

Though *D. Calospatha* is the earliest priorable binomial for the species, yet Ridley's trivial epithet cannot be adopted for the species under *Calospatha*, because tautonyms are proscribed under the Rules.

Despite the incompleteness of the specimens, the establishment of a separate genus is justified on the characters of the inflorescence. I give below a generic diagnosis based on both the specimens:

Stem short, apparently climbing, polycarpic, *Leaves* large; leaflets linear, closely and minutely setose along the margins up to the very base. *Inflorescence* short, when young fusiform, long beaked, the floriferous portion almost completely enveloped on the lower spathe. *Spathes* persistent, imbricate, open, abruptly and arcuately long-beaked, more or less armed at least in the apical portion, the lowermost largest, the others gradually smaller, each including a small floriferous branchlet. *Female flowers* ovate, broad-based, solitary, or each attended by a neuter flower; calyx 3-pointed or lobed; corolla 2-2½ times as long as the calyx, with triangular, deeply parted lobes. *Neuter flowers* much more slender than the female, accompanying only some female flowers, calyx narrowed to a punctiform base leaving very obscure areola on the involucre. *Fruit* scaly, 2-3 seeded, with a homogeneous albumen, marked with indistinct chalazal fovea; embryo basal.

Both the specimens on which the genus is based are from the state of Perak, Malaya. In one specimen a portion of leaf and flowering spadix are represented; in the other there is only a fruiting spadix. But from the general arrangement and the shape of the spathes and floriferous branches, there is no doubt that they are both congeneric. These specimens are separated specifically on the characters of the calyx as follows:

- (a) Female calyx undivided, 3-pointed, shallow (explanate in fruit) *C. Scortechinii* Becc.
- (b) Female calyx conspicuously lobed, deeply cup-shaped (apparently not explanate in the fruit) *C. confusa* Furtado.

***Calospatha confusa* Furtado sp. nov. (Fig. 23).**

C. Scortechinii Becc. sensu Ridl., Fl. Mal. Pen. V (1925) 47 p.p.

Daemonorops Calospatha Ridl., Mat. F. Mal. Pen. II (1907) 179 quoad specimen apud montem a Keledang a Ridleyo collectum (ex altera parte = *C. Scortechinii* et *Daemonorops* sp.).

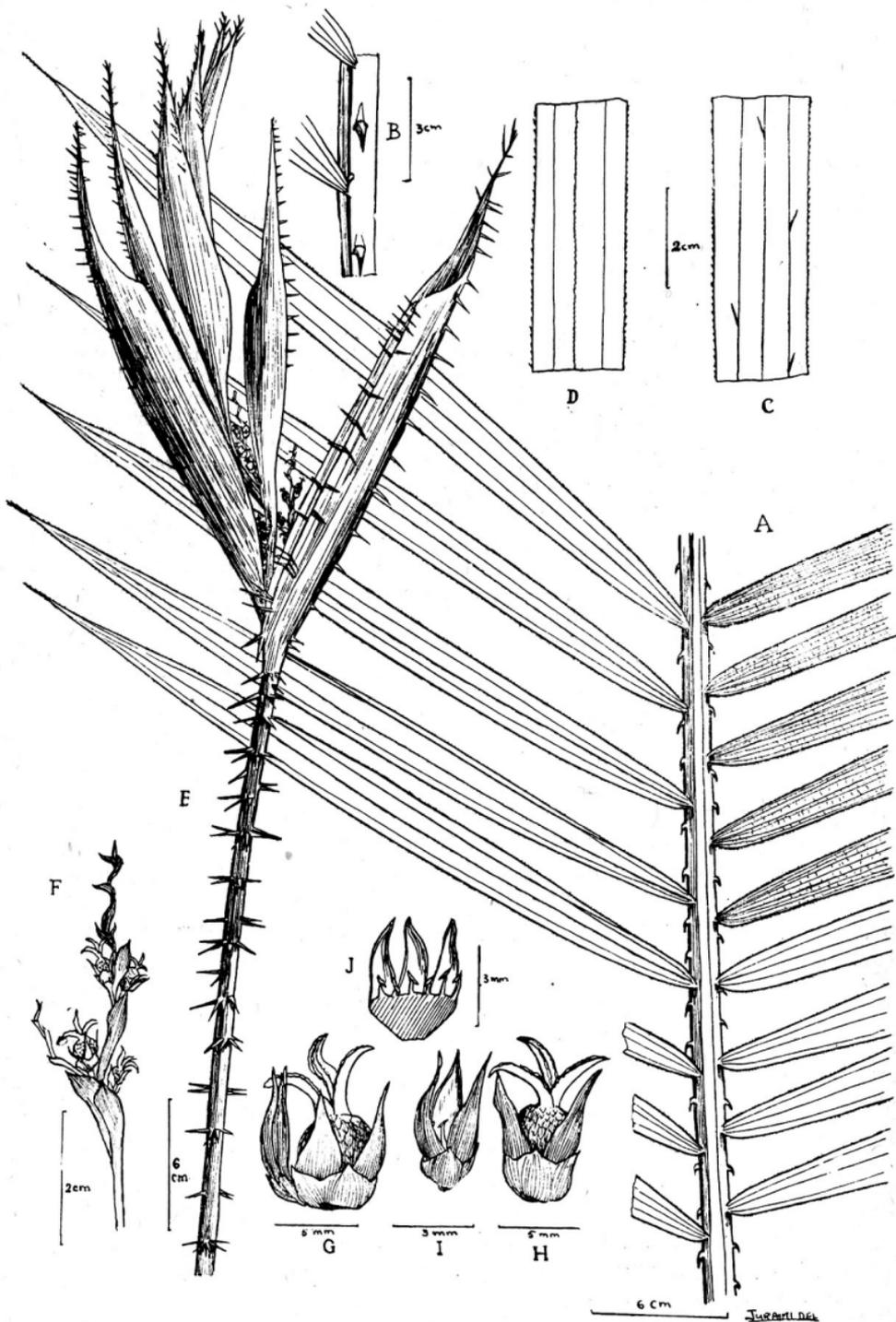


Fig. 23. *Calospatha confusa* (Holotypus; Ridley sn. in September 1898).
 A, Pars frondis media. B, Particula rhacheos frondis. C, Particula folioli ut pagina superior appareat. D, Ibid. ut pagina inferior appareat. E, Spadix cum pedunculo. F, Ramulus florigerus ex axilla spathae basalis. G, Flos ♀ cum flore neutro. H, Flos ♀. I, Flos neuter. J, Flos neuter apertus ut staminum insertio appareat.

A. C. Scortechinii differt femineis calycibus alte cupularibus, conspicue 3-partitis, basi latis.

Frondes magnae ut videtur; rachis 32 cm. longa tantum visa, bifacialis, ventre inermis, canaliculata, dorso unguibus solitariis, in 3-series verticales dispositis, reflexis, in seriebus marginalibus inaequalibus praedita. *Foliola* alternantia, equidistantia, 2.5-3 cm. inter se dissita, 33-37 cm. long, 2-2.3 cm. lata, tricostata, linearis-ensiformia, basin versus paulo attenuata, plicatula, apicem versus sensim angustata, in apicem longe acuminatum terminata; in pagina superiore costae supra media setosae; in pagina inferiore costa mediana tantum per duas tertias partes superiores minute vel obsolete spinulosa; margines setis minutis approximatis per totam longitudinem praeditae. *Spadix femineus* tantum visus, juventute plus minusve fusiformis, in parte spathifera circa 20 cm. longus, pedunculo 20-25 cm. longo, tabaccino-furfuraceo, aculeis elasticis porrectis, saepe basi lateraliter unitis, 10-25 cm. longis armato suffultus. *Spathae primariae* subalternantes imbricatae, inaequales, persistentes, deciduo furfuraceae, basi brevissime tubulares, superne loriformes ligulares, apice abrupte longe rostratae, in axillis ramulos solitarios gerentes; basalis maxima, 19 cm. longa (5 cm. longo rostro incluso), 3 cm. lata, juventute sequentias spathae fere includens, secus margines bicarinata, secus carinas et mediam spinis 5-10 mm. longis vel minoribus, porrectis vel reflexis, basi superne intumescens armata; spathae sequentiae sensim minores, apicales minima, spatha secunda aculeis ad basin fere praedita, alterae apicem versus tantum armatae. *Ramuli primarii* spathis primariis multo breviores, 2-7 cm. longi, axi flexuosi, basales ramulos secundarios brevissimos 1-2 gerentes; spathae secundariae tertiariaeque breves, tubulares, infundibuliformes, apice ligulares, inermes, striatae; spathellae breves, annulares apice oblique truncatae, ligulatae, inermes, striatae; involucrophorum leviter cupulare, ligulatum; involucrum involucrophoro paulo majus, subdisciforme, integrum vel non, haud profundum. *Flores feminei* ovati, 7-9 mm. longi; calyx cupularis, basi latissimus, immo paulo depressus, conspicue trifidus; corolla calyce 2-2½-plo longior, in 3 lobos altos, triangulares, divisa; ovarium globosum vel ovatum, apice stigmatibus 3, longis praeditum. *Flores neutri* pergraciles; calyx infundibuliformis, basin versus cuneatus, immo fere punctiformis, ad medium fere lobatus; corolla calyce 2-3-plo longior; staminodia 6 ut videtur. *Fructus* ignotus.

Stem apparently climbing. *Leaves* (known only from a fragment 32 cm. long) apparently long and cirriferous; rachis in the specimen bifacial, slightly channelled, on the dorsal side convex, and armed with large solitary, reflexed, stout distant hooks arranged in three longitudinal series (one median and two marginal), 2-3 very small solitary, sometimes obsolete hooks being seated between two large marginal hooks in the same vertical line. *Leaflets* alternate, equidistant, 2.5-3 cm. apart, 33-37 cm. long 2-2.3 cm. wide, tricostate, linear-ensiform, slightly narrowed towards the base, gradually tapered into long acuminate apex; the costae setose in the upper surface from the middle upwards, in the lower surface glabrous excepting the upper half of the midrib which is armed in the upper two-thirds with minute or sometimes obsolete prickles; the margins very closely and minutely setulose up to the very base. *Female inflorescence* short, more or less fusiform when young, about 20 cm. long, excluding the 20-25 cm. long peduncle,

the latter covered with tobacco-brown scurf and armed with flat, elastic, straight 10–23 mm. long spines, often united laterally at base. *Primary spathes* subalternately imbricate (9 in all), covered with deciduous brown scurf, oblong, slightly tubular at base, soon strap-shaped, abruptly arched into a long subulate beak, each spathe bearing a branch in its axil; the basal spathe the largest, 19 cm. long (including 5 cm. beak), 3 cm. wide, in young stages almost completely enclosing the others, carinate along each of the two margins, armed along the median longitudinal line and marginal carinae with 5–10 mm. or smaller, straight or reflexed spines, having a bulbous base on the upper side; subsequent spathes gradually smaller, all more or less armed along the dorsal median line towards the apex. *Primary branches* much smaller than the primary spathes, 2–7 cm. long, flexuous in the axis; the basal branches often produce 1–2 secondary branchlets; the secondary and tertiary spathes short, tubular, funnel-shaped, obliquely truncate, unarmed, striate; spathelets short, annular, ligulate on one side, striate; involucre shallow cupular, slightly produced on one side; involucre slightly exceeding the involucre, shallow disciform, entire or not. *Female flowers* ovate, 7–9 mm. long; calyx cup-shaped, conspicuously trifid, broad based, somewhat depressed at the very centre of the base; corolla 2–2½ times as long as the calyx, deeply 3-parted into triangular lobes; ovary globose or ovate, crowned with 3 deeply divided stigma. *Neuter flowers* present in some, much more slender than the female; calyx funnel-shaped, conspicuously 3-lobed, narrowed to an almost punctiform, callused base; staminodes nearly decomposed, but appears to be six; ovary decomposed. *Fruit* not known.

MALAYA: *Perak*, Gunong Keledang (Ridley in September 1898 —syntype of *D. Calospatha*).

The female calyx in this species is cup-shaped and conspicuously lobed, whereas in *C. Scortechinii* the type is depicted and described as entire, explanate and 3-angled. In the latter species the lowermost spathe is described as empty, whereas in *C. confusa* the lowermost spathe, like others, subtends a floriferous branchlet; but the presence or the absence of floriferous branchlet in the axil of the lowermost spathe appears to be not a specific character, but a result of environmental conditions.

Calospatha Scortechinii Becc. in Ann. Roy. Bot. Gard. Calc.

XII, 1 (1911) 232 et XII, 2 (1918) 17 t. 12; Ridl., Fl. Mal. Pen. V (1925) 47 pro parte.

Daemonorops Calospatha Ridl., Mat. Fl. Mal. Pen. II (1907) 179 quoad specimen Scortechinianum tantum; Becc. supra cit. in obs.

Stem and leaves unknown. *Female spadix* short, 35 cm. long, furnished with subdistichous imbricate spathes; pedicellar part short covered with 10–25 cm. long flattened spines. *Spathes*: lowermost spathe 21 cm. long (including 5 cm. long beak), 3 cm. wide, covered all over outside with unequal, scattered spines,