

Since publication of *The Palms of Madagascar* (Dransfield & Beentje 1995), several new species of *Dypsis* have been discovered, described and named. Jeff Marcus, an ardent collector and commercial palm grower, discovered two of these new *Dypsis* cultivated in Hawaii, one in his own nursery near Hilo. Marcus and others widely distributed seeds and seedlings of these new *Dypsis*, and they were subsequently described and named as *D. carlsmithii* and *D. albofarinosa* (Dransfield & Marcus 2002, Hodel & Marcus 2004). Now Marcus has discovered a third new *Dypsis* in his nursery, and because he has been distributing seedlings, it is appropriate to describe and name this large, robust new species.

Dypsis robusta Hodel, J. Marcus & J. Dransf., sp. nov.

Dypsis ifanadianae affinis sed trunco maiore, vaginis foliorum maioribus cera alba et tomento rubiginoso, rhachidibus foliorum longioribus pinnis pluribus, inflorescentiis 4 ordines ramificantibus differt; *D. tsaravoasirae* affinis sed foliis spiraliter dispositis, vaginis foliorum cera alba et tomento rubiginoso, rhachidibus foliorum longioribus, inflorescentiis maioribus interfoliaceis 4 ordines ramificantibus differt. Typus: Hawaii, in horto Jeff Marcus, Hodel 1969 (ex J. Marcus) (Holotypus K). Fig. 1.

Solitary, robust tree palm (Fig. 1). Trunk 1.4 m tall, 36.4 cm diam. 1 m above ground, flaring to 64 cm diam. at ground level; internodes 5–6.5 cm, dark green covered with white waxy indumentum, aging to brownish gray with vertical fissures; leaf scars 3.8 cm wide. Leaves 14, pinnate, ascending; base massive, 95 cm long, 25 cm wide adaxially and 40 cm wide abaxially at pinnae, flaring out to 115 cm wide in proximal 35 cm, thick, ± woody, 12 cm thick at pinnae, 3–4 cm thick midsheath, 1.5 cm thick at proximal margins, 3–5 mm thick at distal margins, orange-brown adaxially, densely covered with white waxy indumentum densely punctuated with ragged, branched, lacerate, fringed, reddish brown scales 2–2.5 mm high, sometimes with auricles to 8 cm high on either side of rachis; rachis to 4.6 m long, distally twisting nearly 180°, 25 cm wide and broadly channeled adaxially at sheath, 40 cm wide and broadly rounded abaxially at sheath, both surfaces green and densely covered with white waxy indumentum and reddish brown tomentum, adaxial channel to 4 cm deep but gradually narrowing and becoming shallower until at mid-blade a flat-

topped ridge and then 40 cm distally of mid-blade into a narrow sharply angled ridge 1.5 cm high, gradually dissipating near tip, rachis 4 cm wide midblade and 3 mm wide at tip, rounded abaxially and covered with white waxy indumentum, freshly cut surfaces with pinkish tinge; pinnae 135–140 per side, regularly arranged but twisting rachis and ascending pinnae with drooping tips imparting the appearance of being irregularly arranged and lending a somewhat plumose effect to the blade, most proximal 63 × 1.3 cm, at 1–2 m distally of sheath 120 × 4.5 cm, at 3 m distally of sheath 80 × 5 cm, most distal 18 × 0.5 cm, thick, coriaceous, dark glossy green adaxially with prominently raised light green midrib and thickened marginal nerves, 5–6 inconspicuous nerves between midrib and each margin, green with distinct glaucous bloom abaxially and prominently raised midrib, scattered light brown to tan, ragged, lacerate, medifixed rammenta 4–10 mm long on midrib abaxially and these most common in mid-blade and in proximal 30 cm of each pinna, pinnae 4–7 cm apart in proximal meter, 3–4 cm apart mid-blade to tip, forward pointing, spreading and flat with slightly drooping tips in proximal 1 m, at mid-blade ascending off rachis and blade ± V-shaped, tips drooping, pinnae flat in distal 1 m. Inflorescences protandrous, interfoliar, branched to 4 orders, most proximal branches of first three orders of branching the largest and most complex and progressively becoming smaller and less complex distally until most distal represented by simple rachillae; peduncle 1 m long, 9 cm wide, 5 cm thick, arcuate, green, covered with patchy reddish brown tomentum; only tip of prophyll or 1st peduncular bract seen, this portion 18 cm long, green, stiff, coriaceous, flattened, 2-keeled, sparsely covered with reddish brown tomentum; 3 rudimentary peduncular bracts present, most distal 10 cm below most proximal branch, 1.5 cm high, next lowest 20 cm proximal below most proximal branch, 2.5 cm high, most proximal 38 cm below most proximal branch, 18 cm long; rachis 1.7 m long, green with some reddish brown tomentum, 43 1st order branches; most proximal 1st order branch with sub-peduncle 18 cm long, 4.5–5.7 cm wide, flattened, 2.3 cm thick, sub-rachis 97 cm long with 32 2nd order branches; most proximal 2nd order branch with sub-peduncle 12.5 cm long, 1.2–1.9 cm wide, flattened, 1 cm thick, sub-rachis 30.5 cm long with 15 3rd order branches;

most proximal 3rd order branch with subpeduncle 2.5 cm long and branched into 2–3 rachillae; all branches and rachillae of all orders subtended by bracteoles; rachillae (12–)20–25 cm long, 4 mm diam., spreading, ± stiff but drooping and yellow-green in fruit. Flowers (fresh flowers at anthesis not seen) borne in triads in cleft-like pits 1.5 mm high, 3 mm wide, 1 mm deep, proximal lip of pit cliff-like, slightly mucronate, triads 3–5 mm apart proximally, 2–3 mm apart distally; each staminate flower subtended by a small, thin, crescent-shaped, nearly transparent bracteole 0.2 mm high on outer side; pistillate flower subtended by 2, thin, light green, nearly transparent, imbricate bracteoles 0.5 mm high. Fruits 14 × 12 mm, very broadly ellipsoid, orange, stigmatic remains basal, just above perianth; mesocarp mucilaginous, 1 mm thick. Fruiting perianth 6.5 mm wide; sepals imbricate in basal 1/5, very briefly connate, broadly rounded apically, 2 × 3 mm; petals imbricate in basal 1/3–1/2, very briefly connate, 3 × 4–5 mm, rounded-triangular; staminodes 6, triangular, 0.8–1 mm high. Seeds 11 × 9 mm, obovoid-ellipsoid; endosperm homogeneous; embryo slightly distal of middle.

Measurements for the description were taken from non-dried, fresh material Marcus had collected and sent to Hodel. Dried rachillae are more slender, floral pits more prominent, and proximal lip of floral pit sharper, thinner and more knife-like than in fresh rachillae.

Dypsis robusta keys to couplet F21, Key 6 in *The Palms of Madagascar* but has homogeneous endosperm like *D. ifanadianae* and *D. tsaravoasira*. It differs from the former in the larger trunk diameter (36.4 vs. 18 cm), larger and different colored leaf base (95 vs. 72 cm, waxy white with reddish brown tomentum vs. green), longer rachis (4.6 vs. 3 m) with more pinnae per side (130 vs. 55), and inflorescence branched to 4 rather than 3 orders. It differs from the latter in the spirally vs. tristichously arranged leaves, different colored leaf base (waxy white with reddish brown tomentum vs. green), longer rachis (4.6 vs. 3.5 m), and larger (1.8 vs. 0.6 m) and interfoliar rather than infrafoliar inflorescence branched to 4 rather than 3 orders.

Dypsis robusta has somewhat similar leaf bases to those of *D. hovomantsina* but differs in the

wider (to 5 vs. to 4 cm), regularly arranged rather than irregularly arranged pinnae, longer rachis (4.6 vs. 3.5 m) with more pinnae per side (130 vs. 96), larger (1.7 vs. 0.48 m), interfoliar rather than infrafoliar inflorescence branched to 4 rather than 3 orders, and homogeneous rather than deeply ruminant endosperm.

Marcus originally obtained several small plants of *Dypsis robusta* from the late Maria Walford-Huggins Boggs of Australia in 1991 or 1992. Boggs, who did not say where the plants originated, called the species *Chrysalidocarpus* 'Stumpy' (not to be confused with *Dypsis* 'Stumpy,' which was later named and described as *D. carlsmithii*). Few large or mature plants of this species are known in cultivation. Marcus gave one plant to Florida nurseryman George Zammas, but its fate is unknown. Arden Dearden and Clayton York in Australia have plants, but they have not yet flowered. Kampon Tansacha has one plant in his Nong Nooch Tropical Garden in Thailand that has recently flowered (Michael Ferrero, per. comm.). Marcus has erroneously referred to this palm in the past as *D. prestoniana* although more recently he has distributed it as *Dypsis* 'Maria's Stumpy.' Clayton York (per. comm.) reported that this species may have originally been introduced erroneously as *D. caniculata*.

Dypsis robusta would make a fine ornamental for parks, public areas, and large gardens in the tropics and warm subtropics. Its suitability for more temperate areas, such as regions with a Mediterranean climate, is unknown. The type plant in the Marcus nursery in Hilo, Hawaii has a short but robust trunk about 1.5 m tall, is 6 m tall overall, and has been flowering for about a year. The twisting rachis and ascending pinnae with drooping tips impart the appearance of being irregularly arranged and lend a somewhat plumose effect to the blade although pinnae are regularly arranged in one plane.

LITERATURE CITED

- DRANSFIELD, J. AND H. BEENTJE. 1995. *The Palms of Madagascar*. Royal Botanic Gardens, Kew and the International Palm Society.
- DRANSFIELD, J. AND J. MARCUS. 2002. *Dypsis* 'stumpy.' *Palms* 46: 47–51.
- HODEL, D. R. AND J. MARCUS. 2004. The white powder *Dypsis*: a new species from cultivation. *Palms* 48: 90–93.