

specimens from this region which also appear somewhat intermediate, but are determined as subsp. *deversa*. A hybrid zone may exist running from Suriname and French Guiana to Brazil (Amapá, Pará)(see Fig. 23).

There is considerable variation in the western Amazon region, and there may also be hybrid zones here, especially in Peru (Loreto) and Brazil (Acre). Specimens from near Iquitos (*iquitos* morphotype) differ from other specimens of subsp. *deversa* in 13 variables (plant height, stem diameter, petiole length, rachis length, rachis width, basal pinna length, interbract distance, peduncle length, peduncle width, rachilla length, rachilla width, number of rachillae, fruit diameter)(*t*-test, $P < 0.05$). On the other hand, the same specimens differ from the sympatric subsp. *quadriflora* in only four variables (peduncle width, rachilla width, fruit length, fruit diameter) (*t*-test, $P < 0.05$). These results indicate that the *iquitos* morphotype may represent hybrids between subsp. *deversa* and subsp. *quadriflora* (specimens of subsp. *quadriflora* may have tricussate pits at the apices of the rachillae, and one specimen of subsp. *deversa* (Croat 20340) contains two inflorescences, one with quadricussate pits and the other with tricussate pits).

Some specimens from the western Amazon region of Brazil (Acre, Amazonas) differ from the more typical subsp. *deversa* in their longer leaves with more pinnae, and shorter, thicker peduncles. In their leaves they resemble subsp. *quadriflora* and in their inflorescences they resemble *G. occidentalis*, and they occur in an area between the ranges of these two taxa. They may be hybrids between subsp. *quadriflora* and *G. occidentalis*, or between one of these taxa and subsp. *deversa*. The type specimen of *G. myriantha* appears to represent one of these possible hybrids.

16b. *Geonoma diversa* subsp. *belizensis* Henderson, subsp. nov. (Appendix IV, Plate 25)

A Geonoma diversa subsp. *deversa* pedunculo latiore differt.

Type: BELIZE. Stann Creek District: Cockscomb Basin, Jaguar Preserve, 10 km W of Maya Center, off Southern Highway, 16°45'N, 88°35'W, 400 m, 23 May 1990, M. Baltick, R. Arvigo, P. Cocom, R. Cocom, H. Robinson & G. Shropshire 2698 (holotype NY!).

Leaf rachis 38.7(31.0–46.5) cm long. Inflorescences peduncles 5.0(3.7–6.2) mm in diameter; rachillae 1.7(1.2–2.4) mm in diameter.

Distribution and habitat:—From 15°35'N–17°10'N and 88°24'–89°01'W in Belize and Guatemala at 300(100–400) m elevation in lowland rainforest (Fig. 16).

16c. *Geonoma diversa* subsp. *peninsularis* Henderson, subsp. nov. (Appendix IV, Plate 26)

A Geonoma diversa subsp. *deversa* rachide longiore atque pedunculo latiore differt.

Type: COSTA RICA. Puntarenas: Reserva Forestal Golfo Dulce, Cantón de Osa, Rancho Quemado, ca. 15 km W of Rincón, 8°42'N, 83°33'W, 250 m, 6 June 1992, A. Henderson, G. Galeano & B. Hammel 1817 (holotype CR!, isotype NY!).

Leaf rachis 64.5(46.5–85.0) cm long. Inflorescences peduncles 6.9(4.6–9.0) mm in diameter; rachillae 1.8(1.1–2.6) mm in diameter.

Distribution and habitat:—From 8°27'–8°58'N and 83°14'–83°40'W in the Osa Peninsula and adjacent areas of Costa Rica at 287(65–744) m elevation in lowland rainforest (Fig. 16).

There is a sympatric population of subsp. *deversa* occurring just to the northeast of the Osa Peninsula.

16d. *Geonoma diversa* subsp. *quadriflora* Henderson, subsp. nov. (Appendix IV, Plates 27–30)

A Geonoma diversa subsp. *deversa* foveis floralibus quarternatis differt.

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.

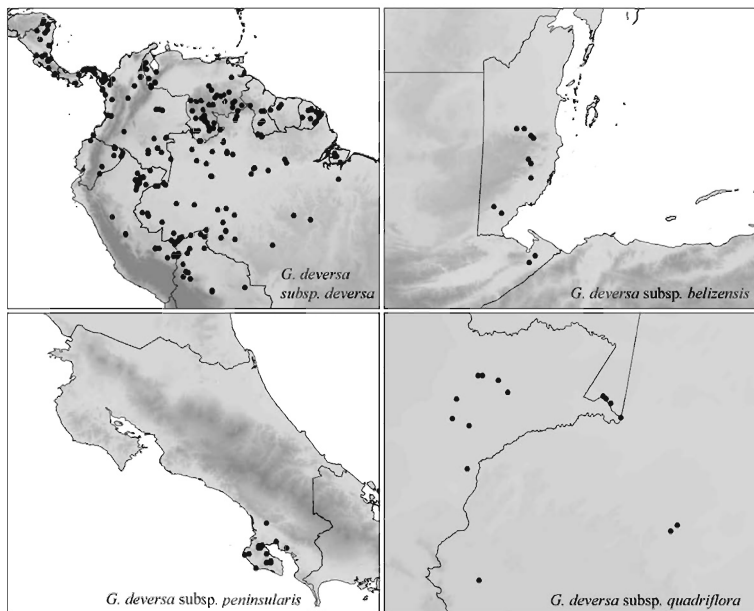


FIGURE 16. Distribution maps of *Geonoma deversa* subsp. *deversa*, *G. deversa* subsp. *belizensis*, *G. deversa* subsp. *peninsularis*, and *G. deversa* subsp. *quadriflora*.

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;