tlan, *Skutch 1535* (GH). MEXICO. Chiapas: Escuintla, Mt. Ovando, *Matuda 18281* (MEXU); Angel Albino Corzo, NE slope of Cerro Venado above Finca Cuxtepec, *Breedlove & Bourell 67615* (CAS); Cintalapa, Cerro Baul, 16 km NW of Rizo de Oro, *Breedlove 24928*, *Breedlove & Smith 21381* (CAS).

The specific epithet honors Audrey and Philip Keeler of Santa Ana, California, who have encouraged and supported Hodel's work in *Chamaedorea* for several years and, in particular, supported our field work in Guatemala on numerous occasions.

The Guatemalan specimens cited here as *C. keeleriorum* along with descriptions and dimensions of their various parts were tentatively included in *C. whitelockiana* and illustrated as such in the monograph of *Chamaedorea* (Hodel 1992, p. 218 and plate 95, p. 235). The inclusion of the Guatemalan material in that treatment significantly increased the size of the habit, stem, and leaves, and size and number of pinnae and rachillae over those contained in the original description of *C. whitelockiana* (Hodel and Uhl 1990). However, in the 1992 account I alluded to the possibility that the Guatemalan material may represent a new unnamed species; new information has confirmed this possibility, enabling us to describe and name *C. keeleriorum*.

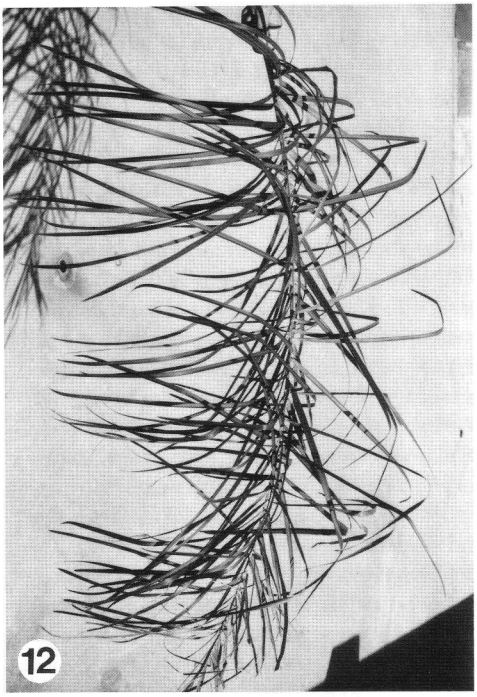
Although close to *C. keeleriorum*, *C. whitelockiana* differs in its smaller habit, stem, and leaves; smaller and fewer pinnae and rachillae; and the only shallowly lobed staminate calyx. *C. keeleriorum* would key out next to *C. whitelockiana* in the key to the species of subgenus *Chamaedoropsis* (Hodel 1992).

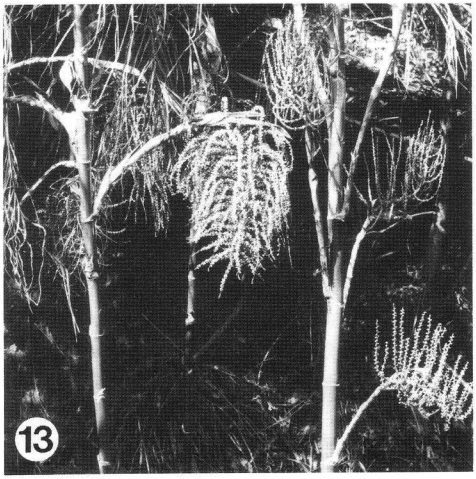
In the initial flowerings, the pistillate inflorescence of *C. keeleriorum* has simple rachillae originating from an unbranched rachis. However, with subsequent flowerings, the basal portion of the rachis becomes branched with several axes, each axis containing up to five rachillae. In Guatemala, *C. keeleriorum* grows with *C. fractiflexa*, *C. pachecoana*, *C. rojasiana*, and *C. volcanensis* among others. *C. keeleriorum* is not known to occur in cultivation.

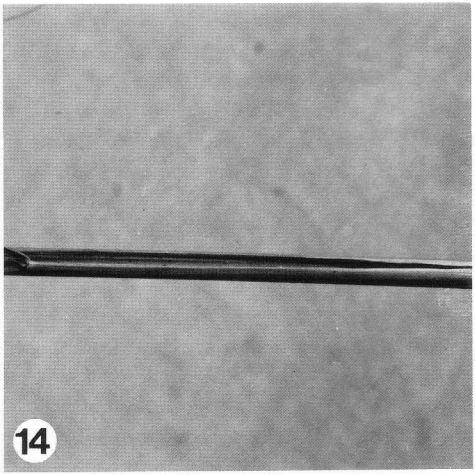
Chamaedorea plumosa D. R. Hodel **sp. nov.** (Figs. 11–19).

Subgeneris *Chamaedoropsi* Oerst. inflorescentiis masculis solitariis, floribus masculis solitariis petalis patentibus apicaliter. *C. woodsonianae* L. H. Bailey et *C. carchensi* Standl. & Steyerm. affinis sed pinnis numerosioribus (ca. 100 versus 36 et 20) longilinearibus maxime graminiformibus exorientibus rhachibus planis et cursibus diversis differt. *C. glaucifoliae* H. A. Wendl. habitu affinis sed subgenere diverso sine indumentio glauco differt. Typus: Cult., *Hodel 1141* (holotypus BH; isotypi AGUAT, CAS, CR, F, HNT, K, MEXU, MO, NY).

Solitary, to 5 m or more tall (Fig. 11), erect, ±robust. Stem 4–6.5 cm diam., smooth, green, ringed, internodes 10–23 cm long. Leaves 7–9, pinnate, erect-spreading, plumose (Fig. 12), dull ±grayish green; sheath to 50 cm long, persistent, obliquely open in apical ¼, tubular and tightly clasping in basal ¾, densely longitudinally striated with a raised central costa extending from petiole; petiole 20–30 cm long, 1 cm diam., oval in x-section, deeply but narrowly channelled adaxially (Fig. 14), the channel extending beyond the first basal pinnae, green, lacking yellow band abaxially, longitudinally striated laterally; rachis to 110 cm long, green and angled adaxially, green and rounded abaxially; pinnae to 85 per side, basal ones longest, these to 54 × 0.6–1.4 cm, pinnae in apical ¼ of blade-tapering to 25 cm long, long-linear, straight, long-acuminate, aggregated in irregular groups along rachis, exiting rachis in several planes and directions (Fig. 12), mostly ascending and spreading but some downward-, foreward-, or backward-pointing to give blade plumose appearance, a hard whitish bump at point of attachment adaxially, a prominent







11. Group planting of *Chamaedorea plumosa* in garden of Rae Anderson, Sierra Madre, California. 12. Plumose leaf of *Chamaedorea plumosa* with pinnae exiting rachis in several planes and directions, *Hodel 1141* (holotype). 13. *Chamaedorea plumosa*, inflorescences on staminate plant (left), *Hodel 1141* (holotype), and pistillate plant (right), *Hodel 1142*, garden of Rae Anderson, Sierra Madre, California. 14. Deeply channeled petiole of *Chamaedorea plumosa* is characteristic of the species.

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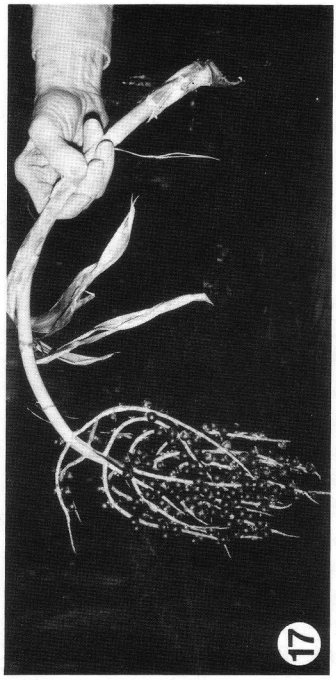
15. Staminate inflorescence of *Chamaedorea plumosa*, *Hodel 1141* (holotype). 16. Pistillate inflorescence of *Chamaedorea plumosa*, *Hodel 1142*. Note stiff, erect rachillae. 17. Infructescence of *Chamaedorea plumosa*, *Hodel 1142*. 18. Staminate flowers of *Chamaedorea plumosa*, *Hodel 1141* (holotype). 19. Pistillate flowers of *Chamaedorea plumosa*, *Hodel 1142*.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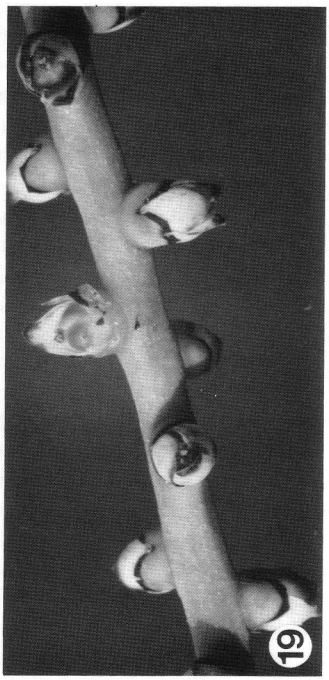
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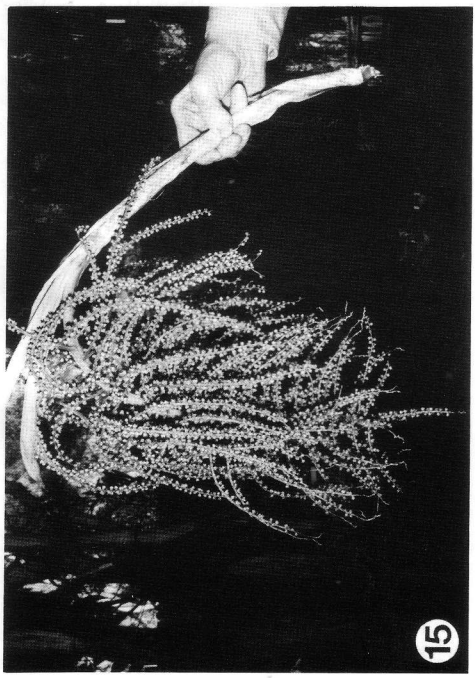
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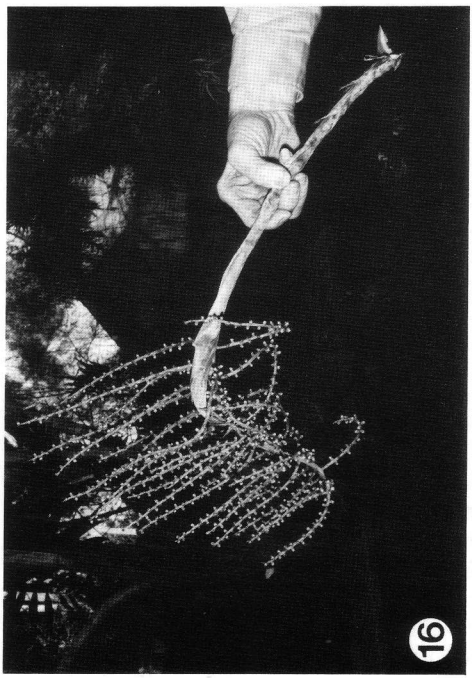
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midrib raised adaxially and abaxially, 1–3 much less prominent lateral nerves on each side of midrib adaxially and abaxially.

Inflorescences 6 per plant (Fig. 13), infrafoliar, emerging through old persistent sheaths, erect-spreading. Staminate (Fig. 15) with peduncle to 54 cm long, 2–2.5 cm wide at base and there flattened, 1–1.5 cm diam. at apex and oval in x-section, ascending, green in flower where exposed; bracts 8–9, prophyll 5.5 cm long, 2nd bract 14 cm, 3rd 22 cm, 4th 23 cm, 5th 28 cm, 6th 31 cm, 7th 35 cm, 8th 30 cm, 9th 6 cm and concealed by 8th, bracts brown and dried in flower, acute-acuminate, bifid, not too tightly sheathing, upper one extending well beyond peduncle and onto rachis, longitudinally striate-nerved; rachis to 32 cm long, green and downward-pointing; rachillae ca. 100, lower ones longest, these to 30 cm long, apical ones to 10 cm long, spreading to slightly drooping, green, mostly simple, few of lower ones furcate. Pistillate (Fig. 16) with peduncle to 50 cm long, 1–2 cm wide at base and flattened, 5–8 mm diam. at apex and rounded, ascending, green in flower and orange in fruit where exposed; bracts as in staminate inflorescence; rachis to 32 cm long, green and s-downward-pointing in flower, orange and straight downward-pointing in fruit; rachillae 30–45, lower ones longest, these to 22 cm long, apical ones 8–10 cm long, green and erect in flower, downward-pointing and orange in fruit.

Staminate flowers (Fig. 18) in moderate spirals 2–3 mm apart, 4.5–5 × 4–5 mm at anthesis, ±globose to obovoid, yellow aging with brown tips and margins, slightly sunken in elliptic depressions 3 × 2 mm; calyx cupular, 2 × 3 mm, green with brown margins, sepals connate in basal ½, broadly rounded to truncate and thin apically; petals 4.5–5 × 3 mm, long-ovate, free nearly to base, spreading apically, acute, slightly recurved, thick, fleshy, rounded and faint ridges adaxially, margins thickened, rounded or revolute; stamens 2–2.5 mm high, ½ as high as petals and in tight ring around pistillode, filaments 1.5 × 0.3–0.4 mm, connate basally in ring and there adnate to pistillode, clear-colored, anthers 1 mm long, bilobed, dorsifixed, brownish; pistillode 3–3.5 × 1 mm, broadly columnar, exceeding stamens but shorter than petals, yellow. Pistillate flowers (Fig. 19) in lax spirals 5–8 mm apart, 5 × 3.5 mm, ±ovoid, yellow aging with brown tips, slightly sunken in rounded to elliptic depressions 3 × 2.5 mm; calyx cupular, 2.5 × 3.5 mm, green, sepals connate in basal ⅓, broadly rounded to truncate apically; petals 5 × 3.5–5 mm broadly triangular, tightly imbricate in basal ⅔, acute and slightly recurved apically, fleshy, lateral margins thin, membranous; staminodes 0.8 mm high, toothlike, clear-colored; pistil 3 × 2.5–3 mm, ±globose, 3-lobed, green, stigma lobes short, recurved, separated, clear-colored. Fruits (Fig. 17) 11 × 11 mm, ±globose, black, petals brown in fruit, triangular, to 4 mm long, sepals orange basally in fruit, browning apically and there rounded, to 2.5 mm long.

Distribution: MEXICO. Chiapas. Evergreen seasonal forest of the central depression and plateau; 600–1,200 m elev.; often on limestone.

Specimens Examined: MEXICO. Chiapas: Teran, 4 km N of Juan Crispin along road to San Fernando, *Breedlove & Thorne 30366* (CAS). CULTIVATION. Mexico. Chiapas: Las Rosas, along streets and in yards, *Breedlove & McClintock 23699* (CAS). U.S.A. California: Los Angeles County, Sierra Madre, garden of Rae Anderson, *Hodel 1141* (holotype BH; isotypes AGUAT, CAS, CR, F, HNT, K, MEXU, MO, NY), *1142* (BH, MEXU). Brazil. Rio de Janeiro: Rio Botanical Garden?, *Glaziou 2146* (BR, photo).

Chamaedorea plumosa is quite distinct in its numerous, narrow pinnae arising from the rachis in different planes and directions and giving the leaves a plumose appearance; hence the specific epithet *plumosa*.

In fact, the leaf is not too unlike that of the commonly cultivated *Syagrus romanzoffiana*. Only *C. glaucifolia* and some forms of *C. graminifolia* have numerous, narrow pinnae similar to those of *C. plumosa*. However, the former two species are in a different subgenus (subgenus *Chamaedorea*) and are amply distinct florally, having staminate flowers with the petals connate apically and there adnate to the pistillode and the corolla opening by lateral slits. Also, *C. plumosa* lacks the glaucous indument of *C. glaucifolia* and the cespitose habit of *C. graminifolia*. Neither of the latter two species has pinnae arising from the rachis in the same fashion as those of *C. plumosa*.

Chamaedorea plumosa is actually closest to *C. carchensis*, *C. keeleriorum*, and *C. woodsoniana* but differs dramatically in its numerous, narrow pinnae exiting the rachis in different planes and directions. *C. plumosa* would key out next to *C. woodsoniana* in the key to the species of subgenus *Chamaedoropsis* and next to *C. glaucifolia* in the key to the cultivated species of *Chamaedorea* in Hodel (1992).

Gary Hammer, a plant collector and grower in Los Angeles, introduced *C. plumosa* in the late 1980s. He collected seeds from cultivated plants in Las Rosas, Chiapas but did not see the species in the wild. Local people in Las Rosas told him that the cultivated plants came from a large canyon behind the village. Although I saw immature plants in 1987 that Hammer offered for sale, I assumed they were simply a robust form of *C. glaucifolia*. It was not until February, 1992, that I determined that *C. plumosa* was distinct upon collecting excellent flowering and fruiting material in the garden of Rae Anderson of Sierra Madre, California.

Chamaedorea plumosa is a vigorous, fast-growing, robust plant that appears to have excellent horticultural potential. Rae Anderson has reported that his plants, after only three years in the ground, are more than five meters tall to the tip of the highest leaf and produce six leaves and inflorescences per tree per year. The trunks are now about three meters tall (about a meter of trunk per year once established). The plants tolerate full, hot sun during the middle of the day from 10 AM to 2 PM and withstood sub-freezing temperatures [−10° C (24° F)] with little or no damage in December, 1990.

Miscellaneous Notes

Chamaedorea elegans. *C. elegans*, a highly variable and widely distributed species, has been extensively collected throughout Mexico and Guatemala but, until recently, only on the Atlantic slope. In 1989, I collected several unidentified, pinnate-leaved, juvenile plants of *Chamaedorea* at 1,400 m elevation in oak-pine cloud forest on the Pacific slope of Oaxaca, Mexico. These plants were reestablished in the research collection in Los Angeles and they flowered in 1991. Much to my surprise, an examination of the flowers showed them to be identical with those of *C. elegans*.

It is not unusual for species of *Chamaedorea* to occur on both the Atlantic and Pacific slopes, even in Mexico where the geographic barriers and distances between the two are great. However, it is noteworthy for such a well known and widespread species to escape detection on the Pacific slope until recently. This only recent discovery indicates that the disjunct populations of *C. elegans* on the Pacific slope are isolated and highly localized and/or points out the paucity of collecting in this region. Herbarium specimens, *Hodel 1139* (pistillate) and *1140* (staminate), and flowers preserved in FAA were made from the cultivated material from the Pacific slope of Mexico and deposited at the Bailey Hortorium (BH).

Hybrid in Cultivation. Ingwersen Nursery of Oceanside, California has recently released a new hybrid of *Chamaedorea* with multiple stems. The name given