

systematics to take into consideration the number of the transverse series of the scales on the *rattan* fruits. If the number is to be given, then it should refer to the longitudinal series.

A numerical list of the specimens cited in this paper is appended to show the species under which they are enumerated.

1. *Calamus orthostachyus* Furtado spec. nov.

Caudex scandens, circ. 8 m. longus. *Frondis vagina* spinis ad 0.8 cm. longis, basi dilatatis armatissima, infra petiolum gibbosa. *Ochrea brevis* ut videtur. *Petiolus* basi eomodo armatus, altera parte non visus. *Frondes* cirrhiferæ, secus rhacheos dorsum unguibus ad 5-fidis armatæ, parte pinnifera circ. 60 cm. longa. *Cirrus* circ. 70 cm. longus, unguibus ad 5-7-fidis præditus. *Segmenta* plurima, æquidistantia, glabra, 2.5-3 cm. inter se dissita, ad 25 cm. longa, 1.5 cm. lata, linearia, basi subito contracta, apicem versus sensim attenuata, acuminata vel fere filiformiter acuminata, apice in margine setosa, secus costam medium setis ad 1 cm. longis utrinque prædita. *Spadix foemineus* erectus ut videtur. *Spathae primariae* (?) brevissimæ, cylindracæ, inermes, 1-2 cm. longæ, dorso elongatæ, acutæ. *Spathae secundariae* et *tertiariae* ad annulum brevissimum reductæ, dorso triangulariter productæ. *Rami primarii* (?) rigidi, ad 18 cm. longi, utrinsecus spiculas 8 gerentes, axi interjecta fere terete. *Spiculae* 4-8 cm. longæ, utrinsecus fructus 10-19 gerentes, fere patentes. *Involucrophorum* pedicelliforme vel subpedicelliforme. *Involucrum* leviter concavum. *Perianthium* fructiferum pedicelliforme, calyce corollæ acquilongo, apice trifido. *Fructus* ovato-oblongus, basi rotundatus, apice contractus, rostratus, cum rostro atro 0.2 cm. et perianthio 0.2 cm. longo omnino 1.3 cm. altus, 0.5 cm. in diam. *Squamæ stramineæ*, secus marginem atropurpureæ, dorso canaliculatæ, in orthostichis 15 dispositæ. *Semen nigrum*, oblongum, 0.6 cm. longum, 0.3-0.4 cm. latum, 0.25-0.3 cm. crassum, raphen secus paulo elevatum, ceterum leviter rugosum vel non. *Albumen* album, homogeneum. *Embryo* basilaris. *Spadix masculus* juvenilis tantum visus, ut foemineus.

CELEBES: on Bœlœ (=Mountain) Parema, alt. circ. 4,300 feet, in rain forest. (Kjellberg No. 2649. Type in the Berlin Herbarium).

The collector notes that the leaf-sheath is provided with thorns and the leaves have a long cirrus.

In the specimen in Kjellberg's herbarium there is a terminal portion of a male spadix bearing the same number as the female specimen in Berlin. The collector does not

state whether this male portion was obtained from the same plant as the female one. The male portion of the spadix is quite similar in structure to the female, and the species would therefore appear to fall in *Group XV** of Beccari. But the erect spadix with its reduced spathes and with its somewhat pedicelliform involucrophorum distinguishes it at once from all the other species of *Calamus* known to me. In these respects it resembles very much some of the *Calamus*-like species of the genus *Daemonorops*, but the pedicelliform perianth with its calyx equal to corolla and the homogeneous albumen make one assign the species to the genus *Calamus*.

2. *Calamus Burkilianus* Becc. ex Ridl. *Flor. Mal. Pen.* V (1925), 56. *Planta mascula*.

Caudex scandens. Frondis vagina straminea, infra petiolum gibbosa, aculeis solitariis, applanatis, basi dilatatis, apice obscurioribus vel non, 0.8-1.5 cm. longis. Ochrea brevis, extus hispida, trichomatibus longis, rigidis, sinuosis, adpressis, deciduis, ferrugineis. Petiolus circ. 30-45 cm. longus ut videtur, stramineus, leviter furfuraceus, furfuro griseo vel brunnescenti, fugaceo, super applanatus vel concavus, ad 1 cm. latus, subtus convexus, aculeatus vel non, secus margines aculeis solitariis distantibus praeditus. Rhachis subtus aculeis solitariis armata, non cirrhifera. Segmenta plurima, equidistantia, alternantia vel subopposita, 2-5 cm. inter se dissita, linear-lanceolata, 25-35 cm. longa, 1.5-1.8 cm. lata, in apicem ad margines spinulosam terminata, costis 3 percursa, costa media robustiore apicem versus subtus setosa, alteris supra eodemmodo armatis, subtus glabris, segmenta terminalia ambo basi connata. Spadix masculus longe flagelliferus, unguiculatus, tenuis, duplo vel sub-triplo ramificatus. Spathae primariae tubulosæ, aculeolatae, apicem versus fissæ, summo truncatæ; secundariae et Spathellæ membranacæ, fusco-tomentosæ, truncatæ. Rami primarii nonnihil supra spatham orientes, 20-25 cm. longi, ramis secundariis utrinsecus ad 10, alternantibus; rami tertiarii abbreviatissimi 1 cm. usque longi, flores circ. 8 gerentes. Corolla 0.4 cm. longa, calyce duplo longior.

MALAY PENINSULA: Female specimens: *Pulau Tioman* off the Pahang Coast, Joara Bay (Burkill, s. n. in June, 1915. Type). *Tringganu*, Pulau Kapas (Holttum, 15211). male: *Pulau Tioman*, Ayer Batang (Henderson, 18465).

Material of this species was submitted to Beccari who had proposed the above name, but it was never published by him. Since the specific description given in the *Flora* was entirely drawn by Ridley, I think the species ought to be accredited to Ridley and may be quoted as above.

* In *Calcutta Annals XI*, 1908.