

Type: PERU. Amazonas: Condorcanqui Province, Distrito El Cenepa, Comunidad de Mamayaque, 4°34'S, 78°14'W, 400 m, 9 August 1997, R. Rojas, A. Peña & E. Chávez 256 (holotype NY!, isotype MO *n.v.*).

*Leaves* undivided or pinnate; veins not raised or slightly raised and triangular in cross-section adaxially; pinnae 1(1–2) per side of rachis. *Inflorescences* branched; staminate flowers deciduous after anthesis.

**Distribution and habitat:**—From 4°29'–4°45'S and 77°58'–78°14'W in the northwestern Amazon region of Peru (Amazonas) at 310(250–400) m elevation in lowland rainforest (Fig. 39).

60g. *Geonoma stricta* subsp. *pliniana* Henderson, *subsp. nov.* (Appendix IV, Plate 64)

*A subspeciebus gulanensibus aliis foliis pinnatis venis prominentibus atque inflorescentiis simplicibus differt.*

Type: FRENCH GUIANA. D.Z. 5, route Régina-Saint-Georges, bassin de l'Approuague, 4°02'N, 52°01'W, 100 m, 26 November 1995, J.-J. de Granville & C. Cremers 13148 (holotype NY!, isotype CAY *n.v.*).

*Leaves* pinnate; veins raised and rectangular in cross-section adaxially; pinnae 3 per side of rachis. *Inflorescences* unbranched; staminate flowers deciduous after anthesis.

**Distribution and habitat:**—From 3°45'–5°17'N and 51°48'–53°03'W in the northeastern Amazon region of French Guiana and Brazil (Amapá) at 53(5–100) m elevation in coastal, terra firme forests (Fig. 39).

60h. *Geonoma stricta* subsp. *quibdoensis* Henderson, *subsp. nov.* (Appendix IV, Plate 65)

*A subspeciebus extraamazonicis aliis bractea petunculari prophylo propiore inserta differt.*

Type: COLOMBIA. Chocó: ca. 10–15 km S of Quibdó on road to Istmina (Panamerican Highway), and 8–10 km E on road to petroleum exploration camp, 5°35'N, 76°37'W, 90 m, 9 July 1986, M. Grayum, B. Hammel, J. Kress & C. Brown 7645 (holotype MO!).

*Leaves* undivided; veins not raised or slightly raised and triangular in cross-section adaxially; pinnae 1 per side of rachis. *Inflorescences* unbranched; staminate flowers deciduous after anthesis.

**Distribution and habitat:**—From 5°35'–5°50'N and 76°35'–76°37'W on the Pacific coast of Colombia (Chocó) at 96(50–150) m elevation in lowland rainforest (Fig. 40).

60i. *Geonoma stricta* subsp. *submontana* Henderson, *subsp. nov.* (Appendix IV, Plate 66)

*A subspeciebus aliis foliis pinnatis venis prominentibus atque inflorescentiis ramosis differt.*

Type: PERU. Pasco: Prov. Oxapampa, W side of Cordillera de San Matias between Iscosacin and summit, 10°11'S, 75°12'W, 680–850 m, 21 June 1982, D. Smith 2019 (holotype NY!, isotype MO *n.v.*).

*Leaves* undivided or pinnate; veins raised and rectangular in cross-section adaxially; pinnae 1(1–2) per side of rachis. *Inflorescences* branched; staminate flowers deciduous after anthesis.

**Distribution and habitat:**—From 9°50'–10°18'S and 75°12'–75°15'W on eastern Andean foothills in central Peru (Huánuco, Pasco) at 437(350–760) m elevation in lowland rainforest (Fig. 40).

61. *Geonoma talamancana* Grayum (1998: 324). Type: COSTA RICA. Limón: Cantón de Limón, Cordillera de Talamanca, N flank of Fila de Matama in headwaters of Rio Boyei, 9°45'N, 83°19'W, 1200–1300 m, 17 August 1995, M. Grayum 11033 (holotype MO!, isotypes CR!, INB!, K, NY!).

*Plants* 1.1(0.5–2.0) m tall; stems 1.1(1.0–1.3) m tall, 1.3 cm in diameter, solitary or clustered; internodes

10.2) cm long, 0.6(0.4–0.8) 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 pistillate flowers not projecting and persistent after anthesis; *fruits* 5.3(4.6–6.0) mm long, 4.8(4.1–5.5) mm in diameter, the bases without a prominent stipe, the apices not conical, the surfaces not splitting at maturity, without fibers emerging, bumpy from the numerous, subepidermal, tangential, short fibers present, these coming to a point at fruit apices; locular epidermis without operculum, smooth, without pores.

**Distribution and habitat:**—From 0°31'–0°38'S and 79°08'–79°18'W in western Ecuador (Montañas de Ila) at 597(520–700) m elevation in lowland rainforest (Fig. 40).

**Taxonomic notes:**—*Geonoma tenuissima* is a member of the *Geonoma lanata* clade. It appears most similar to *G. mooreana* and *G. scoparia*. It differs from the former by its proximal and distal lips which are joined to form a raised cupule; and from the latter in its yellowish and smooth internodes.

**Subspecific variation:**—No trait varies within species, nor is there any geographic discontinuity.

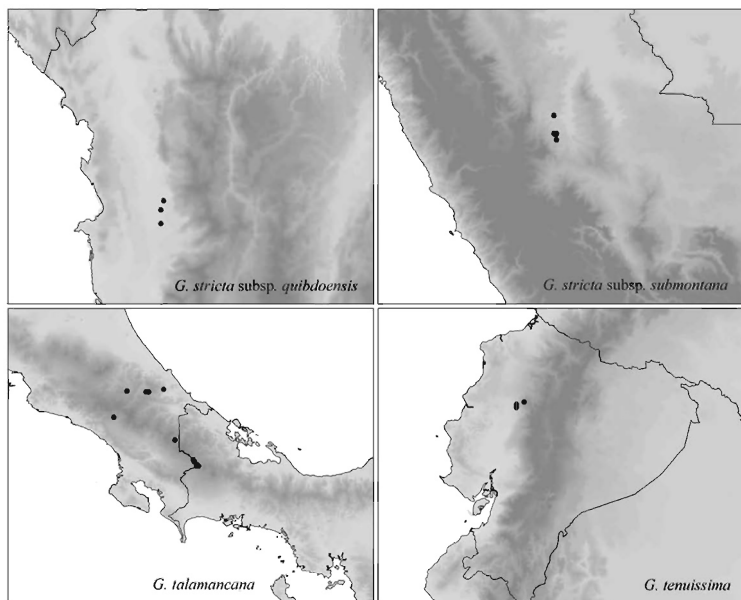


FIGURE 40. Distribution maps of *Geonoma stricta* subsp. *quibdoensis*, *G. stricta* subsp. *submontana*, *G. talamancana*, and *G. tenuissima*.