

12. (a) Calamus penibukanensis Furtado spec. nov.—t. 12 (a).

C. rhomboideo cui valde affinis, haec species differt omnino deciduo fusco furfuracea, frondium vaginis magis armatis, ocreis longioribus, petiolis brevioribus, foliolis conspicue ansatis.

Leaf-sheaths striate, not scaly, armed with distant ascendent spines having swollen bases. *Ocrea* 1–1.5 cm. long. *Leaf* without petiole 55–60 cm. long; petiole 5–6 cm. long. *Leaflets* 9–12 costate, distinctly ansate. *Male spadix* 1 m. long, ultra-decompound, weakly clawed in the axis, ending in a short clawed appendix; primary branches 5–6, flowers borne on secondary and tertiary branchlets. *Primary spathes* prickly on the dorsal side.

Leaf-sheaths, petiole, leaf-rachis and spadix with its spathes deciduously covered with tobacco coloured scurf, under which the parts dry greenish yellow.

BORNEO: Mt. Kinabalu, prope Penibukan, alt. \pm 1250 m. (Clemens 40,520).

12. (b) Calamus Slootenii Furtado spec. nov.—t. 12 (b).

C. Blumei et C. mawaiensi proxima, a quibus haec species recedit: vaginis frondium et rachidibus valde scabridis, foliolis utrinque arcuatim attenuatis; a C. Blumei differt etiam ocreis minoribus, et a C. mawaiensi aculeis vaginae pungentibus, fliolis majoribus, involucrophoris in axilla supra haud callosis.

Stem caespitose, \pm 10 m. long, 2.5 cm. in diam. *Leaf-sheaths* scabrid, covered with whitish scales and deciduous tobacco-coloured scurf over the scales, armed with ascendent short, sharp thorns with large tuberculiform bases. *Ocrea* 1–2 cm. long, deciduous. *Leaves* rachis 70–80 cm. long, including 20–25 cm. long petiole, scabrid, covered with whitish scales and with tobacco-coloured deciduous scurf over them, armed with strong, 1–3 digitate claws. *Leaflets* bicoloured, elliptic, 20–25 cm. long, 7–8 cm. wide, distinctly ansate at base, acuminate and ciliate at apex, dark-furfuraceous when young. *Female spadix* long, flagelliform, 2–3 branched, ending in a flagelliform appendix; peduncle \pm 80 cm. long, branches 18–20 cm. apart, 25–35 cm. long, with 6–7 alternate spikelets one each side.

All the parts tend to become dark when dry.

BORNEO: in Horto Botanico Bogoriense sub XII. C. 114 culta (legit Furtado sub numero 30,906).

Here apparently belongs Hewitt's specimen described by Becari under *C. tomentosus* in Ann. Roy. Bot. Gard. Calc. XI Suppl. (1913) 61 t. 31, whose fruits are described to be broadly ovoid, 26–28 mm. long, 23 mm. broad, having the scales arranged in 21 vertical series. Teijsmann's specimen described by Becari (1913) in the observation made under the same species is apparently *C. Blumei*. Here may also belong Cuadra A250, a sterile specimen collected at Masuri near Ulu Segama in Lahad Datu district of British North Borneo.