1223 (BH, PMA); above Finca Linares on trail to Cerro Hornito, *Folsom et al. 7217* (MO); along Continental Divide on road near Cerro Colorado, *Mori & Kallunki 5946, 5980* (MO), *Folsom & Collins 1755* (MO), *Folsom et al. 4707* (MO), *Folsom 4887* (MO), *Hodel et al. 1200* (holotype BH; isotypes HNT, MO, PMA), *1201* (BH, HNT, PMA); below Continental Divide on road to Cerro Colorado, *Croat 33050, 33432* (MO), *Hodel et al. 1199* (BH, PMA). Veraguas: Cerro Tute, ridge-top cloud forest, *Mori & Kallunki 5251* (MO), *Mori 6267* (MO). Panama: Cerro Jefe, *Dwyer 7090* (MO), *8495* (F, MO).

The epithet of the new species is from the Greek *anemo*, pertaining to the wind, and *philus*, meaning loving, and refers to its low, windswept, cloud forest ridge habitat. In some places, the forest is open and low enough that larger plants of *C. anemophila* actually penetrate or emerge from the broken canopy. While this habitat is unusual, it is shared by several other species of *Chamaedorea* in Panama, including *C. microphylla*, sometimes a companion species in the Hornito area south of Fortuna; *C. correae*, from similar forest near El Valle, Cocle province; and *C. guntheriana*, which inhabits even more extreme elfin, dwarf forest in Panama province.

The habit of *Chamaedorea anemophila* is also unusual but, like its habitat, is not without parallel in the genus. Early in life plants of *C. anemophila* pass through a phase where they have normal, adult-sized leaves but lack a visible stem. However, plants actually possess a short, curving, rooting subterranean stem with highly congested nodes, and they begin to produce much reduced, spicate, furcate, or few-branched inflorescences during this "stemless" phase (Fig. 2). Later, after perhaps as many as several years, they produce a visible, elongated stem to several meters in length with normal-sized and much branched inflorescences (Fig. 1). This stemless phase may be an establishment period to anchor the plant more securely in a relatively harsh environment prior to the development of the elongated, above-ground stem. Plants of the two phases are easily mistaken as distinct species since their habit and inflorescences differ dramatically. Other species of the genus exhibiting this or a similar phenomenon include *Chamaedorea dammeriana* and *C. macrospadix* from Costa Rica and Panama, *C. volcanensis* from Guatemala, and *C. queroana*, *C. radicalis*, and *C. whitelockiana* from Mexico (Hodel 1992*a*).

Chamaedorea anemophila is somewhat intermediate between *C. pittieri* and *C. dammeriana*. *Chamaedorea pittieri* differs in its smaller habit and thicker stem, long-open, thick, prominently striate leaf sheaths, inflorescences exceeding the leaves, thicker, less fragile petals, and rigid, stiff fruiting rachillae. In the monograph of *Chamaedorea* (Hodel 1992*a*), I tentatively referred collections of *C. anemophila* to *C. pittieri*; Plates 73F and 75B-D depicting *C. anemophila* were identified as *C. pittieri*. *Chamaedorea dammeriana* differs in its thicker, stiff fruiting rachillae and smaller, densely placed staminate flowers with deeply lobed calyx, thicker, less fragile petals, and stamens equalling the pistillode. In the key to subgenus *Chamaedoropsis* (Hodel 1992*a*, p. 120), *C. anemophila* would key out next to *C. oblongata*, found from Mexico to Nicaragua. *Chamaedorea oblongata* differs dramatically in its larger habit, thicker, glossy green leaves, staminate flowers drying black, and thick, stiff fruiting rachillae.

The inflorescences, rachillae, and especially the flowers of *Chamaedorea anemophila* are among the most delicate and fragile in the genus; only *C. microphylla* has flowers which approach or surpass in delicacy and fragility those of *C. anemophila*.

Chamaedorea recurvata Hodel **sp. nov.** (Figs. 5–6).

Subgeneris *Chamaedoropsi* Oerst. inflorescentiis masculis solitariis, floribus masculis solitariis petalis patentibus apicaliter pertinens. *C. dammerianae* Burret affinis sed inflorescentiis valde recurvatis differt. Typus: Panama, Chiriqui, *Hodel et al. 1209* (holotypus BH; isotypi MO, PMA).

Solitary, slender, erect, to 2.5 m tall (Fig. 5); stem 1 cm diam., green, prominently ringed, white-spotted, internodes 3–8 cm long. Leaves 3–4, spreading, pinnate, dark glossy green; sheaths to 15 cm long, tubular, obliquely open apically, green, white-spotted, drying longitudinally striate; petioles 10–15 cm long, 3–5 mm diam., ± rounded or slightly flattened adaxially, rounded abaxially; rachis 35 cm long, slightly angled adaxially, rounded abaxially, petiole and rachis green but white-spotted, abaxially drying with paler band extending onto sheath as a slightly raised, narrow costa; pinnae 4–7 per side, middle ones largest, these to 21 × 5 cm, basal ones to 15 × 3 cm, apical ones often confluent, to 12 × 7 cm, all pinnae lanceolate, sigmoid, glossy green and ± obscurely nerved in life, drying thin-papery, nearly

5. Flowering plant of *Chamaedorea recurvata, Hodel et al. 1210,* wet, montane forest, Fortuna, Chiriqui, Panama.

6. Strongly recurved fruiting rachillae of *Chamaedorea recurvata, Hodel et al. 1209* (holotype), Fortuna, Chiriqui, Panama.

transparent, all except apical pair contracted basally, long-acuminate with dominant midrib flanked by three primary nerves on each side, 2–3 secondaries between each primary or primary and midrib, tertiaries numerous, faint, all nerves slightly more conspicuous and pale abaxially, ± raised adaxially and abaxially, sharper adaxially, apical pinnae with 3–5 main nerves, acuminate. Inflorescences 2–3 per plant, infrafoliar, emerging and held well below the leaves on bare stem, few-branched or spicate; peduncles ascending, to 23 cm long, 2–5 mm wide at base, 1.2–1.7 mm diam. at apex, green to brown in flower, orange in fruit where exposed; bracts 5–6, prophyll to 0.8 cm long, 2nd bract to 1.5 cm, 3rd to 3.1 cm, 4th to 7 cm, 5th to 12 cm and exceeding peduncle and concealing shorter 6th one (to 5 cm), tightly sheathing, brown, obliquely open apically, basal 2 bifid, others acute-acuminate, drying papery, finely longitudinally striate-nerved; rachillae or rachis if spicate to 16 cm long, 1.2–1.5 mm diam. at base, 0.5–0.75 mm diam. at apex, strongly recurved (Fig. 6), drooping, green in flower, orange in fruit, drying with conspicuous but fine sharp longitudinal ridges. Staminate flowers in dense spirals, appearing contiguous and petals of adjacent flowers touching at anthesis but actually 1–1.5 mm apart, superficial but leaving slightly raised elliptic scars 0.8 × 0.25 mm, just prior to anthesis flowers 2 × 2.25 mm, corolla bullet-shaped, 2 × 1 mm, drying black; calyx 1–1.2 × 2.2 mm, broadly cup-shaped, moderately to deeply lobed, sepals connate in basal ¼–½, broadly rounded apically, drying light beige, ± thin, transparent, especially along margins; petals 1.8–2 × 1 mm, long-ovate, boat-shaped, valvate, acute, apparently distinct apically nearly to base where briefly connate at anthesis, drying lightly few-nerved; stamens 1.5–1.75 mm high, about equalling pistillode, filaments short, 0.25 mm long, anthers nearly sessile, 1.25 mm long, long-oblong, bilobed, basifixed; pistillode 1.8 mm high, columnar. Pistillate flowers in rather dense spirals, 0.5–2 mm apart, appearing nearly contiguous, ± superficial or only slightly sunken, leaving elliptic scars 1.25 × 0.5 mm, post-anthesis flowers (ovary swollen to ca. 3 mm) 2 × 3–4.5 mm, obovoid; calyx 1.25 × 2.5 mm, broadly cupped, deeply lobed, sepals briefly connate or imbricate basally, broadly rounded apically; petals 2.5 × 2.5–3 mm, broadly ovate or deltoid, imbricate in basal ½, slightly cupped, acute, drying faintly nerved abaxially, conspicuously nerved adaxially, ± thin, especially transparent margins; pistil 2 mm high, long-ovoid, stigma lobes short, recurved, angled. Fruits to 8 mm long, oval, black.

Distribution: PANAMA. Extremely wet forest

and cloud forest on the Pacific slope near the Continental Divide; 1,100–1,700 m elevation.

Specimens Examined: PANAMA. Chiriqui: mountains above Fortuna Dam Camp, *Folsom 5394A* (MO); *Hammel 2118* (BH, MO); *Hodel et al. 1209* (holotype BH; isotypes MO, PMA), *1210* (BH, PMA); north of Fortuna Dam reservoir, *Churchill 5901, 6122* (MO).

The specific epithet is from the Latin *recurvatus*, meaning recurved, and is used here in reference to the strongly and conspicuously recurved inflorescences (Fig. 6), a diagnostic feature of the species.

Chamaedorea recurvata is known from only a few collections, all from very wet forest in the vicinity of Fortuna Dam in western Panama. *Chamaedorea recurvata* is closest to *C. dammeriana*, but the latter differs in its straight rachillae, remotely placed pistillate flowers, more numerous leaves, and staminate flowers with a less prominent calyx and broader petals. When only fruiting material is at hand, *C. recurvata* could be confused with some members of *Chamaedorea* subgenus *Stephanostachys* with few-branched or spicate inflorescences that tend to curve, such as *C. allenii* from Panama and *C. crucensis* from adjacent Costa Rica. However, these two differ in their truly contiguous pistillate flowers with much more prominent calyces. Also, staminate material of the latter two species differs in having straight but drooping or pendulous rachillae and contiguous flowers with very prominent calyces.

Chamaedorea recurvata would key out next to *C. microphylla* or *C. parvisecta* and *C. whitelockiana* in the key to subgenus *Chamaedoropsis* in Hodel (1992*a*). However, the recurved inflorescences readily distinguish it from the latter two species.

Chamaedorea subjectifolia Hodel **sp. nov.** (Figs. 7–8).

Subgeneris *Chamaedoropsi* Oerst. inflorescentiis masculis solitariis, floribus masculis solitariis petalis patentibus apicaliter pertinens. *C. correae* Hodel & Uhl et *C. guntherianae* Hodel & Uhl affinis sed habitu erecto multo majore multum, foliis majoribus, pinnis et rachillis pluribus differt; *C. dammerianae* Burret affinis sed inflorescentiis valde infrafoliaribus, floribus femineis persistentibus differt. Typus: Panama, Panama, *Hodel et al. 1238* (holotypus BH; isotypi MO, PMA).

Solitary, to 3.5 m tall (Fig. 7), erect; stem 1–2.5 cm diam., green, ringed, internodes 10–15 cm long. Leaves 5–8, spreading, pinnate, ± thick, slightly coriaceous; sheaths to 17 cm long, tubular, briefly and obliquely open apically, longitudinally striate-nerved; petioles to 8 cm long, 3–4 mm diam., green and ± flattened adaxially, pale green and rounded abaxially; rachis to 32 cm long, green and angled adaxially, pale green and rounded abaxially; pinnae 4–5 per side, lower ones to 14.5 × 3 cm, middle ones to 21.5 × 5 cm, apical pair to 20.5 × 8 cm, glossy green adaxially, paler abaxially, lanceolate, sigmoid, acuminate, contracted basally, ± cupped downward, basal and middle pinnae with slender raised conspicuous midrib adaxially, 2–5 primary nerves on either side of this, 1–2 secondaries between each primary and/or midrib, tertiaries numerous, faint, apical pair of pinnae 3–5 nerved, all nerves paler, raised and more conspicuous abaxially. Inflorescences 1–3 per plant, infrafoliar, held well below the leaves on bare stem or stem with old persistent disintegrating leaf sheaths (Fig. 7); peduncles to 20 cm long, 7 mm wide and ± flattened at base, 3–4 mm diam. at apex, straight, erect, green in flower, orange where exposed and nodding in fruit; bracts 5, prophyll to 3 cm long, 2nd bract to 4 cm, 3rd to 7.5 cm, 4th and 5th to 11 cm, 5th about equalling peduncle, all tubular, thin-papery, drying brown and finely longitudinally nerved, 1st–3rd bifid, acute, 4th and 5th obliquely long-open, acute-acuminate; rachis 1–2 cm long or lacking. Staminate with 3–6 rachillae, to 18 cm long, 1 mm diam., pendulous, greenish, very slightly undulate when dry. Staminate flowers yellow-green, in dense spirals, 0.5–1 mm distant, superficial, leaving elliptic scars 1 mm long, flowers 2 × 2 mm, obovoid; calyx low-cupular, 0.4 × 1–1.5 mm, moderately lobed, sepals connate in basal half, acute apically; petals 2 × 1–1.25 mm, ovate, acute, distinct nearly to base; stamens 0.8 mm high, half as tall as and forming a rather tight ring around pistillode, filaments 0.3 mm long, 0.25 mm wide, anthers 0.3 mm long, oblong, bilobed, dorsifixed near base; pistillode 1.6 mm high, truncate apically, swollen basally, slightly longitudinally fluted. Pistillate with 2–5 rachillae (Fig. 8), to 15 cm long, 1.5–2 mm diam., spreading to erect, parallel, stiff, orange in fruit. Pistillate flowers in ± dense spirals, 1–2.5 mm distant, superficial or when removed leaving slightly raised elliptic scars 1.25 mm long, unpollinated flowers persistent on rachillae through fruiting stage (Fig. 8), flowers 2 × 2.5 mm, globular; calyx 0.8 × 2.5 mm, cuplike, shallowly lobed, sepals connate in basal ⅔, broadly rounded to straight apically,