

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:**

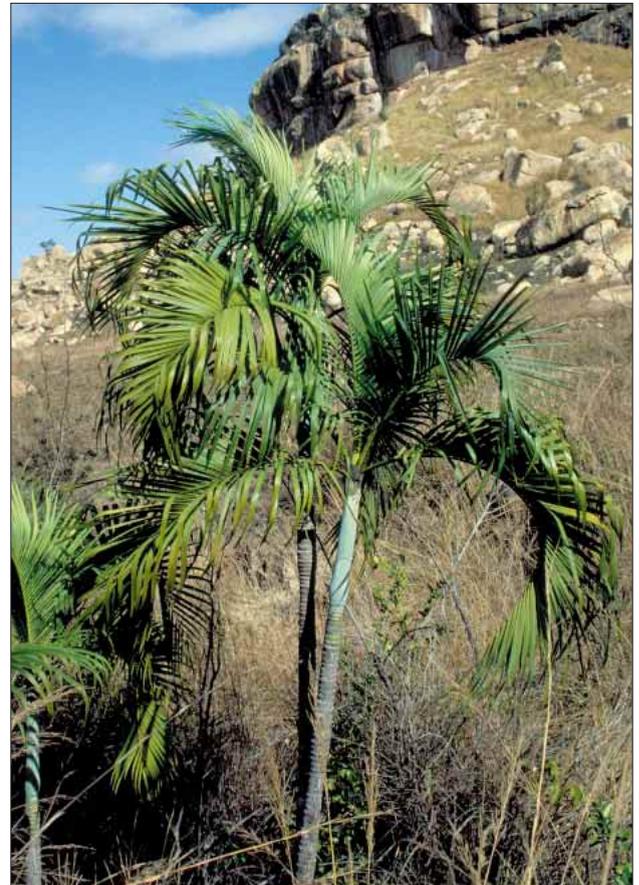
***Chrysalidocarpus onilahensis*** *Jum. & H. Perrier*, *Ann. Inst. Bot.-Géol. Colon. Marseille sér. 3*, 1 (1): 37. t. 18 (1913); *Jum.*, *Ann. Inst. Bot.-Géol. Colon. Marseille sér. 10*, 3: 15 (1922); *Cat. Pl. Madagascar, Palmae*: 10 (1938); *Fl. Madagascar* 30: 108 (1945). Type: Madagascar, Onilahy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



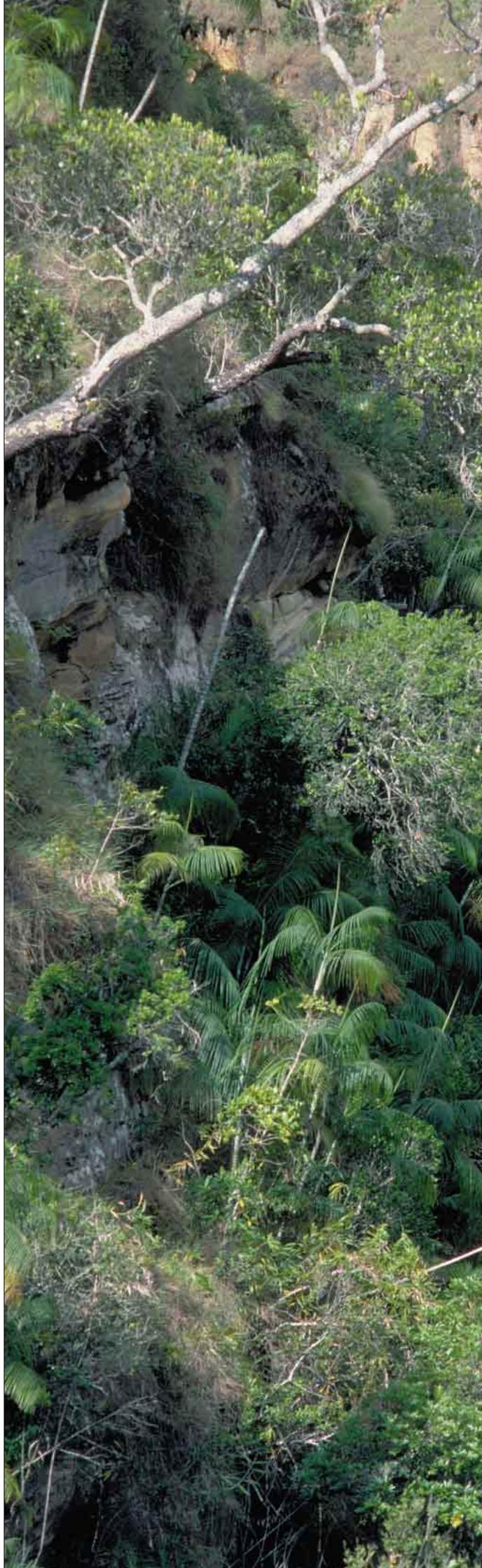
**Dypsis  
onilahensis**

*Humbert* 18432) cm and  $0.8\text{--}1.7 \times 0.3\text{--}0.5$  cm proximally, with 4–12 rachillae; rachis bracts up to 1 cm; rachillae 6–30 cm long, sinuous distally, 1.5–4.5 mm diam., glabrous, with distant triads in slight pits with an acute triangular rachilla bract 1–1.5 mm. **STAMINATE FLOWERS** creamy green or yellowish, with a sweet or unpleasant smell, with sepals  $1.4\text{--}2.9 \times 1.5\text{--}2.8$  mm, concave, acute, keeled and gibbous; petals free or connate up to 1 mm,  $2.2\text{--}4.2 \times 1.5\text{--}3.4$  mm, ovate and concave, acute; stamens 6, uniseriate or very vaguely biseriate (then with 0.1 mm difference in insertion and a callus between the filaments), filaments 1.2–3 mm long and thinly cylindrical, anthers  $1.3\text{--}2.8 \times 0.6\text{--}1.3$  mm, dorsifixed, versatile, the locules parallel or proximally slightly divergent; pistillode  $1\text{--}2.3 \times 0.4\text{--}1.3$  mm. **PISTILLATE FLOWERS** with sepals  $2.2\text{--}3.1 \times 2.2\text{--}3.2$  mm, rounded; petals  $2.5\text{--}3.5 \times 2.5\text{--}4$  mm; staminodes 0.3–1 mm; gynoeceum  $2.8\text{--}3.5 \times 1.5\text{--}2.9$  mm. **FRUIT** yellow, waxy?, ovoid to subglobose, 10–18  $\times$  7–15 mm, the apex rounded; endocarp very fibrous with almost free fibres. **SEED** black, 9–17  $\times$  6.5–12 mm, ellipsoid with pointed base and rounded apex, and a small sub-basal depression; endosperm homogeneous. **EOPHYLL** bifid.

**NOTE.** We are sinking *C. brevinodis* and *C. midongensis* as there are no distinguishing characters to separate these taxa from the bulk of *D. onilahensis*. Even the habitats seem to be identical. The protologue of *C. brevinodis* mentions as one of the syntypes *Humbert* 19032: Analamera, Analabe R banks. We believe this is an error; in the Flore the number (with the same data) is cited as 19245; on the sheets of *Humbert* 19245 (with the same data) Perrier has written *C. brevinodis* *sp. nov.* Perrier states that the stems are sometimes branched.

In the southern populations there is a gradual cline from north to south as regards leaflet length (decreasing) and number (increasing), and inflorescence

**Dypsis onilahensis**, in a gorge at Isalo (Photo: B. Du Puy & D. Du Puy).

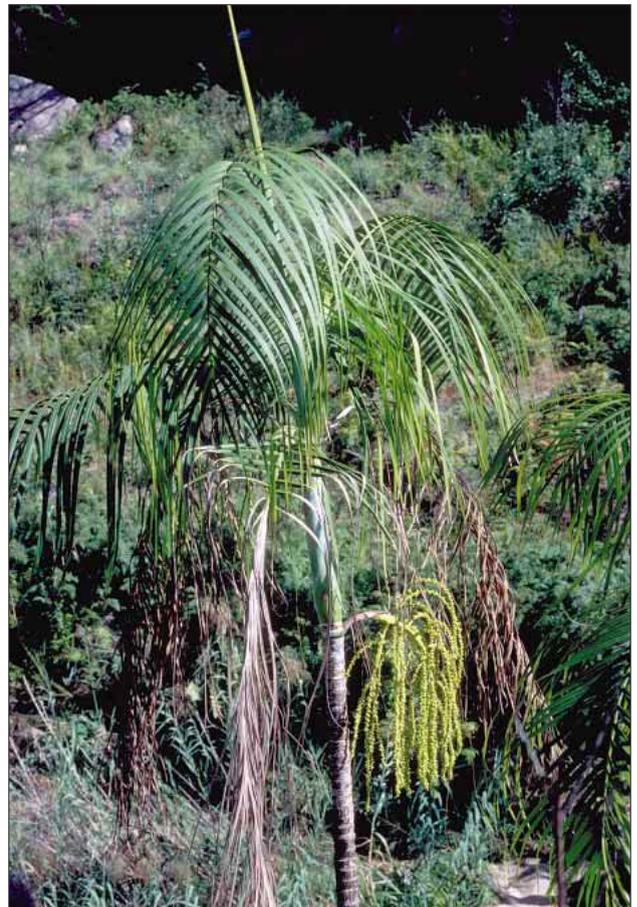


parts lengths such as peduncle, prophyll, peduncular bract (all increasing). The type of *D. onilahensis* is from the middle of the range, and nicely intermediate.

The name *midongensis* refers to an obscure hamlet in the Itremo Massif, rather than to the large town in the south-east; before HB had realized this, he went to the large town and searched for this taxon. Not surprisingly, he did not find it, but in a nice case of serendipity, he found *D. prestoniana*.

*D. acuminum* is very close, only distinguished by being solitary; by its fewer leaflets (30) which are on the short side, and by the inflorescence which is branched to one order only (though the type has one bifurcate rachilla).

This species is extraordinarily close to *D. baronii*, and only differs in the habitat, the absence of minute reddish glands on the leaflets (not always present in *D. baronii*), and the homogeneous endosperm; the ruminations in *D. baronii* are difficult to see at times, being very small, and *D. baronii* has been found in sites which are really in *D. onilahensis* territory, such as the forest of Ambohitaratelo. In the absence of fruit, several collections could not be identified as belonging to one or the other [Miandrivazo: NW of Ambohitaratelo-Bebao, July 1974 (fl), Morat 4590 (P, TAN); idem, Nov. 1986 (fl., y.fr.), Dransfield *et al.* 6447 (K, P, TAN)] but since Dorr *et al.* 3532 from



**Dypsis onilahensis**, near Ranohira (Photo: B. Du Puy & D. Du Puy).

the same locality has ruminant endosperm, they are more likely to be *D. baronii*. This whole complex deserves further study.

**SPECIMENS SEEN.** Antsiranana: Analamera, Analabe R banks, Jan. 1938 (fr.), *Humbert* 19245 (P, syntype of *C. brevinodis*). Ambilobe: upper Mananjeba basin, Aug. 1913 (fl., fr.), *Perrier* 15800 (P, syntype of *C. brevinodis*). Ambanja: Manongarivo, 1200 m, May 1909 (fl.), *Perrier* 12083 (P); Tsaratanana, upper Sambirano valley, Nov./Dec. 1937 (fr.), *Humbert* 18432 (P). Andapa: Mt Mainborondro, March 1949 (fr.), *Humbert* 23377 (K, P). ?Maevatanana: Tampoketsa d'Antongodrahoza, upper Betsiboka R, Sept. 1922 (fl.), *Perrier* 14839 (P). Ankazobe: Ikopa R, March 1920 (fr.), *Decary* 7556 (P). Ambatofinandrohana: E of Midongy de l'Ouest, Feb. 1919 (fr.), *Perrier* 12499 (P, type of *C. midongensis*). Ihoisy: Isalo, Oct. 1924

(fl.), *Perrier* 16548 (P); idem, Oct. 1924 (bud), *Humbert* 2822 (P); idem, NW of Ranohira, July 1992 (buds), *Beentje & Andriampaniry* 4709 (BH, K, MO, P, TAN); idem (seedling), *Beentje & Andriampaniry* 4713 (K); idem, Feb. 1990 (fr.), *B. Du Puy et al.* MB 673 (K); SW of Ranohira, Feb. 1990 (y.fr.), *Phillipson* 3406 (K, MO, TAN); 22km NNE of Zazafotsy, Feb. 1992 (seed), *Beentje & Andriampaniry* 4586 (K); idem, Dec. 1992 (fl.), *Beentje* 4768 (K, MO, P, TAN). Benenitra: Mt Votaka near Benenitra, July 1910 (fl.), *Perrier* 12074 (P, type of *C. onilahensis*). Betroka: Vohipolaka, Nov. 1933 (fl.), *Humbert* 11653 bis (P). Betroka/Befotaka: Ivohibe Peak, Sept. 1921 (bud), *Perrier* 12079 (P). Amboasary Atsimo: Ivakoany Massif, W slopes, Dec. 1928 (fl.), *Humbert* 7025 (K, P) and Nov.-Dec. 1933 (fl., y.fr.), *Humbert* 12248 (P). Tolanaro: Beampingaratra Mts, Maloto R valley Oct./Nov. 1928 (fl.), *Humbert* 6283 (P); upstream from Mahamavo, Jan./Feb. 1934 (fr.), *Humbert* 13905 (K, P); Col du Vavara, Nov. 1928 (fl.), *Humbert* 6539 (K, P).



**Dypsis onilahensis.** A habit, greatly reduced; B leaf sheath  $\times 1/3$ ; C distal part of petiole with lowermost leaflets  $\times 1/3$ ; D mid section of leaf  $\times 1/3$ ; E leaf tip  $\times 1/3$ ; F basal portion of inflorescence rachis and part of peduncle and peduncular bract  $\times 1/3$ ; G fruit  $\times 2$ ; H fibrous endocarp  $\times 2$ ; J endocarp and seed in cross section  $\times 2$ . A - F from *Beentje* 4768, G - J from *Humbert* 18432. Drawn by Rosemary Wise.