

peduncle width 0.15, number of rachillae 0.12, fruit length 0.33, and fruit diameter 0.45. In particular, number of pinnae increases and they become shorter and narrower with narrower angles with increasing elevation, giving a distinctive, small pinnate leaf. For inflorescences, peduncles become thinner, rachillae fewer, and fruits larger with increasing elevation. Specimens from higher elevations (1000–1600 m) in Minas Gerais (Serra do Cipó), Goiás (Chapada dos Veadeiros), and Bahia (Pico das Almas) have these kinds of leaves and inflorescences.

Specimens from the western and northern margins of the range have fewer, broader pinnae. Some specimens (e.g., *Noblick 3209*, *Sant'Ana 311*, *Thomas 9251*) from the eastern margin of the range in Bahia occur near to the range of subsp. *pohliana*, and there may be hybrids between these two subspecies in this area.

Some specimens (*Irwin 6276*, *15633*) from the Distrito Federal near Brasília, have pinnae more like those of subsp. *schottiana*. It is unclear if this subspecies is present in the Distrito Federal, or if these specimens are hybrids.

51k. *Geonoma pohliana* subsp. *wittigiana* (Glaziou ex Drude) Henderson, comb. & stat. nov.

Basionym: *Geonoma wittigiana* Glaziou ex Drude (1882: 499). Type: BRAZIL. Rio de Janeiro: Serra dos Orgãos, 23 August 1872. *A. Glaziou 6458* (holotype P!, isotypes C n.v., FI!, K!).

Leaves pinnae 4(3–6) per side of rachis. *Inflorescences* rachillae 7(3–10)1.8(1.2–2.6) mm in diameter, hairy, not filiform and not or scarcely narrowed between the flower pits; proximal and distal lips drying the same color as the rachillae; triads mostly spirally arranged.

Distribution and habitat:—From 20°04'–23°19'S and 40°43'–44°36'W in the Atlantic Coastal Forest region of Brazil in Espírito Santo, Minas Gerais, and Rio de Janeiro at 955(175–1265) m elevation in lowland or montane rainforest (Fig. 36).

Most specimens are from the Serra do Mar in Rio de Janeiro. The outliers from Minas Gerais and Espírito Santo appear somewhat different but there are too few specimens to test for differences.

52. *Geonoma poiteauana* Kunth (1841: 233). *Gynestum acaule* Poiteau (1822: 391). *Geonoma poiteana* Martius (1843: 39). *Geonoma acaulis* (Poiteau) Burret (1930a: 162). *Geonoma macrostachys* var. *poiteauana* (Kunth) Henderson (1995: 277). Type: FRENCH GUIANA. Without locality, no date, *A. Poiteau s.n.* (holotype P!).

Geonoma dammeri Huber (1902: 409). *Taenianthera dammeri* (Huber) Burret (1930c: 13). Type: BRAZIL. Pará: Furo Macujubim, 6 October 1901, *M. Guedes 2241* (holotype MG!).

Geonoma chaenostachys Burret (1931c: 318). Type: VENEZUELA. Amazonas: Mount Duida, ca. 250 m, 18 November 1928, *G. Tate 394* (holotype NY!).

Plants 1.2(0.5–2.0) m tall; stems 0.1 m tall, 2.1 cm in diameter, branching no data, not cane-like; internodes 0.2 cm long, not scaly. *Leaves* undivided or irregularly pinnate, not plicate, bases of blades running diagonally into the rachis; sheaths 13.7(12.0–17.0) cm long; petioles 21.6(18.0–26.7) cm long, drying green or yellowish; rachis 57.0(38.0–79.5) cm long, 4.2(3.1–5.9) mm in diameter; adaxial veins not raised or slightly raised and triangular in cross-section adaxially; pinnae 2(1–3) per side of rachis; basal pinna 51.8(42.0–64.0) cm long, 16.6(9.0–26.0) cm wide, forming an angle of 11(5–22)° with the rachis; apical pinna 33.4(30.0–38.0) cm long, 16.9(9.5–31.5) cm wide, forming an angle of 18(10–24)° with the rachis. *Inflorescences* unbranched; prophylls and peduncular bracts ribbed with elongate, unbranched fibers, both bracts tubular, narrow, elongate, closely sheathing the peduncle, more or less persistent; prophylls 10.4(6.0–13.2) cm long, not short and asymmetrically apiculate, the surfaces not ridged, without unequally wide ridges; peduncular bracts 23.4(19.0–28.35) cm long, well-developed, inserted 0.9(0.5–2.0) cm above the prophyll; peduncles 80.2(54.5–119.5) cm long, 2.9(1.3–3.7) mm in diameter; rachillae 1, 13.2(8.5–20.0) cm long, 4.8(3.1–6.0) mm in diameter, the surfaces without spiky, fibrous projections or ridges, drying brown or yellow-brown, without short, transverse ridges, not filiform and not narrowed between the flower pits; flower pits spirally

arranged, glabrous internally; proximal lips with a central notch before anthesis, often the two sides of the notch overlapping, 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 or not diverging at anthesis, inserted onto well-developed, non-split, jointed connectives, connectives alternately long and short; anthers short at anthesis, remaining straight and parallel; non-fertilized pistillate flowers deciduous after anthesis; staminodial tubes lobed at the apex, the lobes spreading at anthesis, acuminate, those of non-fertilized pistillate flowers not projecting and persistent after anthesis; *fruits* 8.8(7.9–9.5) mm long, 7.2(6.4–8.0) mm in diameter, the bases without a prominent stipe, the apices not conical, the surfaces not splitting at maturity, without fibers emerging, not bumpy, not apiculate; locular epidermis with operculum, smooth, with pores.

Distribution and habitat:—From 7°45'N–8°00'S and 47°10'–70°11'W in the eastern and central Amazon region of the Guianas, Venezuela, Colombia, and Brazil, at 242(1–725) m elevation in lowland rainforest (Fig. 36).

Taxonomic notes:—*Geonoma poiteauana* was recognized by Henderson (1995) as a variety of *Geonoma macrostachys*, but is here recognized at the species level. The two are closely related, *G. poiteauana* differing by its fruits which are not bumpy and not apiculate. It belongs to a group of species within the *G. macrostachys* clade, comprising *G. macrostachys*, *G. multisecta*, *G. paradoxa*, and *G. schizocarpa*.

Subspecific variation:—Only one trait (leaf division) varies within this species.

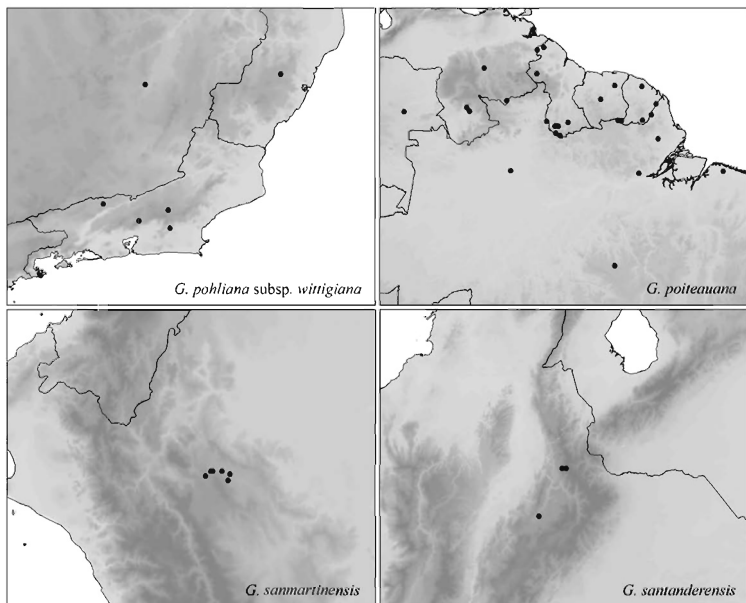


FIGURE 36. Distribution maps of *Geonoma pohliana* subsp. *wittigiana*, *G. poiteauana*, *G. sanmartinensis*, and *G. santanderensis*.