

peduncular part below the first branch. *Spikelets* on primary or secondary branches, 5–10 cm. long with bifarious, alternate, 4 mm. long flowers. *Female spadix* nearly similar to the male, shorter, 40–50 cm. long, divided into 3–4 fertile branches. *Spikelets* 3–4 on the primary branches, 5–8 cm. long, somewhat flexuose, with 6–12 alternate flowers on each side. *Secondary spathes* 1.5–2 cm. long, closely sheathing; spathels striate unilaterally infundibuliform, ligulate. *Involucrophore* adnate, slightly outside the mouth of the spathe, cupuliform. *Fruiting perianth* slightly callous at base, subpedicelliform. *Fruit* ovoid ellipsoid, narrowed on both sides, 10–12 mm. long (including the beak), 5–6 mm. though, with dark brown, concolorous scales in 12 series; embryo central and albumen homogeneous.

MALAYA: Selangor, Sempang (Ridley 15,879); Semangkok Pass, alt. 1300 m. (Ridley 12,121 holotype and s.n. collected at the same time, paratypes); Fraser Hill, alt. 1300–1500 m. (Burkill & Holttum 8,420 male, & 8,551 female).

C. brevispadix appears to be a very close ally of *C. Helferianus* which, I think, must be transferred to this subsection. In the holotype specimen of *C. brevispadix* in the Singapore herbarium there are no fruits on the spadix, and the one loose fruit mounted on the same sheet does not belong to it. However immature fruits are present in the paratype specimens.

I have excluded *C. bubuensis* from this species, because that species differs in many ways from this, specially in having a distinct cirrus to the leaves, and the leaflets being smooth on both surfaces. The specimen from Gunong Belumut, Johore, cited under this species by Ridley (1925) is of a quite unrelated species, named here as *C. belumutensis*. The duplicates of Ridley 15,879 bears 15,789.

32. *Calamus benomensis* Furtado spec. nov.—t. 32.

A C. bubuensi foliolis ad basin magis approximatis, per gregem 3–6 dispositis, gregibus distantioribus, petiolis verisimiliter longioribus haec species differt. A C. brevispadice differt foliolis utrinque inermibus; squamis fructus bicoloribus, in series 13–15 dispositis.

Caudex gracilis, scandens. *Fronde*s longe petiolatae et cirriferae ut videtur; rachis secus margines et in dorsi medio unguibus simplicibus reflexis praedita. *Foliola* in fasciculis distantibus, 3–6 per fasciculum, disposita, paulo divergentia, 1–3 costata, utrinque inermia, linearilanceolata, circa 25 cm. longa, 2 cm. lata. *Spadix femineus* erectiusculus, circa 35–40 cm. longus, ad basin tantum parcissime armatus vel non, in 3 ramos, 5–10 cm. longos; spiculiferentes divisus, in appendicem 9 cm. longam terminatus. *Spathae primariae*: basalis tantum bicarinata, alterae cylindricae, oblique truncatae; spathae secundariae conformes, ad 2 cm. usque longae; spathellae laeves, deciduo furfuraceae infundibuliformes, obscure apiculatae. *Involucrophorum* et involucrum cupuliformia. *Perianthium fructiferum* fere explanatum; corollae calycibus aequales, vel fere. *Fructus* immaturi ovato cuneati, valde rostrati; squamis gramineis secus margines atro-brunneis, per series 13–15 dispositis. *Spadix masculus* cum femineo simul collectus huic pertinet ut videtur, femineo similis, cum spiculis 5 cm. longis; flores 5 mm. longae, alternatae, in spicula utrinsecus 8–10; corolla calyce duplo longior.



Tab. 32. *Calamus benomensis* (A-B: ♀ holotypus; C: paratypus simul collegitur).

A, Frondis fragmentum mesiale. B, Spadix fructiferens. C, Spadix masculus.

Stem slender and climbing. *Leaves* apparently cirriferous and long petioled; rachis armed below with distant, simple claws. *Leaflets* disposed in distant groups of 3–6, linear-lanceolate, 1–3 costate, smooth on both surfaces, about 25 cm. long, 2 cm. broad. *Female spadix* about 40 cm. long, much smaller than the leaf, more or less erect, armed or not at base, divided in 3–4 spikelet-bearing branches, each 5–10 cm. long; spikelets up to 3 cm. long, with 4–5 bifarious, alternate flowers on each side. *Spathes* smooth, cylindrical, slightly bicarinate at base. *Perianth* almost explanate in the fruit. *Fruit* immature, ovate-cuneate, beaked, covered with yellow scales having dark brown margins and disposed in 13–15 series. *Male spadix* mounted on the same sheet, similar to the female, with longer branches and spikelets; male flowers 5 mm. long, 8–10 on each side, alternately disposed; corolla nearly twice as long as the calyx.

MALAYA: Pahang, Gunong Benom, ad alt. 1600 m. (legitur, s.n. a F.M.S. Musei Collectore, ad 28–VII–1935, in herb. Singaporensis).

Though the specimens are incomplete, I have ventured to name the species in order to show the differences between this and *C. brevispadix* and *C. bubuensis*, and also because there is a great deal of confusion among the species of this subsection. *C. benomensis* appears to be a much larger plant than both the above named species and to bear a cirrus to the leaf, which is wanting in *C. brevispadix*; the last mentioned has, moreover, leaflets which are setose on the 3 costae above. *C. bubuensis* is a much smaller species belonging to this subsection, but was referred to *C. brevispadix* by Beccari.

V. Sectio PLATYSPATHUS Griff. emend. Furtado

Platyspathus (vel Platyspathae, Platyspatha vel Platyspathes) Griff. in Calc. Journ. Nat. Hist. V (1845) 73 et 78, in Palms Brit. Ind. (1850) 8, 36, 83, et XXI: (Platyspathae) Drude in Engl. u. Prantl, Pflanzenf. II. 3 (1887) 52; Baill., Mon. Palm (1895) 260: omnino pro parte.

Mischanthectae Ridl., Mat. Fl. Pen. II (1907) 189 et Fl. Mal. Pen. V (1925) 49 partim.

Plantae scandentes vel non, non-scandentibus exceptis, flagelliferae. *Frondes* ecirriferae, cum foliis ensiformibus, vel ellipticis. *Spadices* ex plantis scandentibus flagelliformibus, interdum longe-appendiculati. *Spathae primariae* basi tantum stricte tubulares, apicem versus laminares vel loriformes, interdum laceratae vel fissae. *Spiculae* sessiles. *Involucrophora* sessilia.

DISTRIBUTIO: Indo-Malaya ex Bengalia et Assamia usque ad Malayam, Sumatram et Borneo.

LECTOTYPUS: *C. platyspathus*.

Griffith adopted both singular and plural forms for his sectional names. As defined by Griffith this section included *C. leptopus* which is a true *Daemonorops*, as well as *C. Rheedei* which belongs to the new section *Macropodus* characterized by having sessile spikelets and stalked involucrophores.