

Brassiophoenix schumannii (Palmae)

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During the German colonization of "Kaiserwilhelmsland" (northeastern New Guinea) in the late 19th Century, German botanists carried out extensive exploration of their territory and contributed substantially to the general knowledge of the New Guinea flora. Unfortunately, most of the German palm collections were destroyed in Berlin during the second World War. Many of these specimens were types of new species from New Guinea, and we must now work with photographs and fragments in order to establish the identity of those species. One of them, *Actinophloeus schumannii* described by Beccari in 1889, has long perplexed botanists who have seen the specimens Beccari annotated as belonging in the species. These later annotators have identified the specimens as belonging to *Drymophloeus*, *Ptychococcus*, or as being mixed collections involving these two genera and *Ptychosperma*. Indeed, the specimens would appear to combine the inflorescence of a *Ptychosperma*, the leaves of a *Drymophloeus* and the fruit of a *Ptychococcus*. Max Burret, who had identified Beccari's species as belonging in *Ptychococcus*, subsequently described a new genus, *Brassiophoenix*, with the single species *B. drymophloeoides*, which was characterized by just this seemingly odd combination of characteristics. Burret apparently had forgotten about *Actinophloeus schumannii* at this time, otherwise he would surely have recognized the similarity of his new genus and species to Beccari's species. *Actinophloeus schumannii* has, in fact, now

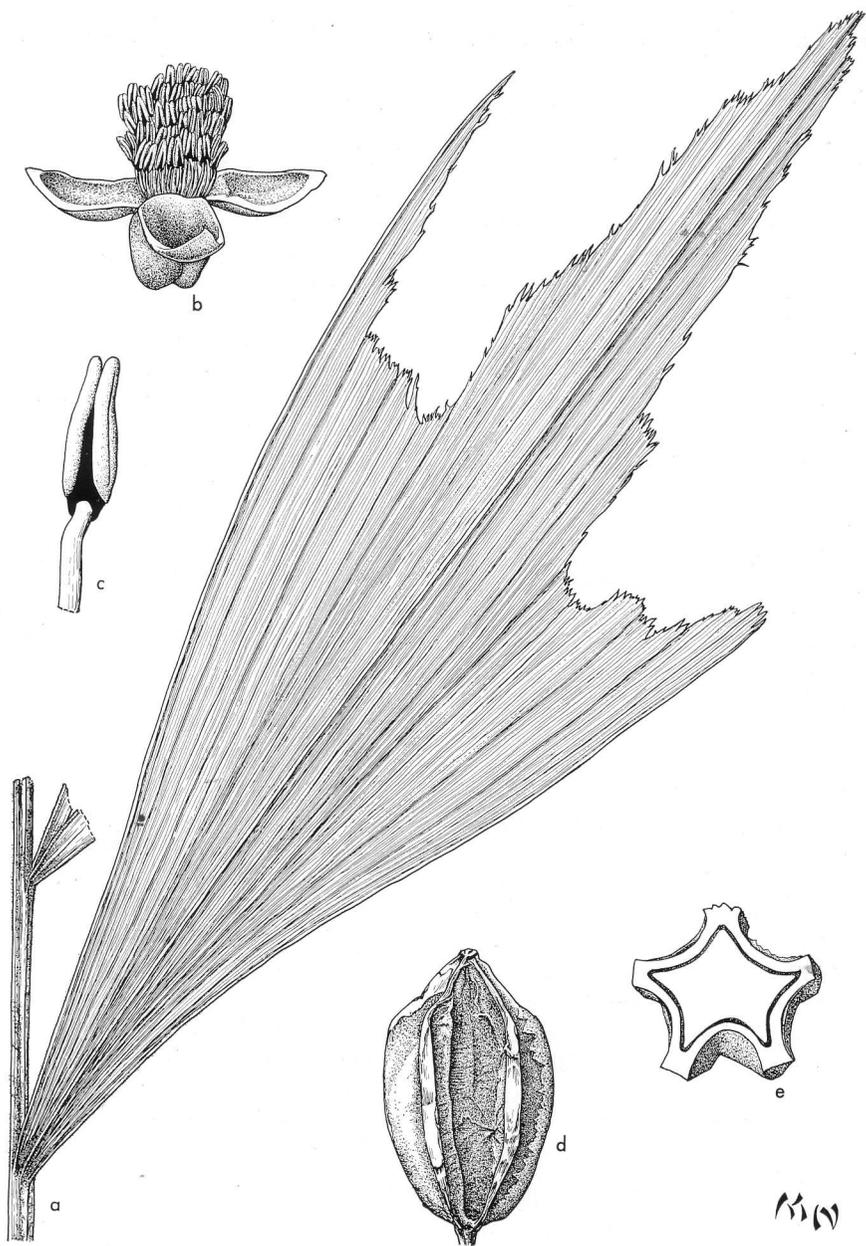
been determined to be another species of the genus *Brassiophoenix*.

Brassiophoenix is distinguished among the ptychospermate palms by a number of unusual characters. The most distinctive of these is the oddly shaped pinnae. The central pinnae of mature fronds are three-pronged. The two marginal nerves and midnerve are prolonged and alternate with two deep praemorse sinuses at the apex. In other ptychospermate genera the pinnae are convexly praemorse (e. g. *Drymophloeus*), obliquely or concavely praemorse or notched (e. g. *Ptychosperma*), or nearly acute at the apex (e. g. *Veitchia*).

Less conspicuous, but possibly of more diagnostic importance, are the basifixed anthers and small, inconspicuous pistillode of the staminate flowers. In all other ptychospermate palms, anthers are dorsifixed and versatile and in most the pistillode is well developed (exceptions occur in *Ptychosperma* subgenus *Ponapea* and in some species of *Drymophloeus*).

The fruit of *Brassiophoenix* is superficially very similar to that of *Ptychococcus* in having a thick, extremely hard endocarp, but can be distinguished anatomically (Essig, unpublished). The inflorescence is rather long-pedunculate, with the inner enclosing bract well exerted from the outer bract (prophyll) just before opening. In this way the inflorescence is more like that of *Drymophloeus* than of *Ptychosperma* or *Ptychococcus*.

The question now arises as to the relationship of *Brassiophoenix schu-*



1. *Brassiophoenix schumannii*. a, pinna $\times \frac{1}{8}$; b, staminate flower $\times 2\frac{1}{8}$; c, stamen $\times 13$; d, endocarp, external view, $\times 1$; e, endocarp and seed, cross-section, $\times 1$ (all from Essig LAE 55161, BH).

mannii with *B. drymophloeoides*. *Brassiophoenix schumannii* has priority under the rules of nomenclature if the two are to be combined. However, there does seem to be sufficient basis for recognizing two species in the genus at least provisionally. A synopsis of the differences between the two species is presented below, followed by a full description and citation of specimens for

Brassiophoenix schumannii. A list of specimens for *B. drymophloeoides* is appended for the benefit of those interested in pursuing the problem. The latter species is actually known from relatively few specimens and I would recommend that more extensive collections and field studies be made of both species before a final decision is made on their taxonomy.

	<i>B. schumannii</i>	<i>B. drymophloeoides</i>
1. Mature fruit color	pale yellow-orange	red
2. Inflorescence vesture	thickly dark-lepidote-tomentose	densely white-woolly or very sparsely dark-lepidote-tomentose

Brassiophoenix schumannii (Beccari) F. B. Essig *comb. nov.*

Actinophloeus schumannii Beccari in K. Schumann & M. Hollrung, Die Flora von Kaiserwilhemsland, 15. 1889.

Neotype: *Lauterbach* 857, FI! (Holotype: *Hollrung* 264, B, destroyed, no photograph known).

Drymophloeus schumannii (Beccari) Warburg ex K. Lauterbach & K. Schumann, Flora von der deutschen Schutzgebiete der Südsee, 207. 1901.

Ptychococcus schumannii (Beccari) Burret, Feddes Repert. Spec. Nov. Regni Veg. 24: 262. 1928.

A slender, solitary palm; stem 2–10 m. tall, 3–5 cm. in diam.

Leaves ca. 9, spreading; sheath 30–50 cm. long, densely white woolly and brown punctulate throughout, sometimes with an inconspicuous triangular appendage at the apex opposite the petiole; petiole 20–45 cm. long, densely white woolly and sparsely to moderately lepidote with brown punctiform scales and dark, irregular ramenta; rachis 130–300 cm. long, lepidote as on

rachis, sometimes very densely lepidote around and on base of the pinnae; pinnae 8–10 on each side, regularly or irregularly arranged, basal pinnae reduced and sometimes crowded, central pinnae cuneate, praemorsely 3-pronged, 38–68 cm. long on the midrib, 22–27 cm. broad just below the two deep notches, apical pinnae wedge-shaped, 3–4-ribbed, ca. half as long as central pinnae.

Inflorescence branched to 2 or 3 orders, 25–74 cm. long, 22–58 cm. wide, with peduncle ca. $\frac{1}{4}$ – $\frac{1}{3}$ as long as the rachis, complete peduncular bract twice as long as prophyll and exerted from it at maturity; axes thickly dark lepidote-tomentose and somewhat white woolly when young, glabrescent with age; upper peduncular bracts 1 or 2, very small and ribbonlike or sometimes triangular to elongate, 2–7.5 cm. long; rachillae 1.5–4 mm. thick in the middle, 9.5–28 cm. long, each bearing 28–60 triads and diads.

Flowers cream-colored or yellow-green, glabrous or sparsely punctate; staminate flowers 7–9 mm. long, 3–5 mm. wide, with calyx ca. 2–2.5 mm. high, stamens ca. 130–200; pistillate

buds ca. 6 mm. high and 4–6 mm. broad at staminate anthesis.

Fruit yellow-orange at maturity, ellipsoid, 31–35 mm. long, 17–19 mm. in diam. when dry, outer part of the fruit wall drying in close conformity to the angled endocarp when incompletely ripe, but drying apart from the endocarp when fully ripe, endocarp 5- or 9-ribbed; seed 5-grooved with the lobes squarish or acute in cross-section, endosperm homogeneous.

Distribution: New Guinea, rain forest from Sepik River Basin to Milne Bay District.

Vernacular names: None recorded.

Specimens examined: PAPUA NEW GUINEA. **East Sepik District:** Sepik River, 120 sea miles from the mouth, fruit orange-yellow, *Hollrung 264* (B, holotype destroyed, no photo known, data according to Beccari, 1889); Angoram Subdistrict, 1 mile north of Angoram on road to Gavien, alt. 50 ft., disturbed forest, *F. B. Essig LAE 55108* (BH, LAE); **Madang District:** Bismarck Mountains, 5 July 1899, *Ramu Expedition (Rødety & Krause ?)* 222 (B, destroyed: photo at BH); Gogol River, 4 November 1890, *Lauterbach 857*, (B, destroyed; FI, neotype, photos and fragments, photos also at BH); Gogol River, 9 November 1890, *Lauterbach 1535* (BH); Gogol River, swampy lowland forest about 1 mile from Forest camp, alt. 100 ft., 11 October 1971, *F. B. Essig & P. Katik LAE 55052* (BH, LAE); **Morobe District:** Lae Subdistrict, mountain slopes of the south side of the Mo River Valley, a few miles southeast of Ana Village, alt. ca. 500 ft., 28 January 1972, *F. B. Essig LAE 55161* (BH, LAE); **Northern District:** north of Ioma on walking track to Nindewari, alt. ca. 200 ft., ridge top and slopes in lowland rain forest, 2 June 1967, *M. J. E. Coode & P. Katik*

NGF 29978 (BH, LAE); **Milne Bay District:** Raba Raba Subdistrict, Biniguni camp, Gwariu River, alt. 200 m., 6 August 1953, *L. J. Brass 23853* (A, BH); Peria Creek, Kwagira River, alt. 50 m., rain forest, 17 August 1953, *L. J. Brass 24034* (A, BH); Biniguni, alt. 60 m., advanced regrowth, 27 June 1972, *H. Streimann 28561* (BH, LAE); Mt. Suckling, Mayu camp I, alt. 360 m., lowland forest, 15 June 1972, *G. Leach LAE 56015* (BH, LAE). CULTIVATED. U.S.A.: Florida, Fairchild Tropical Garden, "Rainforest," 1972, *S. Donachie s. n.* (plant # FG 3172, apparently progeny of a Brass collection from the Biniguni area in 1956) (BH).

Lauterbach 857 has been selected as a neotype since it is the best extant specimen annotated by Beccari himself as belonging in the species.

Brassiophoenix drymophloeoides

Burret, Notizbl. Bot. Gart. Berlin-Dahlem 12:345. 1935.

Holotype: *L. J. Brass 5665*, A!

Distribution: Papua, from southern Milne Bay District to Central District.

Vernacular names: *Pawa* (Mekeo language, Maipa Village, *vide* Darbyshire).

Specimens examined: PAPUA NEW GUINEA. **Central District:** Kabuna, alt. 100 m., rain forest, November 1933, *L. J. Brass 5665* (A, holotype); Kairuku Subdistrict, near Maipa Airstrip, Maipa Village, alt. 180 ft., in damp shaded position in tall forest, 17 September 1962, *P. J. Darbyshire 964* (BH); Abau Subdistrict, Mori River, Cape Rodney, forest on flat land, 20 June 1968. *E. E. Henty NGF 38558* (BH); Milne Bay District; Sagarai valley, inland from Mullins Harbour, alt. 100 ft., open understory, 9 June 1964, *J. S. Womersley NGF 19272* (BH).