has been found in sites which are really in *D. onilahensis* territory, such as the forest of Ambohitsaratelo. In the absence of fruit, several collections could not be identified as belonging to one or the other [Miandrivazo: NW of Ambohitsaratelo-Bebao, July 1974 (fl), *Morat* 4590 (P, TAN); idem, Nov. 1986 (fl., y.fr.), *Dransfield et al.* JD6447 (K, P, TAN)] but since *Dorr et al.* 3532 from the same locality has ruminate endosperm, they are more likely *D. baronii*.

SPECIMENS SEEN. Antsiranana: Mt d'Ambre, Nov. 1932 (fl., fr.), *Perrier* 18870 (P, type of *N. compactus*); idem, June 1970 (fl.), *Bosser* 20367; idem, near the summit, Oct. 1991 (fr.), *Malcomber et al.* 976; idem, Bianamalo, June 1989 (ster.), *B. Du Puy et al.* MB 217 (K) & (fl.) MB 222 (K). Andapa: Mt Ambodilaitra, March 1949 (y.fr.), *Humbert* 23287 (K, P;differs in longer rachillae than rest, 19–24 cm); Ambatosoratra, Jan. 1949 (y.fr.), *Cours* 3342 (P); Marojejy E, N of Mandena, Nov. 1989 (bud), *Dransfield et al.* JD6769 (K, TAN). Ambatondrazaka: Manaka Est, Jan. 1959 (dead infl), *Rakotovao RN* 11019 (K, P); idem, April 1961 (fr.), *Rakotovao* RN 11859 (K); Ambatoharanana near Antsevabe, March 1951 (fr.), *Cours* 4061 (K, P, TAN). Manjakandriana: Angavokely, Oct. ?1924 (fl.), *Perrier* 15883 (P); Mandraka, Feb. 1985 (y.fr.) *Barnett et al.* 455 (K, MO, P); idem, Feb. 1985 (fr.) *Dorr et al.* 3729 (K, MO). Moramanga: Andasibe, Nov. 1986 (bud), *Dransfield et al.* JD6426 (K, P, TAN); idem, Dec. 1991 (fl), *Beentje & Andriampaniry* 4534 (BH, K, MO, P, TAN); idem, Dec. 1991 (fl., y.fr.) *Beentje & Andriampaniry* 4544 (BH, K, MO, P, TAN); Mantady, Dec. 1992 (fl.), *Beentje & Andriampaniry* 4771 (K, TAN); Maromi(ha)za, Feb. 1926 (fr.), *Perrier* 15990 (P); idem, March 1991 (fr.), *Beentje & Raharilala* 4412 (BH, K, MO, P, TAN), 4414 (K, TAN); Lakato Road, Nov. 1972 (fl.), *Guillaumet* 4030 (P, TAN); Rahobevava, March 1951 (fr.), *Cours* 4297 (K, P, TAN). Miandrivazo: NW of Ambohitsaratelo-Bebao, Jan. 1985 (fr.), *Dorr et al.* 3532 (K, MO, P). Fianarantsoa: Vohiparara, July 1992 (dead infl.), *Beentje & Andriampaniry* 4716 (BH, K, MO, P, TAN).
WITHOUT PRECISE LOCALITY: Central Madagascar, (bud), *Baron* 3270 (K, type of *N. baronii*), (bud) 4509 (K, P), (bud) 6068 (K, syntype); anno 1847–1852 (leaf only), *Boivin* s.n. (P); without any data, *Perrier* 12082 (P).
CULTIVATED: Analamazaotra (fr.), *Perrier* 15989 (P); Antananarivo, Antanimena, 1924 (fr.), *Perrier* 16061 (P).

Dypsis andrianatonga, showing branching and infructescence, Bekolosi (*Beentje et al.* 4571).

29. DYPSIS ANDRIANATONGA

A rather small branching palm which is restricted to the high mountain massifs of northern Madagascar. All individuals we have seen displayed branching. The species seems closest to *D. baronii*. The epithet means 'the nobleman has arrived' and comes from the local name of the species.

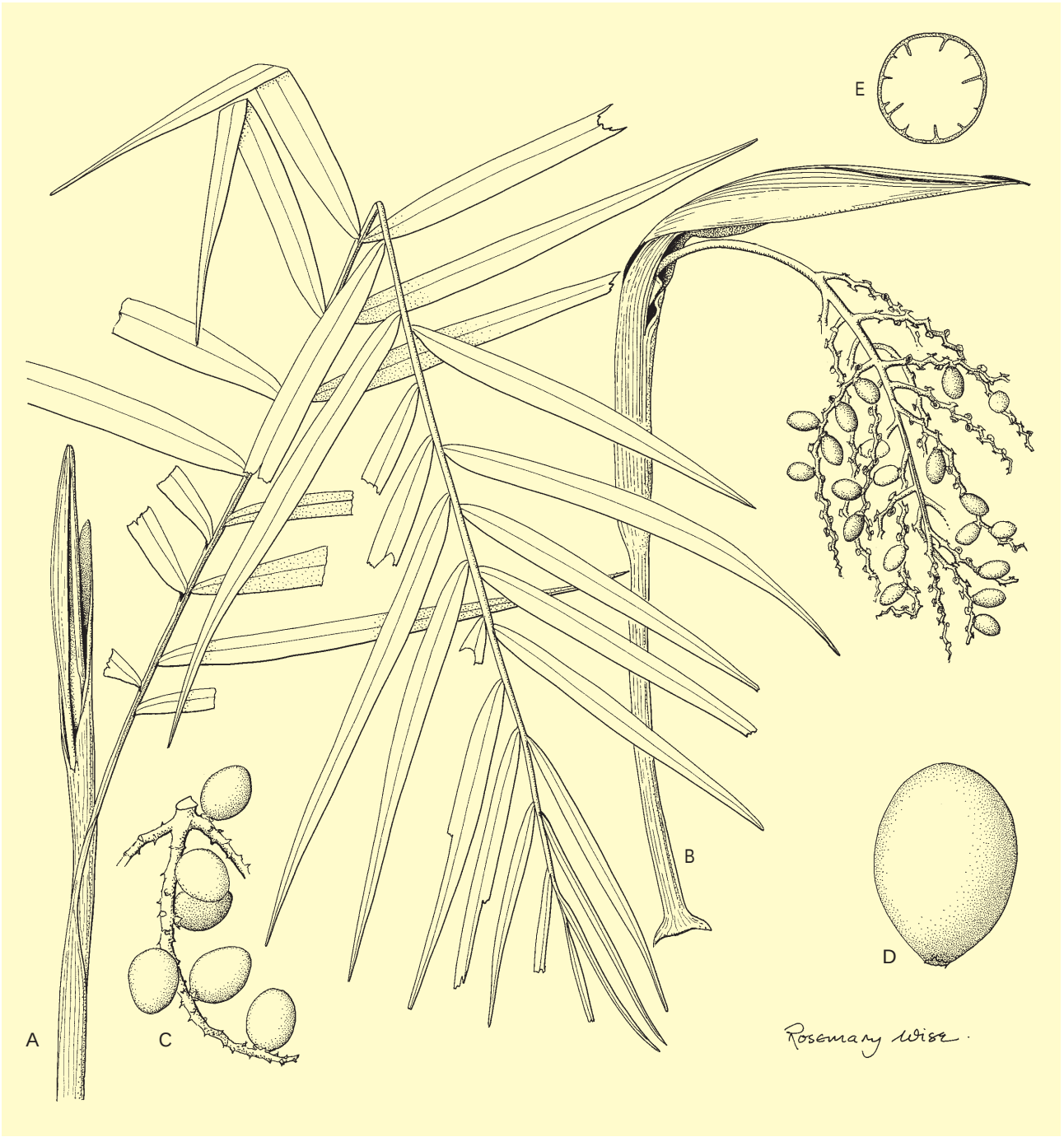
DISTRIBUTION. Manongarivo and Marojejy Massif.
HABITAT. Open moist montane forest or heath vegetation, occasionally on rocks in denser forest; 700–1800 m.
LOCAL NAMES. *Tsiriki andrianatonga* (Tsimihety, *tsiriki* being a general palm name).
USES. Leaf decoction used in drink for convalescence, highly prized.
CONSERVATION STATUS. Rare. The distribution of this species is limited. In Manongarivo it is not uncommon in a rather narrow vegetation belt on Bekolosi Mountain.

Dypsis andrianatonga *Beentje* **sp. nov.**
D. baronii et *D. serpentinae* similis, a *D. baronii* habitu ramificanti foliolis paucioribus inflorescentia minore grana majore et a *D. serpentina* petiolo breviore foliolis regulariter dispositis inflorescentia majore rachillis pluribus differt. Typus: Madagascar, Manongarivo, Bekolosi, Jan. 1992, *Beentje & Quansah* 4559 (Holotypus K; isotypi MO, P, TAN).

Clustering palm in tufts of 8–14. **STEMS** 2–9 m tall, 1.5–2.5 cm diam., snaking and procumbent but with the distal part erect, proximally and/or distally branching at the nodes, often rooting at the branching points; internodes proximally 11–18 cm, distally 1–2.5 cm, dark green, glabrous, nodal scars 0.3–0.7 cm, grey-brown, slightly stepped. **LEAVES** c. 5 per crown, spiral to almost tristichous, arching-porrect, 80–190 cm; sheath 20–39 cm, closed but occasionally split proximally, without obvious auricles or with minute ones to 5 mm high, green, slightly waxy, proximally glabrous or with laciniate reddish scales, distally with some scattered scales; petiole 6–32 cm, proximally 5.5–10 x 3–5 mm diam. and with a triangular fleshy extension of the sheath lining, channelled proximally, distally 3–6 x 3–5 mm diam., densely pubescent or with scattered scales; rachis 42–128 cm, in mid-leaf to 7 mm wide, keeled, densely pubescent or with few scattered scales; leaflets regular, attenuate, 12–35 on each side of the rachis, the proximal 21–43 x 0.6–1.8 cm, median 16–35 x 2–3.2 cm (interval 3–5.3 cm), distal 3–20 x 0.3–1.9 cm, the distal pair joined for up to 0.5 cm, main veins 1–3, and with thickened margins, with occasional ramenta to 6 mm, with scattered scales on the veins and margins. **INFLORESCENCE** infrafoliar, branched to 1–2 orders, erect proximally, curved in the distal part of the peduncle through some 140°; peduncle 7–40 cm, proximally 4–12 x 3–3.5 mm diam., distally 4–6 x 2.5–4 mm diam., waxy; prophyll 12–59 cm, borne at 1.5–24 cm above the base of the peduncle, pale brown with scattered scales; peduncular bract persistent or deciduous, inserted at 4–28 cm from the base of the

peduncle, 20–29 cm long, hooded, open all the way except the distal 4.5 cm, with a minute beak, with scattered scales; non-tubular peduncular bract 0.2–2 x 1 cm; rachis 4–14 cm, with 9–17 first order branches, sometimes a few (up to 5) of these with a secondary rachis of up to 1.2 cm and 2–3 (–4) rachillae; rachillae 2–10 cm long, 2–3.5 mm diam., glabrous or minutely puberulous, zigzag; triads dense to distant, sunken, with acuminate rachilla bract to 2 mm. **STAMINATE FLOWERS** with sepals 2.2–2.7 x 2.3–2.6 mm, red-spotted on keel and apex; petals connate for 1.2–1.6 mm, free parts 3–3.4 x 2.4–3.2 mm; stamens 6, uniseriate, the filaments connate for c. 0.6 mm, free for 2.8–3 mm, flattened in their proximal half and cylindrical distally, anthers 1.4–1.7 x 0.5–0.8 mm, versatile, obtuse; pistillode 2.5–2.6 x 1.2–1.3 mm. **PISTILLATE FLOWERS** with sepals 2–3 x 2.8–3.6 mm; petals in young bud 2.5–3.3 x 2.4–2.8 mm, concave, striate, (in fruit) 3–4 x 3.3–5.2 mm, ciliolate; staminodes 6, flat, 0.3–0.8 mm high; ovary 1.5–3.7 x 0.9–2 mm. **FRUIT** green, colour unknown when ripe, ellipsoid, 9–20 x 7–15 mm, rounded at the base and apex; mesocarp very thin; endocarp fibrous. **SEED** ellipsoid, 15–18 x 11–14 mm, with ruminate endosperm, the intrusions few, distant, regular and 1–2.5 mm deep.

NOTE. The branching of this taxon seems to conform to the branching pattern described for *D. lutescens* (Fisher 1973) but in *D. andrianatonga* seems the rule rather than the exception. Side branches are smaller than the main stem, and distal side branches are smaller than proximal ones. Flowering and fruiting does take place on the side branches; it is not certain whether this occurs only on the side branches, or also on the main stem.



Dypsis andrianatonga. **A** leaf and base of inflorescence x 1/2; **B** infructescence x 1/2; **C** fruiting rachillae x 1/2; **D** fruit x 2; **E** seed in cross section x 1. All from *Beentje et al.* 4571. Drawn by Rosemary Wise.

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).

30. DYPSIS 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. Detail of infructescences (*Dransfield* & *Beentje* 7502).

Dypsis serpentina