

mosing fibres. **SEED** ellipsoid, 12–13 × 5–6 mm, pointed at the base, rounded at the apex, attached to the spot corresponding to the stigmatic remnant on the outside; endosperm deeply ruminant, the ruminations reaching the middle.

NOTE. The following data from the protologue do not appear on the type label: found at 100 m altitude. This species resembles both *D. bejofo* and *D. canaliculata* but is distinct in the smaller and thinner trunk, the more branched inflorescence and the much smaller fruit.

SPECIMENS SEEN. Andapa: Mt Mainampango, Amtalavania, Jan. 1949 (fr.), *Cours* 3234 (K, P, TAN). Toamasina: Betampona, Dec. 1925 (fr.), *Perrier* 17474 (P, type).

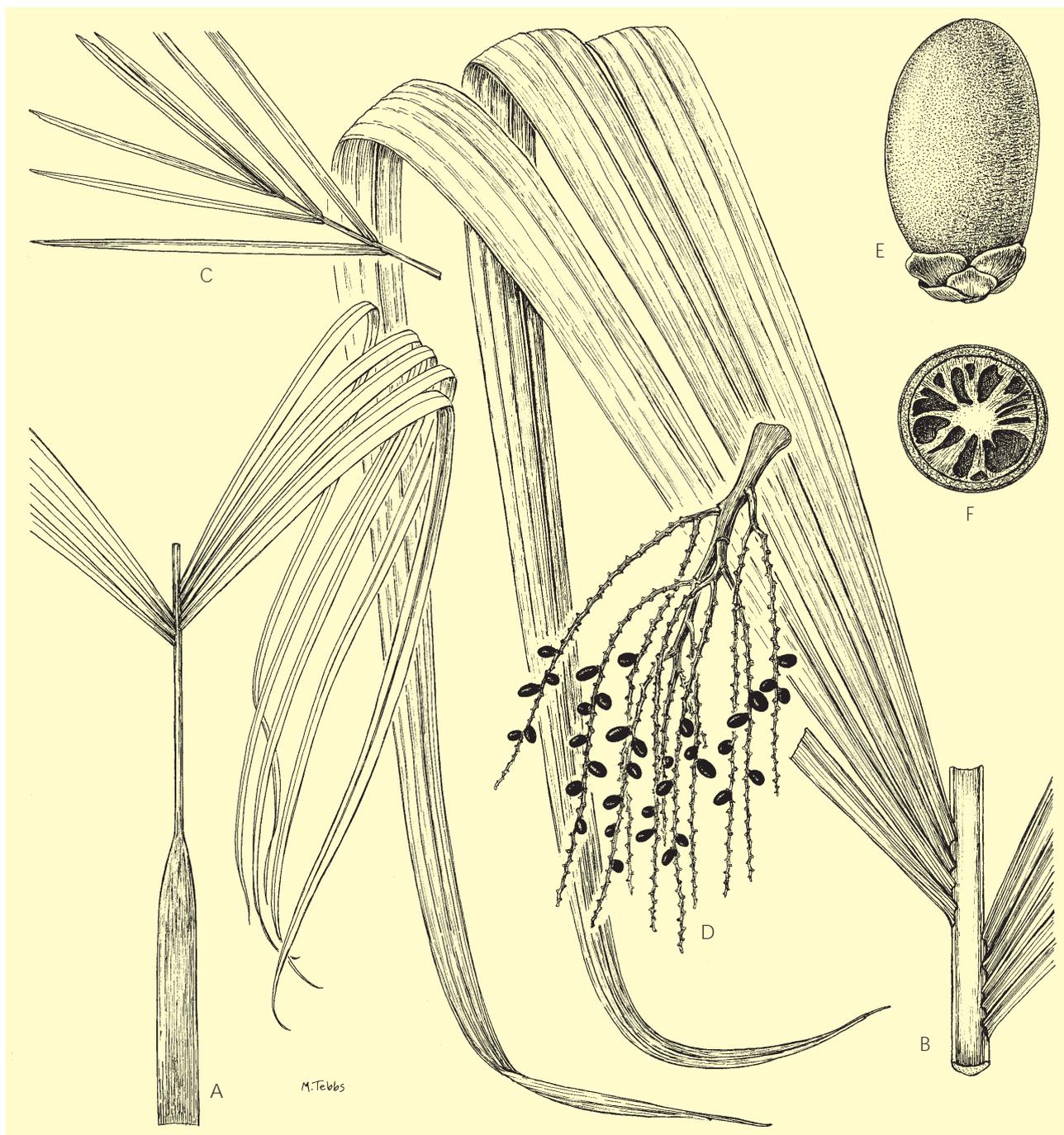
5. DYPsis AMPASINDAVAE

A rare species, with the leaves in three ranks. The new name refers to the village nearest to the forest where the type was found, and where HB stayed when he refound the species ('the sand across the bay' in Malagasy).

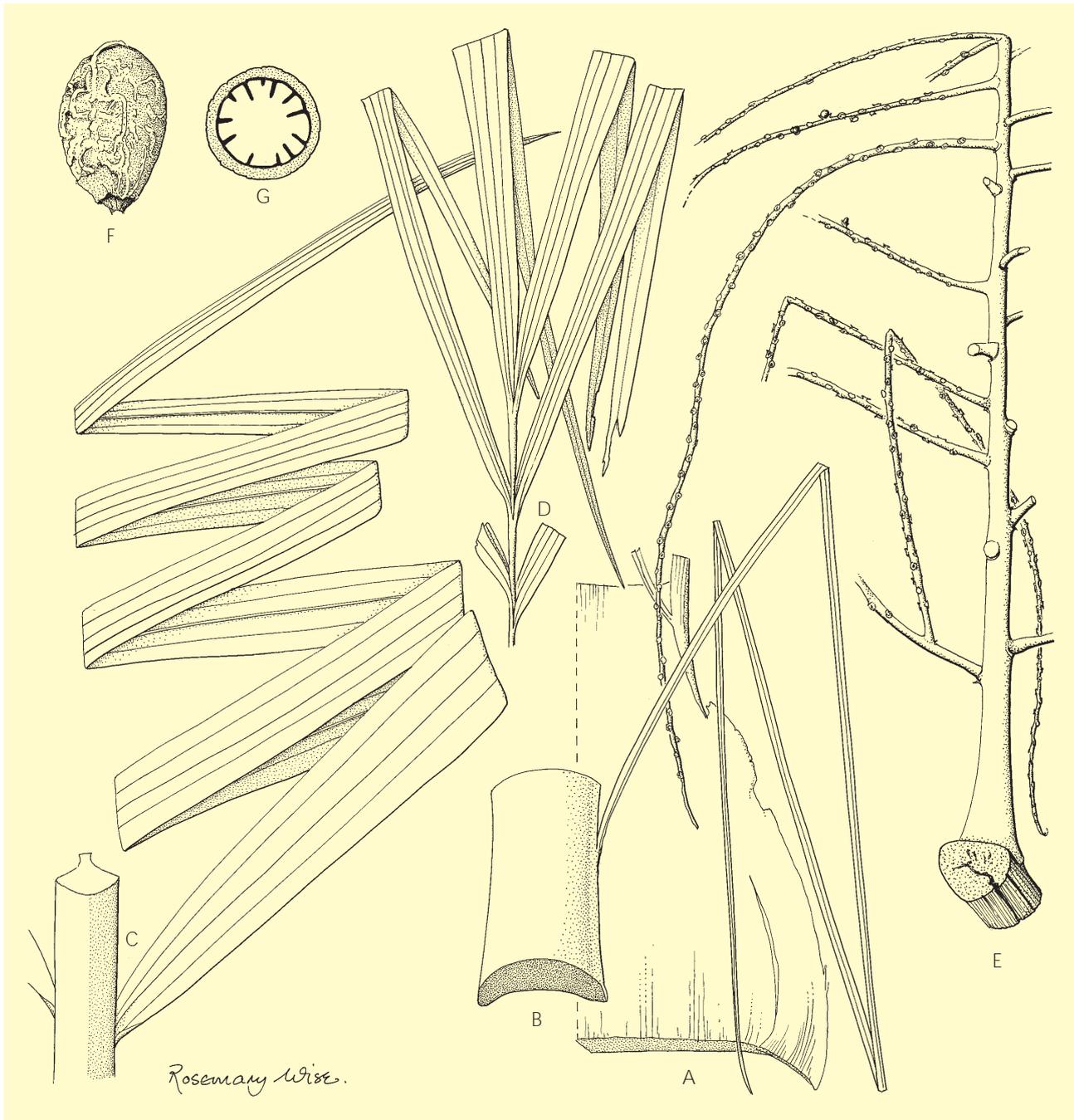
DISTRIBUTION. Restricted to Nosy Be and Manongarivo Mountains.

HABITAT. Moist lowland forest, on steep mid slope; 10–200 m.

LOCAL NAMES. *Lavaboka* (Tsimihety).



Dypsis ceracea. **A** leaf sheath, petiole and basal leaflets × 1/5; **B** mid section of leaf × 1/2; **C** leaf tip × 1/5; **D** part of infructescence × 1/5; **E** fruit × 2; **F** fruit in cross section × 2. All from *Perrier* 17474. Drawn by Margaret Tebbs.



Dypsis ampasindavae. **A** distal part of leaf sheath $\times 1/3$; **B** lowermost leaflet $\times 1/3$; **C** mid section of leaf $\times 1/3$; **D** leaf tip $\times 1/3$; **E** first order branch of inflorescence $\times 1/3$; **F** mature fruit $\times 2$; **G** mature fruit in cross section $\times 2$. **A** – **E** from *Beentje & Andriampaniry* 4700, **F**, **G** from *Beentje & Andriampaniry* 4583. Drawn by Rosemary Wise.

USES. Used in house construction; palm-heart eaten.
CONSERVATION STATUS. Endangered. Known from only two sites, both of which are protected; but tree poaching is a severe threat in Lokobe Special Reserve (see Adany *et al.* 1994). HB has seen less than 25 trees in the two sites.

Dypsis ampasindavae *Beentje nomen nov.*

SYNONYM:

Neodypsis loucubensis Jum., Ann. Inst. Bot.-Géol. Colon. Marseille sér. 5, 1 (1): 17 (1933); Jum., Cat. Pl. Madagascar, Palmae: 18 (1938); Jum. & H. Perrier, Fl. Madagascar 30: 156 (1945), **synon. nov.** Type: Nosy Be, Lokobe, *Perrier* 18730 (Holotype P).

NOTE. The epithet 'loucubensis' is too close to that of *Chrysalidocarpus lucubensis* Becc. of 1906, a synonym of *D. madagascariensis*.

Large solitary palm. **TRUNK** 12–15 m, 18–25 cm diam., with basal swelling 20 cm high and 40–55 cm diam., with surface roots; internodes 10–17 cm long, pale brown; nodal scars 1–3 cm, grey; near the crown 17 cm diam., and the internodes here c. 17 cm long, nodal scars 2 cm. **LEAVES** 9–11 in the crown, tristichous, pectinate to arching with pendulous leaflets; sheath 110–146 cm long, 20–23 cm diam., pale green with some wax, half open, without auricles or with slight auricles to 1 cm high; petiole absent or up to 18 cm long, 5–8.5 \times 3–4.5 cm diam., channelled, green and with scattered scales or glabrous; rachis 3.6–5 m long, in mid-leaf 2–3 \times 1.8–2.5 cm diam. and keeled, with scattered scales; leaflets 84–103 on each side of the rachis, regular, pale or mid-green, in one plane but with the

distal part pendulous, the proximal 105–137 × 0.8–2.1 cm, median 105–170 × 2.7–5.1 cm (interval 2.5–4 cm), distal 18–30 × 0.4–2.3 cm, the distal pair joined for c. 10 cm, main veins 1, quite glabrous, apices acute and bilobed. **INFLORESCENCE** infrafoliar, erect and spreading, 1.3–1.5 × 1.2–1.4 m, branched to 3 orders; peduncle 25–34 cm long, proximally 6.5–12 × 3.5–7 cm diam., with scattered scales; prophyll 50–60 × 10–13 × 4 cm, borne at 7–9 cm above the base of the peduncle; peduncular bract inserted at 15–16 cm from the base of the peduncle, c. 90 cm long, 14 × 9 cm diam., green with a white bloom, beaked for 6 cm; rachis 90–120 cm long, pale whitish green, with 18–22 branched and 15–21 non-branched first order branches, the most proximal of these with a rachis of up to 32 cm, at its base to 2.5–5 × 1.2–1.5 cm diam., with up to 21 second order branches and rachillae; rachillae whitish green, 24–58 cm long, 3.5–5 mm diam., glabrous; triads distant, in slight pits; rachilla bract small, acute. **STAMINATE FLOWERS** cream; sepals 1.5–2.1 × 1.4–1.8 mm, broadly ovate, gibbous proximally, keeled, acute to truncate, with ciliolate membranous margins; petals 3–3.4 × 1.7–2 mm, ovate, acute; stamens 6, uniseriate, filaments 1.2–1.5 mm long, thin, anthers 2–2.3 × 0.5–0.6 mm, dorsifixed, versatile, the locules parallel and obtuse; pistillode c. 1.5 mm high, columnar, 0.5 mm diam. **PISTILLATE FLOWERS** cream; sepals 1.8–2.4 × 2.2–2.6 mm (–3.6 mm in fruit), broadly ellipsoid, rounded, concave, ciliolate; petals 2.7–3.4 × 2.3–2.5 mm (–4 × 4.5 mm in fruit), concave, striate, with membranous margins, ciliolate; staminodes 6, flat, obtuse, 0.2–0.8 mm long; gynoecium 3–3.4 × 2.2–2.7 mm. **FRUIT** ovoid, 10–13 × 7.5–9 mm, apex obtuse with an asymmetrical point; endosperm fibrous, the fibres slightly anastomizing. **SEED** ellipsoid, 9–11 × 7–8 mm, pointed at the base, rounded at the apex, with a subaequatorial depression; endosperm ruminant, the ruminations distant and 1–2 mm deep.

NOTE. Closest to the other large tristichous species, *D. tsaravoasira* and *D. pilulifera*. Distinct in its longer rachillae and homogeneous endosperm.

SPECIMENS SEEN. Nosy Be: Lokobe, Sept. 1932 (fr.), *Perrier* 18730 (Holotype P); idem, July 1992 (fl.), *Beentje & Andriampaniry* 4697 (K, MO, TAN), and (bud), *Beentje & Andriampaniry* 4700 (BH, K, MO, P, TAN). Ambanja: Manongarivo, S of Ambalafary, Feb. 1992 (fr.), *Beentje et al.* 4583 (BH, K, MO, P, TAN).

6. DYPISIS TSARAVOASIRA

A majestic, tristichous palm. The leaves are in three ranks. Although the material is incomplete, this is clearly a distinct taxon. The name derives from the local name.

DISTRIBUTION. Only known from Marojejy, Maroantsetra and Mananara.

HABITAT. Open primary forest, steep upper slopes or ridgetop hollows; 275–1050 m.

LOCAL NAMES. *Tsaravoasira*, *Hovotravavy*, *Lavaboko* (Betsimisaraka).

USES. Palm-heart edible.



Dyopsis ampasindavae

CONSERVATION STATUS. Endangered. Only known from three sites, two of which are under agricultural pressure; numbers within the populations are low, and we have seen less than thirty altogether.

Dyopsis tsaravoasira Beentje sp. nov.

inter species maximas tristichas foliolis regulariter dispositis inflorescentiis multo ramosis numero foliolorum infra glandibus dispersis tectorum distincta. Typus: Madagascar, Sahavary, hills E of village, Andilampananina, *Dransfield et al.* JD6463 (Holotypus K; isotypi P, TAN)

Solitary palm. **TRUNK** 10–25 m, 18–40 cm diam, prominently ringed above, scarcely below, 7.5–25 cm across near crown, internodes 5–15 cm, pale brown, distally green. Crownshaft green, swollen, 1–1.5 m. Wood pink. **LEAVES** 5–9, tristichous, porrect, stiff to arcuate; sheath 69–150 cm long, 12 cm across, green, distally densely scaly, with or without irregular ligule c. 22 mm; petiole 0–13 cm, distally 4.5 × 4 cm, densely scaly to glabrous; rachis strongly arcuate, 2–3.5 m long, glabrous or scaly, in mid-leaf 2–3 cm wide; leaflets 102–120 on each side of the rachis, regular, stiff to arcuate, dull dark green, the ones on opposite sides of the rachis in one plane or at a slight angle, less conspicuously so near the tip, mid-green, proximal leaflets 68–135 × 0.5–3.1 cm with conspicuous pendulous reins, median 81–127 × 2.2–3 cm (interval 1.5–3 cm), distal 10–48 × 0.2–2 cm, apex single or bifid, unequal, main vein 1, thickened margins, rest faint, scattered tufts of ramenta, and with a few scattered scales on the minor veins. **INFLORESCENCE** infrafoliar, branching to 3 orders, arching with pendulous rachillae; peduncle 22–26 cm, strongly curved, distally c. 4 × 3 cm, with



Dyopsis tsaravoasira, the crowns of curving leaves visible in the distance, Antalavia.