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Additions to Chamaedorea Palms: New Species from Mexico and Guatemala and Miscellaneous Notes

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As *Chamaedorea Palms: The Species and Their Cultivation* (Hodel 1992) went to press, I was aware of several additional but elusive taxa that perhaps represented new species but which I did not include as separate entities in that monograph since sufficient information to describe and name them adequately was lacking. However, during the time the book was being readied for the presses and until it was actually printed, additional information came to light and I am now able to describe and name four new taxa, one of which is cultivated. The new species are named, described, and discussed, and a note is made of where they would key out in *Chamaedorea Palms* in relation to existing species. Also, the distribution of *Chamaedorea elegans*, including the first record of it on the Pacific slope, and a name for a hybrid recently released to the industry are discussed briefly. The new information is presented here to update *Chamaedorea Palms*.

Chamaedorea benziei D. R. Hodel **sp. nov.** (Figs. 1–4).

Subgeneris *Chamaedoropsi* Oerst. inflorescentiis masculis solitariis, floribus masculis solitariis petalis patentibus apicalter. *C. carchensi* Standl. & Steyerm. affinis sed inflorescentiis masculis inter folia, bracteis numerosioribus, rachillis masculis numerosioribus, foliis numerosioribus et brevioribus, petiolis brevioribus et sine tomentiis atis, vaginis majis clausis sine costis prominenter elevatis, pinnis crassioribus differt. *C. woodsonianae* L. H. Bailey affinis sed pinnis paucioribus, crassioribus, nervis paucioribus et minus prominentibus non elevatis et carinatis infra pinnam, petiolis laevibus non foveatis differt. Typus: Cult., *Hodel et al. 1143* (holotypus BH; isotypi CAS, MEXU).

Solitary (Fig. 1), to 5 m tall, erect, ±robust. Stem 2.5–3.5 cm diam., green, prominently ringed, nodes swollen, internodes 3–10 cm long. Leaves 6, pinnate, spreading; sheath 47 cm long, 0.5 cm thick, robust, deeply split in apical half opposite the petiole and there brown-margined, tubular in basal half, densely longitudinally striated, lacking a raised central costa; petiole 33 cm long, 1.5 cm diam., robust, rounded-triangular in x-section, slightly grooved adaxially, rounded with a distinct but pale yellow band abaxially; blade 130 × 100 cm; rachis 125 cm long, round-angled adaxially, rounded with a distinct but pale yellow band abaxially; 20–22 pinnae on each side of rachis, lower middle ones the largest, these to 60 × 5.5 cm, pinnae becoming progressively shorter toward apex of blade and there to 35 × 2.5 cm, end pair often slightly wider, all pinnae straight, only slightly falcate, thick, leathery, slightly drooping, dark nearly bluish green with a slight glaucous bloom, a prominent central midrib light yellow and raised adaxially, abaxially raised and yel-

low only in basal ⅓ of pinna, only slightly raised and greenish in apical ⅔ of pinnae abaxially, all other nerves much less conspicuous adaxially and abaxially, basically 2 lateral primary nerves (1 of these submarginal) on each side of midrib, 3 secondaries between each primary and midrib or 2 primaries, tertiaries inconspicuous, all nerves except midrib translucent yellow when the pinnae are held up to the light, a hard raised swollen knot at point of attachment adaxially.

Inflorescences interfoliar, perhaps infrafoliar in fruit, erect to spreading, robust; peduncles to 145 cm long, 5 cm wide at base and there flattened, 1.5 cm diam at apex and there oval in x-section, green where exposed; bracts 10–11, prophyll 9 cm long, 2nd bract 12 cm, 3rd 18 cm, 4th 23 cm, 5th 28 cm, 6th 30 cm, 7th 37 cm, 8th 40 cm, 9th 48 cm, 10th 40 cm, 11th 25 cm, lower ones bifid, apical ones acute-acuminate, tightly sheathing, obliquely open apically, longitudinally striated, apical 18 cm of peduncle exposed and pendulous with 3 visible scars. Staminate (Fig. 2) with rachis to 40 cm long, spiralled-s-downward- or horizontal-pointing, green; rachillae 75, ±radiating in whorls from rachis ca. every 3 cm, whorls mostly of 5 rachillae each, apical 3 whorls of 4 rachillae, basal whorl of 2 rachillae, lower rachillae longest, these to 25 cm long, progressively shorter toward apex of rachis and there to 5 cm long, rachillae reflexed off rachis, ±stiff, spreading, erect but drooping slightly apically at anthesis, mostly simple but a few of basal rachillae 2–3 branched. Pistillate (Fig. 3) with rachis to 28 cm long, green in flower; rachillae 15–50, lower ones longest, to 15 cm long, ±stiff, curved, ascending, parallel, green in flower, longitudinally ridged when dry, upper ones simple but lower ones sometimes branched with up to 4 rachillae per branch.

Staminate flowers (Fig. 4) in moderate spirals, 2–6 mm apart, 3.5–3.75 × 2 mm in immature bud (green with corolla closed), at early anthesis 4 × 5 mm, obovoid, yellow, sunken in elliptic depressions 1.5–2.5 × 1–1.5 mm; calyx 1 × 1.75–2 mm, dark brown, sepals free nearly to base or connate in basal ¼, broadly rounded to narrowly rounded apically; petals 4 × 3.5 mm, ovate, valvate, free to base, initially connate apically and there adnate to pistillode briefly, but then eventually spreading slightly, but remaining cupped inward, acute, 0.5 mm thick; stamens 3.5–3.75 mm high, ca. equalling pistillode and petals, filaments 1.5–2 mm long, clear-colored, anthers 2–3 mm long, held ca. as high as pistillode, long-oblong, dorsifixed near base; pistillode 3.5–3.8 mm high, columnar, longitudinally fluted, yellowish. Pistillate flowers in moderate to remote spirals 3–8 mm apart, in bud 1.5 × 2 mm, globose, after anthesis 2 × 3 mm, depressed-globose, in ±superficial oval to elliptic depressions 2 × 1–1.5 mm; calyx 0.75–1 × 2–2.5 mm, moderately to deeply lobed, sepals connate and/or imbricate in basal ¼–½, very broadly rounded to nearly straight apically; petals 1.5–2.5 × 2–2.5 mm triangular, strongly cupped, tightly imbricate in basal ½–¾, acute, tips incurved, a prominently raised costa abaxially; staminodes short to long, toothlike; pistil 1–2 × 1.5–2.5 mm, globose, stigma lobes short, recurved, broad but not too discernible. Fruits not seen.

Distribution: MEXICO. Chiapas. Montane rain forest and pine-oak-liquidambar forest on the Pacific slope; 1,500–1,600 m elev.

Specimens Examined: MEXICO. Chiapas: Cintalapa, Cerro Baul, 16 km NW of Rizo de Oro along logging road to Colonia Figueroa, *Breedlove 21731, 31380* (CAS); Villa Corzo, E. base of Cerro Tres Picos near Cerro Bola, *Breedlove 24101* (CAS). CULTIVATED U.S.A. California: San Diego County, Oceanside, Ingwersen Nursery, *Hodel et al. 1143* (holotype BH; isotypes CAS, MEXU), *785* (BH, flowers in FAA only); Los Angeles County, Los Angeles, nursery of D. Barry, Jr., *Barry*


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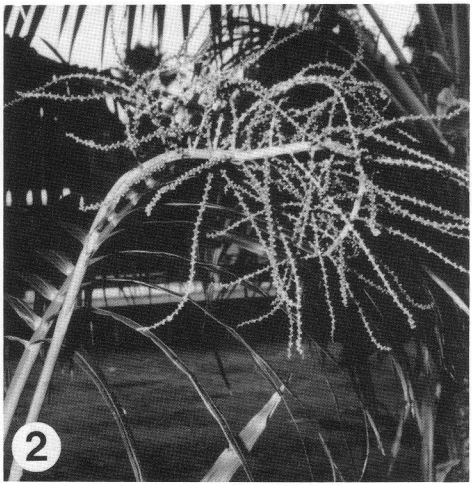
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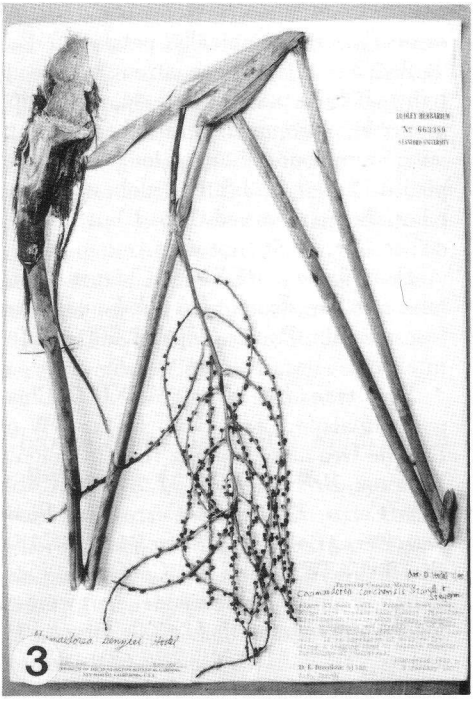
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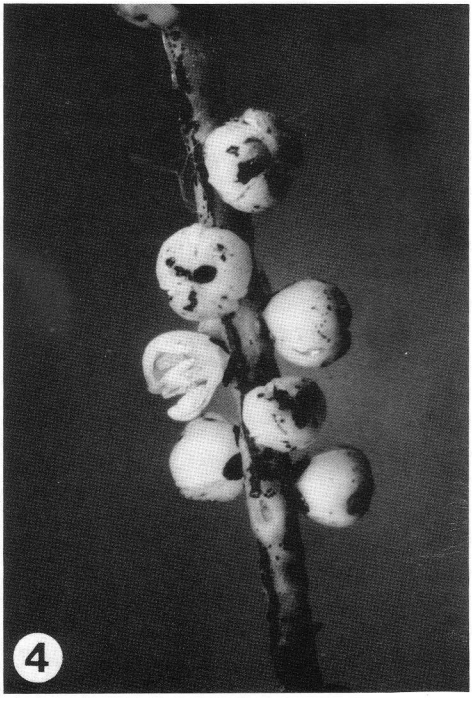
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s. n. (BH); cultivated material originally collected in southwest Mexico by Tom MacDougall and grown for many years by the late David Barry, Jr. in Los Angeles.

The specific epithet honors James Benzie of Orange, California, my friend and ardent collector and grower of palms for many years, who assisted in collecting the type.

Chamaedorea benziei is an unusual species with pinnae that are among the thickest in the genus. Pinnae and petioles are lightly but noticeably covered with a waxy, glaucous bloom. *C. benziei* appears closest to *C. carchensis* and *C. woodsoniana*. *C. carchensis* differs in its infrafoliar inflorescences with fewer bracts, much fewer staminate rachillae, more membranous and shallowly lobed staminate calyx, shorter anthers, fewer and longer leaves, longer petioles with conspicuous black tomentum, and more open leaf sheaths tubular only near the base and with a prominently raised costa. *C. woodsoniana* differs in its more numerous and more prominently nerved pinnae with five raised, keeled nerves abaxially and petioles with small, densely packed, irregular pits giving living material a rough texture.

Staminate flowers of *C. benziei* are similar to those of *C. seifrizii* and *C. pochutlensis* (both subgenus *Chamaedoropsis*) in that the petals spread apically only slightly, the tips remaining incurved over the stamens and are adnate or nearly so to the tip of the pistillode. In this regard, these three species approach *C. hooperiana*, *C. elatior*, and *C. graminifolia* (all in subgenus *Chamaedorea*), in that the latter three have petals which are connate apically at anthesis but then later often spread slightly. The six species tend to blur the boundaries of these two subgenera; more work is needed to circumscribe subgeneric characters more adequately.

Chamaedorea benziei would key out next to *C. woodsoniana* in the key to the species of subgenus *Chamaedoropsis* and next to *C. linearis* in the vegetative key to the cultivated species of *Chamaedorea* in Hodel (1992). Differences with *C. woodsoniana* were noted above; *C. linearis* differs in its thinner pinnae usually with more primary nerves, thinner sheaths, and, being in subgenus *Morenia*, has multiple staminate inflorescences, staminate flowers arranged in groups, and red fruits.

In the 1950s, the late David Barry, Jr. of Los Angeles grew the only plants known in cultivation from seeds that Tom MacDougall had collected in southwest Mexico without a specific locality. Apparently, Barry later sold his only surviving plant to Jack Ingwersen in Oceanside, California, and that specimen from which the type originated still exists in the Ingwersen Nursery.

Chamaedorea ibarrae D. R. Hodel **sp. nov.** (Figs. 5,6).

Subgeneris *Chamaedoropsi* Oerst. inflorescentiis masculis solitariis, floribus masculis solitariis petalis patentibus apicaliter. *C. nubio* Standl. & Steyerm. et *C. skutchii* Standl. & Steyerm. affinis sed habitu acaulibus brevioribus differt. *C. nubio* affinis sed habitu solitariis, foliis pinnatis pinnis strictis, floribus femineis sine staminodiis differt. *C. skutchii* affinis sed pinnis strictis, floribus femineis fere contiguis, calycibus femineis lobatis plus leviter, petalis femineis maginibus pallidis. Typus: Mexico, Chiapas, *Breedlove 11706*

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1. Plant at Ingwersen Nursery, Oceanside, California, from which holotype of *Chamaedorea benziei* was collected, *Hodel et al. 1143*. 2. Staminate inflorescence of *Chamaedorea benziei, Hodel et al. 1143*. 3. Pistillate inflorescence of *Chamaedorea benziei, Breedlove 31380*. 4. Staminate flowers of *Chamaedorea benziei, Hodel et al. 1143*.