

tooth-shaped, 0.5–1 mm high. **FRUIT** slightly ovoid, green turning purple-black, 20–24 × 17–18 mm; endocarp fibrous. **SEED** 15–17 × 11–13 mm; endosperm with dense deep ruminations reaching the centre of the seed.

NOTE. No specimens were mentioned in the protologue; the species was said to grow at 200 m in the Manongarivo. Beccari studied a sheet of the species given to him by Jumelle, and says (Beccari 1910) that it came from Ananalave in Manongarivo. Jumelle and Perrier (1913) suddenly state the altitude as 1,200 m, and this altitude is repeated in Jumelle (1927a), which also cites *Perrier* 10052 as the sole specimen; Jumelle and Perrier (1945) repeats the altitude, and the specimen is again cited, but is now said to have come from the Ampasimena Peninsula at the W base of Manongarivo. This conforms to a sheet in Paris, *Perrier* 12052, which agrees with the description. To the west of Manongarivo there is the Ampasindava Peninsula, with a small headland called Ampasimena; in the peninsula the altitude does not rise above 800 meters.

SPECIMENS SEEN. Ambanja: Ampasimena Peninsula, Dec. 1909 (fl., fr.), *Perrier* 12.052 (Holotype P, see note); Manongarivo, Ambalafary, Feb. 1992 (fl.), *Beentje et al.* 4577 (BH, K, MO, P, TAN). Maroantsetra: NE of Antalavia, Nov. 1989 (bud, fr.), *Dransfield et al.* JD6745 (K, TAN).

A sheet at Kew, *Perrier* s.n., NW Madagascar, without further locality, Dec. 1909 (fl., fr.), is presumably a duplicate of the type.

SIGHT RECORD: Mananara Biosphere Reserve (*Dransfield & Beentje*, 1994).



Dyopsis crinita
(x: sight records)

115. DYP SIS UTILIS

This is an upland palm, closely related to *D. crinita*, but even larger in all its parts, and with inflorescences branched to three rather than two orders. It has been seen near Analamazaotra (in fact there is a much photographed specimen opposite the station hotel at Andasibe; see photo below) and at Ranomafana. Sometimes cited as being critically endangered, this may not be so rare as was originally thought. The Latin name means 'useful', a reference to the piassa-va produced by the leaves and formerly exported for rope production.

DISTRIBUTION. E Madagascar.

HABITAT. Streamsides in swamp forest or moist forest, gregarious; alt. 950–1000 m.

LOCAL NAMES. *Vonitra* or *Vonitrandrano* (water vonitra).

USES. Jumelle (1927a) states that the palm-heart is eaten, and that the fruit pulp is sugary and also consumed.

CONSERVATION STATUS. Vulnerable. Restricted to only a few sites; numbers thought to be low.



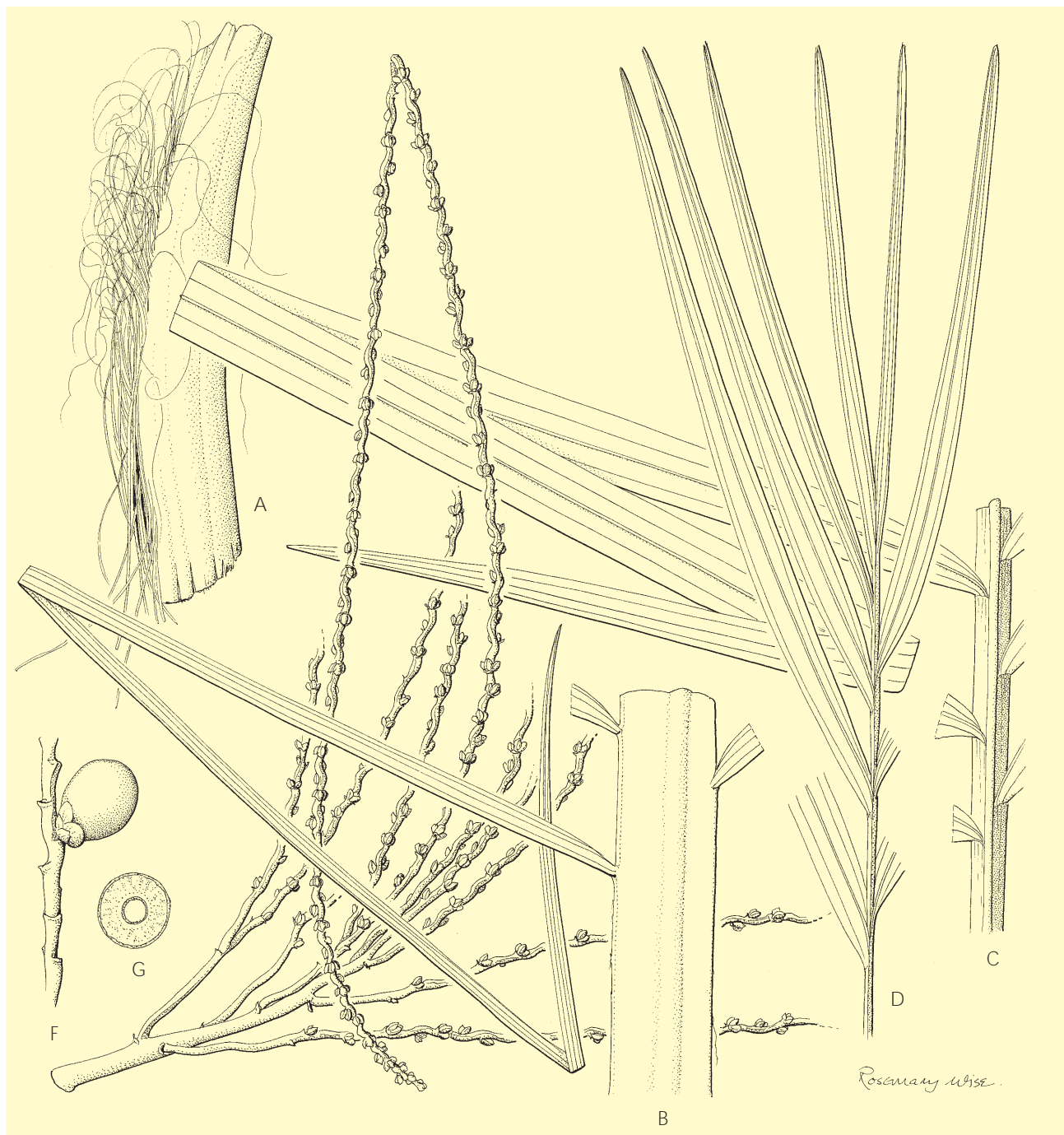
Dyopsis utilis. A mature palm at Andasibe.

Dypsis utilis (Jum.) Beentje & J. Dransf. **comb. nov.****SYNONYM:**

Vonitra utilis Jum., Compt. Rend. Acad. Paris 164: 921 (1917); Rev. Bot. Appl. 1922: 161 (1922); Ann. Inst. Bot.-Géol. Colon. Marseille sér. 5, 1: 16 (1927); Cat. Pl. Madagascar, Palmae: 26 (1938); Jum. & H. Perrier, Fl. Madagascar 30: 131, figs. 35, 36 (1945). Type: Madagascar, no locality mentioned, probably (from Jumelle 1927) Analamazaotra, *Perrier* 12005 (Holotype P).

Robust palm, solitary or more often several in a clump. **TRUNK** 6–17 m high, branching dichotomously 2–3 times at 9–11 m above the ground, the branches closely parallel, 25–37 cm diam., near crown c. 18 cm diam.; internodes 7–9 cm; bark light brown; wood soft, pinkish-white, moist; crown untidy with pale brown pendulous fibre. **LEAVES** 13–14 per crown, with the dead leaves

marcescent, 4–5 m, erect to prorext, often held on edge; sheath fibrous, c. 80 cm long, brown-grey tomentose, with fibrous wings c. 4.3 cm wide each, with opposite the petiole a light brown fibrous tongue c. 50 cm long; petiole 45–100 cm (to 185 cm in young trees), proximally c. 5 × 2.5 cm, distally 2–4.2 × 1.1–1.5 cm, flat adaxially or slightly convex, convex abaxially, with sharp edges, with scattered scales, glabrescent; rachis 2.8–3.8 m, 1.5–1.9 × 1–1.3 cm in mid-leaf, keeled, straw-brown, with scattered pale or dark red scales; leaflets 65–73 on each side of the rachis, in one plane, regular, bright green, stiff, attenuate, the proximal ones 64–82 × 1.2–2 cm, median 77–92 × 3.1–4.8 cm (interval 4–4.5 cm), distal 18–47 × 1–1.8 cm, ramenta few, red-brown, quite large, abaxial on the midrib, main veins 2 on each side of the midrib and main veins, prominent abaxially, young leaves reddish. **INFLORESCENCE** interfoliar to infrafoliar, up to 20 per tree (in two crowns) in all stages from closed and erect to



Dypsis utilis. **A** distal part of leaf sheath × 1/2; **B** basal part of leaf × 1/2; **C** mid section of leaf × 1/2; **D** leaf tip × 1/2; **E** part of inflorescence × 1/2; **F** detail of rachilla and fruit × 3/5; **G** fruit in cross section × 3/5. All from *Beentje & Raharilala* 4417. Drawn by Rosemary Wise.

116. *DYPSIS FIBROSA*

Dypsis utilis
(x: sight records)

old fruiting stage (pendent); branching to 3 orders (rarely to 2 orders?); peduncle 125–135 cm, proximally 3.3 × 2.5 cm, distally 2.8 × 2 cm, green, glabrous, curved; prophyll dark brown, 25–70 cm long, 6.5 × 2.5 cm diam., split at the apex; peduncular bract 154–191 × 8.4 cm, green turning mid-brown, adaxially red-brown and smooth, densely scaly but soon glabrescent abaxially, glabrous adaxially, beaked for c. 7 cm, abscising and carried upwards by the lengthening inflorescence; rachis c. 62 cm long, somewhat angled, the branches bulbous at their bases; first order branches (number unclear) proximally 1.4–1.5 × 0.5–0.7 cm; rachillae pendulous, coral-pink in bud but turning pale green, 69–91 cm long, 2.5–5 mm diam., glabrous or nearly so; triads distant, spirally arranged, slightly sunken in pits; buds yellow-green to reddish brown, slightly trigonous. **STAMINATE FLOWERS** purplish or reddish at anthesis, with sepals 2–2.2 × 3.5–5 mm, unequal, the outermost smallest, fleshy, hooded; petals 2.7–2.8 × 1.8 mm, fleshy, ovate, acute; stamens 6, biseriate, didymous, the outermost inserted slightly lower than the inner, filaments 0.8–1 mm, anthers dorsifix, 0.6–0.8 mm; pistillode c. 1.5 × 0.8 mm, bottle-shaped, showing stamen indentations. **PISTILLATE FLOWERS** with sepals 3–3.5 × 3.5–8.5 mm, unequal, hooded, the innermost largest and enveloping the bud for some 270°; petals 3.5–4.5 × 5–7 mm, orbicular, imbricate, unequal, the innermost largest; ovary 3.5–3.8 × 2.5–3 mm, slightly asymmetric with an indistinct trigonous apex; staminodes 0.6–0.8 mm, flat, tooth-shaped. **FRUIT** dull green turning purplish brown or black, globose-ellipsoid or obovoid, 17–28 × 14–20 mm, with persistent petals c. 6 mm long; endocarp fibrous. **SEED** c. 23 mm × 16 mm, pointed at the base, rounded at the apex, with ruminant endosperm, the ruminations many, slightly irregular, and almost reaching the middle of the seed.

NOTE. This is the most robust member of the “Vonitra” group.

SPECIMENS SEEN. Moramanga: Analamazaotra (fl.), *Perrier* 12005 (Holotype P); idem, Feb. 1924 (fl.), *Perrier* 16067 (P); idem, Oct. 1963 (fl.), *Moore* 9005 (BH, TAN); idem, March 1991 (ster.), *Beentje & Raharilala* 4409 (K, TAN); Maromiza, March 1991 (fl., fr.), *Beentje & Raharilala* 4417 (BH, K, MO, P, TAN).

SIGHT RECORD. A specimen from Ranomafana was brought to us by Dan Turk and was definitely this species (because of the length of the leaf and the branching of the inflorescence).

This is one of the most widespread of species in the “Vonitra” group, occurring throughout the north-west and eastern rain forest belt. In habitat it differs from the much larger *D. crinita* that often grows in nearby valley bottoms and riversides, while the present species will grow on ridges and slopes. The sheaths produce abundant piassava, leaf sheath fibre, and hence the species name. This species has been cultivated in many botanical gardens and private collections where the combination of neat dark green leaves that are flushed red when newly emerged and attractive brown fibre make it particularly ornamental. Its ability to branch dichotomously adds to its appeal.

DISTRIBUTION. NW and E Madagascar.

HABITAT. Moist upland forest or coastal hill forest on steep slopes or less often on ridge tops, also in littoral or peat swamp forest overlying white sand at low altitudes; alt. 5–800 m.

LOCAL NAMES. *Vonitra* (widespread), *Vonitrambohitra* (mountain vonitra, fide Jumelle), *Ravimbontro* (Nosy Mangabe).



Dypsis fibrosa, surviving in a cleared area, Sahavary.