

ster region of the Comarca de San Blas, and two others from the vicinity of Cerro Tute, Veraguas Province. These are both very wet sites near the Continental Divide in central Panama. Only one of the specimens (*de Nevers et al.* 5553A) is staminate. The species was first collected in 1974 by S. Mori and J. Kallunki. Habitat data for *C. deneversiana* are practically nonexistent; *Mori & Kallunki* 5352 grew on a "rocky streambank." Fertile specimens have been collected from November through April.

*Chamaedorea deneversiana* possibly belongs in subgenus *Chamaedorea*, on the basis of its relatively small staminate flowers on long, slender, drooping rachillae (Fig. 1). Typically, in this subgenus, the staminate petals are apically connate and prominently nerved; the single staminate specimen of *C. deneversiana* may have somewhat immature flowers.

Specimens of *Chamaedorea deneversiana* have been misidentified as "*C. coclensis* L. Bailey" (= *C. amabilis* H. A. Wendl. ex Dammer; Hodel 1990a), an ostensibly related species occurring in similar habitats from Costa Rica south to the Chocó. Indeed, the two species bear a striking resemblance in their simple, relatively shallowly bifid leaves with a peculiar, oblong shape, prominently serrate margins and numerous lateral veins. However, *Chamaedorea deneversiana* is a taller palm with larger leaves and more numerous and considerably longer staminate rachillae, which are drooping rather than erect as in *C. amabilis*. Furthermore, the pistillate inflorescences of *C. deneversiana* are branched, with 4–6 rachillae (Fig. 2), whereas those of *C. amabilis* are simple, or occasionally bifid.

The new species is dedicated to Gregory C. de Nevers, collector of three of the five known specimens, whose pioneering botanical explorations in the Comarca de San Blas and special interest in palms have forged a sterling contribution to Panamanian floristics.

### ***Chamaedorea verecunda* Grayum & Hodel, sp. nov.**

Caulis gracilis 50–75 cm altus 3.5–5.0 mm diametro; petiolus ultra vaginam 1.7–4.4 cm longus; lamina simplex obovata profunde bifida secus costam 2.75–5.40 cm longa ad marginem lateralem versus apicem crenata vel serrata; lamina nervis utroque costae latere 6–9; inflorescentia mascula spicata pedunculo 13.3–18.9 cm longo rhachidi 6.5–9.7 cm longa maturatione florum basipeta; flores masculi lutei cernui 3.6–5.1 mm longi 1.7–2.0 mm lati corolla anguste campanulata lobis corollae sub anthesi apice liberis fere enervibus ovatis 2.6–3.3 mm longis 1.8–1.9 mm latis apice rotundatis vel subacutis antheris 1.2–1.5 mm longis pistillodio 2.3–2.8 mm longo; inflorescentia feminea spicata pedunculo 14.3–22.1 cm longo rhachidi 4.2–5.4 cm longa maturatione florum basipeta; flores feminei lutei cernui 2.1–2.3 mm longi 1.6–1.7 mm lati corolla late campanulata vel suburceolata lobis corollae obscure 5–7-nervatis late ovatis pistillo 1.8–2.2 mm longo; fructus in sicco usque ad minimum 1 cm longis. TYPUS: Panama. Chiriquí: N. of Hornito, 4,200 ft., *Hammel* 6221 (holotype, MO-3622575). Figures 3,4.

Small, slender palm ca. 50–75 cm tall, lacking stilt-roots (*Kirkbride & Duke* 942), the "trunk often decumbent" (*Hammel* 2254), probably solitary (but no data). Internodes surpassed by sheaths, 1.7–3.8 cm long, 3.5–5.0 mm wide. Leaves ca. 8–11, "grey-green" (*Hammel* 6221). Sheath 2.2–5.3 cm long, rather loose, oblique at orifice, the veins prominent and obscurely nodulose; rest of petiole 1.7–4.4 cm long. Lamina simple, obovate, deeply bifid, 2.75–5.40 cm along midrib, 6.3–9.7 cm along upper margin, 7.7–10.1 cm between apices of lobes; lateral margins crenate to serrate, especially toward apex; major veins 6–9 per side, knife-edge-raised on both



3. *Chamaedorea verecunda* (Hammel 6221); staminate specimen. Note basipetal maturation of flowers, those in the upper half of the spike having already fallen off. 4. *Chamaedorea verecunda* (Kirkbride & Duke 942); pistillate specimen.

surfaces. Inflorescences of both sexes spicate, interfoliar. Staminate inflorescences (two seen) with peduncle included in sheath of subtending leaf, 13.3–18.9 cm long, bearing 2–3 bracts; rachis 6.5–9.7 cm long, the flowers maturing basipetally. Staminate flowers yellow, 3.6–5.1 mm long at anthesis, nodding; calyx ca. 0.5–1.0 × 1.7–2.0 mm, truncate or merely notched apically, hyaline, nerveless; corolla narrowly campanulate, narrowed at base where the lobes are fused in a tube ca. 1.1–1.6 mm high, the lobes valvate in bud, free at anthesis, virtually nerveless, ovate, 2.6–3.3 × 1.8–1.9 mm, rounded to obtuse or subacute apically; stamens 6, the anthers 1.2–1.5 mm long, narrowly ovate, somewhat narrowed apically, subsagittate at the base, the thecae loosely attached, dehisc-

ing longitudinally, the filaments very short (0.1–0.4 mm) and attached at base of pistillode; pistillode prominent, 2.3–2.8 mm long, much surpassing stamens, clearly differentiated into a style and somewhat lobed stigma. Pistillate inflorescence (three seen) with peduncle 14.3–22.1 cm long, bearing 2–3 bracts; rachis 4.2–5.4 cm long, the flowers maturing basipetally. Pistillate flowers yellow, 2.1–2.3 mm long at anthesis, nodding; calyx similar to that of staminate flowers, 0.4–0.5 × 1.6–1.7 mm, truncate or somewhat sinuate apically; corolla broadly campanulate to suburceolate, rather abruptly (more so than staminate corollas) narrowed at the base where the lobes are fused in a tube ca. 0.4 mm long adnate to the basal part of the pistil, the lobes imbricate in bud, obscurely 5–

7-nerved (much more clearly than in staminate corollas), broadly ovate, 1.5–1.7 × 1.6–1.8 mm; staminodes not observed; pistil (part above insertion of corolla lobes) 1.8–2.2 mm long, narrowed above in a thickened style with 3 stigmas. Fruits to at least 1 cm long (when dry).

*Additional Specimens Examined.* PANAMA. CHIRIQUÍ: *de Nevers et al.* 8807 (CAS); La Fortuna hydroelectric project, 1,200–1,400 m, *Hammel 2124* (MO), 2254 (MO); cloud forest between Q. Hondo (sic) and divide, *Kirkbride & Duke 942* (MO).

*Distribution and Phenology.* *Chamaedorea verecunda* is presently known from just five specimens, all from cloud forests near the Continental Divide at 1,200–1,400 m elevation in the general vicinity of the La Fortuna hydroelectric project, Chiriquí Province, Panama. It was first collected by J. Kirkbride and J. Duke in 1968. Habitat data are limited. *Hammel 2124* and 2254 were both collected “in forest,” whereas *Hammel 6221* was growing “on (a) forested ridge along (a) small stream.” The species may be regarded as broadly restricted to the La Fortuna region, which is known to harbor many endemic plant species. Fertile specimens have been collected from February through April.

*Chamaedorea verecunda* belongs in subgenus *Chamaedoropsis*, on the basis of its relatively large staminate flowers with the corolla lobes nerveless and apically free at anthesis. This is one of the most distinctive of the numerous dwarf, simple-leaved, cloud-forest *Chamaedorea* species now known from Central America. It may be easily recognized by its caulescent habit; very small, broad, deeply bifid laminae with few lateral veins; spicate inflorescences in both sexes; and nodding, basipetally maturing flowers, the staminate ones relatively large and with a prominent pistillode (Figs. 3,4).

Most specimens of *Chamaedorea verecunda* have been previously identified as *C. pumila* H. A. Wendl. ex Dammer, a

widespread Costa Rican species. The latter, however, is acaulescent, has relatively narrower and less deeply bifid laminae with more numerous lateral veins, and has four or more staminate rachillae.

The closest relatives of *Chamaedorea verecunda* are undoubtedly the recently described *C. correae* Hodel & Uhl and *C. guntheriana* Hodel & Uhl (1990c), which occur in similar habitats in central Panama. *Chamaedorea correae*, known from several localities in Coclé, Colón and Veraguas Provinces, appears to be a coarser, taller palm than *C. verecunda*, with somewhat larger leaves. Both staminate and pistillate rachillae of *C. correae* are much longer than their counterparts in *C. verecunda*; moreover, the staminate inflorescence of *C. correae* normally consists of 2–3 rachillae (it may rarely be spicate). The staminate flowers of *Chamaedorea correae* are considerably smaller (ca. 2.5 mm long at anthesis) than those of *C. verecunda*, with correspondingly smaller anthers (1.2–1.5 mm) and pistillodes (1.5–2 mm), and mature simultaneously rather than basipetally.

*Chamaedorea guntheriana*, which is apparently endemic to the Cerro Jefe region, differs from *C. verecunda* in its usually pinnate, markedly coriaceous leaves, usually bifid staminate inflorescences with somewhat longer rachillae, and smaller (2.5 mm long) staminate flowers with much smaller anthers (0.5 mm). In addition, the staminate flowers of *C. guntheriana* mature acropetally, rather than basipetally as in *C. verecunda*.

We suggest that *Chamaedorea verecunda*, *C. correae*, *C. guntheriana* and perhaps other related cloud-forest species of similarly restricted geographic range ultimately derive from a single, wide-ranging ancestral species, from which they have speciated allopatrically in the isolated cordilleras of Panama and adjacent regions.

The specific epithet derives from the Latin *verecundus*, meaning “modest” or “shy,” and alludes to various attributes of

these plants, including their small size, nodding flowers and apparent scarcity.

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### Notes on the Front Cover Picture

*Chamaedorea tenerrima* Burret has one of the most striking leaves in the genus and, perhaps, in the entire palm family. In addition to the unusual, broadly flared terminal lobes and reflexed lower pinnae, each leaflet has a distinctive auricle at its base that forms a small spur shooting through mid-air and across the underside of the rachis. It's difficult to imagine that these plants first develop fairly large, simple leaves; in fact, they often flower ini-

tially with undivided leaves. *C. tenerrima* grows in dense, mountain rainforest and cloud forest in Alta Verapaz, Guatemala. Rain, mist, clouds, fog, and cool temperatures characterize this area. We found this specimen, *Hodel & Castillo 1009*, with three simple-leaved species, *C. simplex*, *C. tuerckheimii*, and *C. castillo-montii*. Photo by Donald R. Hodel.

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