

Dypsis burtscherorum (Arecaceae)

A New Species from Cultivation

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For several years I have fondly if not enviously admired a refined and elegant, always vigorous and healthy appearing, clustering, pinnate-leaved *Dypsis* in the fabulous garden of Judy and Robert “Bob” Burtcher in Fullerton, California, about 35 km (22 miles) southeast of Los Angeles (**Fig. 1**). A sign or label that Bob had placed on this handsome palm read “*Dypsis* sp. Diego,” which was intriguing and prompted me to investigate this palm and its informal name. After searching the relevant literature (Britt and Dransfield 2005; Dransfield 2003; Dransfield and Beentje 1995; Dransfield et al. 2014; Dransfield and Marcus 2002, 2013; Dransfield and Rakotoarinivo 2012; Eiserhardt et al. 2018; Hodel and Marcus 2004; Hodel et al 2005, 2009; Rakotoarinivo and Dransfield 2010; Rakotoarinivo et al. 2009), I determined it was unnamed and undescribed; thus, being such an attractive and superbly growing palm and in need of a formal name, I take great pleasure in naming and describing it here.

Dypsis burtscherorum Hodel sp. nov. Figs. 1–17.

Dypsis sp. “Diego” hort.

Dypsis burtscherorum is close to clustered forms of the broadly circumscribed *D. madagascariensis* but the latter differs in its longer internodes (5–12 vs. 3–3.5 cm), less distinct ligule at apex of leaf base (0–3.5 mm vs. 10–15 mm high), more slender rachis (to 1.5 vs 2.5 cm wide), longer ramenta (to 14 vs. to 5 mm long); inflorescence with fewer peduncular bracts (1–2 vs. 3), longer 1st peduncular bract (53–81 vs. 6.5–10 cm long), staminate sepal texture (membranous vs. fleshy), more slender and longer-pointed staminate petals (ovate vs. broadly ovate to nearly triangular), and ripe fruit color (purplish vs. greenish brown). Type: Cultivated. USA. California. Orange County, Fullerton, garden of Judy and Bob Burtcher, 5 February 2020, Hodel 3999 (holotype BH, isotype K).

Small to moderate, tightly clustered (rarely solitary?), tree palm, forming rather tight clumps to 8 m tall and 2.5 m wide (**Fig. 1**). Stems 12–13 cm diam., green, white waxy, conspicuously ringed, internodes 3–3.5 cm, nodes 1–2 cm wide, tan (**Fig. 2**).

Leaves 8–12, pinnate, ascending, only weakly tristichous and then the three ranks somewhat spiraling; leaf base 55–60 cm long, ±tubular initially, 5–7.5 cm diam. at apex and ca. 270° closed, eventually splitting nearly to base and there 8.5–11.5 cm diam., abrupt “shoulder” 1–



1. *Dypsis burtscherorum* is a handsome and appealing, clustered, pinnate-leaved palm that performs superbly in Southern California. Here it is loaded with ripe fruits. *Hodel 3999* (type).



2. Stems of *Dypsis burtscherorum* are green, white waxy, and conspicuously ringed. Hodel 3999 (type).



3. Leaf bases of *Dypsis burtscherorum* are white waxy and with scattered, deciduous, scurfy, reddish brown tomentum. Note the abrupt “shoulder” just below the petiole at the insertion of the peduncle. *Hodel 3999* (type).



4. When first exposed, leaf bases of *Dypsis burtscherorum* are colorful and densely covered with reddish brown tomentum, which later mostly weathers away. Hodel 3999 (type).



5. Reddish brown tomentum initially covers the leaf bases of *Dypsis burtscherorum*. Hodel 3999 (type).

1.5 cm high on either margin 2–3 cm below apex (**Fig. 3**), adaxially yellow-orange, white waxy and with scattered, deciduous, scurfy, reddish brown tomentum abaxially (**Figs. 3–5**); petiole 25 cm long, 2.4–3.5 cm wide at apex, 4 cm wide at base, rounded abaxially and white waxy with deciduous, reddish brown tomentum proximally, slightly channeled or grooved adaxially; rachis 2.1–2.3 m long, arching then abruptly downward curved in distal 60 cm (**Fig. 6**), 1 mm diam. at apex, 2.4 cm wide at base, rounded abaxially, grooved proximally and ridged distally adaxially; blade 1–1.25 m wide; pinnae 90–105 per side, solitary or in groups of 2 and 11 cm distant proximally, solitary and 1–2 cm distant distally, in groups of 3(–4) and fanned mid-blade, mid-blade pinnae 52–67 × 2 cm, most proximal 90–100 × 1 cm, most distal 8–10 × 0.6 cm, long-acuminate, ±stiff, all ascending off rachis except most distal and proximal (**Fig. 6**), midrib light green and raised adaxially and abaxially, primary nerves conspicuous adaxially and abaxially, mid-blade pinnae typically with single, dark brown ramentum 5 mm long on the abaxial midrib at the base (**Fig. 7**), apex briefly bifid with age.

Inflorescences 3–4, interfoliar in flower and fruit (**Fig. 8**), sometimes infrafoliar in fruit (**Fig. 9**), 1.3–1.5 m long, 1.2 m wide, spreading, branched to 3 orders; peduncle ascending behind leaf base, 55–60 cm long, erect to spreading, 5.5–7 × 1.5–2.5 cm at base, 4 × 2.5 cm at apex, green with deciduous, scurfy, reddish brown tomentum; base 3 cm long, 8 cm wide; prophyll attached 9 cm from trunk but both margins extending down peduncle to 4 cm from trunk, 2-edged, 40–45 cm long, 5 cm wide, apex rounded-acute, thick-papery, green with tomentum like that of peduncle and weathering away except in protected places (**Figs. 10–11**); 1st peduncular bract attached 20–22 cm distal of prophyll attachment and completely concealed by prophyll, 6.5–10 cm long, 4 cm wide, truncate, 2nd peduncular bract attached 20–22 cm distal of 1st peduncular bract attachment and sometimes concealed by prophyll, 1–4.5 cm long, 2–5 cm wide, triangular, sometimes 3rd peduncular bract present, inserted 7 cm distal of 2nd peduncular bract attachment, 1.5–2 cm long, triangular; panicle 75–100 × 85 cm (**Fig. 10**), greenish yellow, glabrous, spreading, rachis nodding, 65–90 cm long, 3–4 mm diam. at apex, terete; 17 1st-order branches and 9–10 simple rachillae distally, most proximal branch the largest and most complex, to 55 cm long, 35 cm wide, sub-peduncle 10–12 cm long, 2.5 × 1 cm at base, flattened, sub-rachis 35–45 cm long, 2 × 1.2 cm at base, 2–3 mm diam. at apex, most proximal 2nd-order branches with peduncle to 8 cm long and rachis to 15 cm long with 9 rachillae, branches decreasing in size and complexity distally, rachis branches, sub-branches, and rachillae subtended by triangular bracts to 1 cm high distally reducing to triangular or low, crescent-shaped bracts 2–4 mm high; rachillae to 21 cm long, 4.5 × 3 mm at base, 1–2 mm diam. at apex, spreading, greenish yellow in flower and fruit.

Flowers in 2 spiraling rows 1–2 mm apart, in clefts 3–4 mm distant proximally, 1.5–2 mm distant distally, clefts 2–3 mm long, 2 mm wide, 1 mm deep, proximal lip 0.7–1 mm high, thick



6. The leaf blade and rachis of *Dypsis burtscherorum* are downward curved distally and the stiffly ascending pinnae are aggregated in groups. *Hodel 3999* (type).



7. Mid-blade pinnae of *Dypsis burtscherorum* typically have a dark brown ramentum on the abaxial midrib at the base. *Hodel 3999* (type).



8. Inflorescences and infructescences of *Dypsis burtscherorum* are typically interfoliar. Hodel 3999 (type).



9. Sometimes infructescences of *Dypsis burtscherorum* are infrafoliar. Hodel 3999 (type).



10. The inflorescence of *Dypsis burtscherorum* is branched to three orders and has a prophyll nearly as long as the peduncle and concealing the much smaller peduncular bracts. *Hodel 3999* (type).



11. The prophyll of *Dypsis burtscherorum* is attached about nine cm above the circular base of the inflorescence. *Hodel 3999* (type).



12. Staminate flowers of *Dypsis burtscherorum* are greenish yellow and have exserted stamens. Note the lack of pistillate flowers, even immature ones in bud. *Hodel 3999* (type).



13. Post-anthesis pistillate flowers of *Dypsis burtscherorum* are greenish and globular. *Hodel 3999* (type).

and rounded proximally, slender and angled distally, bracteole on proximal cleft lip 0.5 mm high, 2.5 mm long, crescent-shaped, 2 floral bracteoles in cleft, these saucer- or bowl-shaped, clear-colored, thin, somewhat nested one on the other, bottom one 3 × 1 mm, top one 2–2.5 × 1 mm; flowers typically in triads of a center later-opening pistillate flower flanked on each of two sides by earlier-opening staminate flowers but sometimes pistillate or staminate flowers lacking or nearly so, dyads of two pistillate or staminate flowers distally, or solitary flowers distally; staminate flowers 5 × 6 mm, yellowish green (**Fig. 12**); calyx 1 × 3 mm, 3-lobed; sepals 1.5 × 1.5 mm, cup-shaped or hooded, imbricate in basal ½, free lobes 1 mm high, broadly rounded; petals 3 × 2.75 mm, broadly ovate to nearly triangular, cupped or hooded, acute; stamens 6, 3.6 mm high, white; filaments 3–3.5 mm long, 0.25–0.5 mm diam., connate basally and sometimes swollen; anthers 1.75 mm long, ellipsoid, dorsifixed near base to nearly the middle; pistillode 2 × 0.75 mm including a short, white stalked base 0.5 mm high, green, spindle-shaped, rudimentary stigmatic lobes white and longitudinally appressed against column; pistillate flowers in bud 2 × 2 mm, post-anthesis 4 × 4.5 mm, greenish, globular but conspicuously 3-lobed (**Fig. 13**), calyx cupular, 3-lobed, sepals lobes 1.2 × 3 mm, broadly rounded, broadly acute, imbricate and/or briefly connate in basal ¼, corolla cupular; petals 2.5 × 3 mm, ovoid, acute, imbricate in basal 1/4–1.2; ovary 4 × 4 mm, globular, 3-lobed, green; stigma lobes short, 0.2 mm high, 3-parted, recurved; staminodes not seen.

Fruit 17 × 10 mm, ellipsoid, greenish becoming greenish brown to brown when soft ripe (**Figs. 14–16**); mesocarp 1.5–2 mm thick; seed 14 × 7 mm, ±ellipsoid but with one longitudinal side slightly curved, opposing side straight (**Fig. 16**), apex rounded, base acute, endosperm ±homogeneous.

Dypsis burtscherorum is cultivated in Southern California and perhaps elsewhere, where it is informally known as *Dypsis* sp. “Diego,” apparently in reference to the city of Diego-Suarez, now known as Antsiranana, in the far north of Madagascar, purportedly its origin, either as a cultivated plant or growing in the wild (Len Geiger and Jerry Andersen, pers. com.). The species name honors Judy and Bob Burtcher of Fullerton, California in whose garden I collected the type specimen (**Fig. 17**).

Bob reported that he had obtained his plant about 25 years ago from Jerry D. Andersen in Fallbrook, California. Bob grew it in a 3.8 ℓ (1-gallon) container for two years and then planted it out. After nearly 25 years, it has proven to be a vigorous grower with few or no problems, having withstood several light freezes and numerous heat waves, one in 2018 with temperatures about 46 C (115 F). Indeed, it is one of the best performers in Southern California gardens of all the Madagascar *Dypsis*, and all the plants I have seen or am aware of are vigorous growers. Bob’s plant, after about 25 years, is about eight m tall and includes five trunks in an area of slightly less than one m square.



14. An infructescence of *Dypsis burtscherorum* heavily laden with green, nearly ripe and greenish brown to brown, soft-ripe fruits. *Hodel 3999* (type).



15. Nearly ripe fruits of *Dypsis burtscherorum* are greenish but turn yellowish brown to brown when soft ripe. *Hodel 3999* (type).



16. Fruits and seeds of *Dypsis burtscherorum* are ellipsoid in shape. Hodel 3999 (type).

Dypsis burtscherorum is close to cespitose forms of the broadly circumscribed *D. madagascariensis* but the latter differs in the numerous characters described earlier. Generally, *D. burtscherorum* is a smaller, more refined and elegant plant in all its parts, including habit, stems, and leaves. It is a much superior performer to *D. madagascariensis* in Southern California, growing more vigorously, with better color, and fewer or no problems. From time to time it produces fertile fruits prolifically and Bob has shared them with interested palms growers and collectors in the region.

The fruiting of *Dypsis burtscherorum* is unusual. Every three to four years it produces abundant, fertile fruits. In the other years it is devoid of fruits or nearly so. Evidence suggests that in the non-fruiting years, inflorescences have no or few pistillate flowers while in the fruiting year pistillate flowers are present. Sometimes an inflorescence appears to have only pistillate flowers. Might sometimes *D. burtscherorum* be producing separate staminate and pistillate inflorescences? More work is needed to understand better and confirm this apparent phenomenon.



17. Judy and Bob Burtcher stand next to the stems of *Dypsis burtscherorum* in their garden in Fullerton, California. *Hodel 3999* (type).

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