

two lateral leaflets), but the petiole remains longer than in the normal leaves, and the leaf-sheaths, though tubular, are neither gibbose at the apex nor flagelliferous, showing thereby that the stem, in spite of its slenderness, remains erect for sometime during its early growth. It is only after this stage that plant becomes normal, producing flagella and gibbose petioles.

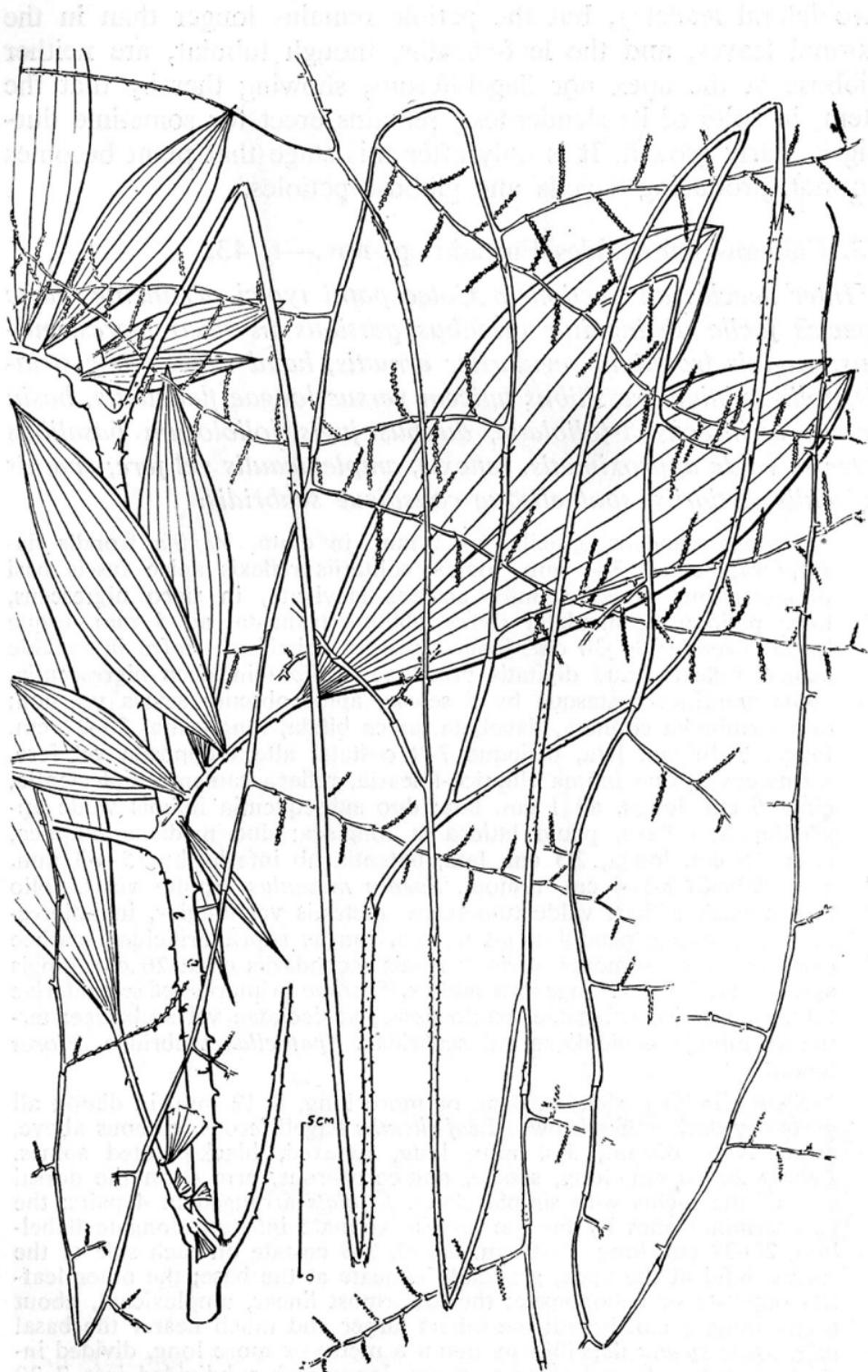
### 43. *Calamus flabelloides* Furtado sp. nov.—t. 43.

*Inter species ad Sectionem Coleospathi typici pertinentes haec species facile distinguitur omnibus partibus in sicco nigrescentibus; vaginis frondium regulariter armatis, haud rugosis nec striatis; foliis minimis sessilibus apicem versus longae flabellatis, basin versus utrinsecus 3-foliolatis, duobus jugis foliolorum basalibus inter se valde approximatis, reflexis, amplexicaulis vel fere; spathis masculis tertiaris, spathelisque conspicue scabridis.*

• *Caudix scandens, gracilis 8–12 mm. in diam. Vagina frondis flagellifera, aculeis 3–4 mm. longis, solitariis reflexis apice fuscis basi tumescientibus praedita, inter aculeos laevigata, in sicco nigrescens, infra petiolum geniculata. Ocrea oblique truncata, ad 5 mm. usque longa. Frondes 20–30 cm. longae, sessiles ecirriferae, infra in rachide aculeis reflexis haud digitatis praeditae. Foliola in sicco nigrescentia, secus margines costasque haud setosa, apice obscure setosa vel non; duo terminalia connata, flabellata, apice bifida, longissima, 20–22 cm. longa, 7–10 cm. lata, utrinque 7–9 costata; altera opposita vel fere, utrinsecus 3; duo infima elliptico-linearia, reflexa caulem amplectentia, circa 6 cm. longa, ad 1 cm. lata; duo subsequentia infimis valde approximata, reflexa, paulo latiora et longiora; duo mediana elliptica, circa 15 cm. longa, 2.5 cm. lata, patentia ab inferioribus 5–1.3 mm. et a flabello 3.5–4 cm. remota. Spadix masculus tantum visus, folio fere oppositus, basi valde tumescens, metralis vel longior, in inflorescentias partiales pendulas, ad 60 cm. longas supra orificium spathae orientes, duplo ramosas, divisus; ramis secundariis circa 20 cm. longis spiculas ad 3.5 cm. longas gerentibus. Spathae primariae et secundariae tubulosae, apice truncatae, paulo fissae, aculeolatae vel scabridae; tertiariae minute aculeolatae vel scabridae. Spathellae scabridae. Flores ignoti.*

*Stem* climbing, slender, 3 m. or more long, 8–12 mm. in diam.; all parts dry dark coffee-brown. *Leaf-sheaths* flagelliferous, gibbous above, armed with distant, 3–4 mm. long, reflexed, black-pointed spines. *Leaves* 20–30 cm. long, sessile, non-cerriferous, armed on the dorsal side of the rachis with simple claws. *Leaflets* arranged in 4 pairs; the two terminal ones by far the largest, connate into an elongate flabellum, 20–22 cm. long, 7–10 cm. broad, 7–9 costate on each side of the rachis, bifid at the apex, gradually cuneate at the base; the other leaflets opposite or subopposite; the lowermost linear, amplexicaul, about 6 cm. long, 1 cm. broad; the others larger and much nearer the basal pair. *Male spadix* flagelliform, about a metre or more long, divided into 4 pendulous branches up to 6 cm. long; each subdivided into 7–20 cm. long secondary branches, each bearing 1.5–3.5 cm. long spikelets. *Spathes* primary and secondary tubular, truncate at the apex, aculeolate; tertiary densely scarbrid, as also the spathels. *Female spadix* not known.

**MALAYA: Johore, in colle prope Sungai Kayu (Corner 29,284).**



Tab. 43. *Calamus flabelloides* (Corner 29,284—holotypus).

Caudex pars ut folia, vaginae et spadix masculus apparent.

This species is readily distinguished by the scabridity of the tertiary spathes and the spathels and by the peculiar sessile leaves which have a reflexed pair of leaflets at the base and a very large, bifid flabellum at the apex.

The leaves of *C. impar*, which may be said to bear some resemblance to the leaves of this species, are petiolate and do not bear the two pairs of the basal leaflets. Further the armature or scabridity of the leaf-sheaths and spadix is totally different.

**44. *Calamus javensis* Bl. var. *inermis* (Ridl.) Ridl., Fl. Malay Pen. V (1925) 51 pro parte.—t. 44a.**

*C. penicillatus* var. *inermis* Ridl., Mat. Fl. Malayan Pen. II (1907) 192 pro parte (ex altera parte = *C. javensis* var. *laevis*).

*Stem* 5–7 mm. in diam. *Leaf-sheaths* gibbous, flagelliferous non-striate, unarmed or armed with a few remote, short, reflexed spines. *Ocrea* hairy, fimbriately marginated, deciduous. *Leaves* 30–35 cm. long, divided into 3–4 pairs of opposite or subopposite, inequidistant leaflets, excluding the terminal connate pair; the basal pair the smallest, hardly reflexed; the terminal 2 pairs the longest; the mesial leaflets 12–14 cm. long, about 2.25–2.50 cm. broad. *Spadix* as long as the leaves, or slightly longer, with one or two spiculiferous branches.

**MALAYA:** Negri Sembilan, Gunong Angsi (Ridley II–1908—Lectotype).

The two other syntypes of this variety have been excluded from here and cited under the var. *laevis*. Each leaf usually has three pairs of inequidistant leaflets, but sometimes the leaves have four pairs, that is, in addition to the terminal connate pair.

**44. (a) *Calamus javensis* Bl. var. *tenuissimus* (Becc.) Becc. in Rec. Bot. Surv. Ind. II (1902) 201, and in Ann. Roy. Bot. Gard. Calc. XI (1908) 183 t. 39.**

*C. javensis* var. *peninsularis* subvar. *tenuissimus* Becc. in Hook., f., Fl. Brit. Ind. VI (1892) 443.

*C. penicillatus* var. *purpurascens* Ridl., Mat. Fl. Malayan Pen. II (1907) 192 pro parte.

*C. javensis* var. *purpurascens* Ridl., Fl. Malay Pen. V (1926) 49 pro parte.

*Stem* tufted, 3–7 mm. thick. *Leaf-sheaths* armed with small scattered reflexed spines having a tendency to become claws. *Ocrea* 1–1.5 cm. long, fringed with long bristles, marcescent. *Leaves* 30–40 cm. long with 1.5–8 cm. long petiole, and leaflets usually 3, occasionally 4, on each side of the rachis (excluding the terminal connate pair), the lowermost spreading or somewhat reflexed.

**MALAYA:** Perak, Gunong Hijau alt. 1,400 m. (Burkill and Haniff 12,590); Kroh (Furtado 33,032). Pahang, loc. incert. (F.M.S. Forest Dept. No. 27,607).