

PLECTOCOMIA BARTHANA Hodel sp. nov. Fig. 6

Pinnis fasciculatis irregulariter, viridibus adaxialibus et abaxialibus; bracteis fertilibus glabris; rachillis villosis. Typus: Thailand. Nakhon Ratchasima: Khao Yai, Hodel & Vatcharakorn 1805 (Holotypus BK).

Clustered, high-climbing, vine-like, dioecious rattan palm to 20 m long (Fig. 6). Stems 4 cm diam. with sheaths, 2-2.5 cm diam. without, internodes 15-30 cm. Leaves pinnate, arching; sheaths light green, distinctly longitudinally striate when dry, apical portion moderately to densely armed with spreading, swollen-based, dark-tipped spines 2-11 mm long, those near margins mostly in oblique combs of up to 20 spines, those in medial portion in short, linear groups of 2-6, solitary spines scattered throughout, glabrous, no knee, no ocrea; petiole 0-2 cm long, 2.8 cm wide at base, deeply channeled above, rounded below, +/- glabrous, sparsely armed laterally with double spines to 8 mm long; rachis 2-3 m long, 2.5 cm wide at base, channeled above near petiole, rounded below, sparsely armed laterally near petiole with reflexed, double spines to 8 mm long, very sparsely armed below with solitary, hook-like, reflexed spines; pinnae 25-40 on each side of rachis, 20-45 x 1.5-4.5 cm, irregularly clustered in 3s, long lanceolate, acuminate, sessile, green above and below, glabrous, in fresh state midrib +/- lacking but several faint lateral nerves present, in dried state midrib more conspicuous especially below, submarginal nerves conspicuous; cirrus to 1 m long, moderately armed with half whorls of 5-9, dark-tipped, reflexed, claw-like spines to 8 mm long. Inflorescences numerous, terminal in axils of uppermost, often much reduced leaves (Fig. 6); main axis to 1.5 m long, stiffly spreading and horizontal with up to 15 pendulous, straight branches spaced 10-15 cm apart, branches to 90 cm long, 1-2 mm diam., zig-zag sinuous, covered with tan to nearly transparent stellate and branched hairs 0.2-0.8 mm long, holding up to 70 fertile bracts at intervals of 1-2 cm (Fig. 9), these distichous, imbricate, to 4 x 2.5 cm, cuneately oblong, triangular in upper 1/4, acute-acuminate, tapering to a narrow whitish base, fertile bract bright green with orange-red apical margins, glabrous, drying dark reddish brown and finely striate, rigid-papery; rachillae to 2 cm long, zig-zag, densely covered with hairs similar to those of branch axis and holding up to 22 flowers. Staminate flowers subtended by 2 bracteoles, one thick, hard, rounded, lip-like, 1 mm high and covered with whitish hairs, the other thin, acuminate, +/- membranous, sepal-like, 1.5 mm high; flowers 10 x 4 mm, ovoid; calyx 1.5 x 2 mm, sometimes +/- asymmetrical, sepals connate in basal 1/4, acuminate apically; petals 10 x 2 mm, lanceolate, connate in basal 1/10, valvate, greenish; stamens 5 mm high, filaments 2.8 mm long, flat, +/- stout, anthers 3 mm long, dorsifixed just above base, rounded-acute apically; pistillode minute, inconspicuous. Pistillate inflorescences and fruits not seen.

Distribution and ecology: *Plectocomia barthana* is uncommon in seasonally wet, rather open, mountain forest on rocky soils at Khao Yai in southeast central Thailand at about 1000 m elevation. Some associated palm species include *Areca triandra*, *Arenga westerhoutii*, *Calamus longisetus*, *C. multirameus*, *Daemonorops pierrana*, *Licuala poonsakii*, *Livistona speciosa*, *Myrialepis paradoxa*, and *Pinanga sylvestris*.

Notes: *Plectocomia barthana* shares different features with several species including *P. kerrana* from north Thailand,

P. pierrana from Cambodia, and *P. dransfieldiana* from insular Malaysia. Indeed, in many regards it is a species intermediate among the three and perhaps a case could be made for including all within one, highly variable species.

However, *Plectocomia barthana* is distinct in its combination of characters, including leaf sheath spines in short rows as well as randomly scattered; irregularly arranged pinnae in one plane, green above and below with smooth margins; staminate inflorescences with green, glabrous fertile bracts and hairy rachillae; and staminate flowers with long calyx lobes.

Plectocomia dransfieldiana is somewhat similar in its leaf sheath armature and pinnae green above and below and in one plane but differs in its larger size, leaves, and cirri; more numerous, evenly spaced pinnae, larger inflorescences; rachillae lacking hairs; and staminate flowers with short calyx lobes and short filaments. *P. kerrana* is similar florally and has hairy rachillae but differs in its pinnae fanned in several planes and green above and white below with spinulose margins. *P. pierrana* is similar in its pinnae green above and below and hairy rachillae but differs in its spineless leaf rachis, pinnae fanned in several planes, and fertile bracts with greenish tomentum.

The inflorescences of *Plectocomia barthana*, like those of other *Plectocomia* species, are among the most handsome in the palm family. The pendulous branches of the staminate inflorescences with their green and red, distichously arranged, imbricate fertile bracts sheltering green flowers with sulfur-yellow pollen are exceedingly attractive and bear a strong resemblance to inflorescences of some *Heliconia* (lobster-claw) species.

The epithet honors Bert Barth, a close and special family friend of many years.

CALAMUS LOEIENSIS Hodel sp. nov. Fig. 7.

Spinis parvulis ascendentibus. Typus: Thailand. Loei: Phu Kra Dung, Hodel & Vatcharakorn 1770 (Holotypus BK).

Clustered, climbing, vine-like, dioecious rattan palm to 10 m long. Stems 2.5 cm diam. with sheaths, 1.5 cm diam. without, internodes 30 cm long. Leaves pinnate; sheaths green with deciduous, grayish tomentum, densely armed with reflexed to spreading, solitary, golden-brown-tipped, yellow-green-swollen-based, very narrowly triangular spines 1.5-3 cm long interspersed with similar but smaller, sharply ascending spines 2-10 mm long (Fig. 7), ocrea 1 cm high, knee prominent; petiole to 25 cm long, +/- flat above especially toward base, rounded below, armed on all surfaces with solitary, scattered, golden-brown-tipped, triangular spines 2-10 mm long; rachis to 1.3 m long, rounded-triangular, sparsely armed on all surfaces with solitary, scattered, reflexed, hook-like spines to 1 cm long; petiole and rachis with indument similar to that of sheath; pinnae 13 on each side of rachis, to 40 x 4 cm, irregularly arranged in remote groups of diverging 2s and 3s, lanceolate, prominently 5-nerved above and below, midrib not much more prominent than laterals, transverse veinlets conspicuous, wavy, margins sparsely spinulose becoming densely bristly at tip with bristles to 7 mm long; cirrus to 1 m long with half whorls of claw-like spines. Staminate inflorescences to 1.5 m long, pendulous, with up to 10, evenly spaced partial inflorescences 20-40 cm long, basal ones with 2-3 branches, apical ones with 1-2 branches, main axis and branches of partial inflorescences subtended by vase-like



Figure 6: *Plectocomia barthana*, habit, Hodel et al. 1805(holotype). Note inflorescences with pendulous branches. Photo by Don Hodel.



Figure 7: *Calamus loeiensis* leaf sheaths, Hodel et al. 1770 (holotype). Note small ascending spines between larger spines. Photo by Don Hodel.

bracts reaching to base of upper next partial or rachilla and armed as leaf rachis, main axis bracts to 10 cm long, branch bracts 5-30 cm long, obliquely truncate with acute point; rachillae numerous, 1.5-3.5 cm long, distichously arranged. Staminate flowers each on a pedicel 1 mm high and subtended by 2 bracteoles, lowermost 3 x 1.25 mm, boat-like, acute, margins with minute hairs, other bracteole cupular, 1.5 x 1.5 mm, striate; flowers in bud 5 x 1.5-2 mm, oblong-ellipsoid, distichously arranged and flat in 1 plane; calyx 3 x 2 mm, cupular, sepals connate in basal 2/3, lobes obtusely triangular, acute; petals 4.5 x 1.25 mm, lanceolate, valvate, free to base, acute, calyx and petals striate; stamens 3 mm high, filaments 2.5 mm long, anthers 2 mm long, dorsifixed near apex; pistillode 1 mm high, columnar, deeply 3-parted. Pistillate inflorescence and fruits not seen.

Distribution and Ecology: *Calamus loeiensis* is known only from seasonally moist, mountain forest on steep, rocky slopes on Phu Kra Dung in north Thailand at 1100 m elevation. Associated palm species include *Arenga westerhoutii* and *Livistona jenkinsiana*.

Notes: *Calamus loeiensis* is certainly associated with the *C. palustris* complex of species characterized by leaves bearing a cirrus, irregularly arranged pinnae clustered in groups of 2-4, and the dissimilar staminate and pistillate inflorescences. Other species in this complex from Thailand include *C. kerriamus*, *C. khasianus*, *C. latifolius*, and *C. palustris*. Perhaps a case could be made for including all within one, highly variable species. *C. loeiensis* can be distinguished from the other species in this complex by its leaf sheaths with strongly ascending smaller spines interspersed among the much larger, spreading to reflexed ones. Leaf sheath armature of *C. loeiensis* is very similar to that of *C. nambariensis* from northeast India but the latter differs in its more numerous, more or less regularly arranged and evenly spaced pinnae.

Nomenclatural Note: *Pinanga sylvestris* (Lour.) Hodel **comb. nov.** *Areca sylvestris* Lour., Fl. Cochin. 568. 1790.

Lourier named and described *Areca sylvestris* in 1790. Various later workers referred to it as *Seaforthia sylvestris*, *S. cochinchinensis*, *Ptychosperma cochinchinensis*, and *Pinanga cochinchinensis* (see Beccari in *Malesia* 3: 143. 1886). I offer the new combination since the taxon in question is a *Pinanga* and the epithet *sylvestris* predates all others and thus has priority.

Pinanga sylvestris is a clustered, graceful and handsome, slender-stemmed, pinnate-leaved species from Vietnam, Laos, Cambodia, and north and east Thailand. Its stems are attractively covered with dense, reddish brown indument and the new, emerging leaves are bronze colored before turning green. In north Thailand *P. sylvestris* is confined to mountain forests above 1000 m (3300 feet) elevation where winter night temperatures sometimes approach freezing. It might prove to be a valuable addition to the palm palette in subtropical areas like Southern California, south Australia, and the Mediterranean region.