

TWO NEW SPECIES OF GEONOMA (PALMAE)

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ABSTRACT

Geonoma divisa H. E. Moore from Colombia and *G. epetiolata* H. E. Moore from Panama are described as new species.

***Geonoma divisa* H. E. Moore, sp. nov.** (Fig. 1).

Caules ad 3 m alti. Folia petiolata lamina parva ad $\frac{2}{3}$ divisa in 2 segmenta 12–13-costata. Inflorescentia parva ramis 3 pilosis foveolatis, foveis verticillatis. Florum masculorum stamina 6.

Holotype: *Gentry & Fallen 17438* (BH).

Stems slender, to ca. 3 m high, 5 mm in diam.

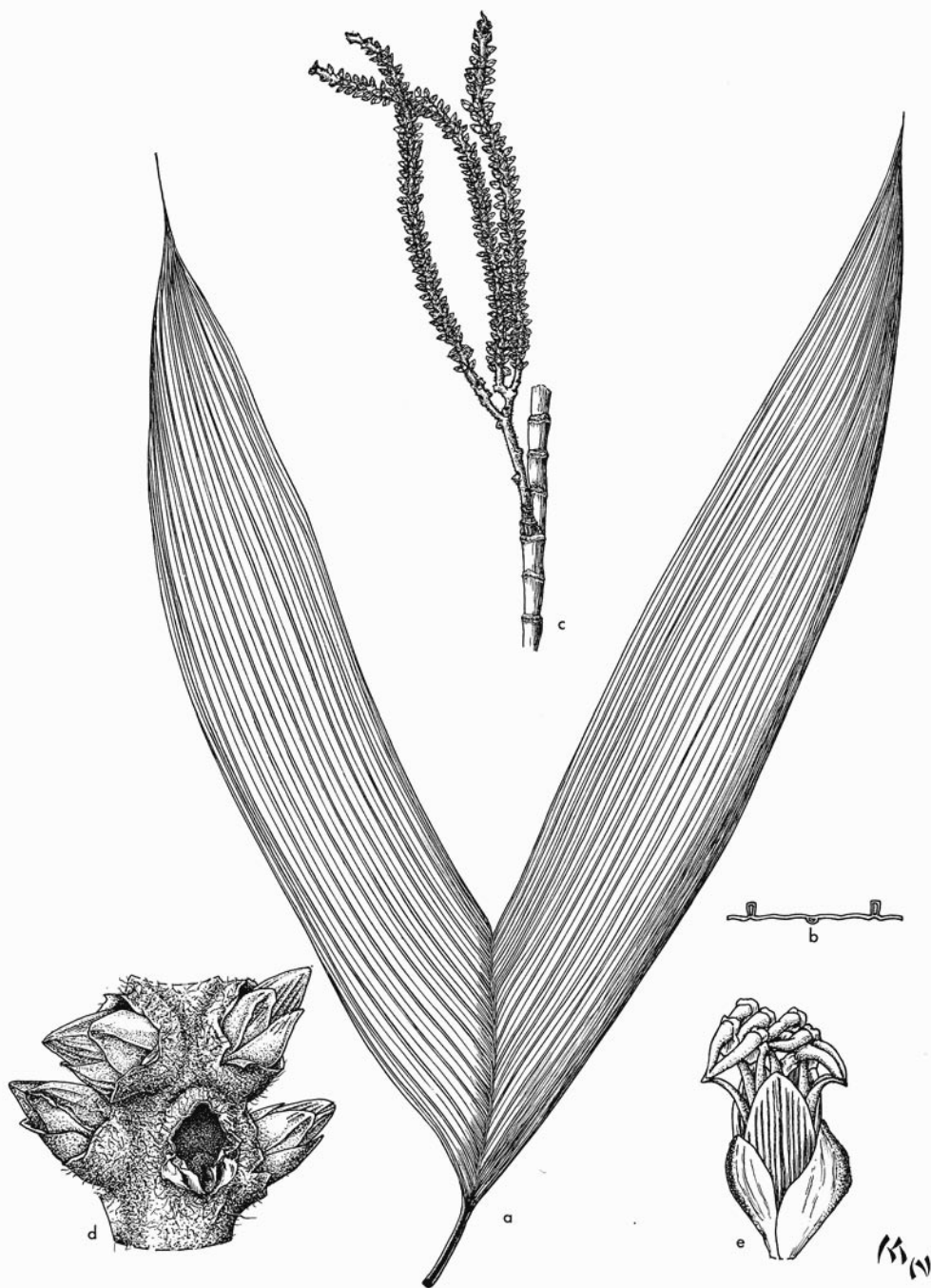
Leaves ca. 5; sheath ca. 4.5–5 cm long, at first tubular and densely pale-brown-tomentose with prominent diagonal ribs, at length splitting opposite the petiole; petiole ca. 5–6.5 cm long, rounded and mostly brown-membranous-lepidote to laterally tomentose beneath, channeled and glabrous above; blade deeply bifid but otherwise undivided, the rachis 9–11 cm long, tomentose laterally beneath, ribs 12–13 on each side, prominent and elevated ca. 0.5 mm above, bearing minute membranous scales beneath, segments subfalcate, acuminate, ca. 22 cm long on upper margin, 30 cm long on lower margin, 4.5 cm wide at middle.

Inflorescence short, ca. 14 cm long, simply branched into 3 rachillae; peduncle ca. 3 cm long, with short pale or brown hairs; prophyll not seen, inserted ca. 3 mm from base, peduncular bract not seen, but indicated by a pronounced scar about 2 mm above prophyll, ca. 3 short, rounded, empty bracts present and similar to bracts subtending the branches; rachillae ca. 10.5 cm long, more or less densely short pilose with soft, erect to appressed hairs, pits mostly in alternate whorls of 3, with entire upper and lower lips, glabrous within, separated by 4–5 mm between corresponding parts, 1.25–1.5 mm across.

Staminate flowers cream-colored when fresh; dried sepals straw-colored, darker at the tips, the outer keeled, ca. 2 mm long; petals brown or purplish with prominent pale ribs when dry, ca. 2.5 mm long; stamens 6, the filaments dark when dry, anthers with locules divaricate, the sterile portion colored. Pistillate flowers and fruit not seen.

Specimens examined: COLOMBIA. CHOCO: wet forest and premontane wet forest, north ridge of Alto de Buey, above Dos Bocas del río Mutatá, tributary of río El Valle, ESE of El Valle, 200–500 m alt., 8 Aug 1976, *Gentry & Fallen 17438* (BH, holotype; MO, isotype).

Lacking information on major inflorescence bracts and assuming the staminal tube to be crenate-truncate, this species may be keyed to *G. arundinacea* Mart. and *G. laxiflora* Mart. or to *G. bartlettii* Damm. ex Burret in Wessels Boer's key to species (1968). From the first two, it differs in the very deeply bifid leaf blade, from which the epithet is derived, and the densely whorled pits in hairy rachillae, and from the third, as described and illustrated by Wessels Boer (1968, *pl. IV*), in the presence of a peduncular bract and in the deeply divided leaf of



1. *Geonoma divisa*. a, leaf, $\times \frac{1}{2}$; b, cross section of portion of leaf to show elevated ribs, $\times 4$; c, portion of stem with inflorescence, $\times \frac{1}{2}$; d, portion of rachilla showing pits and staminate buds, $\times 8$; e, staminate flower, $\times 8$. Plate by Mitsu Nakayama.

smaller dimensions and fewer ribs, which is strongly reminiscent of the leaf of *Bactris simplicifrons* Mart. *Geonoma divisa* is probably more closely related to the widespread *G. deversa* (Poit.) Kunth but may be distinguished from the rare individuals of that species having the leaf undivided by the very prominently elevated, narrow ribs on the dull upper surface of the leaf blade.

***Geonoma epetiolata* H. E. Moore, sp. nov.** (Fig. 2).

Caules ad 2.3 m alti. Folia epetiolata longe cuneata subtus rubra. Inflorescentiae spicatae pedunculis quam spicibus brevioribus. Florum masculorum stamina 6, femineorum tubus staminodialis crenato-truncatus. Fructus ovoideo-ellipticus ca. 8 mm longus.

Holotype: *Dressler 4777* (BH).

Plants 1.5–2.3 m high; trunk ca. 1.5 cm in diam. at base, 0.6–0.85 cm in diam. below uppermost inflorescence, internodes ca. 0.8–2 cm long.

Leaves ca. 10; sheath 8–8.5 cm long, densely brown-tomentose at the sides, prominently diagonally ribbed and with a network of veins and veinlets opposite the blade at the truncate apex; petiole not developed; blade plicate, narrowly elongate-cuneate, bifid 11–14 cm at apex, dark green or mottled dark and light green above, red or purple beneath; rachis ca. 34.5–53 cm long, brown-tomentose laterally beneath, glabrous above, ribs ca. 45–50 on each side at an angle of ca. 15° with the rachis, often bearing membranous scales beneath, glabrous and elevated ca. 0.5 mm above.

Inflorescences several, interfoliar but persisting below the leaves in fruit, spicate; peduncle shorter than the spike, ca. 6.5–9 cm long, tomentose at first glabrescent and roughened in age, often with 1–3 acute bracts subtending empty pits between the peduncular bract and spike; prophyll ca. 6–8.5 cm long, 6 mm wide, caducous or marcescent, tomentose when young, inserted ca. 0.5 cm above base; peduncular bract inserted 1.5–1.7 cm above and about equalling the prophyll, softly hairy; spike ca. 19–22 cm long, 4 mm in diam., densely brown-tomentose when young, with tomentum persistent about the pits in age, the pits spirally arranged, ca. 5–6 mm between equivalent points in the spiral (or 1–2 mm apart), ca. 1 mm across, 3 mm high, the lower lip becoming deeply bifid, the upper lip narrow, entire.

Staminate flowers ca. 3 mm long; sepals slightly shorter than petals; stamens 6, the anthers with divaricate locules not extended in a line with the filament; pistillate flowers with perianth ca. 3 mm high; staminodial tube exerted, crenate-truncate; stigmas 3, recurved.

Fruit ovoid-ellipsoid, ca. 8 mm long, 5 mm in diam., acute, with fibers in pericarp evident externally when dry.

Specimens examined: PANAMA. VERAGUAS: Guabal (Río Dos Bocas), about 16 km NW of Santa Fé, ca. 500 m alt., 15–16 Nov 1974, *Dressler 4777* (BH, holotype; MO, isotype); floor of upland forest NW of Santa Fé, 8.8 km from Escuela Agrícola Alto de Piedra, Pacific slope, 20 Dec 1974, *Mori, Kallunki, Cochran, Cochran, Hansen, Kowal, & Nee 3909* (BH, MO).

Geonoma epetiolata is readily distinguished from other species having spicate inflorescences and the peduncle shorter than the spike (cf. species 20–27 in Wessels Boer 1968) by the lack of petiole and the red or purple lower surface of the leaf.