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Calamus kebariensis (Arecaceae)—a new montane rattan from New Guinea

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Abstract

Calamus kebariensis (Arecaceae or Palmae), a new species of rattan from the Bird's Head Peninsula in West Papua, Indonesia, is described and illustrated. This species, which, among the New Guinea *Calamus* species, most closely resembles *C. cuthbertsonii* and *C. spanostachys*, is distinguished by its short and extremely slender stems, finely pinnate leaves and short, erect inflorescences that are branched to one order only in pistillate specimens.

Key words: lianas, palms, Papuasia, taxonomy, South-East Asia, rattans

Introduction

During fieldwork in the Bird's Head Peninsula of West Papua, Indonesia, a team involving counterparts from the State University of Papua, Herbarium Bogoriense and the Royal Botanic Gardens, Kew made many records of palms, especially rattans in the genus *Calamus* Linnaeus (1753: 325). One poorly collected locality, Mt. Nutoti in the Kebar Valley, yielded about nine species of *Calamus* growing in montane vegetation. After extensive morphological comparisons in key herbaria (A, BH, BM, BO, BRI, CANB, L, LAE, K, MAN, MEL, NY, WRSL; acronyms following Thiers 2013) during taxonomic work for the Palms of New Guinea project (Baker 2002), the authors have found that one of these species is new to science and is described here.

Taxonomic treatment

Calamus kebariensis Maturb., J.Dransf. & W.J.Baker, *sp. nov.* Type:—INDONESIA. West Papua: Kebar, Mt. Nutoti, 1240 m, 5 May 1995, *Maturbongs 73* (holotype K!, isotype MAN!)

Diagnosis:—Distinguished by its extremely slender, short stems, which lack flagella, the finely pinnate, ecirrate leaves, the almost entirely unarmed leaf sheaths and the short, erect inflorescence, that is branched to only one order in pistillate material.

Very slender, clustering rattan, erect, to 1.5 m. **Stem** with sheaths 3–5 mm diam., without sheaths 1.5–3.5 mm diam.; internodes 4–10.5 cm. **Leaf** ecirrate to 36 cm long including petiole; sheath green, with thin, patchy indumentum of brown, caducous scales, unarmed or very sparsely armed with minute spines along zone of adnation between inflorescence and sheath; knee 6.5–9 mm long, inconspicuous, unarmed; ocrea to 5 mm high, scarcely developed, tightly sheathing, densely armed with fine brown bristles, with brown indumentum similar to that of the sheath; flagellum absent in available material; petiole 4–10 cm, 1.5–2 mm wide and 1–2 mm thick at base, with scattered brown indumentum similar to that of the sheath, unarmed; rachis 9.5-16 cm, straight, with few, minute, reflexed spines on abaxial surface; leaflets 10–16 each side of rachis, regularly arranged, narrowly elliptic to linear, longest leaflets at mid-leaf position, mid-leaf leaflets 6.5–9 × 0.4–1 cm, apical leaflets 7–7.5 × 0.4–0.5 cm, apical leaflet pair not or scarcely united at base, with fine spines on margin and adaxial surface of major veins

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FIGURE 1. *Calamus kebariensis*. A. Habit with leaf sheaths, leaves and pistillate inflorescences. B. Pistillate rachilla. C. Leaf sheath and infructescence. D. Fruit. E, F. Seed in two views. G. Seed in longitudinal section. Scale bar: A = 4 cm; B = 7 mm; C = 2 cm; D–G = 1 cm. A–C from *Maturbongs 73*; D–G from *Maturbongs 75*. Drawn by Lucy T. Smith

to 3 mm long, indumentum similar to that of the sheath present at leaflet base, transverse veinlets conspicuous. **Staminate inflorescence** not seen. **Staminate flowers** not seen. **Pistillate inflorescence** erect, 12–16 cm long including 2.5–9 cm peduncle and 2–3.5 cm flagelliform tip, branched to 1 order; prophyll 2.5–5 × 0.2–0.3 cm, strictly tubular, tightly sheathing, opening asymmetrically at apex, with brown indumentum similar to that of the sheath, very sparsely armed with minute recurved spines, sometimes with fine bristles around bract opening; peduncular bracts 0 or 1, peduncular and rachis bracts 1.5–3 × 0.2–0.3 cm, similar to prophyll; primary branches (=rachillae) 3–5, 2–3 cm apart; rachillae 12–42 mm × 1–3 mm, straight; rachilla bracts 2–4 × 1.5–3 mm, distichous, with indumentum similar to that of the sheath; proximal floral bracteole 1.5–3 × 1.5–2.5 mm, distal floral bracteole 1–2.5 × 1–2 mm, cup-shaped, with indumentum similar to that of the sheath. **Pistillate flowers** 2–2.2 × 1.2 mm in early bud, lacking indumentum; calyx 1.2 mm diam., tubular in basal 1.5 mm, with 3 lobes to 0.5–0.8 × 1–1.5 mm; corolla 2–2.2 × 1 mm, tubular in basal 1 mm, with 3 lobes to 1 × 1.2 mm; staminodes 6, forming membranous ring, 0.7–1 mm high; ovary immature, 1.3–1.5 × 0.6 mm, cylindrical. **Sterile staminate flowers** not seen. **Fruit** ellipsoid, 16 × 11 mm including beak 1.5–2 × 1 mm, with 16 longitudinal rows of yellowish scales with brown margins, sarcotesta not seen. **Seed** (sarcotesta removed) 10 × 8 × 6 mm, ellipsoid, with a shallow pit on one side, seed surface smooth; endosperm homogeneous; embryo basal.

Distribution:—Known only from two collections from Mt. Nutoti in the Kebar Valley, Bird's Head Peninsula.

Habitat:—Lower montane forest in deep shade, in rich, organic soil,1240–1500 m, with *Lithocarpus* Blume, *Eugenia* P.Micheli ex L., and *Litsea* Lam. species.

Uses:—None recorded.

Vernacular names:—*Ibuam* (Mpur)

Specimens examined:—INDONESIA. West Papua: Kebar, Mt. Nutoti, 1240 m, 5 May 1995, *Maturbongs 73* (holotype K!, isotype MAN!); Kebar, Mt. Nutoti, 1500 m, 6 May 1995, *Maturbongs 75* (K!, MAN!).

Notes:—This species was discovered by the first author during fieldwork on Mt. Nutoti in the Kebar Valley, ca. 120 km west of Manokwari. Like *C. spanostachys* Baker & Dransfield (2014: 181) from the Sudirman Mountains, which it resembles most closely, *C. kebariensis* is extremely slender, short-stemmed, lacks flagella or cirri, and bears a short, erect inflorescence, that is branched to only one order in pistillate material. We have not yet seen staminate specimens. *Calamus kebariensis* differs from this species most markedly in its leaves, which are finely pinnate with up to 16 regularly arranged leaflets per side with scattered bristles on margins and adaxial surface (compared to the 2 or 3, largely glabrous leaflet pairs of *C. spanostachys*). The sheaths of *C. kebariensis* are also almost entirely unarmed except for the short, bristly ocrea, which is lacking in *C. spanostachys*. There is also some resemblance between *C. kebariensis* and *C. cuthbertsonii* Beccari (1888: 179) from Papua New Guinea, though the latter is more robust with densely spiny leaf sheaths and larger inflorescences that are branched to two orders in pistillate material.

Since the discovery of this species, we have visited several montane areas in New Guinea, such as the Arfak Mountains close to Mt. Nutoti, the Tamrau Mountains, the Wondiwoi Mountains, Lake Habema close to Mt. Trikora, the Star Mountains, the Cyclops Mountains and the Mt. Jaya region, but have not seen or collected any rattan that resembles the species described here.

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