

## 114. DYPsis CRINITA

This is one of the commonest palms of valley bottoms of rain forests in the lowlands of north and north-east Madagascar. It is particularly abundant as a riverside tree along the fast-flowing rocky rivers that flow out into the Bay of Antongil. It is a robust palm, immediately distinguishable by its tall, dichotomously branched trunks, abundant piassava (leaf sheath fibre), liver-coloured young leaves and long inflorescences, branched to two orders, usually with many inflorescences in each crown. Seedlings of this species must frequently be submerged by flood water, and in this respect behave as rheophytes, although when the trees are mature, the crowns tower well above the water level. In deep humid valleys, this palm can often be found in large numbers, adding a very special beauty to the riverside scenery. An epiphytic orchid (*Eulophiella*) can often be found growing in the piassava of big old plants of *D. crinita*. It seems likely that this palm is in cultivation, as it is easily accessible to seed collectors and produces large quantities of fruit, but we know of no critically identified plants in collections. The name means 'with tufts of long hairs', presumably a reference to the leaf sheath fibre.

**DISTRIBUTION.** NW and NE Madagascar: Manongarivo, Masoala Peninsula and Mananara Biosphere Reserve.

**HABITAT.** Streamsides; alt. 200–250 m; may grow as a rheophyte.

**LOCAL NAMES.** *Vonitra* (general).

**USES.** Heartwood used against children's cough (Manongarivo), piassava used as an oil filter (Manongarivo).

**CONSERVATION STATUS.** Rare. Though fairly restricted in distribution, numbers seem to be in the thousands rather than hundreds.

**Dypsis crinita** (Jum. & H. Perrier) Beentje & J. Dransf. **comb. nov.**

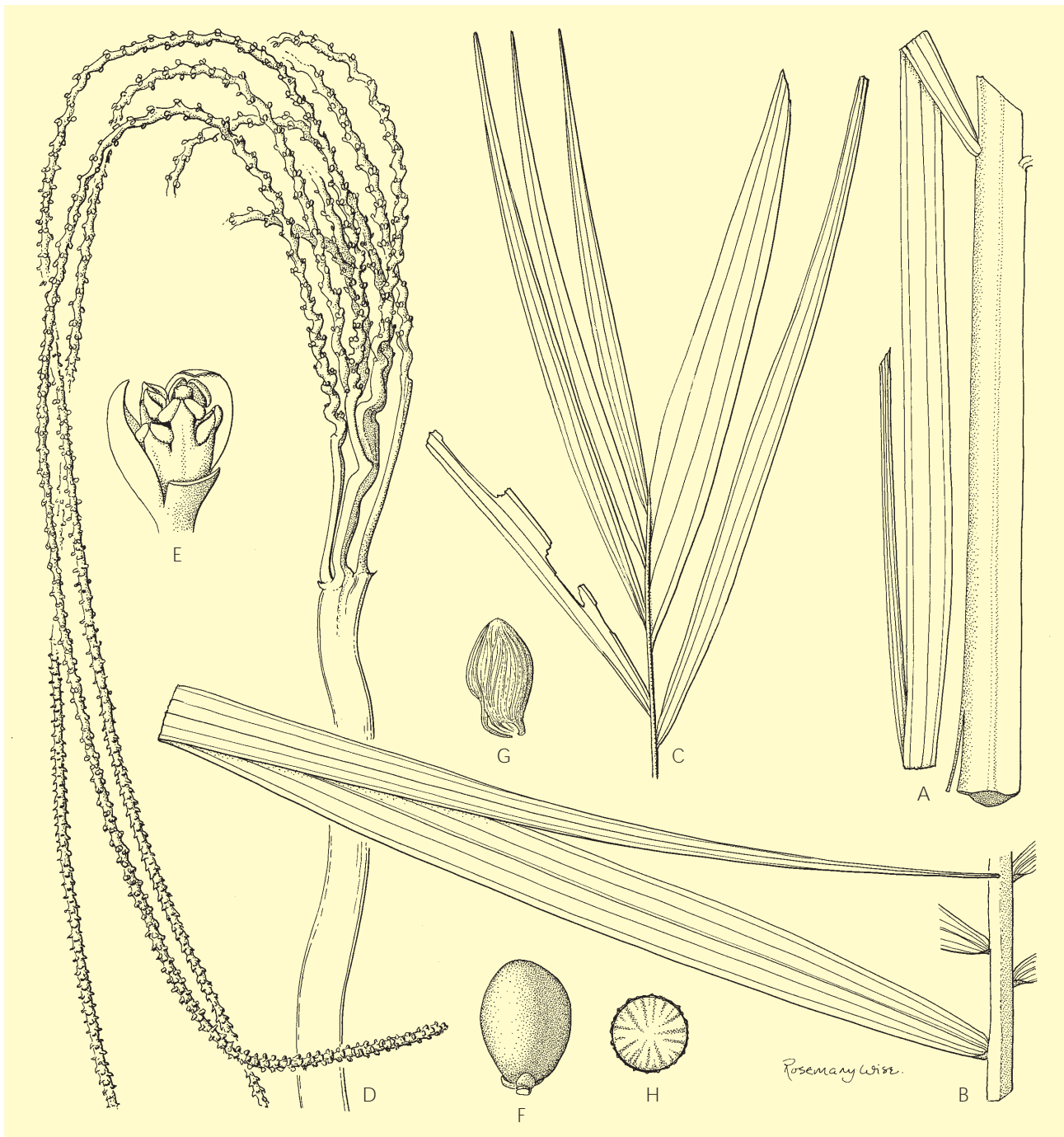
**SYNONYM:**

*Vonitra crinita* Jum. & H. Perrier, Agr. Prat. Pays Chauds 10, 85: 293 (1910); Jum., Ann. Inst. Bot.-Géol. Colon. Marseille sér. 3, 1 (1): 9, fig. 4 (1913); Jum., Ann. Inst. Bot.-Géol. Colon. Marseille sér. 4, 5: 13 (1927); Cat. Pl. Madagascar, Palmae: 25 (1938); Jum. & H. Perrier, Fl. Madagascar 30: 134 (1945). Type: none indicated, but locality Manongarivo Massif, alt. 200 m, probably *Perrier* 12052 (Holotype P; ?isotype K).

Clustering palm in tufts of 2–4. **TRUNK** 4–15 m, usually branched 2–3 times, rarely unbranched, grey, conspicuously ringed, 12–20 cm (Perrier: to 35 cm) diam., slightly inflated at the base, c. 10 cm diam. near the crown, distally covered in sheath fibers; internodes 2–3 cm, nodal scars 0.5 cm; wood pink, rather soft. **LEAVES** 12–15 in each crown, arching, held on edge in the distal half; sheath 54–56 cm long, proximally c. 5 cm wide, with very fibrous margins, red-brown tomentose, the tongue opposite the

**Dypsis crinita.** Juveniles growing as rheophytes, Mananara Avaratra





**Dypsis crinita.** **A** proximal part of leaf with lowermost leaflet  $\times 3/5$ ; **B** mid section of leaf  $\times 3/5$ ; **C** leaf tip  $\times 3/5$ ; **D** first order inflorescence branch  $\times 3/5$ ; **E** staminate flower, one petal removed  $\times 10$ ; **F** fruit  $\times 1$ ; **G** seed enveloped by fibrous endocarp  $\times 1$ ; **H** seed in cross section  $\times 1$ . **A - D**, **F - H** from *Dransfield et al.* JD6745, **E** from *Beentje et al.* 4577. Drawn by Rosemary Wise.

petiole said by Perrier to be very long; petiole 90–100 cm long, proximally c.  $2 \times 1.3$  cm diam., distally  $1.2\text{--}2 \times 0.6\text{--}1$  cm, channelled with sharp edges, abaxially with patches of red hairs; rachis 2–3 m long, in mid-leaf  $0.6\text{--}0.9 \times 0.5$  cm diam., strongly keeled; leaflets regular, 51–60 on each side of the rachis, bright green, stiff, slightly sigmoid, the proximal  $53\text{--}78 \times 0.7\text{--}1.8$  cm, the median  $54\text{--}75 \times 2.3\text{--}3$  cm, distal  $11\text{--}32 \times 1.2\text{--}2.7$  cm, the terminal pair joined for c. 4 cm and toothed at the apex, main veins 5–7, prominent adaxially, few large red-brown ramenta on abaxial midrib, apices attenuate. **INFLORESCENCE** interfoliar, among the fibrous mass, many per tree, erect, branched to 2 orders; peduncle 126–180 cm long, proximally c. 2.5 cm diam., distally 2.2 cm diam., with reddish lacinate scales, glabrescent; prophyll 52–59 cm long, 3.7 cm wide; peduncular bract inserted at c. 15 cm from the base of the peduncle, c. 200 cm long, beaked for 7–11

cm, abscising and carried upwards by the lengthening inflorescence; rachis c. 40 cm long, with c. 10 branched and 10 unbranched first order branches, these with bulbous bases and more distally  $6 \times 2.5$  mm diam.; rachillae pendulous, very many, 45–64 cm long, 2–3 mm diam., with many small stellate scales; triads spaced, more distally replaced by pairs. **STAMINATE FLOWERS** with sepals very unequal, the outermost smallest, keeled, hooded, proximally gibbous,  $2\text{--}2.3 \times 2.5\text{--}3.5$  mm, with minute fringe of hairs on margins; petals purplish at anthesis, equal, ovate, acute, c.  $2.5 \times 1.8$  mm; stamens biseriate, filaments 1.3–1.5 mm, anthers 0.3–0.5 mm, basifixed; pistillode c. 1.5 mm, bottle-shaped. **PISTILLATE FLOWERS** with sepals unequal, hooded, keeled,  $1.8\text{--}2.8 \times 4\text{--}6$  mm, imbricate; petals imbricate, orbicular, rounded,  $3.5\text{--}3.8 \times 4\text{--}6$  mm, the innermost enveloping the gynoecium for  $270^\circ$ ; ovary c.  $3.5 \times 3.3$  mm, asymmetrical; staminodes 6, flat,

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.