

as the leaves, in the basal half (which is the only part seen) bearing two 6–9 cm. long branches; spikelets 2–3.5 cm. long, each bearing 9–15 flowers. *Primary spathes*, only two seen; the basal bicarinate, slightly armed, the other tubular, scarcely aculeate; secondary spathes tubular unarmed or scabrid. *Fruiting perianth* shortly pedicelliform. *Fruit* ovate or elliptic oblong, beaked; scales disposed in 15 vertical series, channelled in the middle, with a pale brown intramarginal line; seed with white homogeneous albumen with deep foveal cavity; embryo basal.

MALAYA: Johore, Gunong Belumut, alt. 1,000 m. (Holtum 10,670).

The collector notes that the species is common in the locality. Further collections with sheaths and with notes as to its habit, size, etc., are desirable.

Ridley l.c. confused this with *C. brevispadix*, and later determined it in the herbarium as *C. bubuensis*.

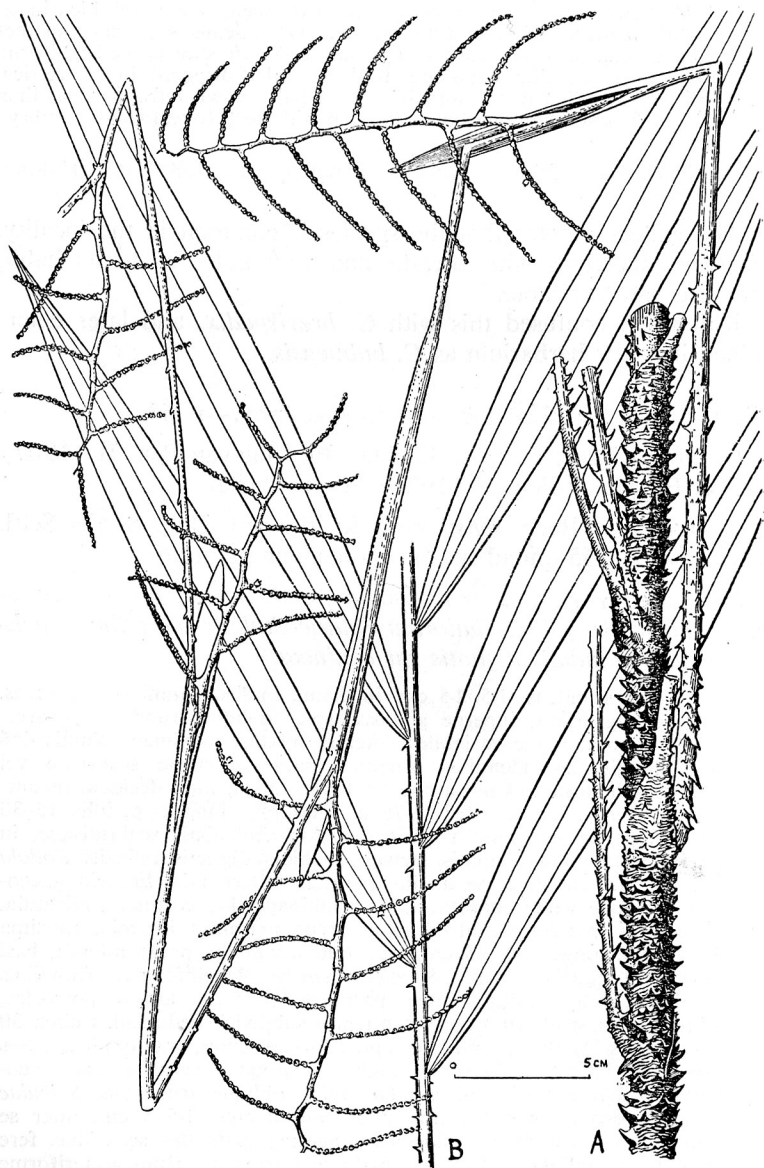
60. *Calamus Tanakadatei* Furtado spec. nov.—t. 60.

C. luridus Becc. *sensu* Ridl., Mat. Fl. Malayan Pen. II (1907) 198 et Fl. Malay Pen. V (1925) 56 pro parte.

C. muricatus Becc. *sensu* Furtado in Gard. Bull. Straits Settl. VIII (1935) 255 quoad specimina malajana tantum.

C. muricato affinissima ut videtur, sed petiolis brevioribus et magis aculeatis, foliolis latioribus pluricostulatis inermibus, rach-eos aculeis frondalis digitatis sat distincta.

Caudex scandens, 1.5–2.5 cm. in diam., in sicco omnino nigrescens. *Vagina* flagellifera, superne gibbosa, apice oblique truncata, transversaliter rugosa; rugae variabiles, inter se mixtae, maximae spinulis 4–6 mm. longis, ascendentibus armatae, minimae rugae scabridae vel minute spinulosae. *Ocrea* usque ad 1 cm. longa, mox decidua, inconspicua. *Frondes* non-cirriferae, 75 cm. vel plus longae; petiolis 15–30 cm. longis, basin versus rugosis et valde aculeolatis scabridisque, in altera parte minus armatis; aculeis rachidis digitatis reflexis. *Foliola* remota, 7–9 cm. inter se dissita, porrecta, alternantia, lineario-lanceolata, utrinque valde cuneata, apice acuminata, 4–7 costulata, plicatula, concoloria, papyracea, utrinque et secus margines inermia, maxima 30–35 cm. longa, 2.8–3.5 cm. lata; duo terminalia paulo minora, basi libera vel paulo connata. *Spadices feminei* flagelliformes, frondibus longiores, in 3–4 inflorescentias, partiales 12–15 cm. longas, porrectas, aliquid infra spatharum apicem orientes subdivisi; pedunculus circa 30 cm. longus, *Spathae primariae* apice marcescentes, multo ultra bases ramorum productae; basalis spatha bicarinata, valde rugosa, aculeolata; alterae tubulares, striatae apice oblique truncatae. *Spiculae* per inflorescentiam partialem 12–16, alternantes, 1.5–3 cm. inter se remotae, 4–8 cm. longae, floribus congestis; spathellae scabridae, fere cylindricae, oblique truncatae. *Involucrophorum* exsertum prateriforme vel disciforme; involucrum conforme; areola discoidea vel triangularis. *Spadices masculi* femineis similes, sed inflorescentiis partialibus plus divis; spiculis minoribus gracilioribusque spathis secundariis tertiariibusque et etiam involucris inermibus, floribus masculis pectinatis differt.



Tab. 60. *Calamus Tanakadatei* (Moorhouse sn.—holotypus).

A, Caudicis pars cum spadice femineo. B, Frondis fragmentum mesiale.

Stem scandent, about 1.5–2.5 cm. in diam. *Leaf-sheaths* flagelliferous, gibbous above, obliquely truncate at apex, transversely rugose, the larger wrinkles bearing 4–6 cm. long, ascendent spines, the smaller ones minutely spinulose or scabrid. *Ocrea* small, inconspicuous. *Leaves* non-cirriforous, 75 cm. or more long, including the 15–30 cm. long petiole; the latter rugose and more or less armed like the sheath in the basal half; rachis armed with digitate claws. *Leaflets* remote, 7–9 cm. apart, porrect, alternate, linear-lanceolate, strongly cuneate on both sides, acuminate, 4–7-costulate, plicatulate, concolorous, papyraceous unarmed on both surfaces and along the margins, the largest 30–35 cm. long and 2.8–3.5 cm. broad. *Female spadix* flagelliform, slightly longer than the leaves, short peduncled, subdivided into 3–4 branches, each branch being 12–15 cm. long and bearing 4–8 cm. long spikelets. *Male spadix* similar but decompound and with smaller spikelets.

MALAYA: Negri Sembilan, prope Bukit Senaling (Moorhouse, holotypus, femineus). **Selangor,** Rawang (Ridley 12,118, masculus).

This species may be easily confused with *C. muricatus*, especially due to the darkish colour of the specimens in the herbarium and to the wrinkles and ascendent spines on the leaf-sheaths, but *C. Tanakadatei* is easily distinguished by its broader pluricostulate leaflets which are moreover unarmed on both surfaces and more apart on the leaf-rachis.

Ridley 12,404, collected with fruits at Puak in Sarawak, Borneo, which may be *C. muricatus*, differs from *C. Tanakadatei* in the leaflets being more coriaceous. As the specimen lacks petiole and leaf-sheaths, no further comparison is possible. Its fruits may be described as follows: *Fruiting perianth* subpedicelliform with corolla as long as the calyx but with narrower lobes. *Fruit* young, globose or ovate-globose, 6–7 mm. long, about 5 mm. broad, abruptly mucronate at the apex, slightly narrowed towards the base; scales arranged in 12–13 vertical series, dirty brown with dark brown intramarginal line. *Seed* not developed.

C. muricatus, which was based on a sterile specimen, requires further study as to its variations; but Teysmann's specimen cited by Beccari under *C. muricatus* in Ann. Roy. Bot. Gard. Calc. XI Appendix (1913) 9 may be *C. Holttumii*.

The species is dedicated to the late Prof. Hidezo Tanakadate who came with the Japanese invading army in Singapore and did much to protect the scientific and historical institutions and libraries from looters, and also to give the European scientists who were in Singapore facilities to carry on with the work of their speciality.

I think the vernacular name *Rotan Perut Ayam* was intended for this species, but the ticket was inadvertently mounted on the sheet bearing the spadix of *Rotan Kerai* (*C. luridus*).