

Comments. *Aiphanes graminifolia* is unmistakable in its delicate habitat, its linear and extremely narrow pinnae (23-36 times as long as wide), with bifid and strongly inaequilateral apex, a combination of characters not found in any other species in the genus. The most similar species is *Aiphanes lindeniana* (H. Wendl.) H. Wendl., a widespread and variable species (Borschenius & Bernal 1996) which differs in its larger size, its usually distichous leaves, its cuneate to linear pinnae, the narrowest ones only 11 times as long as wide, with truncate and obliquely praemorse apex, its larger inflorescence, with more numerous (16-68 vs. 7-12) and longer (16-42 vs. 7.5-12.4 cm long) rachillae, and its larger fruits (14-16 vs. 5 mm in diameter). However, a close relationship between both species is not evident.

Bactris rostrata Galeano & R. Bernal, sp. nov. (Fig. 2).

Type. COLOMBIA. Chocó: 37 km NW of Las Animas, Panamerican Road, 5° 17' N, 77° 23' W, 100 m, 10 Jul 1986, *R. Bernal, G. Galeano & R. Sanders* (holotype, COL; isotypes, AAU, FTG, HUA, MO, NY).

Diagnosis. Ab omnibus speciebus generis fructibus magnis, fortiter rostratis, foliisque simplicibus valde distincta.

Description. Cespitose, with 11 stems up 6 m tall, 2.5-4 cm in diameter, brown; internodes 7-15 cm long, with black, up to 4 cm long, sparsely arranged spines. Leaves 8-14, simple; sheath 56-60 cm long, covered with thick, cottony, light brown to whitish, more or less deciduous indumentum, and with many short and flexible spinules and sparse, flattened, black to dark brown, up to 3 cm long spines, toward apex with spinules and spines only adaxially; petiole 11-25 cm long, canaliculate adaxially, rounded abaxially, green when fresh, with an indumentum like that of the sheath, basally with spinules and spines like those of

the sheath, unarmed toward apex; rachis 94-104 cm long, unarmed, with tomentum like that of the sheath; blade oblong-obovate, 127-158 x 66-72 cm, acute at the base, olive brown when dry, glabrous adaxially, minutely spinulose abaxially, 34-35 primary veins on each side, prominent adaxially. Inflorescence and infructescence interfoliar; peduncle 26-32 cm long, 6-8 mm diameter at the apex, recurved, reddish-brown, densely covered with thick indumentum of elongate, brown and yellowish trichomes and with sparse, ca. 1 mm long spinules; prophyll 22-27 x 2-2.5 cm, unarmed, densely covered with cottony, yellowish-white tomentum; peduncular bract 45-48 cm long, covered with an indumentum of white scales and with many delicate, brown and yellowish, up to 1.5 cm long spines; rachis 6-7.5 cm long, with a thick, more or less deciduous indumentum of minute, globose, yellowish trichomes which have moniliform and dark brown pedicels; rachillae 10-12, 9-14 cm long, ca. 3 mm diameter in fruit, with indumentum like that of the rachis; triads irregularly arranged among solitary and paired staminate flowers. Fruits ellipsoid to obovoid, strongly rostrate, 3.5-4.0 cm long, including a 0.7-0.9 cm long rostrum, 2.0-2.4 cm diameter, reddish-brown, yellowish-green toward base and apex, the surface scabrous due to the reduced spinules that appear as deciduous reddish-brown crustose scales, particularly abundant toward the apex; mesocarp juicy, fibrous, white, acid; endocarp subglobose to slightly obovoid, ca. 2 cm diameter, with thin, flexuous, appressed, free fibers with juice sacs; fruit perianth prominent, reaching almost 1/2 of the fruit length; calyx 0.8-1 cm long, deeply and irregularly lobed, glabrous and without spines, the margins dark; corolla 1.5-1.8 cm long, regular and shallowly lobed, toward the base with the remains of crustose and pedicellate scales, toward the apex with appressed, flattened, slender, black, 1-2 mm long spinules; inner surface of the corolla with pedicellate, dark scales; staminodial ring absent.

Distribution and habitat. Known only from the type locality, at the center of the Chocó Department, at about 100 m elevation. This area has an annual rainfall close to 10 000 mm (Eslava Ramírez 1994), and has been classified as *bosque pluvial tropical* in Holdridge's life zone system (IGAC 1977).

Common name. Chacará.

Etymology. The epithet *rostrata* alludes to the long beak (rostrum) of the fruits, the longest of any species of *Bactris*.

Comments. *Bactris rostrata* is characterized by its large, strongly rostrate fruits; the rostrum is apparently the largest of any *Bactris* species. The species belongs to the "purple-fruited group" (Henderson 2000) an informal arrangement of 28 species characterized by the lack of a staminodial ring and by the presence of juice sacs attached to the mesocarp fibers. The group includes middle-sized palms over 2 m tall, with stems more than 1 cm diameter, and with branched inflorescences, usually with more than 7 rachillae. Fruits are diverse in texture and color, but they are never red. Within this group, *B. rostrata* has similarities with *B. coloniata* L. H. Bailey, *B. macroacantha* Mart., *B. setiflora* Burret, *B. turbinocarpa* Barb. Rodr., *B. fissifrons* Mart., and *B. corossilla* H. Karst., which also have strongly rostrate fruits. In particular, the first three of these species have the greatest similarities. Table 1 summarizes the differences between *B. rostrata* and these three species.

Due to its general resemblance to *B. coloniata*, it might be thought that *B. rostrata* is a hybrid of that species with any of the several *Bactris* species that grow in the area (*B. barronis* L. H. Bailey, *B. brongniartii* Mart., *B. coloradonis* L. H. Bailey, *B. gasipaes* Kunth, *B. hondurensis* Standl., *B. maraja* Mart., *B. setulosa* H. Karst.). However, there are no traits in the new species that suggest

introgression of any of these species. The only one of them that belongs to the "purple-fruited group" is *B. maraja*, which has small, purplish-black, shortly rostrate fruits, and white spines on the sheath and the petiole.

Geonoma santanderensis Galeano & R. Bernal, sp. nov. (Fig. 3).

Type. COLOMBIA. **Santander:** Suaita, San José de Suaita, ca. 6° 10' N, 73° 27', 1700-1900 m, 30 Jul 2001, G. Galeano, J. Betancur, N. Castaño, L. Clavijo & N. García 6884 (holotype, COL; isotypes, HUA, NY, UIS).

Diagnosis. *Geonomae monospathae* affinis, sed bractea peduncularis prophyllis fere aequilonga, spica longioris atque fructibus ellipsoideis, apice acutis, distincta.

Description. Caespitose, with 2-4 stems 1-1.5 m tall, 0.8-1 cm diameter, light brown, conspicuously ringed. Leaves 6-8; sheath 15-18 cm long, fibrous on the margins, densely covered with reddish-brown to dark brown scales; petiole 16-26 cm long, ca. 3-4 mm wide at the apex, covered with a thin indumentum of deciduous brown scales; blade pinnate, 20-36 x 15-16.5 cm; rachis 18-25 cm long, sparsely covered with thin, dark, deciduous scales; pinnae 3-9 on each side, narrow intermixed with wide, straight to sigmoid, long-acuminate; basal pinnae 8-12 cm long, middle pinnae 8-14 cm long, the apical ones 8-13 cm long; primary veins 22-24 on each side, emerging at 40-55° from the rachis, slightly prominent and glabrous above, prominent, and with brown scales below; only one secondary vein between two primary veins, flattened and inconspicuous above, prominent and with brown scales below. Inflorescence spicate, erect, interfoliar to infrafoliar in fruit, up to 6-8 nodes below the oldest leaf; prophyll 4-8 cm long, 4-6 mm wide, papiraceous, striate, with thin, deciduous indumentum of reddish-brown scales; peduncular bract inserted 4-10

Table 1. Morphological differences between *Bactris rostrata* and the most similar species

Character	<i>Bactris rostrata</i>	<i>Bactris coloniata</i>	<i>Bactris macroacantha</i>	<i>Bactris setiflora</i>
Leaf	simple	pinnate (rarely simple)	pinnate	pinnate
Indumentum on sheath, petiole and rachis	deciduous yellowish-white tomentum	persistent reddish-brown tomentum	persistent reddish-brown tomentum	persistent brown tomentum
Abaxial surface of the leaf	spinulose	glabrous	glabrous	spinulose
Peduncle	with elongate (hair-like) trichomes and spinules	with moniliform trichomes, without spinules	with or without spines	spinulose
Rachillae at anthesis	densely covered with moniliform trichomes	densely covered with moniliform trichomes	densely covered with moniliform trichomes	spinulose
Fruit	ellipsoid to slightly obovoid, to 4 cm long, rostrate in 7-9 mm.	broadly obovoid, to 3 cm long, rostrate in 3-5 mm.	broadly obovoid, to 3.3 cm long, rostrate in 3-5 mm	obovoid, to 3 cm long, rostrate in 2-3 mm
Fruiting perianth	calyx 0.8-1 cm long, deeply lobed, glabrous, without spinules; corolla 1.5-1.8 cm long, shortly lobed, with spinules and scales	calyx 0.2-0.3 (-0.5) cm long, crenulate, glabrous, without spinules; corolla 0.4-0.5 (1.0) cm long, crenulate, spinulose	calyx 0.3-0.4 cm, shortly lobed, setulose; corolla 0.7-0.9 cm long, shortly lobed, spinulose	calyx 0.2-0.4 cm long, irregularly lobed; corolla 0.5-0.8 cm long, lobed, spinulose
Inner surface of the fruiting corolla	with scaly indumentum and spinules like the outer side	glabrous	glabrous	glabrous
Endocarp	subglobose	turbinate	turbinate to oblong	obovoid
Distribution	Chocó, Colombia	Eastern Panama to northwestern Colombia and Ecuador; Peruvian Amazon	Northwestern Amazon region in Colombia, Peru and Brazil	Amazonian slopes of the Andes in Ecuador

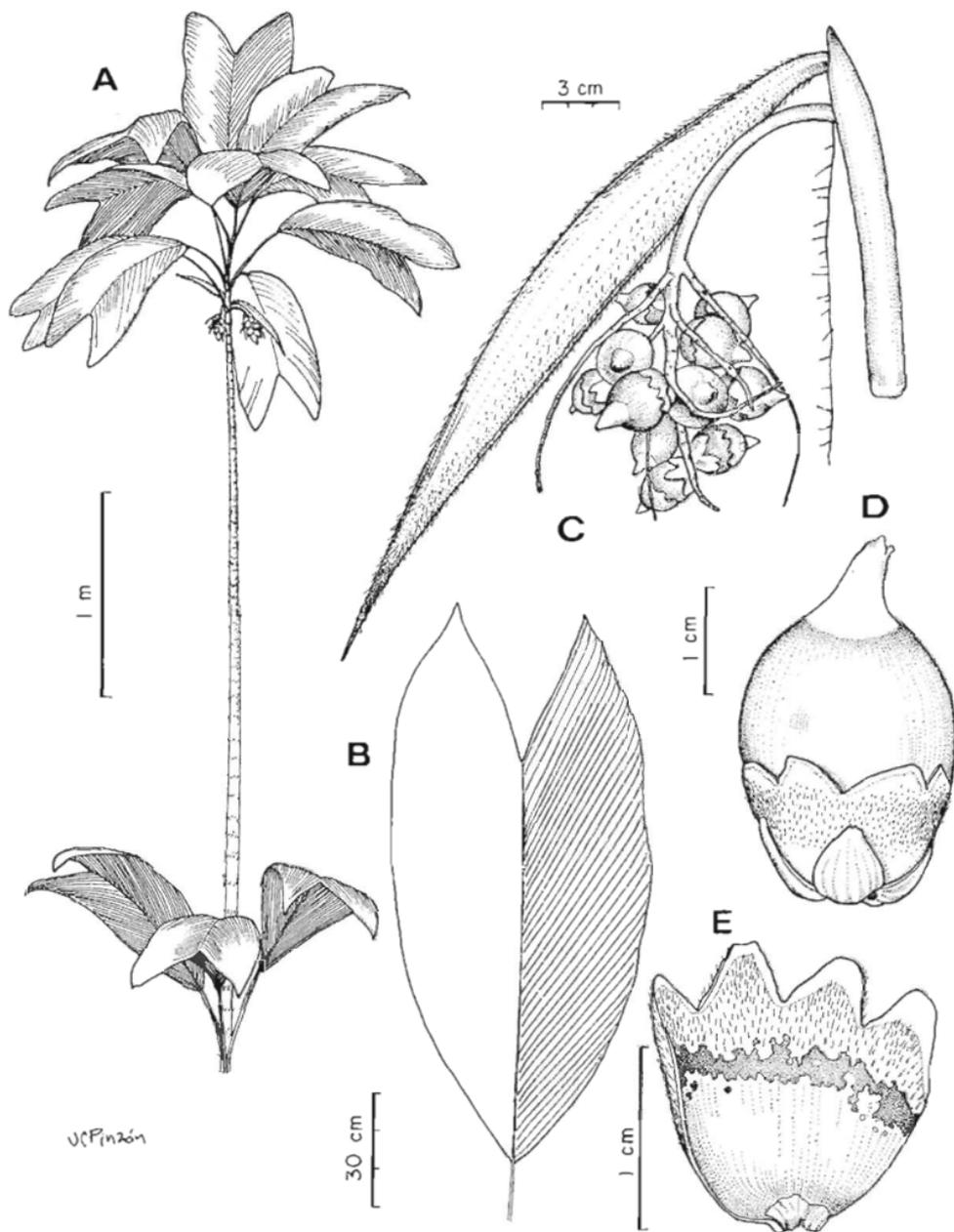


Figure 2. *Bactris rostrata* Galeano & R. Bernal. A. Habit. B. Leaf. C. Inflorescence. D. Fruit. E. Fruiting corolla, inner surface (From Bernal et al. 1103).