

characteristic white abaxial surface of the leaflets.

DISTRIBUTION. NE Madagascar; the protologue says common between Fenerive (Fenoarivo) and Antalaha, but does not cite any specimens for this distribution. The palm is certainly not common nowadays.

HABITAT. Moist forest at 100–400 m alt; steep midslope on ultramafic soil.

SPECIMENS EXAMINED. Masoala, presumably near Antalaha, no date (stam.), *Perrier* 11939 (holotype P). Mananara: W of Antanambe, April 1992 (old pist.), *Beentje et al.* 4630 (K), 4643 (K, MO, P, TAN); idem (seedling) *Beentje et al.* 4644 (K).

LOCAL NAMES & USES. ‘Hoza-tsiketra’ (Betsimisaraka); heart edible.

The protologue states the petals are 9×2.5 mm, but this does not agree with the type; they are also definitely free at the base.

16. *Ravenea louvelii* *Beentje* nom. nov.

Louvelia madagascariensis Jum. & H. Perrier in *Compt. Rend. Acad. Paris* 155: 411 (1912); Jum. & H. Perrier in *Ann. Inst. Bot.-Géol. Colon. Marseille* 3, 1, 1: 58, t. 33 (1913); Becc. in *Palme del Madagascar*: 53, fig. 43, tav. 49 (1914); Jum. in *Ann. Inst. Bot.-Géol. Colon. Marseille* 4, 5, 1: 47 (1927); Jum. & H. Perrier in *Fl. Madagascar* 30: 165, fig. 46 (1945), **synon. nov.** Type: none indicated, locality Analamazaotra, “Lakamarefo”, alt. 800 m (probably *Perrier* 12021 (holotype P) which has “type” on the label, written by Jumelle).

Short undergrowth palm; *trunk* 1.5–3 m, DBH 15–20 cm without leaves, c. 50 cm with the sheath bases; distal 1.5 m of trunk with sheath remnants, proximal part only with sheath bases; wood hard; internodes c. 3 cm. *Leaves* 9–14 in crown, robust, porrect, stiff, with up to 15 marcescent leaves present; sheath 46–60 \times 6.5–8 cm, channeled adaxially, rounded abaxially, swollen at base, with dense soft pale brown tomentum, turning fibrous with age, with long stiff brown marginal fibres; petiole 50–130 cm long, proximally 3–5.5 \times 2–3.5 cm across, distally 2–3 \times 1.2–1.9 cm across, esp. abaxially covered in rich brown scales, with very sharp margins, adaxially channelled with the central part flat or with central ridge, abaxially rounded; rachis 225–300 cm long, in mid-leaf c. 19 \times 11 mm across, adaxially keeled with up to 9 mm wide flat keel top and abaxially more or less flat, with sharp upper edges, especially abaxially covered in brown scales, continuing past the distal pair of leaflets for 10–21.5 cm; leaflets in one plane, slightly pendulous in distal part of leaflet, dark green, attenuate, 80–104 on each side of the rachis, the proximal ones 28–42 \times 0.3–1 cm, median 47–67 \times 1.4–2.6 cm (interval 1.5–2.5 cm), distal 10–40 \times 0.4–1.8 cm, with some rammenta near the very base of the leaflet, or in young leaves with brown scales along the margins and apex, the midrib and the base; venation faint but visible. *Staminate inflorescence* hidden among the leafbases, solitary, 30–40 cm long, branched to 1 order; peduncle 34–36.5 cm, proximally c. 8 \times 6 mm across, scaly; prophyll c. 10 cm long, cream-coloured; peduncular bracts purplish, 12–15 cm, c. 20 cm, 36–38.5 cm, c. 40 cm, the most distal beaked, completely sheathing the inflorescence, covered in brown stellate scales; rachis 21–25 cm, with c. 80 crowded rachillae; proximal rachis bracts 4–12 \times 1–3 mm, rachillae 1–7 cm long and 1–2.5 mm across, glabrous; flowers closely set,

musty-scented, cream-coloured; pedicels 0.2–1 mm, 0.8–1 mm across; bracteoles 1.3–1.5 × 0.8 mm, connate for 0.4–0.7 mm; calyx connate for 0.6–1 mm, 2.8 mm across, the free lobes 1–1.2 × 0.7–0.8 mm; petals 6.5–7 × 2.4–2.7 mm, ovate, acute, connate for 1 mm at the base by the fleshy base of the antesepalous filaments, deliquescent after anthesis; anthers 3.2–4 × 1–1.3 mm, the antesepalous basifixed with a fleshy filament of 1–2 × 1.5–2 mm, the antesepalous ones dorsifixed and inserted 2 mm up the petal; pollen white; pistillode 1.3 mm, 0.9–1 mm across, white. *Pistillate inflorescence* interfoliar, hidden among the leaf bases, solitary, 30–40 cm long, branching to one order; peduncle c. 15 cm; prophyll c. 10 × 5 cm, cream-coloured; peduncular bracts purplish, 12–15 cm, 20 × 5 cm, 29–38 × 5.5 cm, 40 cm, the most distal beaked, completely sheathing the inflorescence, covered in brown scales; rachis c. 18 cm, with c. 30 spreading to erect rachillae, 2.5–7 cm long, 3.5–5.5 mm across, with lines of red-brown scales; rachis bracts 4 × 1 mm; flowers slightly musty-scented, cream-coloured; pedicels 0.5–2 mm, 2.5–4 mm across; bracteoles 1.5–4 × 1–2 mm, connate with the pedicel for 0.5–1 mm; calyx connate for 0.6–1 mm, 2.8–5 mm across, the free lobes 0.8–2 × 2.6–3 mm; petals 6.5–9.5 × 1.7–2.2 mm, fleshy, 1.5 mm thick, connate by 1 mm through the fleshy base of the antesepalous filaments; ovary ovoid, 3–3.8 × 3 mm; staminodes six, 2.8–3.2 by 1.6–1.7 mm. *Fruit* dark purple (protologue says yellowish at maturity), somewhat depressed globose, 13–14 mm, 15–20 mm across (25 mm according to Beccari), 1–2-seeded; stigmatic remains subapical or terminal; seed ovoid, sometimes flat on 1 face, 9–13 × 6–9 mm; seed coat black, 0.2 mm thick.

Germination remote, eophyll pinnate.

DISTRIBUTION. E Madagascar, only known from Andasibe.

HABITAT. Moist forest, steep slope near crest; 800–1000 m.

SPECIMENS EXAMINED. Moramanga: Analamazaotra, Feb. 1912 (stam., fr.), *Perrier* 12021 (holotype P); idem, Nov. 1986, (stam.), *Dransfield et al.* JD 6418 (K, TAN) and (pist.) *Dransfield et al.* JD 6419 (K, P, TAN) and (seedling) *Dransfield et al.* JD 6420 (K, TAN); idem, March 1988 (stam.), *Dransfield et al.* JD 6485 (K, TAN) and (pist.) *Dransfield et al.* JD 6486 (K, TAN); idem, Dec. 1991 (fr.), *Beentje* 4536 (BH, K, MO, P, TAN); idem, Aug. 1992 (ster.), *Beentje & Andriampaniry* 4745 (K, BH); idem, Dec. 1992 (dead stam.), *Beentje & Andriampaniry* 4769 (K, TAN).

LOCAL NAMES. 'Lakamarefo', 'Siraboto'.

The epithet *madagascariensis* could not be retained, as *Ravenea madagascariensis* already exists (since 1906). The new specific epithet is based on the old genus name, which was given in honour of M. Louvel, in 1912 Director of the Service Forestier and based at Analamazaotra, where the species was first seen, and which is still its only known site.

IMPERFECTLY KNOWN SPECIES

***Ravenea nana* Beentje** sp. nov. a congeneribus foliis amplitudine perpusillis foliolis minus numerosis distincta. Typus: Madagascar, prope Andapa, *Humbert & Capuron* 21947 (holotypus P; isotypus K).