

NEW SPECIES OF RATTAN (PALMAE: LEPIDOCARYOIDEAE)  
FROM EAST KALIMANTAN

JOHAN L. C. H. VAN VALKENBURG

Rijksherbarium / Hortus Botanicus, P. O. Box 9514, 2300 RA Leiden, The Netherlands

SUMMARY

In the rattan family (Palmae: Lepidocaryoideae) three new species are described here: of *Calamus* two, *C. fimbriatus* and *C. nigricans*, and of *Daemonorops* one, *D. pumilus*.

INTRODUCTION

In the framework of the international MOF-Tropenbos Kalimantan Project a study on the economic and ecological potential of Non Timber Forest Products was conducted. Rattan is by far the economically most important Non Timber Forest Product in East Kalimantan. Despite the economic importance, the rattan flora of the area is very poorly known.

In the course of three years fieldwork in East Kalimantan, more than 60 species were collected in just a limited number of sites and habitats. Three new species are described in this paper.

***Calamus fimbriatus* Valkenburg, spec. nov.** — Fig. 1

Species nova ab *C. laevigato* Mart. var. *laevigato* differt longitudine petioli, foliolis primis non reflexis, foliolis plicatis, irregulariter distante dispositis. Species nova ab *C. kiahii* Furtado differt infructescentia laxa, bracteis arctius vaginalis, bracteolis laevigatis, rachillis plus minusque rectis, gracilibus. — Typus: *Ambri & Arifin AA 409* (holo L; iso BO, K, Wanariset), Borneo, Kalimantan Timur, vicinity Wanariset research station near Samboja, 38 km N of Balikpapan, 1° S 117° E, alt. 50 m.

Clustering, slender, pleonanthic, dioecious spiny palm. *Stem* rarely exceeding 10 m length, without sheaths to 9 mm diameter, with sheaths to 15 mm; internodes to 150 mm long. *Leaf sheaths* bright green but covered with brown indumentum, sparsely to densely armed with scattered, broad triangular, flattened, green, slightly bulbous-based spines of varying size, 4–14 × 2–4 mm, densely bearded with dark-brown hairs along their edges; knee inconspicuous, unarmed or less densely armed than the rest of the sheath; ocrea membranous to 2 mm, fringed with long ciliate hairs. *Leaf* cirrate to 130 cm (occasionally 180 cm) including cirrus to 50 cm (occasionally 90 cm); petiole 30–70 × 4(–8) mm, slightly channeled on adaxial surface, abaxial surface covered with a brown indumentum of short, reflexed, yellow-based grapnel spines sub-marginally, adaxial surface unarmed; rachis abaxially with single or

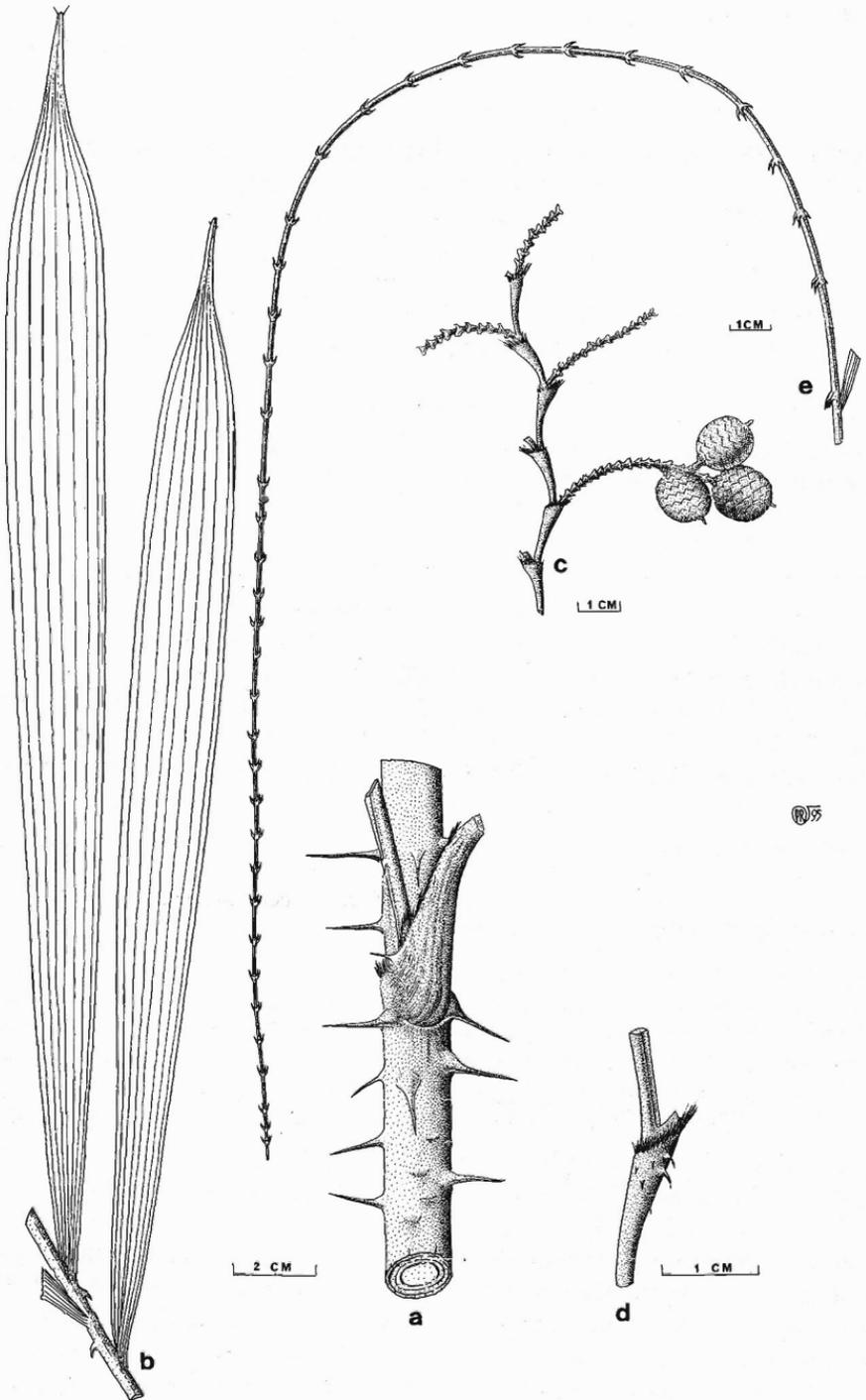


Fig. 1. *Calamus fimbriatus* Valkenburg. a. Part of sheathed stem; b. mid-portion of leaf; c. part of inflorescence; d. bract subtending partial inflorescence; e. leaf tip (all Ambri & Arifin AA 409).

grouped grapnel spines to 5 mm long, scattered, caducous, brown indumentum on rachis surface; leaflets up to 12 on each side, irregularly arranged in distant groups, lanceolate, suddenly mucronate, dark green, distinctly plicate, lowermost leaflets  $170 \times 6$  mm, mid-lamina leaflets  $260(-310) \times 24$  mm, uppermost to  $150 \times 18$  mm; leaflets unarmed except for scattered bristles to 1 mm along the margin, near the tip a few black bristles to 4 mm long. *Infructescence* to 90 cm, up to 5 partial inflorescences, each subtended by a tubular, tightly sheathing, peduncular bract armed with scattered, flattened, triangular spines, densely covered in dark brown tomentum, and fringed with long light-brown ciliate hairs, the prophyll to  $100 \times 9$  mm; partial inflorescences lax to 40 cm long, bracts tightly sheathing, covered with dark-brown tomentum and fringed with light-brown ciliate hairs; female rachillae slender, not zigzag, to 60 mm, bracteoles covered in papillose hairs. *Fruits* (immature)  $\pm$  globose,  $12 \times 10$  mm, with short apical beak to 1 mm tipped with three small divergent stigmas to 1 mm long, and covered with c. 18 vertical rows of green scales with darker margins. *Seed*  $\pm$  globular,  $7 \times 6$  mm.

*Derivation* — The specific epithet refers to the conspicuous fimbriate margins of bracts in the infructescence.

*Distribution* — Borneo: Kalimantan Timur (Wanariset, Dilang Puti).

*Habitat* — Found on slopes in both primary and logged-over forest.

*Note* — *Calamus fimbriatus* differs from *C. laevigatus* Mart. var. *laevigatus* in length of the petiole, the non-reflexed first pairs of leaflets, and in the rather distant, irregularly grouped, distinctly plicate leaflets. *Calamus fimbriatus* differs from *C. kiahii* Furtado in the lax infructescence, and in the bracts on the inflorescence axis that are more tightly sheathing. Bracts of the partial inflorescences are not scabrid. The rachillae are slender, not zigzag-like.

*Other specimens examined* — BORNEO. Kalimantan Timur, vicinity Wanariset research station near Samboja, 38 km N of Balikpapan,  $1^\circ$  S  $117^\circ$  E, alt. 50 m, *van Valkenburg JVV 1418* (Wanariset, BO, L); vicinity Dilang Puti, kecamatan Bentian Besar, kabupaten Kutai, *van Valkenburg JVV 1313* (Wanariset, BO, L).

## ***Calamus nigricans* Valkenburg, *spec. nov.* — Fig. 2**

Species nova ad sectionem *Calamum* (*Coleospathum* Furtadonis, nomen illegitimum) pertinens, *C. muricato* affinis sed vagina folii armata differt; *C. pilosello* Becc. et *C. sarawakensis* Becc. accedens, sed vagina folii spinis pluribus numeris dissimilibusque, indumento abundanto nigeroque. — *Typus*: *Ambri & Arifin AA 475* (holo L; iso BO, K, Wanariset), Borneo, Kalimantan Timur, Wanariset research station near Samboja 38 km N of Balikpapan,  $1^\circ$  S  $117^\circ$  E, alt. 50 m.

Clustering, slender, pleoanthic, dioecious, spiny, climbing palm. *Stems* ultimately reaching 20 m or more in length; stem without sheaths to 8 mm diameter, with sheaths to 12 mm diameter; internodes to 150 mm or more. *Leaf sheath* bright green but covered with dense, blackish brown coloured, scaly indumentum and armed with small, triangular, flattened, upwards pointed spines up to  $2 \times 2$  mm, densely bearded with blackish brown hairs along the edges, the spines scattered or partially whorled; knee conspicuous, armed as the rest of the sheath; flagellum to 150 cm in length, armed with reflexed grapnel spines, covered with blackish brown indumentum; ocrea