

6. Leaflets very broad, conspicuously 3-nerved, shiny, often bullate; sheaths usually conspicuously spiny; rachillae at least 10 cm long

C. amplijugus *J. Dransf.*

Leaflets lanceolate, 3-nerved, but not conspicuously so; sheaths spiny or unarmed; rachillae rarely more than c. 7 cm

7. High-climbing rattan; fruit sphaerical c. 7 mm diam.

C. acuminatus *Becc.*

Slender thicket forming rattan; fruit ovoid, c. 10 × 6 mm

ridgetop form of **C. javensis** *Blume*

Of these six taxa, three are new, and are described below.

Calamus congestiflorus *J. Dransf.* sp. nov. Palmijuncus comptus *C. javensis* affinis sed foliis bullatis regulariter dispositis, bracteis inflorescentiae fissis ramos excedentibus, floribus congestis distinctus. Typus: Borneo, Sabah, *Dransfield* JD5635 (holotypus K; isotypi KEP, L, SAN, SAR).

Slender clustering rattan with stems climbing to 20 m; stem without sheaths to 6 mm diam., with sheaths to 9 mm; internodes to c. 11 cm. Leaf sheath green, tinged crimson, brownish when dry, covered with thin brown indumentum and bearing numerous scattered short rather bulbous-based spines to 3 mm; knee developed, but not very conspicuous; ocrea short, to 4 mm, tattering. Flagellum to 1 m. Leaf ecirrate to 30 cm; petiole absent; rachis armed with scattered hook-like reflexed spines to 2 mm and with sparse caducous rusty brown hairs; leaflets subregular in arrangement, broad and beautifully bullate when fresh, about 7 on each side of the rachis, the lowermost pair swept back across the stem; terminal leaflet pair joined for up to $\frac{1}{2}$ their length, their tips somewhat divergent; mid-leaf leaflets the longest, to 12 × 4 cm, inconspicuously 3-nerved, with conspicuous transverse veinlets, concolorous, unarmed except for a few bristles at the tip. Inflorescence: only pistillate known, not ending in a flagellum, to 60 cm, curved, with 6 partial inflorescences, the lowermost borne c. 20 cm above the insertion on the leaf sheath; bracts subtending partial inflorescences split longitudinally, loose, somewhat inflated with oblong limbs to c. 15 × 2 cm, armed with few scattered spines; axis of partial inflorescences shorter than subtending bract, to c. 10 cm only, bearing c. 8 congested thick distichous rachillae on each side, each subtended by an inflated bract with a reflexed triangular limb to 3 × 8 mm; bract surfaces and axes rusty tomentose; rachillae to 40 × 2.5 mm near the base of partial inflorescence, decreasing in size distally to 20 × 2.5 mm near the tip; flowers much congested; areole of pistillate flower to 2 mm diam., that of sterile staminate to 0.8 mm diam. Pistillate flower with calyx striate, tubular in lower 0.8 mm, divided into 3 ± triangular lobes to 1.5 × 1.5 mm; petals joined only at the base, to 3 × 1 mm, triangular tipped; staminodal ring to 1 mm high; ovary to c. 2 mm diam., tipped with conspicuous white fleshy stigmas to 1.5 mm. Immature fruit green, sphaerical, c. 6.5 mm diam., conspicuously beaked to 2 × 1 mm, and covered in 21 vertical rows of scarcely grooved scales; seed c. 5 mm diam.; endosperm homogenous. Fig. 1.

SABAH. Interior Residency, Nabawan, Mile 46, swampside, forest transitional to kerangas, *Dransfield et al.* JD5635 (holotype K; isotypes KEP, L, SAN, SAR); Telupid, Sapa-Payau F. R., Mile 75, *Dransfield et al.* JD5811 (K, L, SAN, SAR).



FIG. 1. *Calamus congestiflorus*. **A** sheathed stem with one leaf, one flagellum, and the basal part of an infructescence, showing the laminar inflorescence bracts $\times \frac{1}{2}$; **B** part of pistillate rachilla with submature fruit $\times 3$. From Dransfield JD5635. Drawn by Heather Wood.