

form, texture and size of the leaves of the Ambila-Lemaitso taxon, *Perrier* 12054 and *Boivin* 1706 and the similarity in the form of the inflorescences, suggest to us that the hairiness of the rachillae is probably a variable feature, and we are thus including all these collections in the same species that we describe as new and name *D. paludosa*. A collection (*Dransfield* JD7524), made in November 1994 in the Forêt de Kalalao, about 20 km north of Tafondrou, matches the early specimens of Boivin, but is in very young inflorescence bud. The inflorescence branches to two orders and the rachillae are hairy although very young. It is interesting to record that true *D. boiviniana* was found growing nearby.

**SPECIMENS SEEN.** Mananara Avaratra: Mananara, Sept. 1912 (buds), *Perrier* 12054 (P); Antanambe, Oct. 1991 (fl.), *Beentje* 4462 (BH, K, MO, P, TAN); idem, April 1992 (fl.), *Beentje & Dransfield* 4620 (BH, K, MO, P, TAN); idem, April 1992 (fl.), *Beentje & Dransfield* 4647 (BH, K, MO, P, TAN); idem, Oct. 1994, (bud), *Dransfield & Beentje* JD7503 (K, TAN). Île Sainte Marie: Tafondrou, 1849 (sterile), *Boivin* 1706 (P); said to be Ravin-tsara (but probably same as *Boivin* 1706, mixed with type of *Dypsis boiviniana* Baillon), *Boivin* s.n. (P); Forêt de Kalalao, Nov. 1994 (buds), *Dransfield* JD7524 (K, TAN). Ampasimanolotra: Ambila-Lemaitso, c. 5 km south of village, Nov. 1986 (buds), *Dransfield et al.* JD6438 (K, TAN), JD6439 (Holotype K; isotypes BH, MO, TAN); c. 6 km south of village, March 1988 (fr.), *Dransfield et al.* JD6492 (K, TAN), JD6493 (K, TAN), JD6494 (K, TAN); 8.6 km south of village, Sept. 1991 (fl.), *Beentje* 4443 (BH, K, MO, P, TAN); 7.2 km south of village, Sept. 1991 (fl.), *Beentje* 4448 (K, TAN).

## 106. DYP SIS MIRABILIS

There is nothing particularly unusual about the vegetative morphology of this species. It is a single-stemmed palm of the undergrowth of moderate size, with leaves that are divided into few broad leaflets, a habit common among undergrowth dypsid. The species name means wonderful, which may seem inappropriate for a rather ordinary looking palm. However, this species has most unusual staminodes in the staminate flower, and it is this rather obscure feature that caused us wonder.

**DISTRIBUTION.** Marojejy and environs.

**HABITAT.** Lowland forest in valley bottoms; 90–200 m.

**LOCAL NAMES.** Not recorded.

**Uses.** Not recorded.

**Conservation Status.** Probably endangered. The distribution area is very small, and numbers are thought to be very low.

***Dypsis mirabilis* J. Dransf., sp. nov.**

palma solitaria, folio foliolis paucis latis, inflorescentia 2-ramosa, rachillis pendulis, inter species floribus staminatis triandris staminibus antesepalis, staminodiis antepetalis ad pistillodium adnatis distincta. Typus: Madagascar, Marojejy, *Dransfield* JD6771 (Holotypus K; isotypus TAN).

Solitary undergrowth palm. **STEM** to 2.5 m tall, to 15 mm diam., internodes c. 40 mm long. **LEAVES** c. 7 in crown; sheath 24 cm long, c. 25 mm diam., longitudinally striate, sparsely scaly, the sheath



**Dypsis mirabilis**



**Dypsis mirabilis.** View of crown (*Beentje & Andriampaniry* 4687).

mouth with an irregularly tattering brown membranous margin; petiole c. 11 cm, adaxially channelled, abaxially  $\pm$  rounded, covered with abundant caducous dark brown scales; rachis c. 85 cm; blade irregularly divided into 3–4 broad long acuminate leaflets on each side of the rachis, basal leaflets c.  $80 \times 11$  cm, mid-leaf leaflets  $70 \times 4$ – $7$  cm, apical leaflets  $52 \times 7$ – $8.5$  cm, shallowly lobed distally, leaflet texture rather thin in dried specimens, glabrous, short transverse veinlets evident. **INFLORESCENCE** interfoliar, branching to 2 orders, to c. 115 cm long; peduncle 45 cm long, densely covered with dark red indumentum; prophyll and peduncular bract lacking in available material; rachis c. 70 cm long, covered with indumentum as the peduncle; rachillae  $\pm$  pendulous, very numerous (c. 100), 12–16 cm long, c. 2 mm diam., glabrous, tending to be narrow just above the triad insertion, triads 1–3 mm apart, rachilla bract c.  $0.5 \times 2$  mm. **STAMINATE FLOWERS** at anthesis rounded, orange, c. 1.8 mm diam.; sepals  $1.0 \times 0.9$  mm, apically erose,

keeled; petals rounded triangular,  $1.5 \times 1.3$  mm, striate; stamens 3, antepetalous, emerging slightly between the petals at anthesis, filaments terete, 1.1 mm long, c. 0.5 mm wide at base, tapering to 0.3 mm wide at tip, anthers didymous,  $0.4 \times 0.1$  mm; staminodes antepetalous, filaments adnate to the central pyramidal pistillode forming a composite structure c.  $1.1 \times 0.7$  mm, the filaments c.  $1.1 \times 0.2$  mm, free at the very tip, empty anthers c.  $0.1 \times 0.1$  mm, free pistillode c. 0.1 mm high. **PISTILLATE FLOWERS** known only in very immature bud; sepals in fruit triangular, c.  $1 \times 1$  mm; petals in fruit triangular, striate, c.  $2 \times 2$  mm; staminodes 6. Immature **FRUIT** ovoid, green,  $12 \times 7$  mm; endocarp composed of brown fibres. **SEED**  $9 \times 5$  mm; endosperm homogeneous.

**NOTE.** The antepetalous stamens have didymous anthers (unusual among species with three stamens



**Dypsis mirabilis.** **A** leaf  $\times 1/8$ ; **B** young infructescence  $\times 1/8$ ; **C** detail of rachilla  $\times 2$ ; **D** staminate flower bud  $\times 8$ ; **E** open staminate flower from above  $\times 8$ ; **F** open staminate flower from side showing staminodes joined to the pistillode  $\times 8$ ; **G** fruit  $\times 2$ . All from *Dransfield et al.* JD6771. Drawn by Margaret Tebbes.

where, if the stamens are antesealous, they are usually sagittate), but the most unusual feature is that there are three well developed staminodes that are adnate by their filaments to the pistillode, thus forming a large pyramidal body in the centre of the flower. The relationships of this species are obscure. *Beentje & Andriampaniry* 4687 has very young flower buds; nevertheless, three large antesealous stamens and three minute central fused staminodes are visible. It is possible that *Casimir* 11731 (K, P) from Maroambihy, Sambava, also belongs here; inflorescence structure and vegetative features are similar, but no staminate flowers are available to confirm the identity.

**SPECIMEN SEEN.** Andapa: Marojejy, Mandena, headwaters of Bangouabe, east of Jean Poste Juvance, Nov. 1989 (fl., fr.), *Dransfield* JD6771 (holotype K; isotype TAN); 6 km SW of Ambodivoara, Ankatoka River valley, June 1992 (fl. buds), *Beentje & Andriampaniry* 4687 (K, MO, P, TAN).

## 107. DYPISIS FASCICULATA

This species occurs in lowlands near the coast; recently made collections are for the most part from forest developed on white sands, poor in nutrients, but the palm will also grow on laterite soils. When growing vigorously this can be quite a handsome species but it is usually rather untidy, with narrow grouped leaflets. Superficially it resembles a depauperate form of *Dypsis nodifera*. The species name refers to the grouped leaflets.

**DISTRIBUTION.** NE Madagascar, from Antalaha and Marojejy to Betampona.

**HABITAT.** Lowland forest near the coast, often on white sands, rare inland; 5–225 m.

**LOCAL NAMES.** Not recorded.

**USES.** Not recorded.

**CONSERVATION STATUS.** Vulnerable. This is quite widespread but occurs in coastal forests that are often affected by fire.

### *Dypsis fasciculata* Jum.

Ann. Inst. Bot.-Géol. Colon. Marseille sér. 3, 6 (1): 36 (1918); Bull. Acad. Malgache 6: 18 (1923); Cat. Pl. Madagascar, Palmae: 12 (1938); Jum. & H. Perrier, Fl. Madagascar 30: 39 (1945). Type: Madagascar, Antalaha, 50 m alt., Nov. 1912, *Perrier* 12042 (?P - not found).

Solitary or clustering palm of the forest undergrowth. **STEMS** 3–6 m tall, c. 15–40 mm diam., internodes to 40 mm long near base, c. 15 mm long in mature stems near the crown, green with scattered dark brown scales. **LEAVES** c. 8 in crown; crownshaft well developed; sheaths 13–24 × 1.5–2.5 cm, densely covered with dark red-brown scales, these sometimes in vertical patches; auricles sometimes present, soon tattering; petiole 8–35 cm long, 5–10 × 3–5 mm in cross section, bearing abundant caducous chocolate-brown scales; rachis 70–90 cm or more long; leaflets 11–23 on each side of the rachis, conspicuously grouped in 2s–6s (usually 3s–4s), c. 10–20 cm between the groups, the proximal few leaflets usually very slender and short (to 16 × 0.3), mid-leaf leaflets 20–47 × 1–4 cm, including the long attenuate drip tip, apical leaflets 10–20 × 2.5–6 cm; leaflet surfaces glabrous. **INFLORESCENCE** interfoliar, shorter than the leaves, branching to 2 orders; peduncle to

c. 50 cm long, 0.8–1.5 cm wide at base, tapering to c. 4 mm wide distally, densely covered in red-brown scales; prophyll inserted c. 6–11 cm above base, 10–40 × 0.8–1.2 cm, sparsely dark scaly; peduncular bract inserted to 14 cm above prophyll, exceeding the prophyll tip by c. 8–11 cm; rachis 20–46 cm, basally scaly as the peduncle, distally glabrescent; rachillae spreading or pendulous, 16–30 in number, 20–c. 50 cm long, c. 1.5–2 mm diam. at anthesis, increasing to c. 3 mm diam. in fruit, glabrous, rachilla bracts rounded, very inconspicuous, triads c. 2 mm distant, in shallow pits. **STAMINATE FLOWERS** c. 2 × 1.5 mm; sepals c. 1.4 × 0.6 mm, irregularly split and keeled; petals c. 1.6 × 1.2 mm, striate; stamens 3 antesealous, filaments broad 1.0 × 0.6 mm, anther thecae free, ± pendulous, c. 0.7 × 0.2 mm; pistillode pyramidal, 0.7 × 0.4 mm. **PISTILLATE FLOWERS** c. 2.5 × 1.9 mm; sepals rounded, c. 1.1 × 1.1, striate, irregularly erose; petals rounded triangular, irregularly imbricate, c. 2 × 1.8 mm; staminodes 3 (4), minute, toothlike, 0.2 × 0.1 mm; ovary rounded to top-shaped, 2 × 1.8 mm. **FRUIT** green (still immature), 14 × 7.5 mm. **SEED** 10 × 4 mm; endosperm homogeneous; embryo lateral near the base.

**NOTE.** The interpretation of this name has caused particular problems because we have been unable to locate the type, *Perrier* 12402, from Antalaha, which, we assume, should be in Paris. Using Jumelle's imperfect description, we have here applied the name to a taxon from forest near the Bay of Antongil, further to the south from Antalaha, that keys out to *D. fasciculata* and which more or less fits the protologue. Perhaps most significant is Jumelle's description of the stamen form. He describes the thecae as being pendulous, a most unusual stamen type in *Dypsis*; those collections cited here that have staminate flowers also have stamens of this form. Should the type ever be found, then the conspecificity of the newly collected material will have



**Dypsis  
fasciculata**