

Dypsis plumosa, the Madagascar Queen Palm

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1. *Dypsis plumosa* grows to over 6 m tall and bears a resemblance to the queen palm (type plant, garden of Jeff Marcus, near Hilo, Hawaii, Hodel 2020). Marcus planted two plants next to each other although the species is of solitary habit.



A new single-stemmed species of *Dypsis* bearing a resemblance to the queen palm (*Syagrus romanzoffiana*) has flowered and fruited in Hawaii. Because it has been widely distributed, it is named and described here as a new species.

Since publication in 1995 of John Dransfield and Henk Beentje's comprehensive work, *The Palms of Madagascar*, several new species of *Dypsis* have been discovered, described, and named. Jeff Marcus, an ardent collector and commercial palm grower, discovered three of these new *Dypsis* cultivated in Hawaii, two 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*, *D. albofarinosa*, and *D. robusta* (Dransfield & Marcus 2002, Hodel & Marcus 2004, Hodel et al. 2005). Now Marcus has brought to the attention of the horticultural world a fourth new *Dypsis* in his nursery and, because he has been distributing seedlings, it is appropriate to describe and name this new species.

Dypsis plumosa Hodel, J. Marcus & J. Dransf., sp. nov., *D. ambohitrae* affinis sed habitu solitario, trunco maiore (24 vs. 12 cm diam.), vaginis foliorum sine ligulis, petiolis longioribus (60 vs. 30 cm), pinnis pluribus (120 vs. 84 in quoque latere rhachidis) minoribus (65 × 2.5 vs. 89–114 × 3.5 cm) plumosis, inflorescentiis 3 ordines ramificantibus differt. Typus: Hawaii, in horto Jeff Marcus, *Hodel 2020* (ex J. Marcus) (Holotypus K). Figs. 1–7.

Solitary, to 6 m tall but undoubtedly eventually taller (Fig. 1). Trunk to 25 cm diam., greenish aging to brown, ringed, internodes 2–8 cm. Leaves 7–10, pinnate, erect to spreading; bases to 65 cm long, tubular, forming a crownshaft, densely covered with whitish to grayish red to brown tomentum; petiole to 60 cm long, at base 8 cm wide, 1.5 cm thick, concave and greenish adaxially, sharply rounded and covered with grayish ± deciduous tomentum abaxially, margins sharp; rachis to 2.3 m long, at base 3 cm wide, 2 or 3 cm thick and convex adaxially, concave abaxially, margins sharp, tapering to 1 mm diam. and rounded at apex, distal 1.9 m with ± sharp central ridge to 1 cm high; 120 pinnae per side, ± irregularly arranged, attached to rachis at different angles to give plumose effect (Figs. 1 & 2), distal 15 cm of each pinna pendulous, pinnae 4 cm apart proximally, 2 cm apart mid-blade, 1 or 2 cm apart distally, proximal mid-blade pinnae to 65 × 2.5 cm, most proximal pinnae to 90 × 1 cm, most distal pinnae to 15 × 0.4 cm, glossy green adaxially with prominent yellow-green midrib, pale abaxially with light green midrib and 1–3 medifixed dark brown, lacerate ramenta in proximal 4 cm. Inflorescences 3, ± infrafoliar, branched to 3 orders, drooping in

flower and fruit (Figs. 3 & 4); peduncle 80 cm long, curved, densely covered with whitish to grayish red to brown tomentum, elliptical in cross-section, at base 8 cm wide, 1.5–2.0 cm thick, at apex 5 cm wide, 2.5 cm thick; prophyll to 75 cm long, 2-edged, attached 4–6 cm distally of peduncle base with lateral margins extending to within 1 or 2 cm of peduncle base, covered with brownish tomentum, peduncular bracts 4, attached 27, 54, 61, and 68 cm respectively distally of peduncle base, first peduncular bract fallen away and not seen, leaving short collar-like base to 1 cm high, other peduncular bracts rudimentary, 1–3 cm long, triangular; rachis to 90 cm long, curved downward especially distally, at base 5 cm wide, 2.5 cm thick, angled from depressions left by branch bases, tapering to 5 mm diam. at apex, covered with whitish to grayish red to brown tomentum, 26 branches, diverging at 45° angle, distal 10 simple rachillae, proximal 16 branched again, most proximal branch largest, to 1 m long with up to 18 branches of which the most proximal have 2–4 rachillae, all others unbranched; rachillae to 40 cm long, to 4 or 5 mm diam., drooping, sparsely covered with stellate, grayish to brownish hairs only near base (proximally), glabrous distally. Flowers in triads 4 mm apart proximally becoming more congested distally, in clefts 1.5 mm long, 3 mm wide, 0.5–0.8 mm deep, proximal bracteole subtending triad 1 mm high, crescent shaped. Staminate flowers 4 × 3.5 mm, whitish green; calyx 1.3 mm high, 2.5 mm wide, sepals imbricate nearly to apex, cupped, 2 × 2 mm, broadly rounded apically, thin, nearly transparent, very faintly nerved; petals 4 × 2.5 mm, boat-shaped, valvate, free to base, acute, thick; stamens 6, filaments 3 × 0.5 mm, erect, anthers 1.8 × 0.3 mm, opening adaxially; pistillode 2.3 × 0.8 mm, columnar, fluted. Pistillate flowers greenish white, just past anthesis 4 × 3.8–4.0 mm; calyx 1.5–2.0 mm high, 3.0–3.5 mm wide, sepals imbricate in basal ¾, cupped, broadly rounded apically, a slight medial ridge abaxially, margins thin, faintly nerved; petals 2.0–2.5 × 2.5–2.8 mm, cupped, imbricate in basal 4/5, faintly nerved, slightly mucronate; staminodes 6, 0.8–1.0 mm high, triangular; pistil 4 × 3.5 mm, style lacking, stigmatic lobes 0.8 mm high, distinct, recurved. Fruits 15–22 × 15–17 mm, amber to brownish purple (Fig. 4); seeds 12–19 × 12–13 mm, endosperm ruminant (Fig. 5), embryo lateral.

2 (top). Pinnae of *Dypsis plumosa* are more or less irregularly arranged and attached to the rachis at different angles to give a plumose effect (garden of Lou Hooper, La Habra, California).



3 (middle). Inflorescences of *Dypsis plumosa* are branched to three orders and drooping in flower (type plant, garden of Jeff Marcus, near Hilo, Hawaii, Hodel 2020).



4 (bottom). Infructescences of *Dypsis plumosa* are drooping and attractive when heavily laden with fruit (garden of Lou Hooper, La Habra, California).





5. Seeds of *Dypsis plumosa* are prominently ruminated (garden of Lou Hooper, La Habra, California).

Measurements for the description were taken from non-dried, fresh material Marcus had collected and sent to Hodel. Fruit and seed measurements were supplemented from a plant in the garden of Lou Hooper in La Habra, California. 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 plumosa keys best to the upper couplet of E15, Key 5 in *The Palms of Madagascar* but its mostly infrafoliar inflorescence distinguishes it from all other species on this string at or below this junction in the key. Its leaf rachis much shorter than 3 m and peduncle much longer than 40 cm distinguish it from all species in the lower couplet of E15, Key 5 or the string below it. *Dypsis ambositrae*, with which *D. plumosa* had been confused, differs in its cespitose habit, smaller stem (12 vs. 25 cm diam.), ligules at the apex of the leaf sheath, shorter petiole (30 vs. 60 cm), fewer (84 vs. 120 on each side of rachis) and larger (89–114 × 3.5 cm vs. 65 × 2.5 cm) pinnae in one plane, and inflorescences branched mostly to two orders.

Marcus originally obtained several small plants and or seeds of *Dypsis plumosa* from Curt Butterfield of Australia in the middle to late 1990s. Butterfield and others, including the late Maria Boggs, probably obtained the seeds from Alfred Razafindratsira, a long-time collector of Madagascar palms. Butterfield,

Boggs and others distributed seeds and plants throughout Australia and elsewhere, and referred to the palm as *D. ambositrae* because it bore a resemblance to that species. In Australia *D. plumosa* is sometimes also grown under the name *Dypsis* “Fine Leaf” (Ian Edwards, per. comm.). Inge Hoffmann distributed seeds of *D. plumosa* in the 1990s from plants cultivated in Australia but called it *D. ambositrae* “(from Australia)” (Ian Edwards, per. comm.). Marcus’s plant began fruiting in 2001 and he also widely distributed it as *D. ambositrae*. However, doubt was cast on the true identity of this palm when palm enthusiasts who had seen the true *D. ambositrae* in Madagascar reported that it differed substantially from the plant that Butterfield, Marcus, and now others were growing.

Dypsis plumosa would make a suitable ornamental for parks, public areas, and gardens in the tropics and warm subtropics, and flowers and fruits at a relatively small size. It has some cool tolerance, and flowers and fruits in more temperate areas also, such as regions with a Mediterranean climate, but is less vigorous and grows to smaller dimensions. A flowering and fruiting plant in the garden of Lou Hooper in La Habra, California near Los Angeles has tolerated freezing and near-freezing temperatures on several occasions and has grown steadily but slowly, increasing from about 2 m to 4 m in overall height and increasing the trunk from about 30 cm to 130



6 (left). A flowering and fruiting plant of *Dypsis plumosa* in the garden of Lou Hooper in La Habra, California near Los Angeles has tolerated freezing and near-freezing temperatures on several occasions and has grown steadily but slowly. In 2001 it was about two m tall overall and had a trunk about 30 cm tall. Compare with the same plant in Fig. 7 (right), nearly eight years later, by which time it increased to four m in overall height and had a trunk about 130 cm tall. Lou Hooper provides scale.

cm in eight years (Figs. 6 & 7). Ian Edwards (per. comm.) reports that it grows well in Sydney, Australia. *Dypsis plumosa* is most graceful and ornamental when grown with a little shade, the whitish crownshaft being an appealing complement to the greenish, ringed trunk. A faster grower in tropical areas, the type plant in the Marcus nursery in Hilo, Hawaii increased its trunk height from 10 cm to nearly 200 cm in six years and overall height from about 2 m to 6 m during the same time.

LITERATURE CITED

- 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.
- HODEL, D. R., J. MARCUS, AND J. DRANSFIELD. 2005. *Dypsis robusta*, a large new palm from cultivation. *Palms* 49: 128–130.