

Type: COLOMBIA. Amazonas: road from Leticia to Tarapacá, ca. 7 km N of Leticia, 180 m, 17 March 1990, *G. Galeano, R. Bernal, A. Henderson & S. Churchill 2112* (holotype COL!, isotype NY!).

Leaf rachis 71.7(38.5–92.5) cm long. *Inflorescences* peduncles 6.4(5.2–8.0) mm in diameter; rachillae 2.6(1.7–3.4) mm in diameter.

**Distribution and habitat:**—From 3°20'–7°37'S and 68°46'–73°28'W in the western Amazon region of Colombia, Brazil, and Peru at 137(95–180) m elevation in lowland rainforest (Fig. 16).

The outlying specimens from Brazil probably appear isolated only because the intervening area is poorly collected. See discussion under *G. deversa* subsp. *deversa* for possible hybrids.

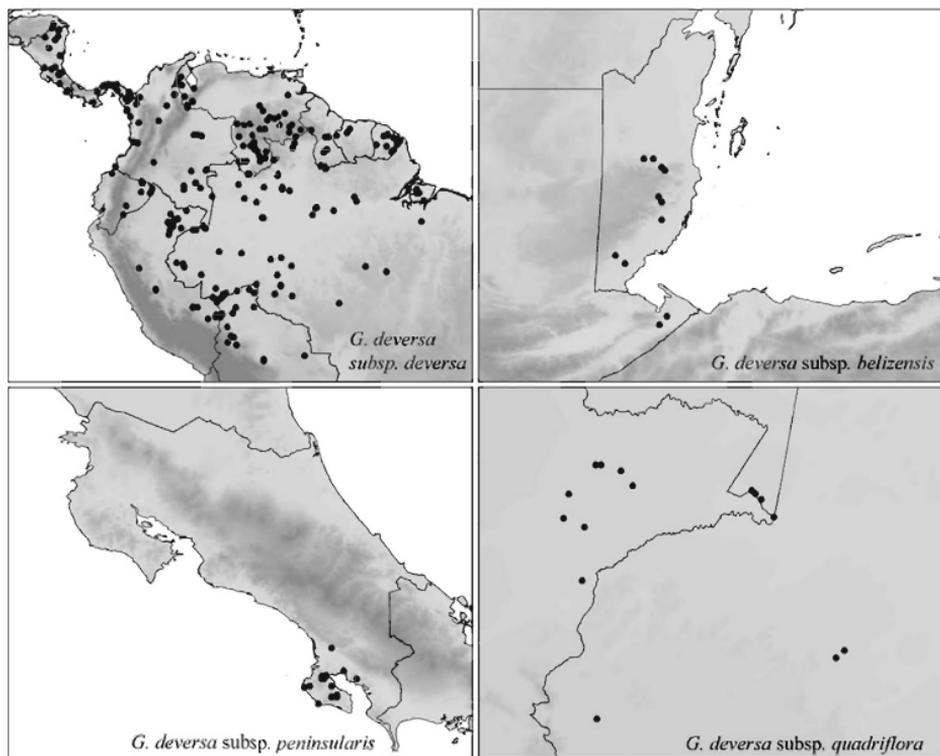


FIGURE 16. Distribution maps of *Geonoma deversa* subsp. *deversa*, *G. deversa* subsp. *belizensis*, *G. deversa* subsp. *peninsularis*, and *G. deversa* subsp. *quadriflora*.

### 17. *Geonoma dindoensis* Henderson, *sp. nov.* (Appendix IV, Plates 31 & 32)

*A speciebus affinitibus prophyllis haud brevibus necnon inaequaliter apiculatis atque rachide longiore differt.*

Type: COLOMBIA. Valle: Dindo area, Bajo Calima, 3°59'N, 76°58'W, 100 m, 20 July 1984, *A. Gentry & M. Monsalve 48419* (holotype NY!, isotype MO!).

*Plants* 2.0 m tall; stems height no data, 0.6 cm in diameter, cane-like; internodes 2.5 cm long, yellowish and smooth. *Leaves* undivided, not plicate, bases of blades running diagonally into the rachis; sheaths 6.5 cm long;

petioles 6.5 cm long, drying green or yellowish; rachis 27.0 cm long, 2.6 mm in diameter; veins not raised or slightly raised and triangular in cross-section adaxially; pinnae 1 per side of rachis; basal pinna forming an angle of  $22^\circ$  with the rachis; apical pinna 9.5 cm long, forming an angle of  $26^\circ$  with the rachis. *Inflorescences* branched 3 orders; prophylls and peduncular bracts not ribbed with elongate, unbranched fibers, flattened, deciduous or persistent; prophylls length no data, not short and asymmetrically apiculate, the surfaces not ridged, without unequally wide ridges; peduncular bracts length no data, well-developed, inserted 1.3 cm above the prophyll; peduncle 5.7 cm long, 2.3 mm in diameter; rachillae 18, 4.2 cm long, 0.9 mm in diameter, the surfaces without spiky, fibrous projections or ridges, drying brown, with faint to pronounced, short, transverse ridges, filiform with extended narrowed sections between the flower pits; flower pits alternately arranged (sometimes distorted by twisting and contracting of rachillae), glabrous internally; proximal lips without a central notch before anthesis, not recurved after anthesis, not hood-shaped; proximal and distal lips drying the same color as the rachillae, joined to form a raised cupule, the margins not overlapping; distal lips well-developed; staminate and pistillate petals not emergent, not valvate throughout; staminate flowers deciduous after anthesis; stamens 6; thecae diverging at anthesis, inserted almost directly onto the filament apices, the connectives bifid but scarcely developed; anthers short and curled over at anthesis; non-fertilized pistillate flowers deciduous after anthesis; staminodial tubes crenulate or shallowly lobed at the apex, those of non-fertilized flowers not projecting and persistent after anthesis; *fruits* no data.

**Distribution and habitat:**—At  $3^\circ 59'S$  and  $76^\circ 58'W$  on the Pacific coast of Colombia (Valle) at 100 m elevation in lowland rainforest (Fig. 17).

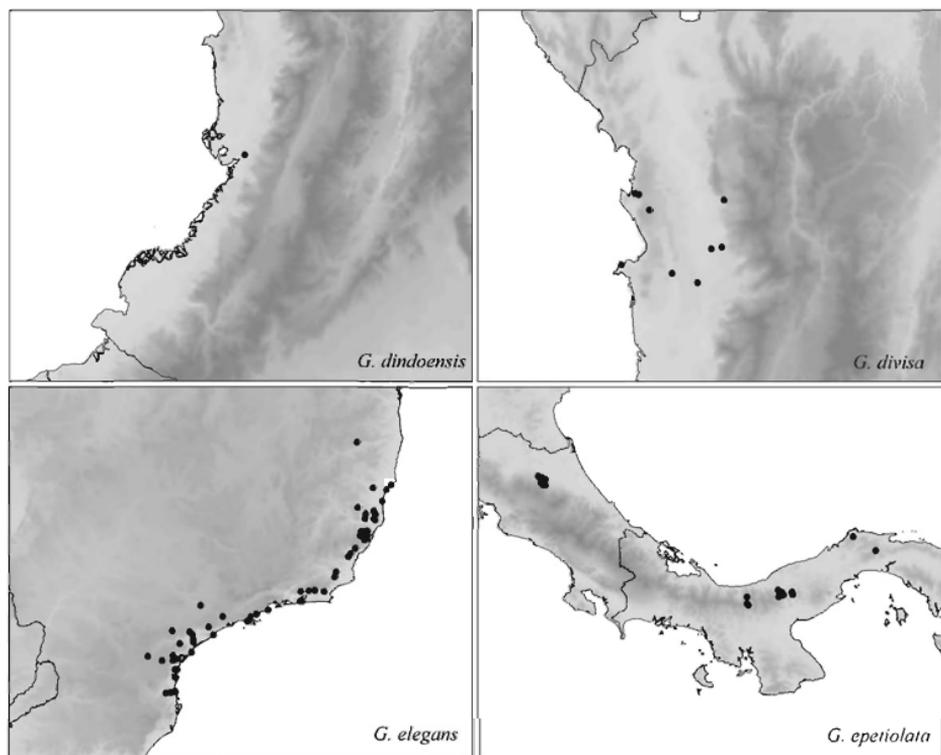


FIGURE 17. Distribution maps of *Geonoma dindoensis*, *G. divisa*, *G. elegans*, and *G. epetiolata*.

**Taxonomic notes:**—*Geonoma dindoensis* shares the same character states as *G. bernalii*, except that fruits are lacking in the single specimen known. Given the differences in rachis length (27.0 cm long versus 13.3(12.5–14.1) cm long) and habitat (lowland rainforest in the Chocó at 100 m versus montane rainforest on eastern Andean slopes at 1105(1010–1200) m, *G. dindoensis* is recognized as distinct from *G. bernalii*, pending more collections.

**Subspecific variation:**—No trait varies within this species and only one specimen is known.

**18. *Geonoma divisa*** Moore (1980: 25). Type: COLOMBIA. Chocó: N ridge of Alto de Buey, above Dos Bocas del Rio Mutatá, tributary of Rio El Valle, ESE of El Valle, 200–500 m, 8 August 1976, A. Gentry & M. Fallen 17438 (holotype BH!, isotypes COL!, MO!).

*Plants* 2.8(2.5–3.0) m tall; stems 2.8(2.0–3.5) m tall, 0.8(0.6–1.1) cm in diameter, clustered, cane-like; internodes 1.9(0.9–5.4) cm long, yellowish and smooth. *Leaves* 8(6–10) per stem, undivided, not plicate, bases of blades running diagonally into the rachis; sheaths 7.9(4.5–11.0) cm long; petioles 9.2(6.0–15.0) cm long, drying green or yellowish; rachis 21.5(8.8–31.0) cm long, 3.0(2.3–4.4) mm in diameter; veins raised and rectangular in cross-section adaxially; pinnae 1 per side of rachis; basal pinna forming an angle of 28(12–38)° with the rachis; apical pinna 27.3(21.2–34.5) cm long, forming an angle of 20(15–30)° with the rachis. *Inflorescences* branched 1 order; prophylls and peduncular bracts not ribbed with elongate, unbranched fibers, flattened, deciduous; prophylls 6.7(4.9–8.1) cm long, short, asymmetrically apiculate, the margins curved around the stem, the surfaces flat with dense, felty, brown tomentum, prophyll equal to and early deciduous with the peduncular bract, the surfaces not ridged, without unequally wide ridges; peduncular bracts 5.1(3.5–6.7) cm long, well-developed, inserted 0.2(0.1–0.3) cm above the prophyll; peduncles 4.3(2.8–7.3) cm long, 3.4(2.6–4.3) mm in diameter; rachillae 5(3–7), 16.3(10.7–24.0) cm long, 3.0(2.6–3.5) mm in diameter, the surfaces without spiky, fibrous projections or ridges, drying brown, with faint to pronounced, short, transverse ridges, not filiform and not narrowed between the flower pits; flower pits tricussately arranged throughout the rachillae, the groups of pits closely spaced, glabrous internally; proximal lips without a central notch before anthesis, not recurved after anthesis, not hood-shaped; proximal and distal lips drying the same color as the rachillae, not joined to form a raised cupule, the proximal lip margins overlapping the distal lip margins; distal lips well-developed; staminate and pistillate petals not emergent, not valvate throughout; staminate flowers deciduous after anthesis; stamens 6; thecae diverging at anthesis, inserted almost directly onto the filament apices, the connectives bifid but scarcely developed; anthers short and curled over at anthesis; non-fertilized pistillate flowers deciduous after anthesis; staminodial tubes crenulate or shallowly lobed at the apex, those of non-fertilized flowers not projecting and persistent after anthesis; *fruits* 7.3 mm long, 6.5 mm in diameter, the bases without a prominent stipe, the apices not conical, the surfaces not splitting at maturity, without fibers emerging, ridged from the numerous, subepidermal, meridional, elongate fibers present, these coming to a point at fruit apices; locular epidermis without operculum, smooth, without pores.

**Distribution and habitat:**—From 5°25'–6°16'N and 76°31'–77°28'W on the Pacific coast of northwestern Colombia at 346(35–1500) m elevation in lowland or montane tropical rainforest (Fig. 17).

**Taxonomic notes:**—*Geonoma divisa* is related to two other species within the *G. stricta* clade—*G. longivaginata* and *G. ferruginea*, both from Central America. It differs from these in its tricussately arranged, closely spaced flower pits. It is sympatric with both *Geonoma stricta* and *G. cuneata*, and shares some character states with these species, especially its fruits which are ridged from the numerous, subepidermal, meridional, elongate fibers present, these coming to a point at fruit apices.

**Subspecific variation:**—No trait varies within this species.

**19. *Geonoma elegans*** Martius (1826: 144). Type: BRAZIL. Rio de Janeiro: no locality, no date, *H. Schott s. n.* (holotype, not known, presumed lost). Neotype (here designated): BRAZIL. Rio de Janeiro: Maciço da Tijuca, Reserva Florestal da FEEMA, 550 m, 17 October 1977, P. Maas & P. Carauta 3285 (neotype NY!).