

## 116. DYPsis FIBROSA

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 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).



*Dypsis fibrosa*, surviving in a cleared area, Sahavary.

**USES.** Leaf extensively used for thatching (Masoala), inflorescences sold as brushes (Masoala). Formerly one of the main piassava producers (30–50 francs a kg in 1951).

**CONSERVATION STATUS.** Not threatened. Widespread.

**Dypsis fibrosa** (Wright) Beentje & J. Dransf. **comb. nov.**

**SYNONYMS:**

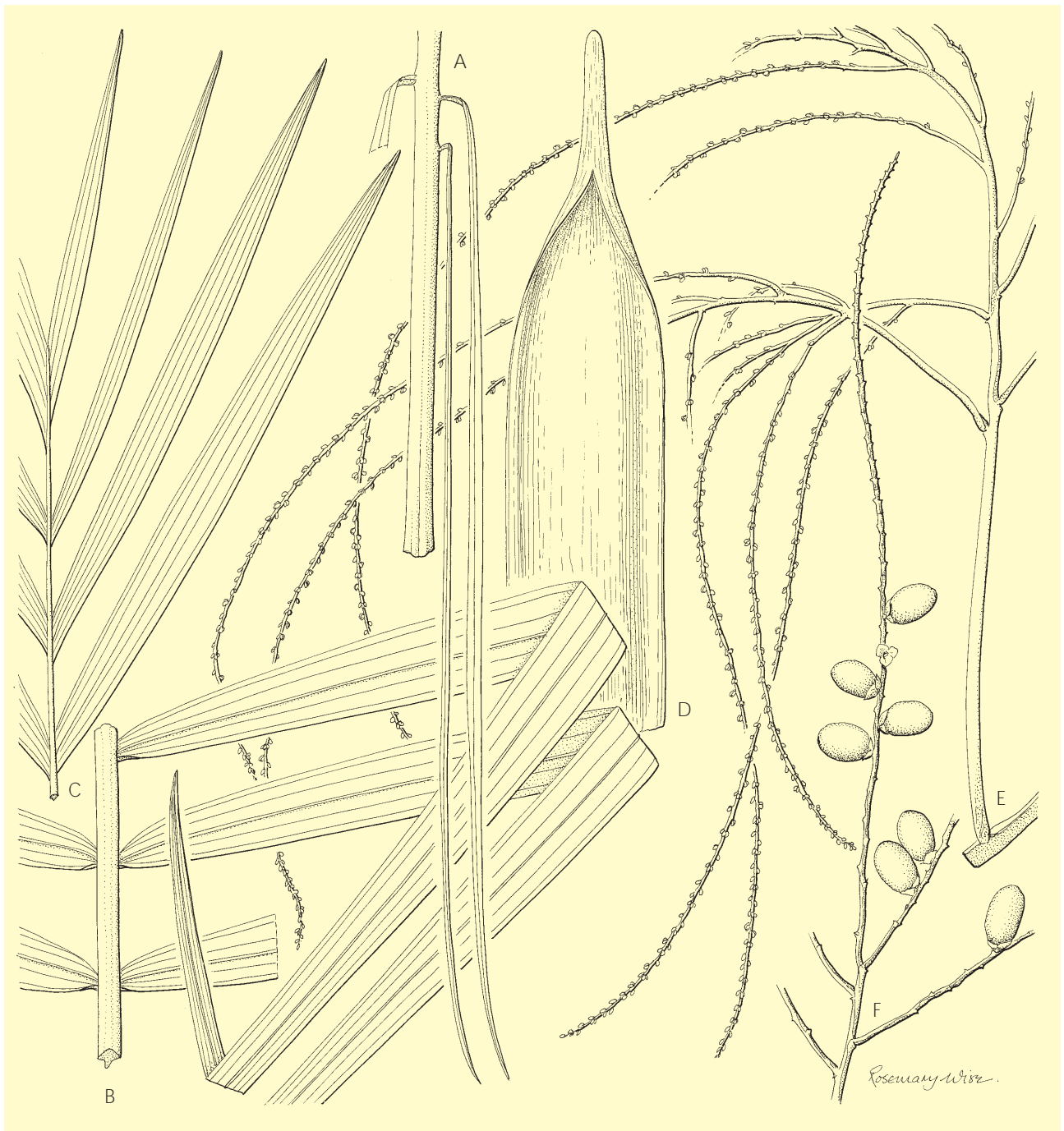
***Dictyosperma fibrosum*** Wright, Kew Bull. (1894): 359. Type: Madagascar, Proctor Brothers s.n. (Holotypus K).

***Vonitra fibrosa*** (Wright) Becc., Agric. Colon. 5: 322 (1911); Becc., Palme del Madag.: 8, figs. 3, 4 (1912).

***V. thouarsiana*** Becc. (non *Dypsis thouarsiana* Baill.), Bot. Jahrb. Syst. 38, Beibl. 87: 18 (1906); Jum. & H. Perrier, Ann. Inst. Bot.-Géol.

Colon. Marseille sér. 3, 1 (1): 5, figs. 2, 3 (1913); Jum., Rev. Bot. Appl. 1922: 160 (1922); Ann. Inst. Bot. Géol. Colon. Marseille sér. 5, 1, fasc. 1: 8 (1927); Cat. Pl. Madagascar, Palmae: 26 (1938); Jum. & H. Perrier, Fl. Madagascar 30: 132, fig. 36: 3, 37 (1945). Type: Central Madagascar, anno 1883?, Baron 2319 (Holotype K). **synon. nov.**

Solitary or clustering palm, when clustering in groups of 2–6. **TRUNK** 3–9 m, branched once or twice (rarely three times) a few meters above the ground, rarely unbranched, the branches closely parallel, 5–18 cm diam.; distal part of the trunk covered in fibrous piassava; base swollen, sometimes with surface roots resembling stilt roots; bark pale brown to grey, ringed, internodes 0.8–2 cm; wood hard, white. **LEAVES** 8–25 in each crown, occasionally with up to 8 marcescent leaves; leaves arching, held on edge in the distal half; sheath 40–60 cm long, red-brown floccose, proximally 10–12 cm wide, more distally with a central woody part and a fibrous part together with a 30–34 cm long pale brown tongue opposite the



**Dypsis fibrosa.** **A** proximal part of leaf with lowermost leaflets  $\times 1/2$ ; **B** mid section of leaf  $\times 1/2$ ; **C** leaf tip  $\times 1/2$ ; **D** tip of peduncular bract  $\times 1/2$ ; **E** first order inflorescence branch  $\times 1/2$ ; **F** fruiting rachillae  $\times 1/2$ . All from Beentje 4449. Drawn by Rosemary Wise.

petiole becoming tattered and so producing the piassava clothing the upper part of the trunk; petiole 40–170 cm long, proximally 1.2–2.6 × 0.8–1.5 cm, distally 0.9–1.6 × 0.8–1 cm, with red-brown patches of tomentum but glabrescent, adaxially slightly convex or channelled, with sharp edges; rachis 1.4–2 m long, in mid-leaf 0.9–1 cm wide and keeled, with red-brown patches of tomentum but glabrescent; leaflets regular, 34–51 on each side of the rachis, in one plane, dull dark green (red in young leaves), the proximal 45–82 × 0.8–2.5 cm, median 46–71 × 2.6–4.3 cm (108 × 7.3 cm in *Perrier* 14097), distal 10–42 × 0.5–2.3 cm, acute, the terminal pair in young plants wide (up to 5 cm) and connate for up to 25 % of their length, main veins 5–7, the midrib prominent adaxially, glabrous, apices unequally attenuate. **INFLORESCENCE** interfoliar, erect in bud, porrect-arching in flower and fruit, branched to 3 orders (once to 4 orders); peduncle 70–94 (–150) cm long, proximally 1.5–2.5 × 0.9–1.8 cm, distally 1–1.7 × 0.7–1 cm, green, glabrous; prophyll 39–56 cm, reddish-tomentose, glabrescent; peduncular bract 103–188 cm, 6–8 cm wide, splitting only near its apex, beaked for 2–12 cm, coriaceous, inserted at 17–20 cm from the base of the peduncle, abscising and carried upwards with the lengthening inflorescence, brown with patches of red-brown pubescence; rachis 37–60 cm long, green, glabrous, with 15–17 branched and 6–14 unbranched branches; first order branches flattened, 0.8–1.3 × 0.3–0.5 cm, with basal swelling; rachillae arching to almost pendulous (4.5–) 17–53 cm long (up to 78 cm in fruit) and 0.1–0.2 cm diam. (up to 0.5 cm in fruit), glabrous, green to red-brown, with spaced triads in slight pits. **FLOWERS** orange in bud, yellow at anthesis. **STAMINATE FLOWERS** slightly trigonous, narrowed near the base, with sepals 1–1.4 × 1.4–2.3 mm, broadly ovate, hooded; petals 1.5–1.8 × 1.3 mm, hooded; stamens 6, in 2 series, didymous, densely appressed against the pistillode, filaments 1–1.4 × 0.5 mm, anthers medifixed or dorsifixed with almost globose thecae, c. 0.3 × 0.3 mm; pistillode bottle-shaped, with indentations conforming to the stamens, c. 1.3 × 0.4–0.5 mm in diam. **PISTILLATE FLOWERS** globose, with sepals 1.2–1.8 × 2.3–2.8 mm, broadly ovate, hooded; petals suborbicular, 2.1–2.8 × 1.8–2.4 mm; ovary asymmetrical, c. 1.8 × 1.6 mm, topped by an indistinct trigonous apex; staminodes c. 0.2 mm high, dentiform. **FRUIT** black, obovoid to almost globose, 20–30 × 18–25 mm; persistent sepals c. 3 × 3–4 mm, persistent petals c. 5 × 7 mm; mesocarp fleshy, c. 5 mm thick; endocarp fibrous, with up to 25 mm long fibres. **SEED** 20–23 × 15–18 mm, ellipsoid, pointed at the apex; endosperm with ruminations 3–4 mm deep. **EOPHYLL** bifid, germination adjacent-ligular.

**NOTE.** The fruit is said to be eaten by wild pig, and we have seen signs which seem to confirm this. Though Beccari (1906) thought he was making a new combination based on *Dypsis thouarsiana* when coining the name *Vonitra thouarsiana*, the descriptions, both of the new genus and of the species, were based on *Baron* 3190, quite distinct from the types of *Dypsis thouarsiana*. Beccari saw the types of *Dypsis thouarsiana* and thought the leaf was a young one, possibly a seedling, of his new taxon; he also considered the inflorescence of *Dypsis thouarsiana* as too young to analyse. The taxa, however, are clearly distinct, the types of *Dypsis thouarsiana* having three most peculiar stamens and leaves with 3–4 leaflets on each side of the rachis (see under 109. *Dypsis thouarsiana*).



**Dypsis  
fibrosa**

**SPECIMENS SEEN.** Ambanja: Manongarivo, Bekolosi, Dec. 1992 (fr.), *Malcomber et al.* 1972 (K). Maroantsetra: Antalavia, Apr. 1988 (fl.), *Gentry & Schatz* 62180 (K, MO, P); W of Maroantsetra, Oct. 1963 (fl.), *Moore* 9009 (P, TAN); 5 km W of Maroantsetra, Oct. 1986 (bud), *Dransfield et al.* JD6360 (K, P, TAN); Nosy Mangabe, April 1989 (fl.), *B. DuPuy* MB146 (K, TAN); Hiaraka, Oct. 1986 (fl., fr.), *Dransfield et al.* JD6373 (K, TAN). Sainte Marie: Kalalao forest, Nov. 1994 (bud), *Dransfield et al.* JD7523 (K, TAN). Soanierana-Ivongo: Andasibe, Dec. 1938 (bud), *Lam & Meeuse* 5862 (K, L). Ambatondrazaka: Maningory Falls, Dec. 1944, *Homolle* 547 (P, probably a very young plant). Toamasina: Betampona, Oct. 1991 (bud, fr.), *Beentje* 4498 (BH, K, MO, P, TAN); Toamasina, (leaf, seed), *Proctor Bros.* s.n. (K). Moramanga: Analamazaotra, (fl., fr.), *Perrier* 12001 (P). Ampasimanolotra: Andrambolahy kely to Andranampony, April 1951 (fl.), *Cours* 4511 (K, P, TAN); Anivoranokely, Sept. 1954 (fl.), *Vigence* 15462 (P); 5 km S of Ambila-Lemaitso, Nov. 1986 (fr.), *Dransfield et al.* JD6440 (K, P, TAN); idem, Sept. 1991 (fl., fr.), *Beentje* 4449 (BH, K, MO, P, TAN). Vatomandry: without precise location,

Nov. 1927 (fl.), *Perrier* 14097 (P). Ifanadiana: Ambohimanga rd. (fl.), *Dequaire* 27702 (P); 34 km E of Ranomafana, March 1991 (bud), *Beentje* 4439 (BH, K, MO, P, TAN). Mananjary: Mt Vatovavy, Aug. 1911 (fl.), *Perrier* 12053 (P). Farafangana: Manombo, Nov. 1991 (bud), *Beentje* 4519 (BH, K, MO, P, TAN). Vangaindrano: Analalava, Dec. 1971 (fl.), *Guillaumet* 4017 (TAN). Tolanaro: Manantenina, Marovony, Oct. 1990 (infl.), *Randrianasolo et al.* 185 (K); NW of Ste Luce, Oct. 1989 (fr.), *McPherson et al.* 14218 (P). Without locality, Central Madagascar, s.d. (fl.), *Baron* 2319 (K, type of *V. thouarsiana* sensu Beccari).

**CULTIVATED:** Sri Lanka, Peradeniya Royal Bot. Gard., July 1986 (fr.), *Rutherford & Bandara* R 136 (K).

## 117. DYPISIS ANTANAMBENSIS

This is a new species in the “Vonitra” group; it thrives on steep slopes and on ridge tops in low-canopy forest on ultramafic rock. It tends to branch near ground level and have several more or less equal rather slender trunks that are clothed in long persistent short piassava fibre. The leaves are distinctive having rather short leaflets that diverge from the rachis at an acute angle and tend to be held rather stiffly. The name is derived from the type locality. As far as we know, this species is not in cultivation.

**DISTRIBUTION.** Only known from one small area in the Mananara Avaratra Biosphere Reserve.

**HABITAT.** Rather open rain forest, on ultramafic soils on steep mid slopes and ridge tops; 250–290 m.

**LOCAL NAMES.** Not recorded.

**USES.** Not recorded.

**CONSERVATION STATUS.** Endangered. Despite its occurrence in a protected area, the number of individuals seems to be less than fifty.