

STUDIES IN BROMELIACEAE OF NORTHEASTERN BRAZIL. I.

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ABSTRACT. Five new species of Bromeliaceae from northeastern Brazil are described and illustrated: *Aechmea frassyi* Leme & J.A. Siqueira, *A. gustavoi* J.A. Siqueira & Leme, *A. marginalis* Leme & J.A. Siqueira, *Cryptanthus alagoanus* Leme & J.A. Siqueira, and *Vriesea linharesiae* Leme & J.A. Siqueira.

Key words: Bromeliaceae, *Aechmea*, *Canistrum*, *Cryptanthus*, *Vriesea*, Brazil

INTRODUCTION

Recent studies in remnant patches of Atlantic forest north of the São Francisco River, Northeastern Brazil, have brought to light five new species of Bromeliaceae. The discoveries were made in spite of the long-term and continuous destruction of the Atlantic forest in that region resulting from Brazilwood extraction and later sugar cane monoculture (Coimbra-Filho & Câmara 1996). Considering that this biome has been reduced today to some 2% of the original expanse (Teixeira 1986), discoveries of new taxa, such as those described below, are remarkable.

NEW TAXA

Aechmea frassyi Leme & J.A. Siqueira, sp. nov. TYPE: Brazil. Alagoas: field collected by Artur Frassy s.n., 17 Jan. 2001, between Feliz Deserto and Piaçabuçu, in sandy coastal plain vegetation, flowered in cultivation, Feb. 2001, *E. Leme 5086* (Holotype: HB).
FIGURE 1.

A *Aechmea multiflora* L.B. Sm., cui affinis, foliis dense spinosis, spinis minoribus, inflorescentia ca. 9 cm longa, ca. 7.5 cm lata, bracteis floriferis supernis altitudinem sepalorum distincte brevioribus, roseis, sepalis duplo minoribus, viridibus, dense albo-lepidotis, apice mucronulatis, petalis acuminatis differt.

Plant terrestrial. **Leaves** strongly coriaceous, exceeding the inflorescence, forming a broad crateriform rosette. **Sheaths** narrowly oblong-elliptic, ca. 28 × 10 cm, dark castaneous and densely brown-lepidote on both sides. **Blades**

sublinear, acuminate and ending in a dark castaneous, stout, rigid spine ca. 1 cm long, slightly if at all narrowed toward base, 85 × 8–9 cm, glabrescent adaxially, inconspicuously white-lepidote abaxially, margins densely spinose, spines subtriangular-uncinate, mostly antrorse, brown, 1–2 mm long, 3–8 mm apart. **Scape** erect to suberect, ca. 45 cm long, ca. 2.3 cm in diameter, coarsely white-lepidote, becoming glabrescent with age, greenish-white to castaneous. **Scape bracts** acute and ending in a dark castaneous, stout, rigid spine ca. 1 cm long, coriaceous, erect except for the suberect apex, distinctly exceeding the internodes and almost completely concealing the scape, greenish at apex, dark castaneous toward base, densely and coarsely white-lepidote, nerved, densely spinose with dark castaneous spines ca. 1 mm long, ca. 1 mm apart, the basal bracts subfoliaceous, the others ones subtriangular, ca. 7.5 × 6.5 cm, the upper bracts much reduced, massed below the inflorescence, strongly recurved, slightly resembling the basal floral bracts, ca. 2.5 × 3 cm. **Inflorescence** simple, densely strobilate, globose-ovoid, erect, ca. 9 cm long, ca. 7.5 cm in diameter, apex rounded and bearing an inconspicuous coma of short sterile bracts. **Floral bracts** with a suboblong to obovate, slightly cymbiform, densely spinulose base and a narrowly triangular, acuminate, entire, flat, distinctly recurved apex, enfolding the base of the flowers but completely exposing the calyx, rose and densely white-lepidote toward apex, coriaceous, ecarinate, the basal ones equaling to slightly exceeding the sepals, ca. 30 × 15 mm, the upper ones shorter than the sepals, ca. 25 × 9 mm. **Flowers** ca. 120 in number, ca. 40 mm long, sessile, polystichously and densely arranged,

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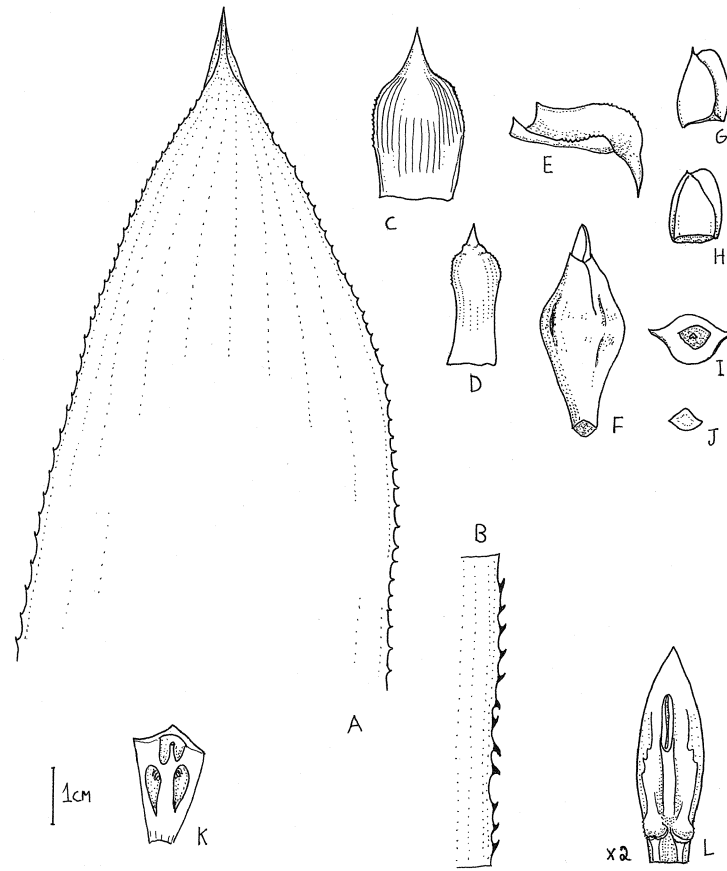


FIGURE 1. *Aechmea frassyi* Leme & J.A. Siqueira. A. Leaf apex. B. Basal leaf margin. C. Basal floral bract. D. Upper floral bract. E. Floral bract, position at anthesis. F. Flower. G. Posterior sepal. H. Anterior sepal. I. Ovary, cross section at apex. J. Ovary, cross section at base. K. Ovary, longitudinal section. L. Petal.

dorsiventrally compressed. **Sepals** suboblong-ovate, subobtuse and mucronulate, asymmetrical with a subrounded lateral wing which equals their mucro, 10–13 mm long including the ca. 1 mm long apical mucro, ca. 9 mm wide, free, green, densely and coarsely white-lepidote, the adaxial pair sharply alate-carinate with keels decurrent on the ovary. **Petals** lanceolate, acuminate, erect at anthesis, ca. 20 × 6 mm, free, green, bearing at base 2 cupulate, obtuse, entire to slightly crenulate appendages ca. 3 mm above the base, connected to 2 conspicuous, lateral callosities dentate at apex. **Stamens** included. **Filaments** complanate and dilated toward apex, the antepetalous ones adnate to the petals for ca. 5 mm, the antesepalous free. **Anthers** linear, base and apex obtuse, ca. 6 mm long, fixed near the middle. **Stigma** unknown. **Ovary** subclavate, ca. 18 mm long, ca. 5 mm wide at base, ca. 15 mm wide at apex, white, densely and coarsely white-

lepidote; ovules not completely known, apparently caudate; epigynous tube ca. 4 mm long.

Aechmea frassyi, referred to subgenus *Chevaliera*, is closely related to *A. multiflora*. The new species may be distinguished, however, by its densely spinose leaves with smaller spines (1–2 mm vs. 5 mm); inflorescence ca. 9 cm long (vs. 15–29 cm) and ca. 7.5 cm wide only (vs. 11–20 cm); upper floral bracts much shorter and distinctly exceeded by sepals, rose colored (vs. reddish-brown); sepals only half as long (10–13 mm vs. 20–25 mm), green (vs. brownish), densely white-lepidote, apex mucronulate; and by the acuminate petals.

This species is named in honor of the bromeliad collector Artur Frassy of Alagoas state. He has discovered new species and has introduced other rare ones into horticulture.

Aechmea gustavoi J.A. Siqueira & Leme, sp. nov. TYPE: Brazil. Pernambuco: field col-

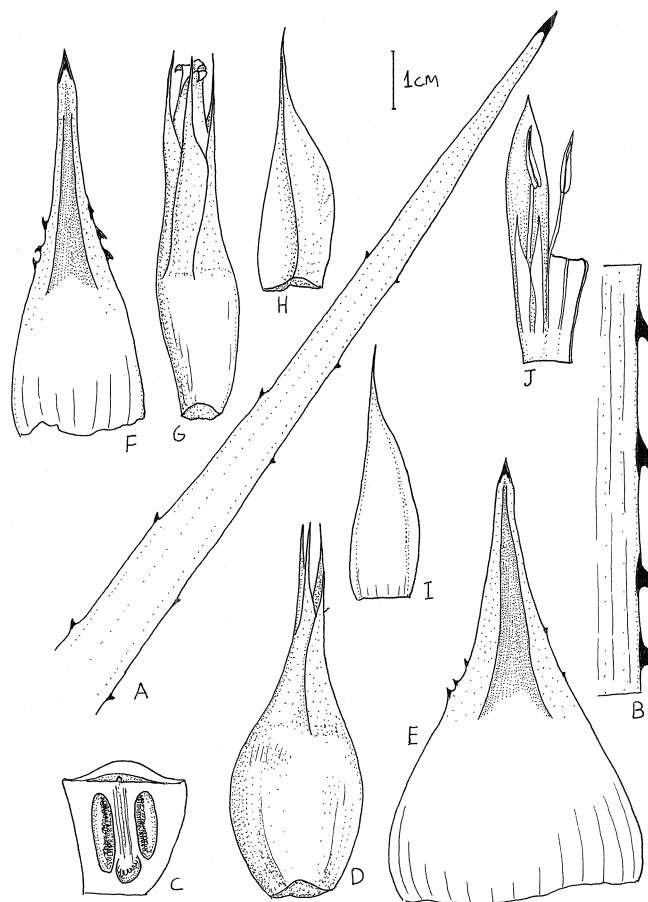


FIGURE 2. *Aechmea gustavoii* J.A. Siqueira & Leme. A. Leaf apex. B. Basal leaf margin. C. Ovary, longitudinal section. D. Outer flower. E. Outer floral bract. F. Inner floral bract. G. Inner flower. H. Posterior sepal. I. Anterior sepal. J. Petal.

lected by J.A. Siqueira Filho 1091, 8 Sep. 2000, Jaqueira, Usina Frei Caneca, Mata do Jasmim (8°4'15"S, 35°50'13"W), in Atlantic forest ca. 650 m above sea level, (in cultivation as: J.A. Siqueira Filho 237), 8 Sep. 2000, E. Leme 4652 (Holotype: UFP; Iso-type: HB).

FIGURE 2.

Inter generis species valde singularis, a speciebibus omnibus laminis foliorum anguste sublinear-attenuatis, laxe spinosis, inflorescentia subumbellata-capitata, apice plano vel fere, inter folia intima nidulans, bracteis floriferis erectis vel fere, manifeste coriaceis, apicem versus centraliter excavatis, floribus 65–67 mm longis, sepalis longe acuminato-caudatis, perdense lepidotis, petalis albis, exappendiculatis, base connatis, altitudinem sepalorum aequantibus, ovulis obtusis, differt.

Plant epiphytic or saxicolous, propagating by basal, axillary shoots. **Leaves** strongly coriaceous, rosulate, subspreading-arcuate at anthesis, forming a broad crateriform rosette. **Sheaths**

elliptic, 24–30 × 9–10 cm, dark castaneous and densely brown-lepidote on both sides. **Blades** narrowly sublinear-attenuate, acuminate and ending in a dark castaneous, stout, rigid spine ca. 1 cm long, not narrowed toward base, 65–195 cm long, 4–5 cm wide at base, glabrescent adaxially, subdensely pale-lepidote abaxially with trichomes along midnerves, green, the central ones becoming reddish-rose at anthesis only, margins laxly spinose, spines subtriangular-uncinate, nearly black, the basal spines strongly retrorse, 3–5 mm long, ca. 4 mm wide at base, the upper spines strongly antrorse, 1–1.5 mm long, 7.5–8 cm apart. **Scape** inconspicuous, 4–5 cm long, 4–6 cm in diameter. **Scape bracts** the basal ones subfoliaceous, densely and coarsely brown-lepidote and dark castaneous toward base, inconspicuously pale-lepidote and green toward apex, suberect, distinctly exceeding the inflorescence, completely concealing the scape, densely

spinose near the base, spines 3–5 mm long, dark brown, laxly spinose toward apex, spines 1–1.5 mm long, the upper scape bracts much reduced and resembling the outer floral bracts. **Inflorescence** simple, subumbellate, capitate, ca. 7.5 cm long, 8–13 cm in diameter, apex nearly flat, centrally bearing an inconspicuous coma of narrow sterile bracts. **Floral bracts** erect or nearly so, strongly coriaceous, acuminate and ending in a rigid spine, dark castaneous toward base, paler at apex, densely and coarsely lepidote with brown-centered trichomes, adaxially strongly canaliculate and abaxially obtusely carinate toward apex, slightly exceeding the flowers, irregularly spinose at middle, spines dark-brown, antrorse or retrorse, 2–3 mm long, entire toward base and apex, the outer bracts triangular, ca. 8 × 4.5 cm, the inner ones narrowly triangular, 7 × 2–2.5 cm. **Flowers** numerous, 65–67 mm long, sessile, erect, densely arranged, odorless. **Sepals** narrowly elliptic-ovate, long acuminate-caudate, asymmetrical, 45–47 × 12–14 mm, free, densely and coarsely lepidote with brown-centered trichomes, strongly coriaceous at base, membranaceous near the apex, the posterior ones alate-carinate with keels decurrent on the ovary, the anterior one ecarinate. **Petals** lanceolate, acuminate, erect at anthesis except for the strongly recurved apex, about equaling the sepals, 47 × 7–7.5 mm, weakly connate at base for 17–18 mm, white, without appendages but bearing at the base 2 conspicuous, thick, lateral callosities 25–26 mm long. **Stamens** included. **Filaments** equally adnate to petals tube and free above it. **Anthers** linear, base sagittate, apex acuminate, ca. 11 mm long, fixed near the base. **Pollen** sulcate, 26–30 μm long. **Stigma** conduplicate-spiral, cylindrical, ca. 4 mm long, white, blades densely long-lacerate. **Ovary** subclavate, 18–20 mm long, 7–12 mm wide at base, 14–22 mm wide at apex, slightly to distinctly complanate, alate-carinate mainly near the apex, white, glabrous toward base; ovules cylindraceous, obtuse; epigynous tube inconspicuous. **Fruits** castaneous.

Aechmea gustavoi has no apparent affinity to any other species in its genus. It is referred to *Aechmea* subgenus *Chevaliera*, despite the fact that the inflorescence conformation shows some affinities to *Neoregelia* subgenus *Protoregelia*, but without its typical membranaceous floral structures. The unique characters of *A. gustavoi* are defined by its narrowly sublinear-attenuate, sparsely spinose leaf blades; nidular, subumbellate-capitate inflorescence, with apex flat or nearly so, and floral bracts erect or nearly so, strongly coriaceous, excavate between the margins. Additionally, this new species has flowers 65–67 mm long; sepals long-acuminate-caudate

and densely lepidote; the petals white, without any appendages, connate at base, and about equaling the sepals; and the ovules are obtuse.

This species was found in a rare patch of well-preserved montane forest in the state of Pernambuco, in an area belonging to the Usina Frei Caneca S/A. The area, characterized as an endemism center of Atlantic forest (Siqueira 2001), supports an outstanding bromeliad flora, as well as a rich vertebrate fauna, being one of the most representative in the state. Unfortunately, the only densely forested areas left in the region are the hilltops at 600–750 m elevation, where *Aechmea gustavoi* was discovered at higher elevations in the Mata do Jasmim (Serra do Quengo), as one part of the Serra do Urubu is called. *Aechmea gustavoi* grows in tufts on the uppermost branches of trees 30–40 m in height, just below the upper canopy, or sometimes on rocky outcrops where it forms dense clumps in shady areas.

Aechmea gustavoi flowers during the rainy season, in June and July, when pollinators find nectar resources scarce in the area. During field studies at the type locality, the new species was visited by *Glaucis hirsuta* (Phaethornitinae), a hermit hummingbird, which has a bill length equal to the long tubular flowers.

This new species is named in honor of Gustavo J.P.S. Barros, the owner of Usina Frei Caneca S/A and an active enthusiast in the preservation of local remaining areas of Atlantic forest.

Aechmea marginalis Leme & J.A. Siqueira, sp. nov. TYPE: Brazil. Alagoas: Ibataguara, in Atlantic forest, Feb. 2001, *J.S. de Medeiros Jr.* & *Artur Frassy s.n.* (Holotype: HB).

FIGURE 3.

A Aechmea mollis L.B. Sm., cui affinis, laminis foliorum integris, inflorescentia distincte supra vaginam foliorum emergens, bracteis primariis anguste ovatis, sepalis subliberis differt.

Plant terrestrial. **Leaves** suberect-arcuate, thin in texture, forming a narrow funnellform rosette. **Sheaths** elliptic, ca. 8.5 × 4.7 cm, sparsely brown-lepidote, pale-colored, finely nerved. **Blades** narrowly sublinear-lanceolate, distinctly narrowed toward base, ca. 38 × 3 cm, glabrescent, green, entire, acute and shortly apiculate. **Scape** ca. 17 cm long, 0.8 cm in diameter, distinctly exceeding the leaf-sheaths, greenish, subdensely whitish-lanate. **Scape bracts** the basal ones subfoliaceous, the upper ones sublinear, acute and minutely apiculate, ca. 7 × 2.4 cm, entire, thin in texture, greenish, finely nerved, sparsely and minutely brown-lepidote, distinctly exceeding the internodes, erect. **Inflorescence** densely corymbose, tripinnate, obconic-capitate,

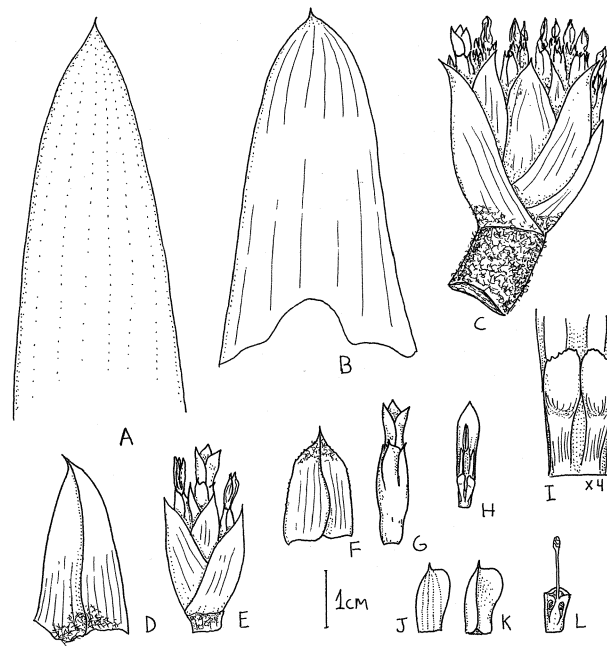


FIGURE 3. *Aechmea marginalis* Leme & J.A. Siqueira. A. Leaf apex. B. Basal primary bract. C. Basal fascicle. D. Secondary bracts. E. Secondary fascicle. F. Floral bract. G. Flower. H. Petal. I. Petal appendages. J. Anterior sepal. K. Posterior sepal. L. Ovary, longitudinal section.

apex subrounded, partially involucrate, distinctly elevated above the leaf-rosette, ca. 6 cm long, ca. 6 cm in diameter at apex. **Primary bracts** narrowly ovate, broadly acute and minutely apiculate, thin in texture, finely nerved, greenish toward apex, pale castaneous at base, entire, suberect, $45\text{--}55 \times 25$ mm, about equaling the fascicles and not completely hiding them, pale brown-lanate near the base, sparsely and inconspicuously white-lepidote toward apex, adnate at base to the peduncle of the fascicles for ca. 10 mm. **Fascicles** ca. 8, pulvinate, distinctly pedunculate, the outer ones $50 \times 20\text{--}25$ mm, ca. 15-flowered, bearing ca. 5 short, secondary branchlets. **Floral bracts** oblong-ovate, apex subacute and spinose-mucronate, navicular, minutely spinulose, $20\text{--}22 \times 10\text{--}12$ mm including the ca. 3 mm long terminal spine, thin in texture, distinctly carinate, about equaling the sepals, sparsely pale-lanate to glabrescent, castaneous toward base. **Flowers** 25–27 mm long, sessile. **Sepals** suboblong, apex obtuse and mucronate, distinctly asymmetrical with a semicircular, membranaceous, rounded wing, subfree, $13 \times 5\text{--}6$ mm, including the ca. 1.5 mm long terminal spine, pale lanate on the keels to glabrescent, mainly the posterior ones alate-carinate with keels decurrent on the ovary. **Petals** narrowly sublinear-lanceolate, apex acuminate, ca. 18×3 mm, weakly connate at base for ca. 3 mm, suberect

toward apex at anthesis, yellow toward apex, bearing at base 2 subobtusate and minutely denticulate, obovate-bladed, $5\text{--}6 \times 1.2$ mm appendages, as well as 2 well developed callosities nearly equaling the filaments. **Filaments** complanate and dilated toward apex, the antepetalous ones adnate to the petals for ca. 8 mm, the antesealous ones adnate to the petal tube only. **Anthers** ca. 4 mm long, base obtuse, apex apiculate, dorsifixed near the middle. **Stigma** conduplicate-spiral, slenderly ellipsoid, yellow, margins lacerate. **Ovary** ca. 7 mm long, ca. 4 mm in diameter, subtrigonous; epigynous tube ca. 1 mm long; placentation apical; ovules apiculate. **Fruits** unknown.

This new species belongs to the so-called "southern Bahia complex" of *Aechmea*, made up of *A. echinata* (Leme) Leme, *A. weberi* (E. Pereira & Leme) Leme, *A. paradoxa* (Leme) Leme, and *A. mollis* L. B. Sm. (Leme 1997), forming an important conceptual bridge between *Aechmea* and *Canistrum* subgen. *Canistrum*, which explains the chosen name *A. marginalis*. The conceptual limits of *Aechmea s.l.*, however, are tenuous and not natural or only slightly so. Thus there is a great need for further studies.

Aechmea marginalis is closely related to *A. mollis* but differs from it by its leaf blades entire (vs. subdensely spinulose), inflorescence distinctly elevated above leaf rosette, primary

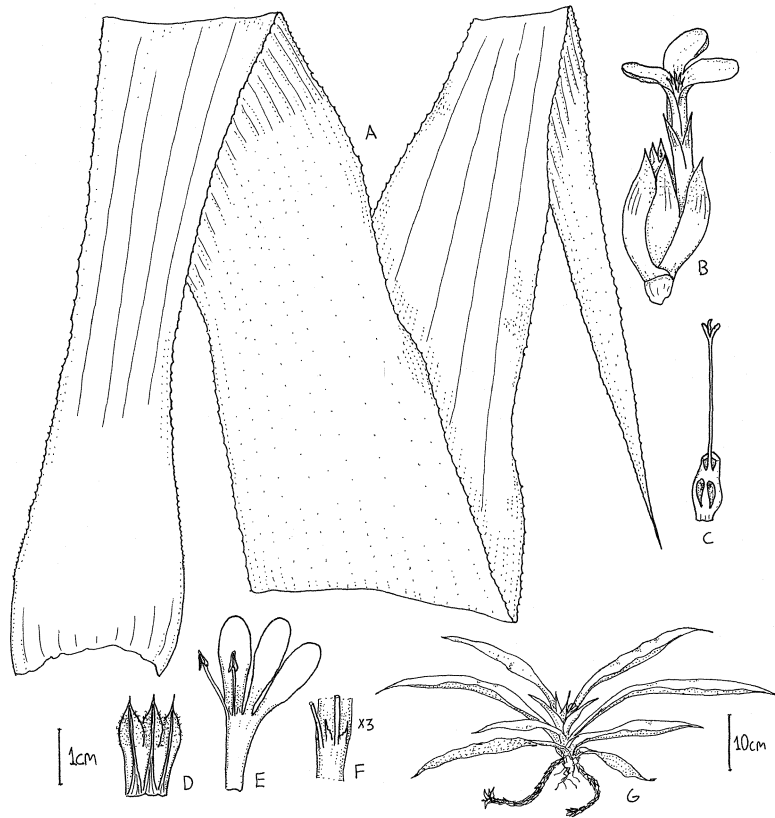


FIGURE 4. *Cryptanthus alagoanus* Leme & J.A. Siqueira. A. Leaf. B. Outer fascicle. C. Ovary, longitudinal section. D. Sepals. E. Petals. F. Petal callosities. G. Habit.

bracts narrowly ovate (vs. suborbicular), and sepals nearly free (vs. 3 mm connate).

The known geographic range of the species complex mentioned above was restricted to the Atlantic forest southern Bahia, with a recently reported disjunction to Peru, represented by *A. vasquezii* H. Luther (Luther 2000). The discovery of this new species has pushed the limit further north in Brazil, leaving a gap in the north region of Bahia, above Salvador city, and in the state of Sergipe. This gap apparently reflects the catastrophic destruction that has beset the Atlantic forest in the region.

Cryptanthus alagoanus Leme & J.A. Siqueira, sp. nov. TYPE: Brazil. Alagoas: field collected by Artur Frassy *s n*, 17 Jan. 2001, Paripuera, in coastal Atlantic forest, flowered in cultivation, Feb. 2001, E. Leme 5085 (Holotype: HB). FIGURE 4.

Species nova a *Cryptanthus pseudopetirolatus* Philcox, cui proxima, sed planta longe stolonifera, stolonibus gracilibus, 15–20 mm longis, 0.3–0.4 diam., laminis foliorum centraliter haud succulentis, bracteis floriferis acuminatis et integris, sepalis lobis longioribus,

integris, acuminatis-caudatis, petalis callis binis inconspicuis ornatis; a *C. pickelii* L.B. Sm., cui affinis, sed planta longe stolonifera, stolonibus gracilibus, 15–20 mm longis, 0.3–0.4 diam., foliis per anthesim subpatentibus arcuatis, laminis latioribus, centraliter haud succulentis, sepalis lobis longioribus latioribusque dif-

Plant terrestrial, shortly caulescent, ca. 10 cm high, propagating slender basal stolons 15–20 cm long, 0.3–0.4 cm in diameter. **Leaves** ca. 12, subspreading-arcuate at anthesis, forming an open, oval rosette. **Leaf sheaths** oblong-ovate, ca. 3.5 × 3 cm, abaxially pale purplish-red toward apex, densely and coarsely white-lepidote, distinctly nerved, adaxially greenish and glabrous, margins coarsely and densely lepidote, densely spinulose at apex. **Blades** lanceolate, apex acuminate-caudate, 35–43 × 3.2–4.2 cm, distinctly narrowed toward base but not petiolate, thinly coriaceous, pliable, without any thicker central zone, green and nearly flat toward apex, purplish-red and strongly canaliculate near the base, densely white-lepidote and nerved abaxially, glabrous adaxially, margins slightly if

at all undulate, densely spinulose, spines ca. 0.3 mm long, 1–3 mm apart. **Inflorescence** few-flowered, ca. 5 cm long, ca. 2 cm in diameter, sessile. **Primary bracts** foliaceous. **Fascicles** ca. 6, the basal ones ca. 35 mm long (excluding the petals), ca. 15 mm wide, ca. 4-flowered. **Floral Bracts** greenish, coarsely and densely white-lepidote toward apex, white-hyaline and membranaceous toward base, slightly exceeding the ovary, margins entire or nearly so, bearing fimbriate trichomes at apex, the ones of the fascicles ovate-lanceolate, acute, strongly carinate, 20–22 × 9 mm. **Flowers** ca. 45 mm long (with extended petals), sessile, the basal ones hermaphrodite, the upper ones staminate. **Sepals** ca. 18 mm long, connate for ca. 9 mm, greenish toward apex, hyaline toward base and margins, lobes ovate, acuminate-caudate, ca. 9 × 5 mm, symmetric, obtusely carinate, coarsely and densely white-lepidote, entire, apical margins bearing fimbriate trichomes. **Petals** narrowly subspatulate, apex rounded, 31–32 × 5–6 mm, white, exceeding the stamens but suberect to spreading at anthesis and exposing them, connate for ca. 14 mm, bearing 2 inconspicuous callosities at the base of the free blades. **Filaments** ca. 22 mm long, subequally adnate to the petals tube. **Anththers** 3–4 mm long, fixed at 1/3 of its length above the base, base distinctly sagittate, apex obtuse. **Stigma** simple-erect, white, the styler lobes suberect, ca. 3 mm long, margins crenulate-glandulose. **Ovary** (exclude ca. 10 × 5 mm), trigonous, whitish, glabrous, ca. 10 × 5 mm in hermaphrodite flowers; epigynous tube ca. 2.5 mm long; placentation apical; ovules few, obtuse. **Fruits** unknown.

This new species is closely related to *Cryptanthus pseudopetirolatus*, differing by its long, slender stolons (vs. propagating by basal shoots), 15–20 mm long, 0.3–0.4 in diameter; leaf blades without any central succulent zone; floral bracts acuminate and entire (vs. acute and spinulose); sepals with longer lobes (9 mm vs. 5–7 mm), entire (vs. spinulose), acuminate-caudate (vs. acute); and by the petals bearing inconspicuous callosities. This new species also is somewhat related to *C. pickelii*, but may be distinguished by its long, slender stolons (vs. propagating by basal shoots), 15–20 mm long, 0.3–0.4 in diameter; leaves subspreading-arcuate at anthesis (vs. suberect), with leaf blades broader (3.2–4.2 cm vs. 2.5 cm), and without any central succulent zone; sepals lobes longer and broader (9 × 5 mm vs. 7 × 3.5 mm).

Cryptanthus alagoanus belongs to the problematic complex of species headed by *C. maritimus*. The species listed in the key below occur in lowland forest along the Atlantic coast from the state of Espírito Santo to Pernambuco. They

can be recognized even before anthesis by leaves longer than 30 cm, suberect to nearly erect (before anthesis), forming lax rosettes. Their leaf blades are usually distinctly narrowed toward base, but not petiolate, with margins slightly undulate to nearly straight. In the revision of the genus, Ramírez (1996) in some specific aspects provided an artificial treatment for the involved species. For instance, she did not make any distinction between stoloniferous species and non-stoloniferous ones, nor did she highlight major features, such as absence or presence of spines on leaf margin, which encouraged us to propose a provisional identification key for the group.

KEY TO THE *CRYPTANTHUS MARITIMUS* SPECIES COMPLEX

- 1a. Leaf blades 15–30 mm wide.
 - 2a. Leaf blades entire except for the apical spinulose 1/4 . . . *C. ruthae* Philcox (Bahia State)
 - 2b. Leaf blades spinulose throughout.
 - 3a. Sepals ca. 12 mm long, lobes ca. 5 × 4 mm, broadly ovate to suborbicular, acute and apiculate, glabrous . . . *C. maritimus* L.B. Sm. (Espírito Santo State)
 - 3b. Sepals ca. 16 mm long, lobes ca. 7 × 3.5, ovate, acuminate-caudate, subdensely and coarsely pale-brown lepidote *C. pickelii* L.B. Sm. (Pernambuco State)
- 1b. Leaf blades 35–60 mm wide.
 - 4a. Inflorescence with central-apical flowers concealed in part by primary bracts.
 - 5a. Plant propagating by long slender stolons; sepal lobes acuminate-caudate *C. alagoanus* Leme & J. A. Siqueira (Alagoas State)
 - 5b. Plant propagating by short axillary offsets; sepal lobes acute and apiculate.
 - 6a. Leaf blades glabrescent adaxially; sepal lobes spinulose *C. pseudopetirolatus* Philcox (Bahia State)
 - 6b. Leaf blades densely white-lepidote adaxially; sepal lobes entire or nearly so . . . *C. vexatus* Leme (Bahia State)
 - 4b. Inflorescence centrally forming a protruded subglobose head of many flowers.
 - 7a. Sepal lobes broadly ovate to suborbicular, shortly acuminate; petals connate for ca. 11 mm, bearing conspicuous callosities *C. capitatus* Leme (Espírito Santo State)
 - 7b. Sepal lobes ovate, acuminate-caudate; petals connate for 4–6 mm, bearing inconspicuous callosities . . . *C. sp. unpubl.* (Bahia State; Leme, in prep.)

Vriesea linharesiae Leme & J.A. Siqueira, sp. nov. TYPE: Brazil. Bahia: field collected by S. Linhares s.n., Mar. 1999, Santa Terezinha, Pedra Branca, flowered in cultivation,

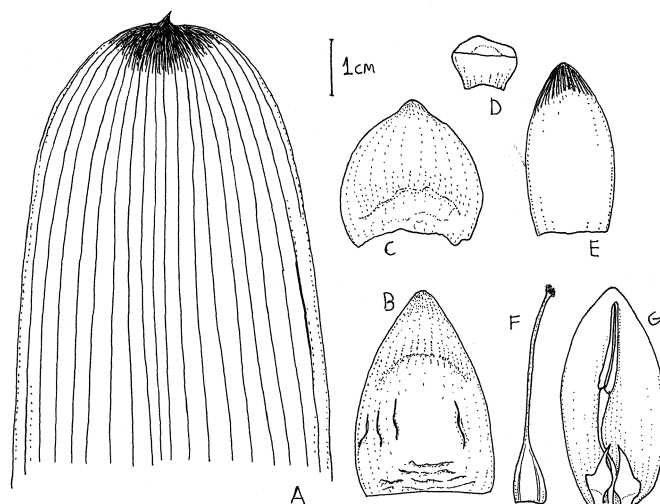


FIGURE 5. *Vriesea linharesiae* Leme & J.A. Siqueira. A. Leaf apex. B. Basal floral bract. C. Upper floral bract. D. Pedicel, cross section. E. Sepal. F. Pistil. G. Petal.

Nov. 1999, J.C. da Silva s.n. (Holotype: HB). FIGURE 5.

Species novae *Vriesea platynema* var. *variegata* (Guillon) Reitz, cui proxima, sed laminis foliorum apice rotundatis vel obtusis (haud late acutis), bracteis floriferis et sepalis manifeste viscosis, basin versus viridibus, prope apicem stramineis, ligulis petalorum cyathiformibus, laminis subtriangularibus longe acuminatis, antheris longioribus, ca. 16 mm longis (haud 9–12 mm longis) differt.

Plant epiphytic, lacking rhizomes, flowering ca. 100 cm high. **Leaves** ca. 25 in number, suberect, densely rosulate, forming a funnellform rosette. **Sheaths** ovate-elliptic, 8–9 × 9 cm, densely and minutely brown-lepidote on both sides, castaneous, subcoriaceous. **Blades** sublinear, not narrowed at base, apex rounded to obtuse and minutely apiculate, 25–28 × 5–6 cm, greenish toward base, whitish-green toward apex with purplish-red, conspicuous longitudinal lines, bearing a dark purplish-red apical spot, obscurely white-lepidote abaxially, glabrescent adaxially, thin in texture. **Scape** erect, stout, ca. 55 cm long, ca. 0.8 cm in diameter, glabrous. **Scape bracts** the basal ones subfoliaceous, the upper ones ovate, rounded to acute and minutely apiculate, erect, imbricate, exceeding the internodes, ca. 4 × 2.5 cm. **Inflorescence** simple, erect, sublinear in outline at anthesis, ca. 20 × 5 cm (excluding the petals), subdensely flowered at anthesis. **Rachis** stout, 5–8 mm in diameter, sulcate, slightly flexuous, angulose, glabrous, internodes 5–15 mm long. **Floral bracts** broadly ovate to suborbicular, narrowly obtuse, 25 (apical)–37 (basal) × 25 mm, glabrous, not lustrous, convex, ecarinate, bearing decurrent auricles at

base, not imbricate at anthesis, equaling 4/5 of sepal length, greenish toward base, stramineous at apex, subcoriaceous, covered by a strongly glutinous, aromatic material. **Flowers** ca. 25 in number, 45–50 mm long (including the petals), nocturnal, distichous, divergent, subdensely arranged, suberect at anthesis. **Pedicels** stout, obconic, ca. 6 mm long, ca. 12 mm in diameter at apex. **Sepals** oblong-elliptic to oblong-ovate, obtuse, 27–30 × 15–16 mm, green except for the stramineous apex, glabrescent, covered by a glutinous material. **Petals** ovate-elliptic, apex narrowly obtuse and inconspicuously emarginate, ca. 40 × 20 mm, free, yellow, suberect at anthesis and forming a campanulate corolla, bearing at base 2 subtriangular, long acuminate appendages, 10–11 × 4–5 mm. **Stamens** nearly equaling the petals at anthesis. **Filaments** free or nearly so, subcomplanate, inconspicuously dilated toward apex, ca. 2 mm in diameter. **Anthers** ca. 16 mm long, dorsifixed near the base, base sagittate, apex narrowly obtuse. **Stigma** convolute-bladed, ca. 2 mm in diameter.

The general appearance of this new species resembles *Vriesea platynema* var. *variegata* by its leaves whitish-green toward apex and ornamented by purplish-red conspicuous longitudinal lines, simple inflorescence, and nocturnal flowers. *Vriesea linharesiae*, however, can be distinguished from it by leaf blades with rounded to obtuse apex (vs. broadly acute); floral bracts and sepals covered by a strongly glutinous, aromatic material, green toward base (vs. yellow) and stramineous at apex (vs. yellow); petals bearing slightly cupular, subtriangular, long acuminate appendages at base (vs. ovate, acuminate to bi-

dentate appendages); as well as by distinctly longer anthers, ca. 16 mm long (vs. 9–12 mm long).

Vriesea linharesiae was found growing as an epiphyte in the Atlantic forest of Bahia State, about 800 m above sea level, while its closest relative is restricted to the Atlantic forest of Southern Brazil, in the states of Paraná, Santa Catarina, and Rio Grande do Sul.

This new species is named in honor of bromeliad collector Sandra Linhares. She has contributed a great deal of botanical material for cultivation, which is slowly revealing many new taxa of Brazilian Bromeliaceae.

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