

A Magnificent New Palm from Madagascar

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Dr. Mardy E. Darian, tireless and enthusiastic palm collector, has visited Madagascar several times in recent years seeking rare and unusual palms to introduce into his unparalleled collection at Vista, California. Collecting palms in Madagascar is fraught with difficulties, yet the palm flora is exceptionally exciting. After several false leads, in 1982 Mardy struggled to mountain swamps northwest of Maroansetra with the encouragement of Palm Society member Alfred Razafindratsira and the help of Dominic Halleux and found a truly magnificent, entire-leaved palm (see Cover). He returned with tales of this spectacular palm and tantalizing photographs. A second trip provided seeds and leaf fragments and a third trip pieces of old inflorescences.

Initially it appeared that the palm represented a new genus but as fragments accumulated, the affinities of the palm with *Marojejya insignis*, described by Humbert (1955) from the nearby Marojejy Massif, became more and more evident. Finally, in July 1984 we were able to compare the fragments collected by Mardy with the superb complete material of *Marojejya insignis* collected by Dr. H. E. Moore, Jr. in 1971. There seems no doubt that Mardy's palm is a new species of *Marojejya*. The palm is locally called *Ravimbe*—'Big Leaf.' We hereby honor with the specific epithet Dr. Darian's tireless efforts to discover and introduce this wonderful palm.

***Marojejya darianii* J. Dransf. & N. Uhl sp. nov.** Palma egregie insignis, foliis indivisis maximis; a *M. insigni* petiolo

caerenti, vaginis auriculas maximas ferentibus, rachillis staminatis foveas profundiores ferentibus, rachillis pistillatis numerosioribus, seminibus subreniformibus, profunde-sulcatis, bene distincta. Typus: Madagascar, Maroansetra, *Darian s.n.*

Robust, solitary, monoecious, pleioanthic palm. Stem erect to 8 m tall, ca. 15–20 cm diam., when young covered in leaf bases and then appearing ca. 30 cm diam.; internodes short, bearing scattered, short, spinelike adventitious roots. Leaves massive, ca. 20–30 in the crown, held more or less stiffly erect, entire, bifid, pinnately ribbed, becoming torn by the wind; sheath with 2 conspicuous, large rounded auricles, ca. 10–12 cm wide; petiole absent; rachis ca. 15 cm wide near the base, very spongy in texture; blade ca. 7–9 m long, bifid in the apical 20–50 cm, basally the margins long decurrent to the sheath, gradually widening distally, ca. 1–1.2 m wide at the widest point, ca. 2/3 the blade length from the base; margins finely serrate; adaxial surfaces of the ribs and blade glabrous, abaxial surface of ribs bearing abundant pale, floccose scales, the blade abaxially with scattered, minute, dotlike scales. Inflorescences ?unisexual. Staminate inflorescence unknown except for rachilla fragments; rachillae more or less catkinlike, length unknown, ca. 7–8 mm diam., apparently bearing flowers to the tip; rachilla bracts, 2 × 1.75 mm, spirally arranged, congested, horizontally inserted, joined laterally and forming pits ca. 2 mm diam., the free tips apiculate, distally pointing, the exposed part densely tomentose except at the tip, the tip



1. Dr. Darian points to the conspicuous auricle on the leaf of *Marojejya darianii*; note the absence of a petiole.



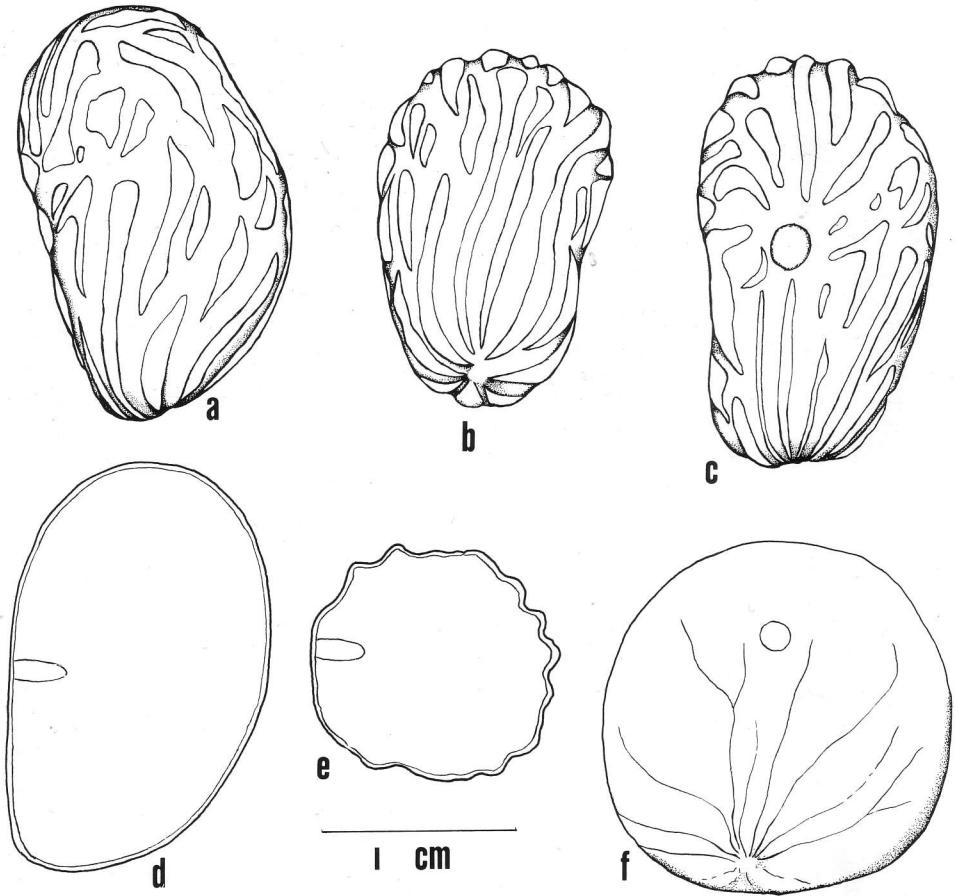
2. An old pistillate inflorescence of *Marojejya darianii*.

extending between the staminate flowers; floral bracteoles minute, only 1 seen. Staminate flowers borne in pairs, more or less symmetrical, ca. 3.5×2.0 mm; sepals 3, free, widely separated, tonguelike, ca. 2.25×1 mm, apically pointed, slightly keeled, the margins very finely serrate, 1 sepal usually slightly wider than the others; petals 3, free, valvate, more or less boat-shaped, 2.5×1.5 mm; stamens 6, filaments awlshaped, long and slender, ca. 2.0–2.5 mm long, united at the base with the pistillode, the antesealous inserted lower than the antepetalous; anthers medifixed, ca. 2.5×1 mm, latrorse, more or less exerted at anthesis; pistillodes 3, irregularly joined, ca. 0.75 mm long. Pistillate inflorescence (Fig. 2) apparently partially concealed among the leaf bases; peduncle at least 15 cm long, more or less circular in cross-section, ca. 2 cm diam.; prophyll and peduncular bracts not available; rachis ca. 6 cm long, bearing 48 closely crowded, catkinlike rachillae;

rachillae more or less equal, ca. $10-11 \times 1.3$ cm, bearing spirally arranged bracts united laterally and basally to form pits; pits ca. 4.5 mm diam.; rachilla bracts triangular, apiculate, ca. 3×4 mm, at first apparently closing the pit, becoming reflexed; abortive staminate flowers 2, very small, concealed within the pit, lateral to the pistillate, floral bracteoles 2, broadly triangular, 2×2 mm. Pistillate flowers unknown. Mature fruit not available, said to be rounded, smooth. Seed subreniform, ca. $20 \times 12 \times 10$ mm, the surface covered with deep, broad, mostly longitudinal, anastomosing grooves; endosperm homogeneous; embryo lateral to the hilum. Germination adjacent ligular; eophyll bifid, epetiolate, with long decurrent blade margins.

MADAGASCAR. Northeast: In mountain swamps west northwest of Maroansetra, ca. 500 m altitude, *M. Darian s.n.* 1983. (Holotype BH, isotype K.)

Notes: *Marojejya darianii* is immediately distinguishable from *M. insignis* by the absence of a petiole and by the extraordinary pointed auricles on the leaf sheath (see Fig. 1). The staminate rachillae have much more pronounced pits but the flowers are almost identical to those of *M. insignis*. In the pistillate inflorescence there appear to be many more rachillae in the new palm. Perhaps the most striking difference is in the seed (Fig. 3); that of *M. darianii* is subreniform and deeply grooved, whereas that of *M. insignis* is irregularly globular and only very faintly grooved. However, the two seeds are basically similar in form and in the position of the embryo in relation to the hilum. The seedlings are easily separated; that of *M. darianii* bears epetiolate leaves, whereas that of *M. insignis* has definite petioles. These differences establish that the two palms are clearly specifically distinct, but there are many similarities such as the form of the leaf, inflorescence structure, and staminate flowers indicating that the two taxa are congeneric.



3. *Marojejya darianii*, a-c, the seed in three views; d, seed in longitudinal section; e, in transverse section. *Marojejya insignis*, f, view of seed to show the position of the embryo, lateral to the hilum, similar to that of *M. insignis* in c. Drawn by Soejatmi Dransfield.

LITERATURE CITED

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Note: *M. darianii* grows at temperatures of 50-80 F under deep shade in humus of sandy swamps where rainfall is very high. Dr. M. E. Darian, 2615 So. Santa Fe Ave., Vista, CA 92083, has seedlings of both *M. darianii* and *M. insignis* for exchange with Botanic Gardens and other collectors.