

CONSERVATION STATUS. Possibly extinct; not seen for over 70 years.

Dypsis ligulata (Jum.) Beentje & J. Dransf. **comb. nov.**

Synonym:

Neodypsis ligulatus Jum., Ann. Inst. Bot.-Géol. Colon. Marseille sér. 4, 2 (2): 19 (1924); Jum., Cat. Pl. Madagascar, Palmae: 18 (1938); Jum. & H. Perrier, Fl. Madagascar 30: 152 (1945). Type: Madagascar, Sambirano, Belinta, W base of Mt Kalabenona, *Perrier* 15414 (Holotype P).

Solitary palm. **TRUNK** 4–6 m high, c. 20 cm diam., smooth, ringed. **LEAVES** with the sheath (fide Perrier) whitish, glabrous, with distinct, unequal, obtuse auricles; petiole not seen; rachis in mid-leaf keeled, c. 1.8 cm wide and 2.2 cm high, with scattered scales; leaflets presumably regular, the proximal not seen, median c. 120 × 2.3–2.5 cm (interval 3.5–4 cm), distal 23–42 × 0.5–1.4 cm, the terminal pair joined for c. 6 cm, main veins 1 (–3), with thickened margins, with scattered red ramenta 2–4 mm long on the proximal part of the midrib, otherwise glabrous, apices unequally attenuate, bifid. **INFLORESCENCE** branched to 2 orders; the only first order branch seen with a secondary rachis 27 cm long, proximally 1.2 × 0.6 cm, glabrous, with 17 rachillae; rachillae 24–34 cm long, 2–2.5 mm diam., with distant slightly sunken triads, the rachilla bracts small and rounded. **STAMINATE FLOWERS** not seen. **PISTILLATE FLOWERS** not seen; in fruit the persistent sepals 1.8–2.2 × 2.5–2.8 mm, petals 3.2–3.6 × 3.8–4.1 mm; staminodes 0.6–0.7 mm, flat. **FRUIT** yellowish, ellipsoid, 12–16 × 7–8.5 mm, with an obtuse apex; endocarp fibrous, the fibres anastomosing. **SEED** ellipsoid, c. 13 × 7.5–8 mm, pointed at the base, obtuse at the apex, with a sub-aequatorial depression; endosperm ruminant, the ruminations few, distant, 1–2 mm deep.

NOTE. The protologue describes the auricles as 0.8–1.5 cm long; the petiole as 12 cm long; the proximal segments as 75–100 × 0.4–0.8 cm; inflorescence branched to 2 orders; prophyll 40 × 6 cm, with scattered scales. It also has the Sakalava name *Kindro*. None of these details is apparent from the Paris specimen. We are unable to comment on the affinities of this species.

SPECIMENS SEEN. Ambilobe: Belinta, Feb. 1923 (fr.), *Perrier* 15414 (Holotype P).

18. DYPISIS SAINTELUCEI

A medium-sized, elegant palm which would probably do well in cultivation. It occurs on white sand, and so would probably do well in the drier tropics; the habitat is that of *D. lutescens*, one of the most successful ornamental palms.

DISTRIBUTION. Only known from the Sainte-Luce forest in the extreme South-East of the island.

HABITAT. Coastal forest on white sand; 10–20 m.

LOCAL NAMES. Not recorded.

USES. Not recorded.



Dypsis ligulata

CONSERVATION STATUS. Critical. Only known from a single forest, with numbers less than fifty; this is right in the middle of the area where mining operations for mineral sand (ilmenite ore) are proposed.

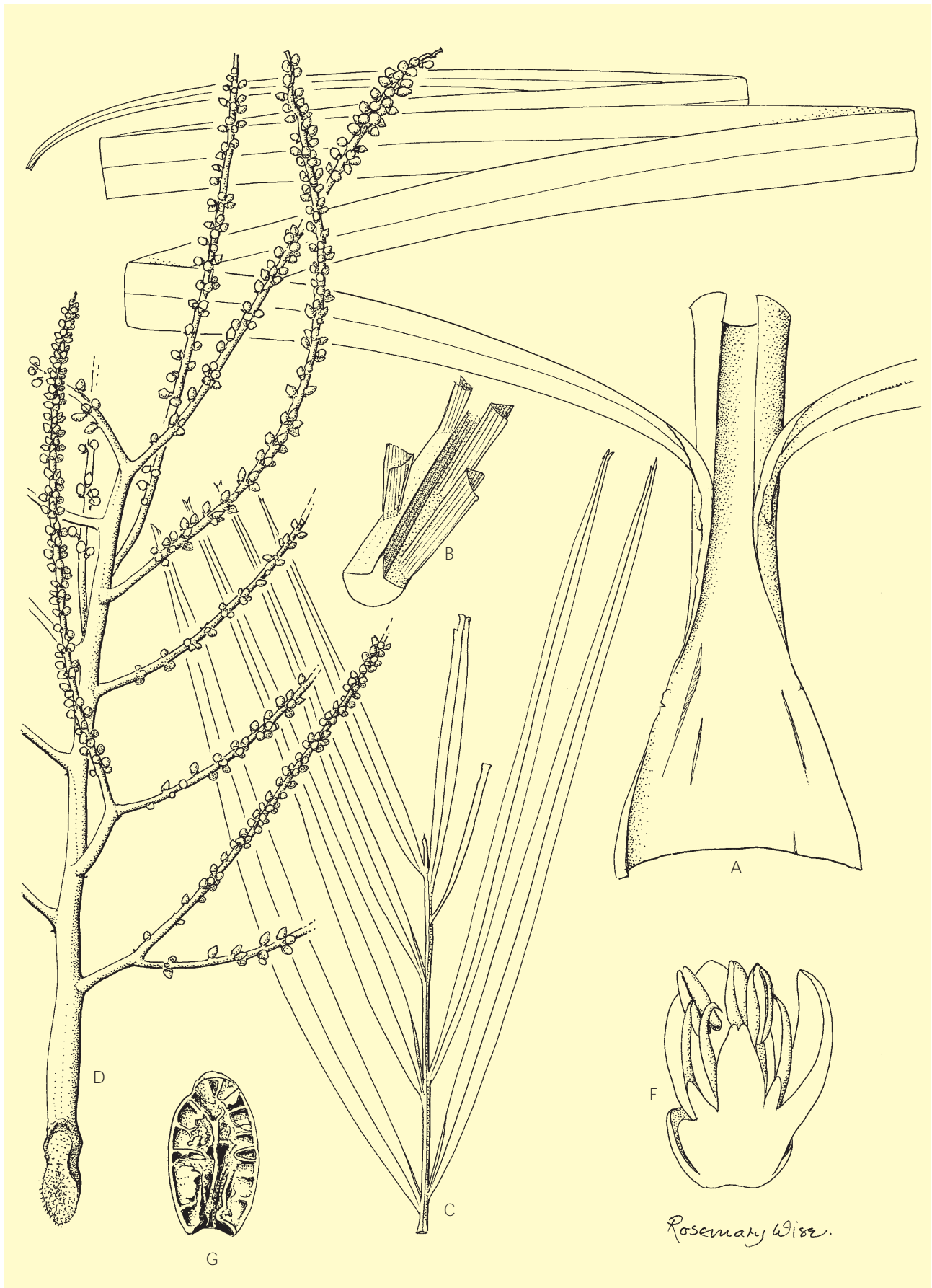
Dypsis saintelucei Beentje **sp. nov.**

inter species arborescentes tristichas foliolis regulariter dispositis endospermio homogeneo *D. ampasindavae* affinis sed vagina folii clausa et inflorescentia interfoliacea longa differt. Typus: Madagascar, St. Luce, *Beentje* 4760 (Holotypus K; isotypi BH, MO, P, TAN).

Solitary palm (occasionally in clumps of 2–3). **TRUNK** 6–10 m, c. 14 cm diam.; internodes 3–5 cm long, grey, green more distally; nodal scars 1.6 cm high, whitish; wood very hard, red; crownshaft waxy green. **LEAVES** tristichous, 7–11 per crown, porrect, slightly arching distally; sheath c. 80 cm, 12 cm diam., closed, waxy pale green, smooth, with brown-tattering shoulders; petiole absent or up to 13 cm long, 2–2.5 × 2–2.5 cm diam., channelled with sharp edges, green, glabrous; rachis 2.3–2.4 m long, proximally deeply channelled and 4 × 3 cm, more distally keeled, green, in mid-leaf 1.5–2.3 cm wide, proximally with thin grey wax or scales, distally glabrous; leaflets 59–61 on each side of the



Dypsis saintelucei, in coastal forest, Sainte Luce (*Beentje* 4760).



Dypsis saintelucei. **A** tip of leaf sheath, petiole and basal leaflets $\times 2/3$; **B** mid section of leaf $\times 2/3$; **C** leaf tip $\times 2/3$; **D** first order branch of inflorescence $\times 2/3$; **E** staminate flower in vertical section $\times 10$; **G** fruit in vertical section $\times 2$. **A – E** from *Beentje* 4760, **F, G** from *Beentje & Andriampaniry* 4609. Drawn by Rosemary Wise.



**Dypsis
saintelucei**

rachis, regular, stiff, pale waxy green abaxially, the proximal 116–134 (–188) × 2.2–3.5 cm (16 cm apart, the most proximal often pendulous), median 90–104 × 3–3.7 cm (interval 2.5–4 cm), distal 15–40 × 1–2.2 cm, main veins 1, only the midrib prominent on both surfaces with large distant brown ramenta, the other veins faint and with densely set small red-brown glands, apices attenuate, unequally bifid. **INFLORESCENCE** solitary, interfoliar at anthesis, erect within sheath, 175–225 cm, branched to 3 orders; peduncle 89–138 cm, proximally 6–10 × 2–2.5 cm and convex abaxially, concave adaxially, distally c. 7.5 × 4 cm diam., glabrous; prophyll 100–130 cm, borne at 30–56 cm above the base of the peduncle, c. 9 cm wide, glabrous; peduncular bract 68–73 cm, closed in the distal 6 cm, beaked for c. 2 cm, inserted at 61–97 cm, abaxially pale waxy green, adaxially chestnut-brown; rachis 70–87 cm, green, glabrous, with 17 branched and 11–20 unbranched first order branches; rachillae 16–27 cm, green, glabrous, c. 5 mm diam.; triads distant, superficial, with low, rounded bract. **STAMINATE FLOWERS** slightly scented; sepals 1.8–2.5 × 2.2–2.9 mm, keeled, gibbous, broadly ovate, concave, the broad margins membranous; petals yellow, connate for 1–1.6 mm to the receptacle, free lobes 2.9–3.5 × 3–3.2 mm, ovate, acute, with adaxially and proximally with 2 swellings on each side of the base of the antepetalous stamen; stamens 6, uniseriate, filaments 3.8–4.4 mm long, connate at the very base for c. 0.3 mm, anthers 2.4–2.5 × 1 mm; pistillode columnar, 1.8–2.3 × 1.4–1.6 mm. **PISTILLATE FLOWERS** only known in bud, with sepals 2.6–2.8 × 3.3–3.4 mm, ciliolate; petals c. 2.2 × 2.5 mm; staminodes 6, 0.4–0.6 mm; ovary asymmetrical, c. 2.3 × 2.3 mm. **FRUIT** not known but for seed and endocarp found under *Beentje & Andriampaniry* 4609; endocarp fibrous. **SEED** ellipsoid, 11.5–13 × 7 mm, rounded at one end, pointed at the other; endosperm deeply ruminant.

NOTE. In its group of large tristichous palms with regular leaflets and ruminant endosperm closest to *D. ampasindavae* but distinct in the closed leaf sheath and the interfoliar inflorescence, resulting in long peduncles and very long bracts.

SPECIMENS SEEN. Tolanaro: 5 km W of Manafiafy (Ste. Luce), March 1992 (ster.), *Beentje & Andriampaniry* 4609 (K); idem, Dec. 1992 (fl.), *Beentje* 4760 (Holotype K; isotypes BH, MO, P, TAN).

19. DYP SIS OVOBONTSIRA

This is a beautiful palm of restricted distribution. The name is taken from the Betsimisaraka name for this species.

DISTRIBUTION. Only known from the Mananara Biosphere Reserve.

HABITAT. Moist forest, steep mid slope, ultramafic soils with deep humus layer; c. 265 m.

LOCAL NAMES. *Ovobontsira* (Betsimisaraka).

USES. Not recorded.

CONSERVATION STATUS. Critical. Only known from a single site, where less than ten individuals are known.

Dypsis ovobontsira *Beentje* sp. nov.

inter species arborescentes foliolis regulariter dispositis endospermio ruminato inflorescentia interfoliacea pedunculo longo foliis spiraliter dispositis vagina folii hirsutissima distincta. Typus: Madagascar, Antananambe, *Beentje et al.* 4645 (Holotypus K; isotypi BH, MO, P, TAN)

Solitary palm. **TRUNK** to 8–10 m, 13 cm diam., near crown 9 cm diam.; internodes 14 cm, near crown 2–2.5 cm; wood pink, with dense fibre-layer below bark. **LEAVES** spiral, 6, arching; sheath c. 62 cm, at crown 14 cm diam., green with dense brown and white scales; petiole c. 47 cm, green with dense white scales, proximally 6 × 5 cm, distally 5 × 4.5 cm, channelled with sharp edges; rachis 2.5–2.6 m, in midleaf 2.5 × 2.3 cm, green, waxy with sparse scattered scales; leaflets 68–69 on each side of the rachis, very regular, stiff, in 1 plane, the proximal 68–71 × 3.3–4.2 cm (sometimes with long pendulous reins), median 86–90 × 4.6–5.2 cm, dark green, glabrous. **INFLORESCENCE** interfoliar, arching



**Dypsis
ovobontsira**