

the genera occurring in the peninsular limestones, if not common in the Peninsula, represented the southernmost extension of the range of the genera found in the north of the Peninsula as in Thailand, Burma and Indo-China. On the other hand, the absence of these two palm genera or their very close allies in the countries lying immediately to the north of the Peninsula might be more apparent than real, for botanically these regions are very imperfectly known, especially as regards the occurrence and the distribution of palms; further explorations may reveal in the area the existence of these two new genera or their close allies.

However, there are cases, though very rare, where genera or species occur in the Peninsula only on the limestone hills and in distant temperate and sub-temperate climates but not in other parts of the Peninsula or in countries lying in the immediate neighbourhood of the Peninsula. Thus the genus *Pistacia* (ANACARDIACEAE) which has a wide distribution from the mountains of Luzon and Formosa to China, westwards to Yunnan, Upper Burma, Himalayas, Afghanistan, the Mediterranean region, and the Canaries in the Old World and in Texas and Mexico in the New World, is represented by *Pistacia malayana* on the limestone hills of Selangor and Upper Perak in the Peninsula, though the genus has so far not been recorded either from Lower Burma, Thailand and Indo-China, or from the northern parts of the Peninsula.

2. Systematic Notes

A. *Liberbaileya* Furtado gen. nov. (CORYPHOIDEAE)

Palmae nanae, dioceae vel polygamae, caespitosae vel solitariae. *Petioles* inermes, apice in costas aequicrassas vel fere in lamina producti. *Laminae* frondium flabelliformes. *Spadices* interfoliares, simplices (semper?); flores unisexuales vel hermaphroditi. *Tepala* imbricata; calyx brevior quam corolla. *Stamina* 6, in annulum conspicuum unita ut in LICUALA. *Carpella* 3, libera. *Fructus* erectus, semine aequabile (?).

1. *Liberbaileya lankawiensis* Furtado sp. nov.

Caulis humilis, ad 3 m altus, caespitosus vel non, inferne annulatus superne infra coronam foliarum vaginibus fibrosis caulem amplectantibus, nigris, tectus. *Petiolus* inermis, metralis, semiteres, utrinsecus angulatus, apice ut rachis haud productus, sed in uno latere in ligulam parvam et in altero latere in costas aequicrassas vel fere terminatus. *Lamina* frondis 25–40 cm. longa, $\frac{3}{4}$ –orbicularis basi cordata, subtus glaucescens fusco punctulata, junior $\frac{1}{3}$ –orbicularis basi cuneata; segmentis 25–30, unicostulatis, apicè cuneatisimis, acutis, pungentibus vel breviter bifidis, basi ad 5–12 cm. connatis. *Spadix* gracilis, unisexualis vel polygamus,

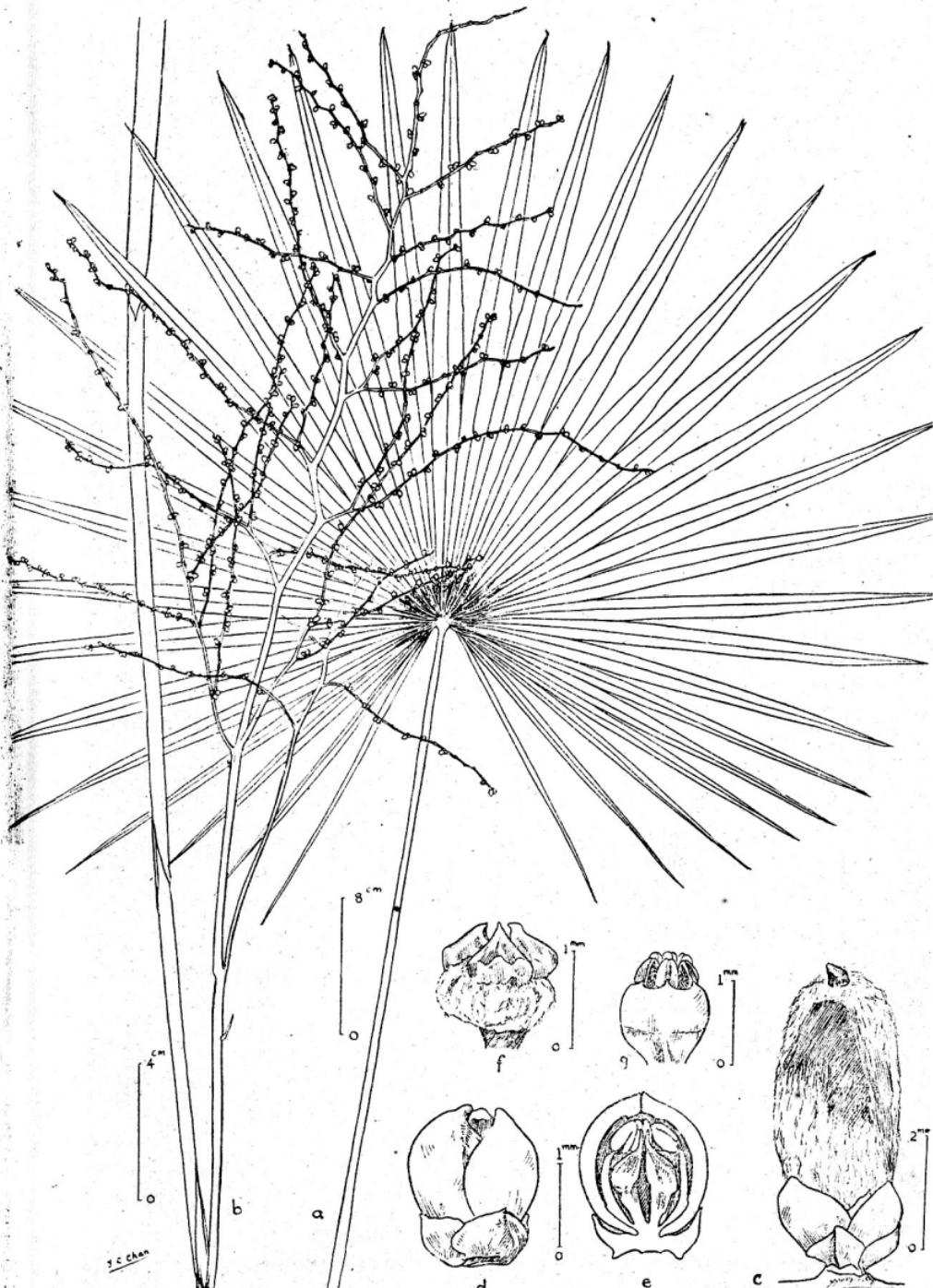


Fig. 1. *Liberbaileya lankawiensis* (Holotypus: HENDERSON 29134).

a. Folium cum parte petioli superiore. b. Spadix integer. c. Fructus juvenilis. d. Alabastrum. e. Alabastrum verticaliter discissum. f. Carpella. g. Alabastrum, tepala resecta ut aestivatio staminum appareat.

simplex, circa 80 cm. longus, inferne ad 50 cm. pedicelliformis, cum spathis 2-3 bicarinatis, tubulosis, gramineis, plus minusve striatis apice oblique truncatis, acutis vel bifidis involutus, et interdum infra partem ramosam 1-2 bracteolos liguliformes vel lineares ferens; superne in ramos remotos simplices vel ramulosos primo dense pubescentes tarde puberulos vel glabros, plerumque in axilla bracteoli orientes terminatus. *Flores* femininei, vel interdum hermaphroditi, oblongi, 2 mm. longi, 1.2 mm. crassi, in glomerulos distantes spiraliter dispositos 3-5 aggregati; flores masculi ignoti. *Calyx* circa 0.8 mm. longi, glaber, rugosus sepalis late ovato-reniformibus, imbricatis. *Corolla* calyce duplo vel triplo longior, glabra, striata, petalis oblongis, imbricatis. *Stamina* vel staminodia 6, in annulum membranaceum conspicue unita. *Carpella* 3, ventricosa, dense pubescentia, libera, in stigma glabrum abrupte terminata. *Fructus* juvenilis tantum visus, erectus, vestigio stylare apicale vel paulo excentrico; semen aequabile (?).

MALAY PENINSULA: *Langkawi*, Pulau Dayang Bunting in collina calcarea (Henderson, 29134, Holotypus; Curtis, 2661, vern. nom. Serdang Batu); loc. incert. (Fox in Dec. 1904).

Hermaphrodite flowers which are also seen in this species resemble the female flowers. The fruits are too young for an investigation into the nature of the albumen, the position of the embryo, etc.; in the shape and arrangement of the perianth and of the young developing ovaries this species appears to be like *Maxburretia rupicola*.

CURTIS mentions that the stems reach a height of 6-10 ft., and HENDERSON notes that they attain about 10 ft. amongst dry rocks, but that the plants are dwarfed when growing in cracks of the rocks near the sea. That the palm is caespitose has not been recorded by any of the collectors; but I have noticed this character in a plant growing in the Botanic Gardens, Singapore.

B. *Maxburretia* Furtado gen. nov. (CORYPHOIDEAE)

Palmae dioeciae, nanae vel acaulescentes. *Petioli* inermes, apice in costas aequicrassas in lamina producti. *Laminae* frondis flabelliformes. *Spadix* interfoliaris, unisexualis, in inflorescentias partiales divisus; flores solitarii vel glomerati. *Tepala* imbricata; *calyx* brevior quam *corolla*. *Stamina* 6, epipetala. *Carpella* 3, libera. *Fructus* erectus; semine erecto; albumine aequabile; intrusione integumentali brevi, ad latus raphale sito.

Specimen typicum NUR 34370.

1. *Maxburretia rupicola* (Ridl.) Furtado comb. nov.

Livistona rupicola in Journ. Roy. Asiat. Soc. Straits Settl. XLI (1903) 41 et Mat. Fl. Malayan Pen., Monocot., II (1907) 16: *partim*; Becc. in Webbia V (1921) 16 et 20