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NEW AND CRITICAL MALAYSIAN PLANTS—I

A. J. G. H. KOSTERMANS[4]

MIMOSACEAE

Serianthes gigalobium Kostermans, *spec. nov.*—**Fig.** 1

Ab omnibus speciebus generis legumine permagno, falcitto vel subfalcato et foliolis magnis differt.

Tree up to 30 m high, with a clear bole 21 m high and 50 cm in diameter. Buttresses up to 2 m high, extending 1 m from bole, 5—10 cm thick. Bark grey-brown, rather smooth or cracked, occasionally scaling off in irregular pieces; dead bark 2—9 mm thick; living bark 5—9 mm, red. Sapwood 5—15cm, yellowish, with agreeable smell; heartwood red-brown. Branches cylindrical, red-brown or grey, lenticellate; branchlets at apex rusty puberulous. Leaves bipinnate, up to 35 cm long, glabrous, glandless; petioles 3—12 cm long, glabrous or microscopically pulverulently puberulous; rachillae 2 or 4, up to 25 cm long, lower ones shorter; leaflets opposite or the proximal ones subopposite, coriaceous or chartaceous, glabrous, 4—5-jugate (apical leaves 3-jugate), elliptic, (4—)6—12 cm long, (1.5—)3—8cm wide; proximal ones as a rule smaller than distal ones; top acuminate or caudate-acuminate with blunt tip; base rounded or subacute; both surfaces glossy (lower one brown when dried) ; upper surface reticulate or rather smooth; lower surface with prominent midrib and 4—6 pairs of inarching, prominent, lateral nerves; veins prominulous, laxly reticulate; petiolules 3—5 mm long, usually stout, deeply channelled above (sometimes not channelled in swollen petiolules). Inflorescence raceme-like, up to 10 cm long, with stout main rachis. Flowers in axils of more or less persistent, ovate, concave, glabrous, 1—2 mm long bracts. Calyx unknown. Corolla-tube unknown; lobes elliptic-lanceolate, concave, glabrous, 3—5 mm long. Anthers 1 mm long. Pod woody, up to 24 cm long and 4.5 cm wide, constricted between seeds, falcate or subfalcate, 2-seeded, dull, ferrugineous (when dried), furrowed, not dehiscent; dorsal suture conspicuous. Seeds brown, ellipsoid, 4 cm long, 2.5 cm wide, hardly compressed, top oblique; cotyledons flat-convex, hard.

TYPE.—Sumeisy 68 = bb.20030 (BO).
DISTRIBUTION.—Sumatra, Borneo.

The partial description of the flower was made after the specimen Jaheri *s.n.*, which has young fruit, with some parts of the flower still adhering.

* Botanist, Division of Planning, Forest Service of Indonesia. Published with the permission of the Director, Division of Planning.

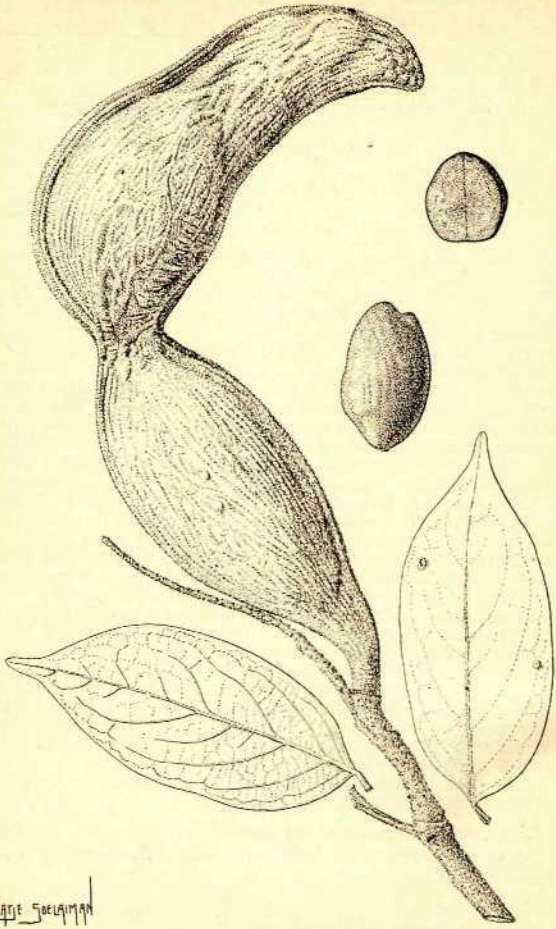

FIG. 1. *Serianthes yiyalobium* Kosterm-, drawn after bb. 20030 (type) from Borneo: *a*, pot! (x 0.7); *b*, leaflets (x 0.7) ; *e*, seed (x 0.7).

The vernacular name of this tree is in North Borrieo merbau akar or merbau lalat (merbau =- *Afzelia).* The timber is sometimes used as a substitute for merbau, although it is softer. In Sumatra it is called kompas, which, however, is the common name for *Pithecellobium splendens* Corner, or merombungan (in Inderagiri), or mentering (Pehal dialect in Bencoolen).

Almost all collections are sterile. A peculiar character of the leaves are scattered microscopical holes in the upper surface. The wood is strong and durable with a nice grain. It is of economic importance. Its durability class is 3 (5 samples) or 4—5 (2 samples) ; its strength class is 2. Its specific gravity varies between 0.61 and 0.79, with an avarage (6 samples) of 0.72. The data on the wood were communicated by the Forest Research Institute, Bogor.

SPECIMENS EXAMINED.—SUMATRA. East Coast: Langkat Div., Haleban Kedah, alt. 20m, June, ster., *Barends B.W.Ira* := *bb.8487* (BO); Inderagiri Div., Inderagiri Upper Lands Subdiv., Sungei Akar, alt. 50 m, July, ster., *Buwalda 365* — *bb. 28588* (BO). Bencoolen: Lais Subdiv., Talang Benal, alt. 250 m, June, ster., *Idiis 13* = *bb.8786* (BO). — BORNEO. British North Borneo: Sandakan, Kabili Forest Reserve, alt. 7m, Pebr., ster., *Puasa S.H.9250* = *F.D.U2S9* (KEP, SING); same locality, Sept., ster., *Puasu S.H.9953* — *F.D.48740* (KEP, SING). Indonesian Borneo: Western Division: Melawi near Tjatit, Bukit Ransa, alt. 465m, Nov., ster., *bb.26433* (BO); Eastern Division: Tidung Lands Subdiv., **Nunukan,** Sungei Mesapak, Sept., fr., *Sanieisy 68* = *bb.200.lo* (BO, L; *type};* Bulungan Subdiv., Mensapa, alt. 2 in, July, ster., *bb.26245* (BO, L, SING) ; Beratt Subdiv., Mendara, Betemuan, alt. 5m, ster., *bb.19054* (BO, L). Southern Division: Puruktjau Subdiv., Bahitum, alt. 100 m, Nov., ster., *Atjil 95* = *bb.10527* (BO) ; locality not indicated, young fruit, *Jaheri s.u.,* anno 1893 (BO).

Mimosa invisa Mart. var. inermis Adelb., *var. nov.*[1]

Doornloze *Mimosa,* J. H. v. Emden *in* Bergcultures 20: 201. litol.
Thornless *Mimosa invisa,* G. G. Bolhuis *in* World Crops 5: 37 *cum fig.* 1953.

A forma typica differt caulibus inermis.

TYPE.—Java, Bogor, cultivated in the experimental gardens of the Centrale Proefstations Vereniging (C.P.V.) at 260 m altitude, flowering and fruiting in November 14, 1950, A. J. H. van Haaren *s.u.* - H.B. 116118 (BO).

The Subdivision for Annual Crops of the General Agricultural Research Station at Bogov (Buitenzorg), Java has been on the look-out for a number of years for a thornless variety of *Mimosa invisa* Martius, an imported and very important soil-cover and green-manure. In the

[1] This note is contributed by Mr. A, G. L. Adalbert, Botanist, Herbarium Bogoriense.

course of several years many thornless plants were found, but these proved either to belong to other species or, if the real *Mimosa invisa*, did not breed true to the thornless character.

Mr. A. S. Bolt after much searching succeeded in 1942 in finding a thornless plant. When, owing to wartime conditions, he had to leave his estate: "Nieuw Gebangan," all plants with prickles had been eradicated. On his return in 1948, he found that the thornless variety had held its own very well against its prickled competitors. Further propagation was started and it became evident that the thornless variety bred true to the type and in other characteristics did not differ from typical *Mimosa invisa*. Due to circumstances the valid publication of a varietal name was delayed up to the present, although the author (Adelbert) as early as 1950 examined specimens grown in Bogor in the gardens of the C.P.V. (Central Association of Experiment Stations) from seed, forwarded by Mr. Bolt.

Another specimen, bearing ripe fruit, which could be examined is H.B.24370 (BO), also grown at Bogor, this time in the gardens of the above mentioned Subdivision of the General Agricultural Research Station. The mother-plant of this cultivated specimen was collected wild in Weleri, west of Semarang, Central Java.

OLACACEAE

HERNANDIA KUNSTLERI King ex Heyne

The publication of this name by Heyne (Nuttige Planten Nederl. Indië,'2nd Ed., 674. 1927; 3d Ed., 674. 1950), is due to an error. The corresponding specimen in Herbarium Bogoriense represents *Harmandia kunstleri* King, a climber, belonging to Olacaceae. The label of the original plant (Dumas 1587) is lost. The description, which Dumas gave on his label (as he was accustomed to do) was probably copied, by Heyne, but this description most likely referred to the tree on which the climber (of which the fruits were collected) was growing.

OLEACEAE

Schrebera kusnotoi[2] Kostermana, *spec. nov.*—Fig. 2

Arbor alta, foliis impari-S-jugatis, fnliolis oppositis subcoriaceis lanceolatis, usque ad 10 cm longis et S cm latis, basi acutis in petiolulibus decurrentibus, apice sensim acutis vel acuminatis, supra nitidis conspicue reticulatis nervo mediano impresso, marginibus recurvis; flores albicantes coriacei in paniculis corymbiformes trichotomis bracteatis; calyx urceolata,

[2] Named in honour of Ir. Kusnoto, Director of the Botanic Gardens of Indonesia (Kebun Eaya Indonesia), Bogor.

lobis triangularibus; corollae tubus longus gracilin, ore contractus; limbus patens, 7-fidus explanatus, lobis subrotundatis papillosis imbricatis; stamina dua sub ore adfixa, filamentis corollae Hibum adnata parte superiore excepta; ovariwn depresse subglobosum pilosum, stylo corollae tubo aequilongo, stigmate laterale magno.

FIG. 2. *Schrebera kiisnotoi* Kosterm., drawn after Kostermans 5989 (type) from Borneo: fl. branch (x 0.6); *a*, flower (X 3); ft, ovary and style (X 3); *c*, opened anther in situ (X 3); d, reticulation of upper leaf-surface (x 12).

Tree 45 m; bole 30 m high, diameter 90 cm. Buttresses 3 m high, extending 2 m from bole, concave. Bark grey, scaling off profusely in 5 cm long, subquadrangular, irregular pieces. Sapwood pale brown; heartwood blackish with paler streaks. Branchlets thick, rough, pale brown. Leaves clustered near apices of branchlets, opposite, impari-3-jugate, glabrous; petioles 5—8cm long, slender, cushion-like at base; rachis 8—14 cm long, sulcate; leaflets lanceolate, 6—10 x 1.5—4.5cm; base acute, usually oblique; apex acute to caudate-acuminate with slender acumen; surface very glossy and conspicuously reticulate above, duller and less conspicuously reticulate beneath; lateral nerves 8—10 pairs, slender, arcuate; petiolules slender, about 10 mm long (of the top-leaflet usually longer), canaliculate. Inflorescences axillary and apical, up to 10 cm long, with a stout glabrous peduncle very broad at ramification; lower bracts up to 10 mm long, lanceolate, gradually diminishing in size upwards, persistent, with a minute, inconspicuous, lax indumentum or glabrous; pedicels up to 12 mm long, subtended by a slender bract. Calyx coriaceous, about 5 mm, urceolate; teeth 5—6, about 2—3 mm long, erect, ovate. Corolla tube about 20 mm long, like calyx minutely, sparsely, and inconspicuously pilose, almost cylindrical, 3mm in diameter; lobes patent, obovate-suborbicular, about 5 mm, papillose inside. Anthers just below the thickened orifice; cells parallel, 1.5mm long; filament completely adnate to corolla tube but for a small upper part. Ovary 2-celled, 1 mm, depressed-globose, microscopically pilose; style glabrous; stigma lateral, large, just below the anthers; ovules 4 in each cell.

TYPE.—Kostermans 5989 (BO).

DISTRIBUTION.—Thus far known only from Sangkulirang region in north-eastern Indonesian Borneo.

The species differs from *Schrebera swietenioides* Roxb. by its smaller, glabrous leaflets, its bracts, and its larger flowers with different calyx, corolla, and stigma. This is the first record of this genus in Malaysia.

SPECIMENS EXAMINED.—BORNEO. Eastern Division: Mt. Sekrat, SE of Sangkulirang, alt. 50—100 m, loamsoil and limestone, July, fl., *Kostermans 5S89* (A, BO, K, L, P; *type);* near Ronggang, Sangkulirang, Dec, ster., *bh.7974* (BO, L).

SAPOTAOEAE

PODOCARPUS PALEMBANICA Miquel

Podocarpus palembanica Miquel (Fl. Ind. bat., Suppl. Sumatra 252, 589. 1860) was described after a sterile specimen, collected by Teijsmann near Muaradua, Palembang (Sumatra).

J. Wasscher *(in* Blume 4: 471. 1941) in his monograph on *Podocarpus* Pers. in Indonesia cited this species under the species to be excluded from the genus. De Boer (Conif. Archip. Ind. 4. 1866) already excluded it from Taxaceae because of the non-coniferous wood, whereas Wasscher pointed out in addition that, according to Miquel's description, in the

leaves lateral ribs were present, which never occur in *Podocarpus.* Neither Wasscher, nor Pilger *(in* Engl. PflReich. 18: 93. 1903) had access to type material.

Recently I discovered a fragment of the type in Herbarium Bogoriense; it fits Miquel's description excellently. The specimen represents a sterile branchlet, of which the top is deformed by a gall-like accrescence, but some more or less normal flush is also present. The persistent, slender, linear, up to 10 mm long stipules, visible at the top of the young branchlet, made it possible to identify the specimen as belonging to Sapotaceae.

The whorled leaves and the stipules perhaps point to *Ganua ligulata* H. J. Lam *(in* Bull. Jard. bot. Buitenzorg III 8: 426. 1927), also originally described from sterile material, but (slightly smaller) stipules are also found in *Madhuca neriifolia* (Moon) H. J. Lam.

Some specimens preserved (in sterile condition) in the Bogor Herbarium probably belong to the same species and may represent *Palaquium* Blanco. They possess the same stipules, but differ by the longer-petioled leaves, which are broader than those of Miquel's species. As the latter is abnormal, I personally am convinced that they are all conspecific.

ADDITIONAL SPECIMENS.—SUMATRA. Palembang: Lematang-hulu, Lubuk-betung, Dec, stei'., local name balam terung, *T.B.657;* same locality, Dec, ster., local name balam sudu, *T.B.644.* — BORNEO. Eastern Division: Puruktjahu, Biha, Nov., ster., *bb.10600*

STERCULIACEAE

Pterocymbium splendens Kostermans, *spec. nov.*—Fig. 3

Arbor elata foliis decidvis, floribus funiculiformibus glabris, interne pilosis; parte basali rubra: parte superiora flava; lobis pallide viridis; androgynophorus 8 mm longus, pilfts}ts; folia subpalmato-nervosa, supra glabra, subtus dense vehttino-tomentasa.

A tree of 30 m, with a clear bole 20 m high and 60 cm in diameter. Bark dark chocolate coloured, smooth, glossy, 2—3 mm thick, with shallow, wide cracks; living bark 5 mm thick, pale brown. Wood white. Branchlets stout, rough, dark chocolate, scurvy. Leaves ovate, up to 14 x 11 cm, chartaceous; top obtuse; base cordate; upper surface glabrous, smooth, glossy, minutely pitted, nerves slightly impressed; lower surface densely velvety tomentose, pale-brown; leaves subpalmately nerved; midrib prominent; the 3 (or 7) basal nerves originating from about the same point, the other 4—5 pairs of lateral nerves erect-patent, looped near margin, prominent; secondary nerves parallel, prominulous, vertically on the lateral nerves. Inflorescences apical, up to 7 cm long, sparsely pilose with tufted hairs, glabrescent; main peduncle stout; branchlets distant, few, short and slender; pedicel stout, 3—4 mm long to articulation, below articulation 10 mm long, glabrous. Flowers appearing after the leaves

have dropped, fleshy, usually 3 together, glabrous. Tube funnel-shaped, base obtuse, 10—12 mm long, at base 2—2.5 mm wide, at apex 6 mm wide; lower part red; upper part yellow with red, longitudinal ribs; lobes lanceolate-triangular, 5—6mm long, erect-patent, pale green; margin with a paler, papillose layer; lower part of inside of tube red, densely sericeous; upper part yellow with a few, long hairs, but also covered completely with minute hairs. Androgynophore about 8 mm long, shorter than the flower tube; columna densely, minutely pilose, near base sericeous; anthers 1.25 mm long; stigmas glabrous, 0.25 mm long. Fruit unknown.

TYPE.—Kostermans 6003.

DISTRIBUTION.—Only known from type locality.

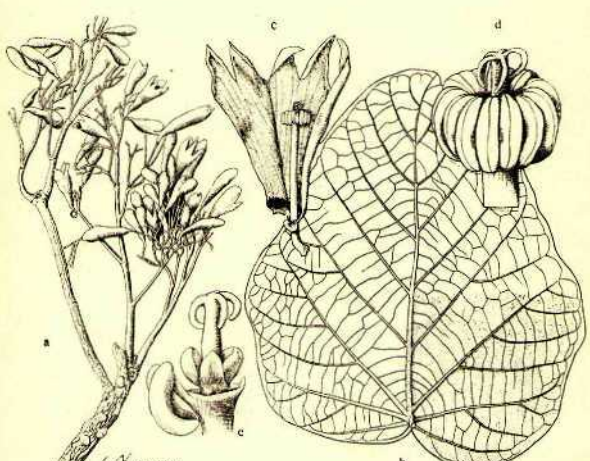

FIG. 3. *Pterocymbimn splendens*Kosterm., drawn aftei[1] Kostermans 6003 (type) from Borneo: a, flowering branch (X 0.6) ; 6, lower leaf-surface (X 0.6); *c*, flower (X 2.5) ; *d*, top of androgynophore (X 10) ; p, gynaecium and one stamen (X 10).

When the tree was discovered, it was leafless and in full bloom, which was a magnificent sight. Some old leaves, of which the petioles had already disappeared, were collected under the tree.

The key in my paper on *Pterocymbium* (Kostermans *in* Reinwardtia 1: 41. 1950) should be altered as follows:

2. Lower leaf surf ace velvety tomentose; flowers red and yellôtv". .... P. *splendcns*
2. Lower leaf surface glabrous or sparsely, minutely pilose; flowers green, violet, or red, not yellow.
3. *Pterocymbium tinetorium.*
3. *Pterocymbium beccarii.*

SPECIMEN EXAMINED.—BORNEO. Eastern Division: Samavincia Subdiv., Mt. Tapianlobang, alt. 150 m, Aug., fl., *Kosterltmxs GOO,!* (BO, L, K; *type).*

PTEROCYMBIUM BECCAKH K. Schumann

Through the courtesy of the Department of Forests at Lae (NE. New Guinea), I obtained additional material which confirmed my contention that *P. stipitatmn* White & Francis be conspecific with *P. beccarii.* The material cited below is deposited in the Herbarium of the Department of Forests at Lae.

ADDITIONAL SPECIMENS.—NEW GUINEA. North eastern New Guinea: Wan Garden area, alt. 1500 m, Aug., fr., *MacAdam N.G.F.210;* Lae, Morobe District, July, ster., *T.N.I1 = N.G.FJ;* Yalu near Lae, June, ster., *Womersley N.G.F.31SS;* same locality, Jan., fl., *Womersley* {rj<a. — NEW BRITAIN: Keravat, fr., *d'Espeisis N.G.F.17.*

Pterygota horsfieldii (R. Brown) Kostermans, *comb. nov.*

Tetmdia horsfieldii R. Br. *in* Bennett & Brown, PI. Jav. rar, 233. 1844.

The genus *Tetradia* R. Br. was based on a single species, *T. horsfieldii* R. Br., described after a specimen collected by Horsfield and preserved in the British Museum (Nat. Hist.). Almost one hundred years afterwards **a** flowering specimen was collected by Kalshoven in East Java in 1920; it agrees perfectly with Brown's description.

Moreover, a specimen (Koorders S033β), collected in 1892 by Vorderman in West Java, and considered by Koorders to represent an unknown (never published) species of *Stercidia* came to my attention. This specimen was provided with fruits, as stated by Vorderman, but these have since disappeared. However, their impres sion on the herbarium sheet on which they had been glued is still visible and together with Koorders[1] note, that these fruits probably belonged to *Sterculia foetida,* leaves little doubt that they really belonged and six lobes, Hort Bogor, jan 1953(X 1.5).

FIG .4 pterygota alata R.Br.: abnormal flower with four ovaries and

to this *Pterygota* specimen, as the fruits of *Stercidia* and *Pterygota. horsfieldii* show a close resemblance. I was already struck by the close resemblance of these specimens of *Tetradia* to *Pterygota* Schott & Endl., the only difference being the tetramerous flowers of *Tetradia* Benn. and the pentamerous ones in *Pterygota.*

Apparently the species is very rare in Java or has disappeared together with the lowland forest.

Once I collected material of *Pterygota* in Borneo but obtained only male flowers, although fruits could be collected under the tree. Apparently it is monoecious. Female flowers and fruit were collected in New Guinea, but these flowers were pentamerous, though otherwise exactly resembling those of *Tetradia horsfieldii.* A single female branch, collected by Buwalda (5692) in Ceram, provided the solution; here the female flowers are tetramerous. But for the styles, which are only a little curved at their tips and a little longer, the flowers are similar to those of *Tetradia.* (Fig. 4). Recently the present author collected flowers of a thus far unidentified tree (IV. I. 170) in the Botanic Gardens of Bogor, which proved to represent *Pterygota horsfieldii.* Several tetramerous flowers were discovered among the pentamerous ones. Consequently I feel justified to incorporate *Tetradia* in *Pterygota.*

Further, I consider *Pterygota thuaitesii* (Mast.) Alston, *Sterculia blancoi* Rolfe, *Pterygota forbesii* F. Muell., *Pterygota trinervia* K. Schum., and *Sterculia alata* Pierre (non Koxb.) conspecific with *Pterygota horsfieldii.*

The species is closely related to *Pterygota alata* R. Br. (fig. 4), from which it differs by its truncate leaf-base, the parallel anthers, the smaller fruit, and the seeds with smaller and thinner wings.