

triads. **STAMINATE FLOWERS** with sepals 1.4–1.5 × 1–1.2 mm; petals connate for c. 0.5 mm, the free parts 1.8–2.1 × 1.2–1.3 mm; stamens 6, uniseriate, filaments c. 1 mm and curved, anthers 0.8–0.9 × 0.4–0.5 mm; pistillode c. 1.3 × 0.3–0.4 mm. **PISTILLATE FLOWERS** unknown. **FRUIT** only known from endocarps, ellipsoid, 7.5–10 × 6–7.5 mm, with almost free fibres. **SEED** subglobose to ellipsoid, 7–8 × 5.5–6 mm; endosperm ruminant, with few columnar intrusions to 1.5 mm deep and 1 mm diam.

NOTE. Probably closest to *D. pilulifera*.

SPECIMENS SEEN. Miandrivazo: Ambohitsaratelo, Nov. 1986 (fl., fr.), *Dransfield et al.* JD6446 (Holotype K; isotype TAN). Ankazobe: Manerinerina, April 1992 (fr.), *Beentje et al.* 4659 (K, TAN).

9. DYPISIS PILULIFERA

A large and beautiful tristichous palm, virtually unknown until a few years ago, but found recently in several places.

DISTRIBUTION. Sambirano region, Marojejy, and Mantady.

HABITAT. Moist submontane forest; slight or steep mid slopes; alt. 750–950 m.

LOCAL NAMES. *Ovomamy* (Tsimihety), *Lavaboko* (Marojejy), *Hozatanana* (Mantady).



Dypsis orpedionis. **A** leaf sheath × 1/4; **B** distal part of petiole with lowermost leaflets × 1/4; **C** mid section of leaf × 1/4; **D** leaf tip × 1/4; **E** inflorescence × 1/4; **F** detail of rachilla × 3; **G** staminate flower × 6. All from *Dransfield et al.* JD6446. Drawn by Margaret Tebbs.

USES. Good palm heart, and cut down for this.

CONSERVATION STATUS. Vulnerable. Though the populations in the Marojejy and Mantady occur within protected areas, the harvest of the palm-heart continues, with fatal consequences for the trees.

Dypsis pilulifera (Becc.) Beentje & J. Dransf. **comb. nov.**

SYNONYMS:

Chrysalidocarpus piluliferus Becc. in Bot. Jahrb. Syst. 38, Beibl. 87: 37 (1906); Jum. & H. Perrier in Ann. Inst. Bot.-Géol. Colon. Marseille sér. 3, 1 (1): 45 (1913); Becc. in Palme del Madag.: 46, t. 45, fig. 37 (1914); Jum. in Ann. Inst. Bot.-Géol. Colon. Marseille sér. 10, 3: 21 (1922); Jum. in Cat. Pl. Madagascar, Palmae: 11 (1938); Jum. & H. Perrier in Fl. Madagascar 30: 118 (1945). Type: Madagascar, without locality, Lastelle s.n. anno 1841 (Holotype P).

Chrysalidocarpus paucifolius Jum., Ann. Inst. Bot.-Géol. Colon. Marseille sér. 10, 3: 9 (1922); Jum., Cat. Pl. Madagascar, Palmae: 11 (1938); Jum. & H. Perrier, Fl. Madagascar 30: 102 (1945). Type: Madagascar, Analamazaotra, Perrier 12004 (Holotype P).

Solitary palm. **TRUNK** 8–30 m, 10–40 cm diam., 10–12 cm diam. near crownshaft, internodes 20–60 cm proximally, 2–3 cm near the crownshaft, green becoming greyish or dark brown, conspicuously ringed, nodal scars c. 1.5 cm; wood medium hard. **LEAVES** 4–9, tristichous, slightly arching; sheath 1.1–1.7 m long, 3 mm thick, abaxially green, pale brown to peach-coloured with some wax and with slightly sunken large (3–8 × 1–2 mm) reddish-tomentose scales,



Dypsis pilulifera on the slopes of Marojejy (Photo: D.N. Cooke).

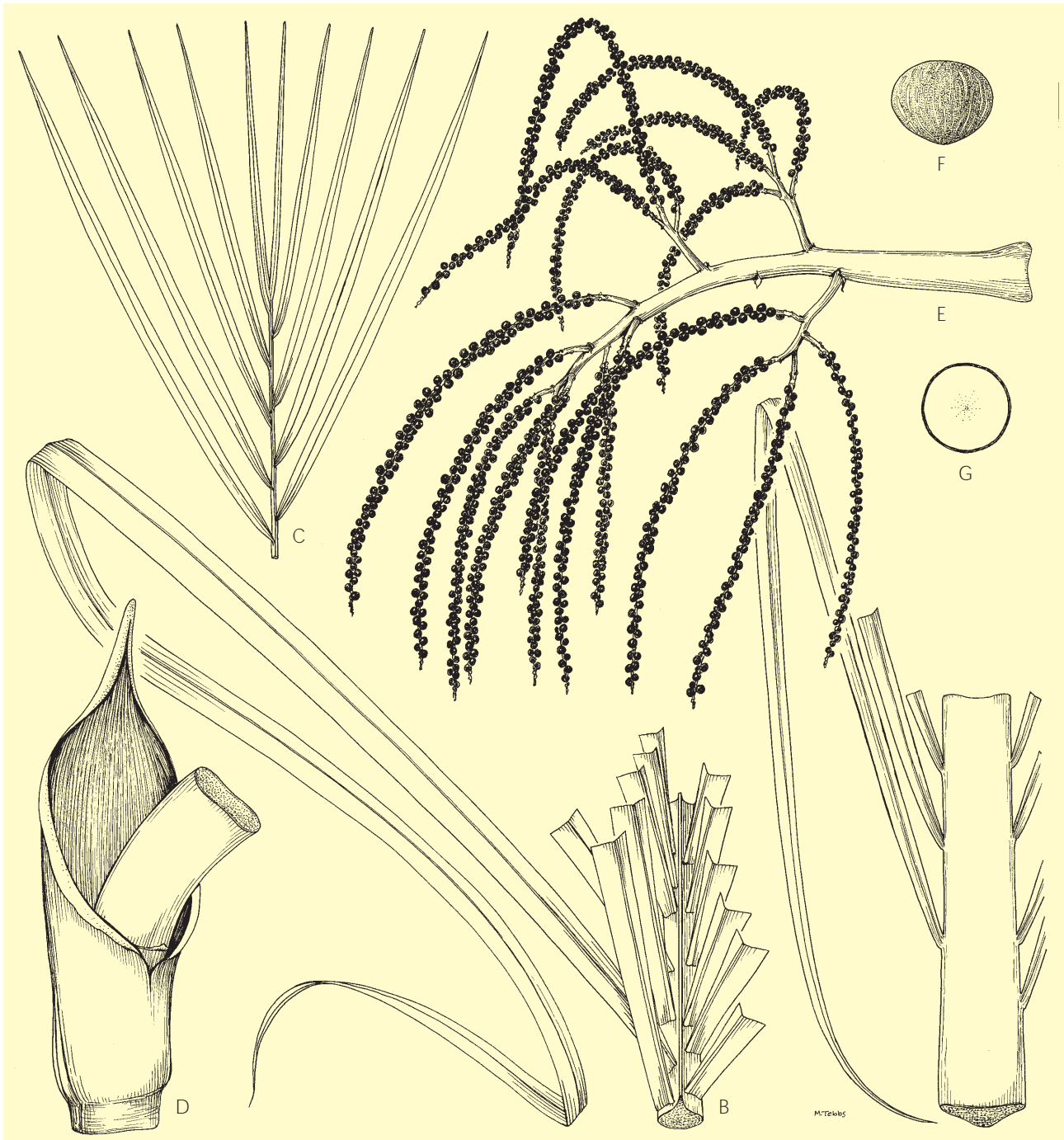


Dypsis pilulifera

the continuous cover flaking and glabrescent, with disintegrating auricles of c. 4 × 6 cm; petiole absent or up to 40 cm long, with the same indument as the sheath but with only remnants of the scales present, 7 × 4 cm in diam., canaliculate; rachis 2.9–5 m long, in mid-leaf c. 2 × 1.5 cm, with small scattered scales, proximally canaliculate, distally keeled; leaflets grouped and fanned or slightly irregular, 70–144 on each side of the rachis, closely set, the proximal 56–160 × 0.5–1.8 cm, median 88–124 × 2.4–3.7 cm, distal 10–44 × 0.4–2 cm, glabrous or with minute scattered scales, with distant red ramenta, main vein 1, with unequally acute apices. **INFLORESCENCE** infrafoliar, branched to 3–4 orders, erect in bud, pendulous in fruit; peduncle c. 23 cm long, 8 × 3.5 cm diam.; prophyll 40–50 × 9–15 cm, borne at c. 3 cm above the base of the peduncle, beaked for up to 10 cm, pale brown abaxially, chestnut brown adaxially; peduncular bract inserted at c. 7 cm above the base of the peduncle, 37–70 × 6.5–13 cm, split over its length but closed in the distal part which forms a beak 10 cm long; rachis with up to 20 first order branches; rachillae cream, (7–) 20–40 cm long, 2.5–3 mm diam., with quite dense triads in pits. **STAMINATE FLOWERS** (from detached material) with sepals 1–1.2 × 1.5–2 mm; petals 1.8–2 × 1.8–2 mm; stamens 6, filaments 1.7–1.9 mm, connate at the base for up to 0.2 mm, uniseriate, anthers c. 1.4 × 0.7 mm, versatile; pistillode columnar, 1.8 × 0.7 mm. **PISTILLATE FLOWERS** with sepals 1.3–2.1 × 1.4–2.2 mm, hooded and rounded; petals 2–2.9 × 1.8–2.5 mm; staminodes six, 0.2–0.6 mm high; gynoecium 2–2.8 mm high, 1.5–2.3 mm diam., slightly asymmetrical with spreading terminal stigmas. **FRUIT** globose, 5–7 mm, with fibrous endocarp, the fibres anastomosing. **SEED** globose or nearly so, 4–5 mm, rounded at base and apex with homogeneous endosperm.

NOTE. Despite the fact that the type of *D. pilulifera* consists of an inflorescence with fruits and lacks any vegetative material, it is one and the same as the other populations from the North, rather than *D. mananjarensis*. Another collection by de Lastelle (the type of *D. lastelliana*) is also without locality, but judging by the distribution of that species, must have been from NE Madagascar.

Beccari and Jumelle state that the type of *D. pilulifera* was called *Neodypsis lastelliana* by Baillon, but



Dysis pilulifera. **A** basal part of leaf rachis $\times 1/4$; **B** mid section of leaf $\times 1/4$; **C** leaf tip $\times 1/4$; **D** part of peduncle and peduncular bract $\times 1/5$; **E** first order branch of infructescence $\times 1/5$; **F** endocarp $\times 3$; **G** seed in cross section $\times 3$. All from *Beentje et al.* 4574. Drawn by Margaret Tebbs.

in fact Baillon compared it to that taxon, and wrote that it was quite likely a different species.

The material of *Chrysalidocarpus paucifolius* is scanty, but a second collection made in the type area some seventy-five years later is conspecific, and allows us to state with almost complete certainty that this taxon is identical to *D. pilulifera*.

Close to *D. mananjarensis*, from which it can be distinguished by the indument: reddish tomentose scales in *D. pilulifera*, against large white waxy scales in *D. mananjarensis*.

SPECIMENS SEEN. Ambanja: Manongarivo, May 1909 (fl., fr.), *Perrier* 11961 (P); idem, Bekolosi, Feb. 1992 (fl., sd.), *Beentje et al.* 4574 (BH, K, MO, P, TAN); Antsatrotro, March 1993 (fl.), *Malcomber et al.* 2309 (K, P). Andapa: Marojejy Est, Nov. 1989 (bd., fr.), *Dransfield et al.* JD6766 (K, TAN). Moramanga: Analamazaotra, sine die (fl.), *Perrier* 12004 (P; type of *C. paucifolius*); Mantady, April 1992 (dead infl.), *Beentje et al.* 4654 (K).

LOCALITY UNKNOWN: anno 1841 (fr.). *De Lastelle* s.n. (P, type of *D. pilulifera*).