

in old sheaths. Knee absent. Leaf to 3 m including cirrus to 1 m; petiole present on juvenile stems, frequently absent in adults; leaflets to c. 30 on each side of the rachis, \pm regularly arranged, the largest to 40×4 cm, bright shiny green, concolorous, with short marginal bristles, and conspicuous long golden bristles to 1.5 cm along the adaxial surface of the mid-nerve. Inflorescences up to 15 produced simultaneously, to 40 cm, with pendulous first-order branches to 30 cm, all bracts with dense golden yellow scaly indumentum; in staminate inflorescence, bracts on first-order branches to 10 mm each subtending up to 9 flowers, in pistillate inflorescence, bracts to 20 mm, exceptionally even larger, each subtending (1–) 2–4 (exceptionally more) flowers. Staminate flower \pm oblong to globose, with calyx tubular in basal 2 mm, with 3 lobes to 1×2.5 mm, with scattered golden scales; corolla in basal 3 mm with 3 rounded triangular petals to 2×2 mm, densely covered in golden scales; androecial ring to 1 mm high, adnate to the corolla at the mouth of the corolla tube, and bearing 6 lobes to c. 0.5×0.7 mm, and pendulous anthers to 0.5×0.7 mm; pollen yellow; pistillode minute. Pistillate flower with calyx tubular in basal 2 mm with 3 irregular rounded lobes to 1×3 mm with scattered golden scales; corolla tubular in basal 3 mm with 3 lobes to 3×3 mm, densely covered in golden scaly indumentum; staminodal ring to c. 1 mm high, adnate to corolla at the mouth of the tube, with 6 lobes to 1.5×1 mm bearing rounded empty anthers on adaxial surface; ovary rounded to cylindrical, scaly in upper regions only, tipped with 3 stigmas to 0.6 mm. Mature fruit, spherical, or somewhat turbinate or oblate to 30×30 mm tipped with minute stigmatic remains, and covered in c. 32–37 vertical rows of chestnut brown scales with pale buff margins, and dark brown inter-marginal lines. Seed oblate c. 12×22 mm.

DISTRIBUTION. S Burma, S Thailand, Malay Peninsula, Sumatra, Borneo; widespread and frequently abundant in disturbed forest, particularly in the hills; in primary forest confined to 'chablis', landslips and other major light gaps.

This is a variable species; the characters used by Beccari to separate var. *billitonensis* and var. *borneensis* (degree of spininess of sheaths, rachis and leaflets, and the size of inflorescence parts) vary throughout the range of the species and the separation of varieties seems unjustified. One of the specimens cited by Beccari as belonging to his var. *borneensis*, (Herb. Bogor No. 20) is actually referable to *Pl. triquetra*; the inclusion of this specimen in var. *borneensis* by Beccari may have lent a spurious distinction to the variety.

2. *Plectocomiopsis mira* J. Dransf. sp. nov., characteribus vegetativis *Pl. corneri* simillima, et ut videtur in statu sterili haud distincta, sed inflorescentia pistillata in ordines duos ramificanti, fasciculis florum δ & η e bracteis haud exsertis (vice inflorescentia *Pl. corneri* in ordines tres diffuse ramificanti fasciculis florum exsertis), bene distincta. Typus: Borneo, Sabah, J. Dransfield *et al.* JD 5583 (holotypus K; isotypi KEP, L, SAN, SAR).

Clustering high climbing hapaxanthic spiny palm; stems subtrigonus in juvenile stems \pm circular in cross section in mature climbing stems, to 20 mm diam. without sheaths, with sheaths to 30 mm; internodes to 25 cm. Leaf sheaths dull green with sparse grey indumentum, unarmed or with few scattered golden spines to 8 mm. Ocrea usually entire, unarmed, truncate,

bright orangey yellow when fresh, to 30 mm, sometimes slightly longer next to the petiole. Leaf to 2.4 m including the cirrus to 1.3 m; petiole very short, rarely more than 5 cm, to 16 mm wide, armed near the base with a few lateral spines to 3 mm; leaflets c. 9–12 on each side of the rachis, distant but \pm regularly arranged, the longest to 35×5 cm, bright green, concolorous, unarmed; leaves subtending inflorescences much smaller. Staminate inflorescence to c. 30 cm, arching into horizontal position, c. 1 cm diam. at base, with c. 16 primary bracts each subtending a first-order branch to c. 30 cm long; bracts on first-order branches covered in fugacious reddish brown indumentum; second-order branch curved and reflexed c. 7 mm, scarcely longer than the subtending bract and bearing c. 8–10 flowers; bracts and bracteoles c. 1 mm long with irregular ciliate margins. Staminate flowers known only in very immature state. Pistillate inflorescence known only in fruiting state, to c. 12 cm bearing 5–6 pendulous first-order branches to 20 cm long; bracts on first-order branches subdistichous c. 7 mm long with a mouth c. 6 mm diam., covered in brownish scaly indumentum, and each subtending a second-order branch consisting of a flower cluster of 2 flowers only, included within bracts; bracts and bracteoles with ciliate margins. Pistillate flower unknown. Calyx at mature fruiting irregularly split into 3 lobes to 4×4 mm with sparse scales; corolla irregularly split into 6 or 12, to 6 mm long densely covered in dull pale brown scales; staminodal ring to 5 mm, much deformed. Mature fruit \pm spherical to c. 25×27 mm, tipped by a very short beak to 1.5 mm, and covered in 23–25 vertical rows of dark shiny brown scales with mid-brown margins; seed (in dry state) oblate, c. 10×18 mm. Seedling leaf not known. (Fig. 1.)

BORNEO. Sabah. Ranau District, Bt. Ampuan between Ranau and Poring, ridgetop, hill Dipterocarp Forest on ultrabasic rock, 700 m, *J. Dransfield et al.* JD 5583 (holotype K; isotypes KEP, L, SAN, SAR); sterile specimens from Sabah probably referable to this species: Sepilok, *SAN* 24914 (SAN), *Moore* 9191 (BH, SAN) and *Puasa* 5454 (K); Nabawan, *Dransfield et al.* JD 5637 (K, KEP, SAN, SAR); Beaufort Hill, *Dransfield et al.* JD 5720 (K, KEP, SAN, SAR). Sarawak, 3rd Division Sg. Masoh, Rumah Nyaving, Kuala Linau, *J. Dransfield et al.* JD 4697 (BH, K, KEP, L, SAR) (in old staminate flower); sterile specimen from Sarawak, probably referable to this species: 1st Division, Semengoh, *J. Dransfield et al.* JD 4615 (BH, K, KEP, L, SAR).

MALAY PENINSULA. Perak, *Wray* 3086 (K); Perak, G. Bubu F.R., *J. Dransfield* JD 5383 (K, KEP) (both with staminate inflorescences); sterile specimen from Malay Peninsula probably referable to this species: Perak, G. Bubu F.R., *J. Dransfield* JD 5382 (K, KEP).

SUMATRA. Jambi, between Muara Tebo and Muara Tembesi, *J. Dransfield* JD 2764 (BO).

The specific epithet alludes to my surprise at discovering that the plant which appeared identical to *P. corneri* in the vegetative state, should be so different in inflorescence structure. The consequence is that sterile material cannot with certainty be referred to either *P. corneri* or *P. mira*. Yet sterile shoots, collected in the neighbourhood of nameable fertile shoots are very likely to be the same as the fertile; furthermore *P. corneri* is known with certainty only from a few specimens from the east coast of Malaya from Kemaman and near Kuantan, Pahang. The staminate material from Sarawak and G. Bubu, Perak, cited above is quite different from that of *P.*

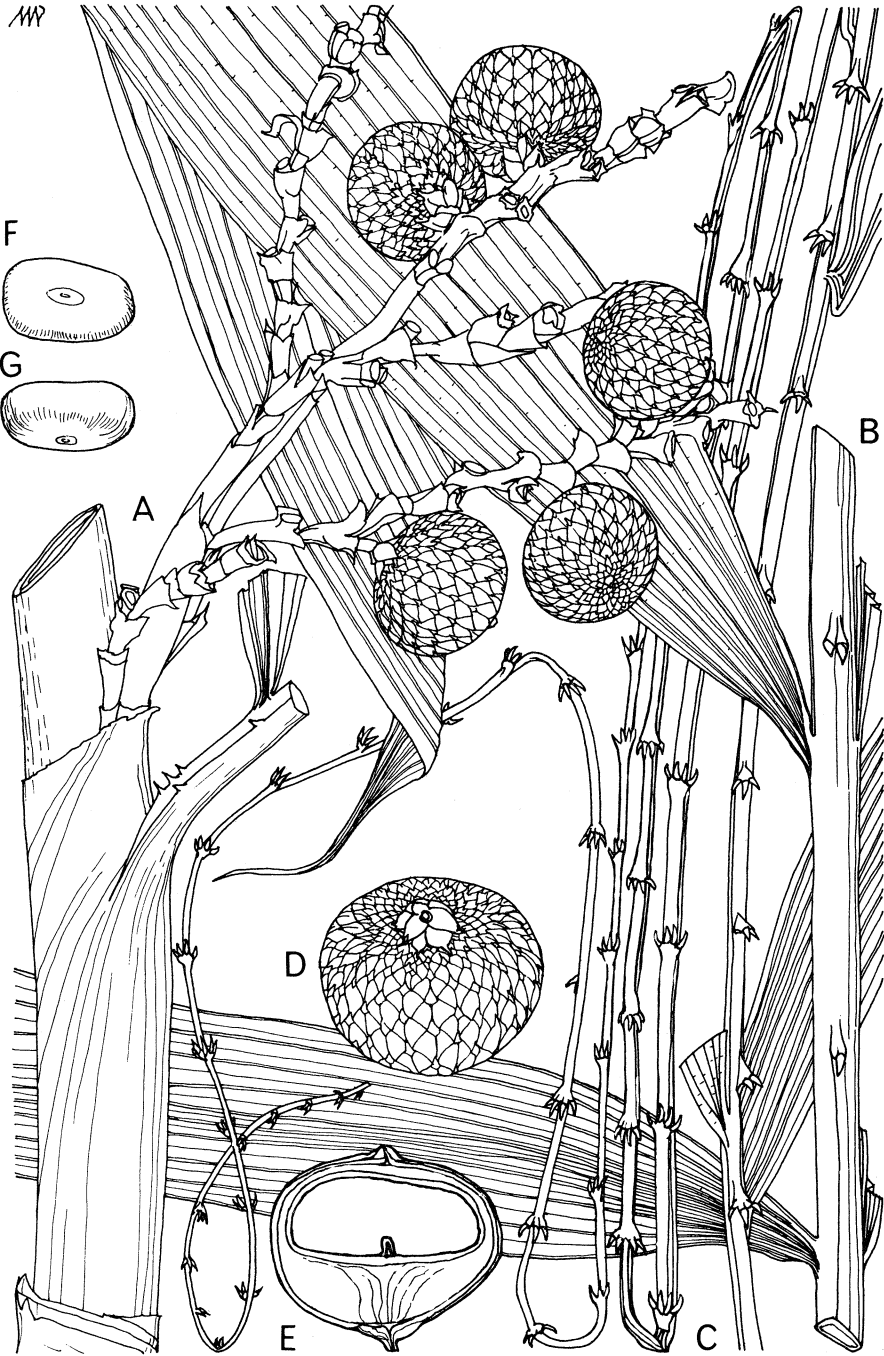


FIG. 1. *Plectocomiopsis mira*. **A** part of the apex of a fruiting stem showing the unarmed sheath with distinct ocrea and base of petiole, and one infructescence $\times \frac{2}{3}$; **B** proximal part of rachis with leaflets $\times \frac{2}{3}$; **C** cirrus $\times \frac{2}{3}$; **D** oblique proximal view of fruit showing the persistent perianth whorls $\times 1$; **E** vertical section of fruit $\times 1$; **F** & **G** two views of seed $\times \frac{2}{3}$. Drawn from Dransfield *et al.* JD 5583 by Mary Millar Watt.

corneri; no pistillate material accompanies it, yet it has a structure compatible with what would be expected to be the staminate structure of *P. mira*. Obviously, naming of specimens will have to remain tentative until more material is available. What is certain is that *P. mira* based on the fertile Sabah collection is astonishingly different in pistillate inflorescence structure from *P. corneri* (see notes on inflorescence structure).

3. *Plectocomiopsis corneri* *Furtado* in Gard. Bull. Singapore 13: 333 (1951). Dransfield, Man. Ratt. Malay Pen.: 65 (1979) (except record for Perak). Type: Malay Peninsula, Trengganu, Kemaman, *Corner* SFN 30562 (holotype SING; isotype K).

Moderate to robust clustering rattan with stems climbing to 30 m, without sheaths 15–20 mm diam., with sheaths to 35 mm; internodes to 40 cm in young stems, much less in mature climbing specimens. Sheaths rich bright green covered in caducous silvery grey indumentum, \pm unarmed or with very few scattered golden yellow spines to 30 mm. Ocrea entire, unarmed, truncate, bright orangey-yellow when fresh, to 20 mm. Leaf to 2.75 m, including the cirrus to 1.25 m; petiole very short to absent, except on juvenile stems where not usually exceeding 12 cm; leaflets c. 9 on each side of the rachis, distant but \pm regularly arranged, broad lanceolate c. 30×8.5 cm, bright green, concolorous, unarmed; leaves subtending inflorescence much shorter. Staminate inflorescence to 21 cm, c. 1 cm wide at the base, with c. 19 primary bracts each subtending a first-order branch to 20 cm; second-order branches borne \pm distichously, very slender, arcuate or straight, to 22×1.5 mm bearing up to 32 flower scars, usually less; bracts and bracteoles edged with dark brown ciliate hairs. Staminate flowers not known. Pistillate inflorescence to 22 mm, diffuse, with up to 5 first-order branches to 20 cm; first-order branches bearing very short triangular-limbed tubular bracts subtending second-order branches adnate to the axis above the bract; second-order branches to 7 cm, divaricating, bearing short bracts subtending flower groups (third-order branches). Flowers in groups of 2, sometimes solitary, also borne on first- and second-order axes; bracts edged with dark brown ciliate hairs. Pistillate flowers at anthesis not known. Calyx at mature fruiting to 3.5 mm, irregular, split into 3 or more lobes, covered in minute scales; corolla to 6 mm, irregularly split, densely scaly; staminodal ring to 6 mm, irregularly split. Mature fruit subglobose, pointed at both ends, c. 30×25 mm, covered in 26–35 vertical rows of chestnut brown scales with pale buff margins and darker intramarginal lines; seed oblate, to 7×20 mm. Eophyll simply forked.

DISTRIBUTION. Known with certainty only from Kemaman and Bukit Galang near Kuantan, in the lowlands of the east coast of the Malay Peninsula.

See notes on *P. mira* above.

4. *Plectocomiopsis triquetra* (*Becc.*) *J. Dransf.* in Bot. J. Linn. Soc. 81: 6 (1980). Type: Borneo, Sarawak, G. Matang, *Beccari* PB 2079 (holotype FI).

Calamus triquetra Becc. in Malesia 3: 62 (1886) & in Ann. Roy. Bot. Gard. Calcutta 11: 510 (1908).

Myrialepis triquetra (Becc.) Becc. in Hook.f., Fl. Br. India 6: 480 (1893).