bot. Jahrb. 72: 192. 1942) I could examine only the specimen *Lam 1564* (BO) ; this represents *D. schultzii;* although the domatia are obscure, they are indicated.

Additional specimens: Aru Is l., Ngaibor, Isl. Trangan, alt, 30 m, ster., 66. *25455* (A, BO, L) ; ibid., Isl. Watubakar, Dosinamalu, alt, 5 m, May, buds, 66. *25310* (A, BO, K, L, NY, SING) ; Dosinamalu, May, buds, *Buwalda 5038* (A, BO, BRI, K, L, NY, P, PNH, SING) ; Tanimbar Is l., Ilgnei, Ottimer, ster., 66. *24-802* (BO) ; Flores, Puumere wawa, alt. 500 m, ster., 66. *9639* (A, BO, L) ; Timor, Tamini (or Timini), Teijsmann *H. B. 10579* (BO); New Guinea, Lake Daviambu, middle Fly R., common: canopy tree, Sept., fr., *Brass 7781* (BO) ; Upper Digul, alt. 25 m, Oct., buds, 66. *14535* (BO, K, L) ; Territ. of Nw. Guinea, Morobe Distr., Oomsis, Aug., fl., *NGF 13056* (BO).

Dysoxylum pachyrhache Merr.

Dysoxylum pachyrhache Merrill in Univ. Calif. Publ. Bot. 15: 20. 1929; Harms in Engler & Pr., Nat. Pfl. fam., ed. 2, **19b.** 1: 170. 1940 et I960; *Epicharis pachyrhachis* (Merr.) Harms, I.e. 177; *Elmer 21692* (typus) et *20989* (paratypus).

Additional specimens: Sumatra, Riau, Lingga Isl., Dec, fl., *Ri/I-189* (BO, L) ; E. Indonesian Borneo, Balikpapan Distr., Sgv Mentawir region, low, sandy ridge, July, fl., *Kostermans 9779* (A, BO, CANB, K, L, P, PNH, SING), tree 10 -12 m, diam. 10 - 20 cm, bark dark to lightbrown, 1 mm, superficially fissured, peeling off in narrow strips; living bark 5 mm; sapwood 2 cm, yellowish, heartwood dark to light brown; fls. ivory, calyx pale brown; inflorescences up to 14 cm long; Loa Djanan, W. of Samarinda, sandy, April, fr., *Kostermans 6523* (A, BO, BRI, K, L, P, PNH, SING), fr. orange, inside yellow.

Dysoxylum gjellerupii C. DC.

This species (C. DC. in Lorentz, New Guinea 8: 1012. 1914) is based on *GjeUerup 408* (BO, K, L).

It is comspecific with *D. arborescens* Miq. . .

Didymocheton gaudichaudianum A. de Jussieu

Didymocheton gaudichaudianum A. ds Jussieu in Mém. Mus. Hist. Nat. Paris **19:** 272. 1830; typus: P. Rawah, Papua Isl. (P) ; *Dysoxylum gaudichaudianum* (Juss.) Miquel, Ann. 4: 15. 1868.

Synonyms: *Dysoxylum amooroides* (Miq.) Harms in Engler & Prantl, Nat. Pfl. fam., ed. 2, 19b. 1: 157, 176. 1940; *Dysoxylum spanoghei* Miquel, Ann. Mus. bot. **Lugd.** bat. 4: 14. 1868; *Didymocheton spanoghei* (Miq.) Harms, I.e. 157, 176; *Dysoxylum cerebriforme* F.M. Bailey in Bot. Bull. Dept. Agr. Queensland 14: 7; White in N. Queensl. Naturalist 3: 34. 1935; Harms, I.e. 157; *Dysoxylum decandrum* (Blanco) **Merrill in Philip.** Gvt. Lab. Publ. 27: 30. 1905; **Fl.** Manila 276. 1912; Spec. Blancoanae

209. 1918; in Philip. J. Sci. 11: 279. 1916; Enum. Phil. fl. PL 2: 363. 1923; Elmer, Leaflets Phil. Bot. 9: 3362. 1937; Harms, I.e. 157; *Turraea decandra* Blanco, Fl. **Filip.** 347. 1837; *Didymocheton decandrum* (Blanco) Harms, I.e. 157, 176, 1940; *Turraea virens* (non L.), Blanco, Fl., ed. 2: 243. 1845; ed. 3, 2: 88, t. 130. 1878; *Dysoxylum blancoi* Vidal, Cat. PI. Manila 22. 1880; *Dysoxylum pubescems* T. & B., Catal. Hort. **Bogor. 211.** 1866 (nomen).

In the Bogor Herbarium material is conserved collected from tree no 77/ *C 29* (sterile) and from /// *B 81* (flowering[1] branch and sterile branch), collected in Jan. 1890; both ara labeled *D. pubescens.* Another specimen of Teijsmann's time was later numbered 14666.

They all represent *Didymocheton gaudichaudianum* A. Juss.

Didymocheton sessile (Miq.) Kos'term., *comb. nov.*

Dysoxylum sessile Miquel (basionym), Ann. Mus. Lugd, bat. 4: 15. 1868; DC, Monogr. 1: 527. 1878; typus: *Teijsmann H.B. 1915* (U).

Dysoxylum urens Valeton in Icones Bogor. 1: t. 12. 1897; Hochreutiner, PI. Bogor. Exsiec. no. 156; *Didymocheton urens* Teijsm. & Binnendijk, Cat. Hort. Bogor. 391. 1866 (nomen); typus: culta in Hort. Bogor. e Insula Batjan (BO).

Dysoxylum hirturn Ridley in Trans. Linn. Soc. Bot. 9: 26. 1916; *Didymocheton hirtum* (Ridley) Harms in Engl. bot. Jahrb. 72: 191. 1942.

Miquel cites a specimen *Zippel* from Amboina and another collected by *Teijsmann.* from Batjan Isl. and Saparua. In Bogor 3 sheets collected by *Teijsmann* in Saparua are conserved, marked *1915 H. B.*$_t$ another sheet is marked as having[1] been, collected by *de Vriese* in Saparua. These specimens represent iso-type material.

Dysoxylum urens T. & B. (nomen) was based on a living specimen in the Bogor Botanic Garden, originating from Batjan Isl. This name was taken up by Valeton. The Bogor Herbarium has a specimen of Teijsmann & Binnendijk and two other sheets collected from the tree numbered /// *C. 13,* after which Valeton's plate probably was nu.de.

Didymocheton pruriens Zippel is cited by Miquel under his *Dysoxylum setosum;* Miquel mentioned also a specimen of *Zippel* from Amboina under *D. sessile.* As *D. setosum* is not prurient at all, there remains the possibility that *D. pruriens* is identical with our *Didymocheton sessile.*

Additional material; Morotai Isl., Sangowo R., May, young fr., *Kostermans 708* and *1006* (BO, L) ; Buru, Kajeli, buds, *Teijsmann s.n.* (BO); W. Ceram, Manusa — Rembatu — Honitatu trail, Jan., fl., *Eyma 2663* (BO) ; Kanusela, road to Hoale Pass, Dec, fr., *Eyma 2353* (BO) ; **Isl. Obi,** buds and fr., *Atasrip 61* (BO, L) ; Lawui, village Bau, alt. 400 m,

Oct. fr., *Nedi 517* (BO, K, L); Batjan Isl., *Spanoghe 5894 H. B.* (BO, K); culta in Hort. Bogor., *Teijsmann s.n.* (BO), type of *D. urens* T. & B.; ibid, sub /// *C 13* (BO, L) and *PI. Ho-chreutiner. no: 156* (BO).

Trichilia connaroides (W. & A.) Bentvelzen

Bentvelzen (in Acta bot. neerl. 11: 17. 1962) recognized variety *microcarpa* (Pierre) Bentv., which differs by the smaller fruit, ca 0.5 cm in diam. But the specimens: *Tsang Waai Tak 417* and *Lei 172* (BO) cited by him have fruit of 1 cm diam. and hence fall within the size of var. *connaroides* (1-2.5 cm).

Chrysobalanaceae

Elaeocarpus punctatus Wall, ex Masters.

Cf. Kostermans in Reinwardtia 7: 185. 1965.

This is based on *Wallich 2676* (K); it is a mixture; the unattached, solitary flower belongs indeed to *Elaeocarpus,* the two leafy branches, and the fruit represent *Parinari costata* Bl. Kurz (in. J. As. Soc. Bengal 43: 183. 1874) published *Elaeocarpus punctatus,* but did not make the combination in *Parinari,* as wrongly cited by me (in Reinwardtia, I.e.). King (in J. As. Soc. Bengal 60: 140. 1891) quoted Kurz and added that the specimens *Maingay K. D. 621* and *621/2* were conspecific with *Wallich 2676.*

Angelesia papuana Baker f.

Baker f. in J. of Bot. 61, Suppl. 13. 1923; typus: *Forbes 257.*

This represents a species of *Licania,* recently recollected. It is renamed here Licania papuana (Baker f.) Kosterm., *comb. nov.* (basionym: *Angelesia papuana* Baker f., cf. above).

Prance is of opinion (in litt.) that it should be referred to *Hunga.*

Sterculiaceae

Pterocymbium nicobaricum Didr.

Described by Didrichsen in Vidensk. Meddel. Kjoebnhavn. 199. 1854 and based on the specimens *Didrichsen 2911* (BO, C), collected in Sambelong, Nicobar Isl. and on a collection of *Kamphövener* of the Galathea expedition, presumably no. *2371,* Kaonikobar and Chowry, Jan, 1846-

(BO, C) represents, according to me a mixture of *Pterocymbium javanicum* R. Br. (the flowers) and a species of *StercuUa* (the leaves). Arguments in-favour of this are: *Pterocymbium* flowers, when the tree is completely leaf-less, hence collectors take recourse usually to seedlings as an addition, to the flowering material. *Pterocymbium* has always almost rounded, cordate leaves (rarely oval). Additional material from the Nicobar and Andaman Islands proves that only *Pterocymbium javanieum* occurs there, which are the flowers of *Pt. nicobaricum;* the leaves of later collections are always those of the real *Pt. javanieum.* The flowers of *Pt. javanicum* from Burma, Siam, Nicobar and Andaman Isl. are slightly smaller than those from the Malesian area. Eventually they might prove to belong to a separate species, originally named: *Sterculia campanulata* Wallich. A clue to this might be the colour of the flower. Some Javanese material has the same: small-sized flowers.

Additional records: Andamans, Guitar Isl., Febr. - March, fl,, *Kirat Ram 3772* [DD] with a flowering bunch, matching. Didrichsen's material perfectly and a leafy branch of *Pterocymbium javanieum;* Stewart Isl., N. Andamans, April, fl., *Balasubramanian s.n.,* as above; Bedapur valley, March, fl., *Parkinson 1110* [DD] ; Great Nicobar, *Sakni 23040* **[DD],** leafy branch of *Pt. javanicum,* and some loose fruit; N. Baratang, *Parkinson 308* [DD].

I suspect thaf *Pt. dussaudii* Tardieu (in Not. Syst. 10: 240. 1942) is likewise based on two discordant elements; the specimen *Dussaud 117* (P) has flowers of *Pt. javanicum* and detached leaves of a *Sterculia*-.

Pterocymbium splendens Kosterm.

This species, described from a single collection from Borneo- has now been recorded from the Moluccas and W. New Guinea.

New records: E. Indonesian Borneo, Berau Distr., Mt. Njapa on,Kelai R., limestone, alt. 100 m, Oct., fl., *Kostermans 21533* (A, BO, G, K, L) ; Moluccas, Batjan Isl., Saoran Domut, alt. 100 m, s.ter., *bb. 23203* (A, BO, L) and *23192* (A, BO, L, SING) ; W. Ceram, Honitetu-Wae-Tuba, Febr., fl., *Eyma 2779* (A, BM, BO, CAL, K, L, LAE, NY, P) ; Isl: Buru, Djikumerasa, alt. 5 m, ster., *bb. 22788* (A, BO, L) ; Morotai Isl., Tobelo subdistr., Toitodoku, alt. 30 m, ster., *bb. 33743* (BO, K, L) ; W. Irian, Manokwari Distr., Maepi II, alt. 5 m, Oct., fl., *BW 1091* (BO, L) ; Oransbari, Oct., fl., *BW 2080* (BO, L) ; Ransiki, alt. 10 m, ster., *bb. 33293* (BO, K, L). ; Misool Isl., Sorong Distr., near Fakal,; alt. 50 m, Sept., fl., *Pleyte 1067* (BO, K, L) ; Babo Rariesi, Fakfak subdi-I

str., alt. 75 m, ster., *bb. 32712* (BO, L) ; Hollandia (Kotabaru), Berap, Nimburan, ster., *bb. 28938* (A, BO, K, L, NY, SING) ; Australian New Guinea, Papua, N. Div., Pongani valley, between Dareki and Ondoro, Managalase area, Aug., fl., *Pullen 5744* (A, BO, CANB, K, L, LAE), fls, pink, apex pale green, interior of corolla streaked red, this is a young stage.

Pterocymbium javanicum R. Br. and Pt. tincitorium Merr.

I have considered *Pt. javanicum* a variety of *Pt. tinctorium.* Since I have been able to study both species in the field, it has been proved that these belong to two different species, not only differing in the colour of the flowers-, but also in the size of the flowers and differences in the androgynophore. Moreover, the areas of distribution exclude each other.

Pterospermum blumeanum Korth. and Pt. javanicum Jungh.

In Backer and Bakhuizen's Flora of Java (1: 409 - 410. 1963) these two species are treated as being conspecific, following Koorders & Valeton. The latter recognized a variety *montanum,* which, according to them, was restricted to the mountain regions of Central and East Java. I have discovered, that var. *montanum* is a good species, not only differing by the persistent indumentum of the fruit, but also by the shape of the fruit and the leaves and that the species also occurs in W. Java and goes as far as Sumbawa Isl.

I suspect, that *Pt. javanicum* Junghuhn is this (there is a specimen of Junghuhn from W. Java in the Bogor Herbarium) and that *Pt. blumeanum* (which has been broken up by Miquel in *Pt. blumeanum* proper, based On the specimen from Nagara, Java and *Pt. sumatranum-* Miquel, based on the Korthals specimen from Sumatra) is the common lowland species on Sumatra, Borneo and Java.

Pterospermum celebicum Miq.

Abundant material of this species (Miquel, 111. Fl. Arch. Ind. 1: 87. 1871) has become available, which makes it certain that *Pt. niveum* Vidal (Rev. PI. vase. Filip. 67. 1886) falls within the variability.

The young leaves are rusty sublanuginose on their lower surface; this tomentum is superposed on a closely adpressed, matted, grey white tomentum; when the former wears off, the latter remains and the leaves look whitish Underneath,

Pterospermum elongatum Korth.

This (Korthals in Nederl. Kruidk. Arch. 1: 312. 1848) was based on a fruit bearing specimen, collected by Korthals in S.E. Borneo near Bandjarmasin (Banjermassing) along the river.

The description is very poor, but the type specimen (of which a fragment is in Bogor) makes it possible to place the species as a very common one in Borneo and Sumatra.

Pt. perrinii Elmer (Leaflets Philip. Bot. 5: 1840. 1913), based on the specimen *Elmer 1284,1* (BO), collected in Palawan, is conspecifie with it.

Pterospermum stapfianum Ridley

Ridley (in Kew Bull. 1933: 489) based the description on the specimen *Haviland 2125,* typus (BO:, K, SAR) and on several other specimens of which *Wood 2253* is represented in Bogor. The latter represent Pt. *elongatum* Korth. *Pt. stapfianum* has peltate leaves, those of *Pt. elongatum* are not.

Scaphium borneensis (Merr.) Kosterm., *comb. nov.*

Firmiana borneensis Merrill (basionym) in Univ. Calif. Publ. Bot. 15: 192. 1929; typus: *Elmer 21759* (UC).

New records: W. coast Sumatra, Bangkinang, Simpangdarah, alt. 500 m, ster., *bb. 23617* (A, BO, L) ; Brunei, Andulau Forest Res., alt. 50 m, July, fl., *Ashton Brim. 272* (BO) ; ibid., yellow sandy loam hills, alt. 70 m, Oct., fr., *Ashton Brim. 2620* (BO) ; Bukit Patoi, alt. 10 m, yellow clay hillside, fr., *Ashton Brim. 3189* (BO) ; S ab ah, Beaufort, Beaufort Hill, *lYz* miles N. E. of Beaufort Township, alt. 160 m, July, fr., *San 16966* (A, BO, BRI, K, KEP, L, SING) ; Beaufort, Pangi, 5 miles W.N.W. of Tenom at mile 79 on N. Borneo railway, June, fl., *Wood San 16901* (A, BO, BRI, K, KEP, L, SING) ; Sandakan, Kabili For. Res., Cpt. 17, June, fl., *BNBFD A 814* (BO, K) ; Sepilok For. Res., Cpt. 3, Elopura, alt. 15 m, Aug., fr., *Cuadra BNBFD A 907* (BO, K) ; E. Kalimantan (Indonesian Borneo), Tidung Lands, Mengku, ster., *bb. 17757* (BO, L) ; Bulungan, Kabiran, Sg. Simendurut, alt. 200 m, ster., *bb. 11761* (BO, L); Mensapa, alt. 2 m, ster., *bb. 26247* (BO, L) ; Berau, Betemu Aer, alt. 150 m, ster., *bb. 18934* (BO, L) and *18987* (BO) ; E. Kutei, Sangkulirang Distr., Rantau Bahan, alt. 20 m, ster., *bb. 15218* (BO) ; Tepian Lobang on Menubar R., alt. 40 m, ster., *bb. 24676* (BO, L) ; ibid., buds Deo., *bb. 14669* (BO, L) ; Pengudan, Sg. Bee, ster., *bb. 12955* (BO) ; Balikpapan Distr., Sg. Niki, alt.

25 m, ster., *bb. 25625* (BO) ; Sg. Tiram, mouth of Mahakam R., alt. 30 m, ster., 66. *35029* (A, BO, K, L) ; W. Kutei, Mujup, alt, 40 m, ster., 66. *16859* . (BO) ; S. Borneo, Puruktjahu, alt. 200 m, ster., 66. *10980* (BO, L) ; ibid., Kelapeh, alt. 200 m, ster., 66. *11007* (BO, L) ; Pleihari, Sg. Alang, ster., 66.*14201* (BO) ; ibid., Jan., fl., 66.*14097* (BO) ; Tanah Bumbu, Kampong Baru, ster., 66. *13319* (BO).

Scaphium longepetiolatum (Kosterm.) Kosterm.

New records: E. Kalimantan. (Indonesian Borneo), Tidung Lands, Banusan, alt. 12 m, ster., 66.*18148* (BO, L) ; ibid., Bulungan, Kabiran, Sg. Bengalun, alt. 150 m, ster., 66. *11693* (BO, **L)** ; **BRUNEI,** ster., *Ashton s.n.* (BO).

Scaphium v.elutinum Kosterm.

This species is conspecific with *Scaphium lomgiflorum* Ridley. Ridley omitted in his description the important character of the pilosity of the lower leaf surface, which is unique in Scaphium.

New record: E. Kalimantan (Indonesian Borneo), Sangkulirang Distr., Sg. Mandu, low, July, FL, *Kostermans 13244* (A, BM, BO, K, L, NY, P, SING).

Tiliaceae

Berrya papuana Merr. & Perry

New records: E. New Guinea, Papua, Central Distr., 1 mile north of Brown R. station, alt. 100 m, in marginal monsoon forest on bank of a creek with *Garuga* and *Vitex,* Febr., fl., *NGF. 17376* (A, BISH, BO, BRI, CANB, K, L, SING, SYD) ; ca 1 mile E. of Kwihilu, Rigo subdfetr$_v$ alt. 70 m, gallery rainforest, Aug., fr. *Schodde 2746* (BO).

Colona grandiflora Kosterm., *spec. nov.* — Fig. 4

Arbuscula ramulis gracilis minute sparse stellato- pilosis foliis alternantibus chartaceis lanceolatis longe subacuminatis bast rotundatis subaequalis margins glanduloso-serratis supra glabrescentia venis vix conspicuis subtus nervulis sparse minute stellato pilosis nervo mediano costisque utrinque ca 6 prominulis costig basalibus adscendentibus petiolis brevis inflorescentiis terminal's foliosis perdense griseo stellato pilosis pedicellis brevis floribus pro genere magnis.

Typus: *Dee Bunpheng 105* (BK)

Shrub; branehlets slender, sparsely, minutely stellate-pilose with scattered longer hairs. Leaves alternate, chartaceous, lanceolate, up to 3 x 8 cm, apex long-subacuminate, base almost symmetric, rounded to subcordate, margin distantly serrate, the teeth glandular, ca 0.5 - 0.75 mm long, acute, ascendent; upper surface glossy, glabrescent, the pilosity persistent on the midrib; main, nerves obscure, slender; lower surface with sparse, tiny stellate hairs on the nervules and nerves, midrib and the ca 6 pairs of lateral nerves prominulous, the basal pair of lateral nerves ascending to 1/3 - V2 the leaf length, secondary nerves prominulous, lax. Petioles 2-3 mm long, densely stellate pilose.

Inflorescences terminal, leafy, densely grey stellate pilose; the partial inflorescences few-flowered, up to 1 cm long. Flowers subtended by large, lanceolate, almost glabrous, 8 mm long bracts. Pedicels 5 mm. Sepals elongate ovate, acute, 10 mm long, inside grey velvety stellate pilose. Petals shorter than the sepals, ca 7 mm long, ligulate - obovate, gradually tapered towards the base, glabrous, except for a semi-oblong ring of hairs at the base inside; a large round gland at the base inside. Stamens as long as the petals. Ovary 5 - ribbed, densely stellate pilose.

Thailand, S.E. Trat, Distr. Khao Saming, Dong Tabang, common in open, evergreen forest in the lowland, Aug., fl., *Dee Bunpheng 105* (BK). Bark yields a fibre used in roping.

Catena velutinosa Kosterm., *spec. nov.*

Arbor ramulis longe setosis foliis alternantibus chartaceis laneeolatis vel ellipticis acuminatis basi obliqvis auriculatis supra grisea sparse minute stellato-pilosis venulis subimpressis subtus dense stellato-pilosis margine obscure serratis apicem versus conspicue serratis costis utrinque 6 petiolis setosis infructescentibus terminalibus setosis fructibus 3-alatus dense longe setosis.

Typus: *Manalo F.B. 7416* (US).

Tree 22 m tall, 55 cm in diam.; branchlets long-setose with underneath tiny stellate-hair like scales. Leaves alternate, chartaceous, lanceolate to elliptic, acuminate, base oblique, auriculate; upper surface grey with sparse, tiny, stellate, adpressed hairs; veins slightly impressed; lower one very densely stellate-pilose, soft, velvety to the touch, margin remotely, obscurely serrate (conspicuous near the apex), lateral nerves 6 pairs, at base 4 nerves of which one pair in the auricles. Petiole 1 cm, setose, rather

thick. Infructescence terminal, 25 cm long (the partial ones 15 cm), setose with slender stellate hairs underneath. Fruit 3-winged, densely, softly, long stellate pilose with setae on the nut, the wings half an ellips, up to 2 cm 1., 8-9 mm wide.

Related to *C. sinica* of the 3-winged group of species.

Philippines : Palawan, 1 mile N.E. Tanabag, alt. 6 m, very common, *Manalo F.B. 7416* (US), fr. Dec.

Grewia raorotaiensis Kosterm., *spec. nov.* — Fig. 5

Arbor magna ramulis dense minute stellato-pilosis' foliis aMernantibus chartaceis ellipticis margine serratis apice breve acuminntis basi cordatis supra glabrescentia nitida dense minute reticulatu nervo mediano costisque prominulis sparse minute stellato pilosa nervo mediano- prominemtibus dense piles-is costis utrinque ca 10 prominentibus erecto-patentibus vix arcuatis petiolis dense stellato pilosis, stipulis magnis inflorescentiis axillaris brevis paudfloris dense stellato pilosis bracteis subulatis longis floribus in umbellulis bracteis lanceolatis fructus irregidariter subglobosus apiculatus stellato pilosus pedicellis longis,

Typus: *bb. 33752* (BO).

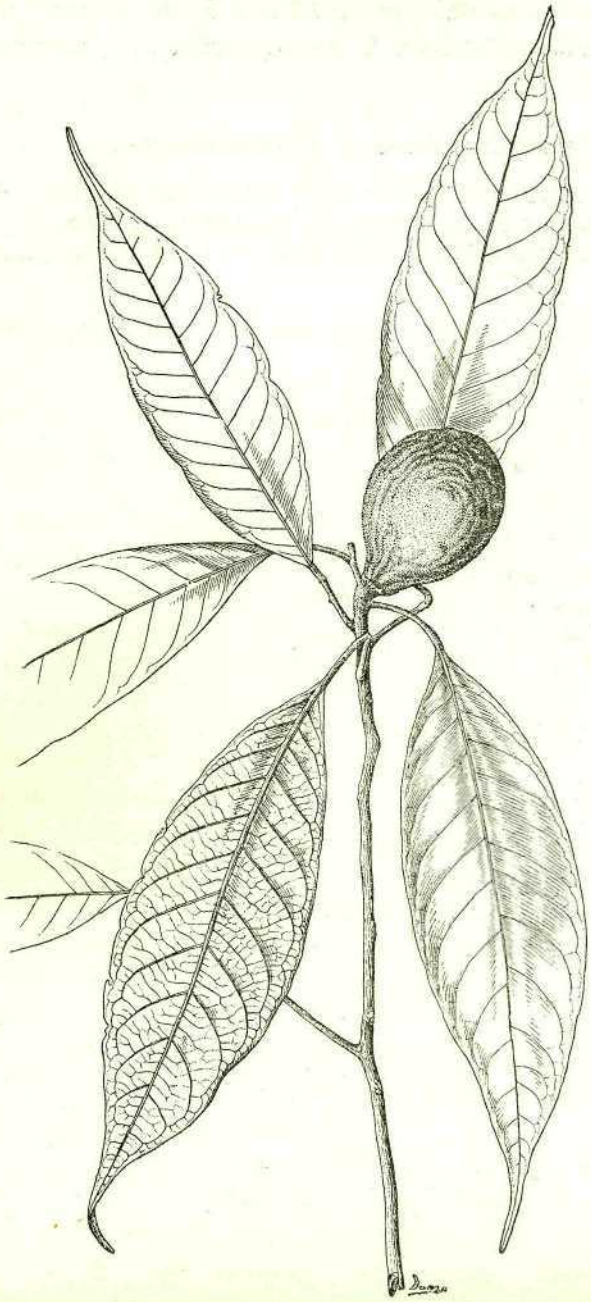
Tree up to 36 m tall with 23 m free bole, 70 cm diam. at 2 m; buttresses 2 m, out 2.5 m, thick 20 - 25 cm. Branchlets densely, minutely pale-brown stellate pilose. Leaves alternate, chartaceous, elliptical, 6.5 X 13-9 X 22 cm, shortly acuminate, base cordate, margin serrate, teeth 0.5 mm long; upper surface glossy, densely, minutely reticulate, glabrescent, main nerves prominulous; lower surface laxly, minutely stellaite pubescent, midrib prominent, lateral nerves ca 10 pairs, erect-patent, rather straight, secondary nerves prominulous, lax, somewhat parallel. Petioles densely stellate pilose, 10-15 mm long, subtended by large (1 cm diam.), suborbicular stipules, that clasp the stem.

Inflorescences axillary, densely stellate pilose (short and longarmed hairs intermingled) consisting of a short (1 cm) main peduncle, subtended by an acicular slender bract of 5 mm, bearing an umbel of a few flowers, subtended by small lanceolate, acutish 1.5 mm long bracts. One or two inflorescences in one axil. Flower buds globose. Fruit irregularly subglobose, slightly broader than high with an indication of consisting of two

parts at the apex, apiculate, up to 12 mm diam., covered with very tiny, short-armed scale-like stellate hairs interspaced by longer-armed stellate hairs.

The stipules remind those of *Trichospermum.*

Indonesia: Morotai Isl., Distr. Tobelo near Totodoku, alt. 30m, *Kostermans & Tangkilisan 44* (= 66. *88752)* (A, BO, BM, K, L, LAE, P, PNH, SING), fr. May; ibid., May fl., *Kostermans & Tangkilisan 101* (= 66. *33795)* (A, BO, K, L, SING).



Pig. 2 — *Aglaia neotenica* Kosterm.; after *Hallier 2810* (BO)

Fig. 3 — *Aglaia slercuUoid.es* Kosterm. — *Holo-typus*

Fig. 4 — *Colona grandiflora* Kosterm. — *Holo-typus*

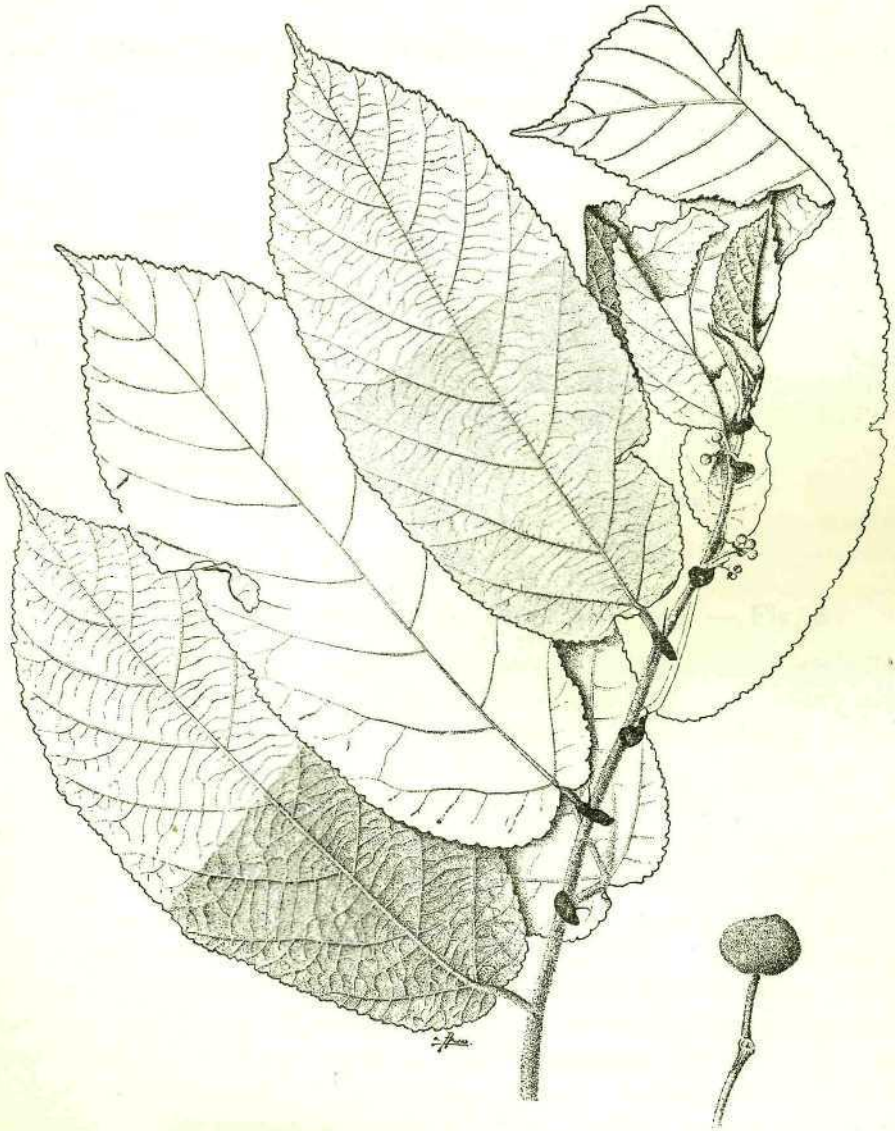


Fig. 5 — *Grewia morotaiensis* Kosterm.; after 66. *33752* (BO), fruit after 66. *33752* (BO)

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