

robust palm with a short trunk 4–6 m high, and this is certainly the size of an young tree; all flowering or fruiting specimens we have observed had trunks over 6 m tall, and usually over 10 m.

SPECIMENS SEEN. Vatomandry: 6 km S of Ambalatenina, Oct. 1991 (y. fr.), *Beentje* 4506 (BH, K, MO, P, TAN); *Levazy*, SW of Vatomandry, Dec. 1921 (bud, fr.), *Perrier* 14158 (P, type of *D. fibrosa*). Ifanadiana: Ambinanindrano, Jan. 1993 (stam.fl.), *Beentje & Andriampaniry* 4798 (K). Mananjary: Mt Vatovavy, Oct. 1911 (bud, fr.), *Perrier* 12073 (P, type of *D. mananjarensis*). Manakara: Amby, July 1992 (y.fr.), *Beentje & Beentje* 4727 (BH, K, MO, P, TAN); idem, July 1992 (stam.fl.), *Beentje* 4728 (K); idem, Jan. 1993 (fr.), *Beentje & Andriampaniry* 4796 (K, TAN). Farafangana: Manombo, Nov. 1991 (bud), *Beentje* 4521 (BH, K, MO, P, TAN). Tolanaro: 6km N of Mandromodromotra, March 1992 (y.fr.), *Beentje & Andriampaniry* 4613 (K, TAN).

SIGHT RECORD: Ifanadiana: Ranomafana, 2 km N of town, 1991, fide Beentje (said to be over 50 years old); HB has also seen seedlings with the typical 'mealy-bug' scales in Ranomafana National Park forest.

11. DYP SIS MALCOMBERI

An impressive and massive tristichous palm. The species is named for Simon Malcomber, enthusiastic plant collector and tree climber, who took a great deal of trouble to obtain more material of this rare species.

DISTRIBUTION. Only known from the Andohahela.

HABITAT. Moist forest; slight or steep mid slopes, occasionally near forest streams; alt. 400–800 m.

LOCAL NAMES. *Rahosy*, *Vakaka* (Antanosy).

USES. The outer wood is used to make planks for walls.

CONSERVATION STATUS. Vulnerable. Only known from a single small area. Though this species occurs in a protected area (Andohahela is a Reserve Spéciale) the felling for construction purposes seems to continue.

***Dypsis malcomberi* Beentje sp. nov.**

D. piluliferae et *D. mananjarensis* similis sed vagina folii glabra forma rachillarum bracteas triadium conspicuas et flores confertim tectarum recedit. Typus: Madagascar, Andohahela, Col Tanatana, *Dransfield et al.* JD6779 (Holotypus K; isotypi P, TAN).

Solitary palm. **TRUNK** 15–25 m, 25–35 cm diam., distally 14–15 cm diam., at the base slightly bulbous with a few aerial roots, internodes 10–28 cm (distally 5–6 cm), slightly stepped, finely fissured and brown, ringed, nodal scars c. 2 cm. **LEAVES** tristichous, 6–8 per crown, plumose; sheath bright green to yellow-green, waxy, swollen, 1.5–2 m, 17–25 cm diam., closed or open for up to one quarter of its length, glabrous, auricles absent or up to 4 × 10 cm; petiole 20–50 cm, 4–8 cm diam., bright green, glabrous, canaliculate with sharp edges; rachis 3–4 m long, bright green, in mid-leaf 4–5 cm diam., proximally canaliculate, distally keeled; leaflets in groups of 2–8 or only slightly irregular, the group interval 1–13 cm, the leaflets fanned to almost in one plane, drooping in their distal part, 135–188 on each side of the rachis, basal 80–110 (–220) × 0.6–3.2 cm, median 93–135 × 2.8–4.6 cm, distal 10–50 × 1–2 cm, attenuate, main vein 1, bright green, not waxy, glabrous but for the ramenta. **INFLORESCENCE** infrafoliar, branched to 3–4 orders, arching and with pendulous rachillae in fruit; peduncle green, 20–30 cm long, 6–16 × 3–5 cm diam., glabrous; prophyll 42–73 × 12–20 cm, borne at 8–9 cm above the base of the peduncle, glabrous, splitting abaxially; peduncular bract borne at 15 cm above the base of the peduncle, deciduous, 72–117 × 16 cm, beaked for 8–21 cm, green, glabrous with a waxy bloom; rachis 60–124 cm, green, glabrous, with 18–21 branched and 12–17 unbranched first order branches; rachillae 15–48



Dypsis malcomberi



Dypsis malcomberi, a common tree palm at Andohahela.

cm long, 3.5–8 mm diam., glabrous, triads dense with proud, slightly reflexed bracts. **STAMINATE FLOWERS** pale green, with sepals 1.8–2.3 × 2.2–2.8 mm; petals 2.3–2.6 × 1.8–1.9 mm; stamens 6, cream, uniseriate, filaments c. 1 mm in bud, anthers c. 1.3 × 0.6 mm, versatile; pistillode c. 1.5 × 0.5 mm. **PISTILLATE FLOWERS** (in fruit) with sepals 2.6–3.2 × 2.4–2.8 mm; petals 3–3.5 × 3–4.2 mm; staminodes 0.5–1.3 mm, flat; gynoecium not seen. **FRUIT** pale orange, globose to ellipsoid, 8–10 × 4–7 mm, with hardly fibrous endocarp; **SEED** c. 5.5 × 4 mm, with homogeneous endosperm.

NOTE. Clearly allied to *D. mananjarensis* and *D. pilulifera*; though very similar, in the field these three taxa have a different appearance.

Probably the same is: Midongy: 24km S of Midongy, May 1992 (fr.), *Beentje & Andriampaniry* 4670 (K, TAN),

but the material is too scanty to be certain; it comes from wet forest at 800 m altitude, but was collected from a tree felled for palm-heart some time before.

SPECIMENS SEEN. Tolanaro: upper Manampanihy valley between Eminiminy and the Saindro Col, Feb. 1934 (fr.), *Humbert* 14032 (P); Col Tanatana, Andohahela, Nov. 1989 (fl., fr.), *Dransfield et al.* JD6779 (K, P, TAN); 13km N of Ezoambo, March 1992 (bud), *Beentje & Andriampaniry* 4596 (BH, K, MO, P, TAN); idem, March 1992 (fr.), *Beentje & Andriampaniry* 4603 (BH, K, MO, P, TAN); Andohahela R, May 1992 (bud), *Malcomber et al.* 1542 (K, MO, TAN).

SIMILAR SPECIMENS: two collections from the Andohahela [Tolanaro: Andohahela, Tsilotsilo Col, Jan./Feb. 1934 (bud), *Humbert* 13977 (K, P); idem, (fl.), *Humbert* 14136 (K, P); alt.



Dypsis malcomberi. A leaf sheath × 1/6; B distal part of petiole with lowermost leaflets × 1/6; C mid section of leaf × 1/6; D leaf tip × 1/6; E part of inflorescence × 1/6; F fruit × 2; G fruit in cross section × 2. All from *Dransfield et al.* JD6779. Drawn by Margaret Tebbs.

1000–1200 m, from the natural limits of the moist forest] are similar, but with a different ‘feel’ to them. They represent a large solitary palm, 10–12 m, and according to Humbert ‘very ornamental’. The leaves have a large, waxy sheath; the leaflets are grouped, with lines of small scattered scales, and of similar size to *malcomberi*. The branching of the inflorescence is unclear, but the rachillae are 6–20 cm long and c. 5 mm diam. The staminate flower parts are slightly larger than *malcomberi*; so are the pistillate flower parts, with petals 5–5.2 mm long. The fruit of this taxon is not known.

12. DYP SIS PRESTONIANA

A species which was discovered through serendipity: HB was trying to refind *Chrysalidocarpus midongensis* (now a synonym of *D. onilahensis*), unaware that that taxon came from a totally different Midongy (a small hamlet in the Itremo Mountains), failed to find it, but spotted this elegant tree on the skyline of a hill. The specific epithet honours Mr. Paul Preston, President of McDonald’s Restaurants Limited (UK), who sponsored the four-year Palms of Madagascar fellowship.

DISTRIBUTION. Only known from the Midongy area; an old collection from Mahanoro.



Dypsis prestoniana. A massive canopy palm in the forest at Midongy.



Dypsis prestoniana

HABITAT. Moist forest; slight slope; clay soils derived from laterite; alt. 50–550 m.

LOCAL NAMES. *Tavilo* (Betsimisaraka); *Babovavy, Tavilo* (Antaisaka).

USES. Palm-heart edible (fide *Perrier*).

CONSERVATION STATUS. Vulnerable. At present only known from the Midongy area, where numbers do not exceed two hundred. None occurs in a protected area. HB has visited the Mahanoro area, which is nowadays devoid of tree palms.

Dypsis prestoniana Beentje sp. nov.

Palma excelsa inter species maximas foliolis aggregatis rachillis dense puberulis endospermio homoganeo distincta. Typus: Madagascar, 6km ENE of Midongy, *Beentje & Andriampaniry* 4672 (Holotypus K; isotypi BH, MO, P, TAN).

Solitary palm. **TRUNK** 4–12 m, 24–40 cm diam.; basal boss about 15 cm high, 40 cm diam.; internodes 10–15 cm, pale grey-brown, distally green and smooth; nodal scars c. 3.5 cm, pale grey. **LEAVES** 8–10 in the crown, spiral, correct to spreading, arched gracefully in the distal part; sheath 90% open, green to pale brown or grey, with waxy covering, with flaking brown tomentum of peltate scales, c. 114 × 28 cm, with distinct rounded shoulders, the sheath in cross-section slightly triangular with thick middle section and thin flat margins; petiole 0–17 cm, c. 7 × 6 cm diam., deeply channelled; rachis c. 4.4 m, channelled in its proximal part (channel 6 cm wide near petiole) but in midleaf c. 3.5 × 3 cm diam., with slightly sunken circular waxy scales; leaflets c. 164 on each side of the rachis, grouped and fanned within the groups, the groups 3–9 in number, dense and irregular, c. 4 cm apart, the individual leaflets 0.3–2 cm apart, the proximal 76–123 × 1–2.5 cm, the most proximal often with long pendulous reins, median 97–112 × 2.7–4.7 cm, distal 17–50 × 1.3–2.6 cm, main veins 3, plus very thickened margins, abaxially glaucous with white wax, as well as with dense patches of large (– 8 mm) red-brown ramenta on the midrib near the base, leaflet apices unequally bifid and acute. **INFLORESCENCE** interfoliar, erect with spreading or recurved branches, branched to 3 orders, c. 226 × 90 cm; peduncle c. 118 cm long, 12 × 4 cm diam. proximally, 8 × 4.5 cm diam. distally, yellow with brown scales, turning green with red-brown scales;