



**Dypsis
andrianatonga**

SPECIMENS SEEN. Ambanja: Manongarivo, Bekolosi, Jan. 1992 (old infl.), *Beentje & Quansah* 4559 (Holotype K; isotypi MO, P, TAN); idem, Feb. 1992 (fr.), *Beentje et al.* 4571 (K, MO, TAN); Antsatrotro, Sept. 1991 (fl.), *Malcomber & Razafimandimbison* 885 (K, P). Sambava: Betsomanga massif, Nov. 1950 (y.fr.), *Humbert & Capuron* 24305 (K, P); Mt Beondroka, March 1949 (fr.), *Humbert* 23559 (K, P). Andapa: Marojejy, W slopes, Nov./Dec. 1948 (dead infl.), *Humbert & Capuron* 22287 (K, P); Ambatoharanana valley to upper Antsahaberoka, Nov. 1959 (ster.), *Humbert & Saboureau* 31883 (K, P); Marojejy, E peak area, Oct. 1988 (y.fr.), *Miller et al.* 3512 (MO, TAN); Marojejy, Dec. 1972 (fl., y.fr.), *Guillaumet* 4108 (TAN).



Dypsis serpentina. Detail of infructescences (*Dransfield & Beentje* 7502).

30. DYP SIS SERPENTINA

In its habit this is a most unusual and curious, rather than beautiful species. The stems appear to flop over under their own weight, and branch, the branches being of smaller diameter than the axes below the branching point. In this way the plant develops into a thicket of aerial stems that flop about the surrounding vegetation. Not strictly a climber, this palm is nevertheless scarcely self-supporting. The name reflects the habit of the palm: snaking through the undergrowth, and also alludes to the soil type, although it grows on ultramafic soils rather than true serpentine ones.

DISTRIBUTION. Only known from the Mananara Biosphere Reserve.

HABITAT. Lowland rain forest; may form thickets on steep mid slopes or in heath-like forest on ridgetops, with *Satranala* and *Pandanus* on very thick humus layer on ultramafic soil; 240–280 m.

LOCAL NAMES. Not recorded.



**Dypsis
serpentina**

USES. Not recorded.

CONSERVATION STATUS. Vulnerable. Single-site status, but is fairly abundant in this site, which is protected.

***Dypsis serpentina* Beentje sp. nov.**

D. baronii et *D. andrianatongae* similis sed foliis aggregatis et petiolo longo, a *D. baronii* vagina breve et caule ramificanti, a *D. andrianatonga* grana minore bractea pedunculi breviora difert. Typus: Madagascar, Mananara Avaratra Biosphere Reserve, Beentje et al. 4646 (Holotypus K; isotypi BH, MO, P, TAN).

Solitary or clustering rather floppy palm. **STEMS** 5–6 m, 3–4 cm diam., starting vertical, then leaning over with almost horizontal part, the apex again vertical; nearly all stems seen branched twice or more, with the branches closely parallel; internodes distally 1–8.5 cm, glabrous, proximally corky, cracked vertically with lenticels,

dull grey-brown, the upper branches green; nodal scars 0.8–1.2 cm, brown. **LEAVES** c. 6 in the crown, spirally inserted; sheath 21–26 cm long, green with a white bloom, with a few scattered scales distally; petiole 43–75 cm long, distally 2–3 mm wide, with scattered scales; rachis 50–120 cm long, in mid-leaf 0.2–0.3 cm wide; leaflets 7–17 on each side of the rachis, irregular or in groups, the group interval 4–9 cm, proximal leaflets 40–70 × 2.4–3.5 cm, median 25–46 × 1–1.6 cm, distal 13–20 × 0.7–1.7 cm, main veins 1–2 (distal 2–3), but in multifold leaflets 3–5, few ramenta, otherwise glabrous, some sinuous transverse veins, distal leaflets connate for c. 2 cm, dentate over a width of c. 2 mm, distal pair joined for c. 0.6 cm. **INFLORESCENCE** infrafoliar, branched to 1 order, recurved; peduncle 8–10 cm long, distally 0.4–0.5 × 0.3–0.5 cm diam., stellate-scaly; prophyll 12–18 cm long, 1.5–2 cm wide, borne at 2–3 cm above the base of the peduncle; peduncular bract inserted at 5–7 cm from the base of the peduncle, 7–12.5 cm long; rachis 2.5–3 cm long, with scattered stellate scales, with 5–7 branches; rachillae



***Dypsis serpentina*.** **A** stem with inflorescence × 1/3; **B** stem with infructescence × 1/3; **C**, **D** basal leaflets × 1/3; **E** mid section of leaf × 1/3; **F** leaf tip × 1/3; **G** fruit × 2.5; **H** fruit in cross section × 2.5. All from Dransfield & Beentje JD7502. Drawn by Rosemary Wise.

4–8 cm long, 1–2 mm diam., with scattered scales; triads distally distichous. **STAMINATE FLOWERS** with sepals 1.9–2 × 1.5–1.8 mm, the innermost the widest; petals in young bud c. 1.8 × 1.3 mm; stamens 6, uniseriate?, filaments in bud 0.3 mm, anthers 0.6–0.8 × 0.3 mm; pistillode c. 0.8 × 0.2 mm. **PISTILLATE FLOWERS** with sepals 3–3.2 × 2.6–3.3 mm; petals 3.5–4 × 2.8–3.2 mm; staminodes 0.8–1 mm; gynoecium c. 4.2 × 2 mm. **FRUIT** purplish-tinged, ovoid, 12–14 × 9–10 mm. **SEED** c. 11 × 8.5 mm, endosperm ruminate, the ruminations 1–2.5 mm deep, distant, embryo lateral near the base.

NOTE. Related to *D. andrianatonga* and *D. baronii*.

SPECIMENS SEEN. Mananara Avaratra: Antanambe, April 1992 (fl.), *Beentje et al.* 4646 (type; BH, K, MO, P, TAN); idem, Oct. 1994 (fr.), *Dransfield & Beentje* JD7502 (K, TAN); idem, Oct. 1994 (fl. fr.), *Beentje & Dransfield* 4813 (K, TAN).

31. DYP SIS ONILAHENSIS

A handsome, medium-sized clustering palm which would do well in cultivation in the drier tropics. The species name comes from the Onilahy River, south of Toliara.

DISTRIBUTION. NW and W Madagascar and South-Central Madagascar.

HABITAT. Riverine forest, alt. 50–300 m (in the North) or riverine to evergreen forest (remnants) at 750–2400 m (Mountains of the Centre-North; Centre-South). Humbert states the palm is abundant on the rocky banks at flood level of the Analabe River in the north.

LOCAL NAMES. *Kindro* (Antankarana); *Sihara* (Bara).

USES. Not recorded.

CONSERVATION STATUS. Vulnerable. Though the distribution area is fairly large, the habitat is prone to destruction by fire. Numbers are estimated at less than a thousand. The population in the Isalo National Park is well-protected, but numbers less than a few hundred individuals.

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

SYNONYMS:

Chrysalidocarpus onilahensis *Jum. & H. Perrier*, Ann. Inst. Bot.-Géol. Colon. Marseille sér. 3, 1 (1): 37. t. 18 (1913); *Jum.*, Ann. Inst. Bot.-Géol. Colon. Marseille sér. 10, 3: 15 (1922); *Cat. Pl. Madagascar, Palmae*: 10 (1938); *Fl. Madagascar* 30: 108 (1945). Type: Madagascar, Onilahy basin, Mt. Votaka near Benenitra, *Perrier* 12074 (Holotype P).

Chrysalidocarpus midongensis *Jum.*, Ann. Inst. Bot.-Géol. Colon. Marseille sér. 10, 3: 17 (1922); *Cat. Pl. Madagascar, Palmae*: 10 (1938); *Fl. Madagascar* 30: 109 (1945). Type: Madagascar, E of Midongy, *Perrier* 12499 (Holotypus P), **synon. nov.**

Chrysalidocarpus brevinodis *Perrier*, Not. Syst. 8: 47 (1939); *Jum. & H. Perrier*, *Fl. Madagascar* 30: 104, fig. 29: 4–6 (1945). Syntypes: Madagascar, upper Mananjeba R basin, *Perrier* 15800 (P); Analamera, Analabe R. banks, *Humbert* 19245 (P, see NOTE), **synon. nov.**

Clustering palm in tufts of 3–10 (occasionally appearing as solitary, fide Humbert). **STEMS** 2–20 m high, 2.5–15 cm diam. (–30 cm, fide *Perrier*), distally stepped and ringed; internodes 0.3–20 cm, proximally grey, distally dark green, nodal scars 0.2–0.5 cm, white. **LEAVES** 5–7 in the crown, gracefully arching to half-pendulous; sheath

18–60 cm, 4.5–6 cm diam., open for about one third, abaxially dark grey-green, pale green to pale brown but nearly always with a white waxy bloom, distally reddish-pubescent but glabrescent, adaxially rich red-brown, without or with only slight ligules to 1.5 × 4 mm; petiole absent or up to 40 cm long, proximally 1.2–2.3 × 1–1.5 cm with an adaxial triangular swelling as a sheath lining extension, distally 1.3–1.7 × 0.6–1.6 cm, slightly channelled with sharp edges, glabrous or with reddish scales on both surfaces, dark green with flecks of dark brown; rachis 1–1.8 m long, proximally channelled, in mid-leaf keeled and 0.7–1.7 cm wide, with reddish scales or glabrous; leaflets 42–64 on each side of the rachis, regular, in one plane, opposite leaflets also in one plane (in Isalo) or at an angle of 90° (elsewhere), slightly pendulous, curving or stiff with only the distal part arching, dark green and hardly shiny adaxially, mat and glaucous abaxially, the proximal (22–) 38–106 × 0.2–2 cm (interval up to 19 cm), median 35–75 × 0.8–2.5 cm (interval 0.8–4 cm), distal 8–44 × 0.2–1.9 cm (the distal pair joined for up to 2 cm), main veins 1–5, rather faint with only the midrib adaxially prominent, adaxially with proximal or scattered red-brown rather large (6–30 mm) ramenta on the midrib, otherwise glabrous, apices long-attenuate, bifid. **INFLORESCENCE** interfoliar or infrafoliar at anthesis, infrafoliar at the fruiting stage, curved with spreading rachillae, branched to 2 orders (once to 3 orders in *Humbert* 7025); peduncle 15–78 cm long, usually curving through 180°, proximally 0.6–4 × 0.4–1.2 cm diam., distally 0.9–4 × 0.6–1.5 cm, with scattered scales or glabrous; prophyll 11–87 cm, borne at 3.5–45 cm above the base of the peduncle, 2–6 cm wide with narrow wings to 3 mm wide, split only at the apex for some 3 cm or open for up to 50%, yellow turning pale brown with scattered reddish scales distally; peduncular bract often quickly deciduous (in trees with long peduncles), inserted at 6–42 cm from the base of the peduncle, 18–55 cm long, beaked for 0.5–4 cm, splitting completely (except for the beak), adaxially glabrous and red-brown, abaxially pale green with scattered red-brown lacinate scales; non-tubular peduncular bracts usually two near the peduncle apex, 0.2–2.5 × 0.5 cm; rachis 16–40 cm long, waxy pale green, with 5–15 branched and 8–12 unbranched first order branches, the most proximal with a rachis of up to 7.5 (–26.5 in



Dypsis onilahensis, growing at Zazafotsy.