

MISCELLANEOUS NEW SPECIES OF BRAZILIAN BROMELIACEAE—II

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ABSTRACT. Five new species of Brazilian Bromeliaceae are described: *Dyckia tenebrosa* Leme and H. Luther, *Aechmea canaliculata* Leme and H. Luther, *Aechmea incompta* Leme and H. Luther, *Aechmea lingulatooides* Leme and H. Luther, and *Orthophytum lucidum* Leme and H. Luther. Miscellaneous New Species of Brazilian Bromeliaceae I appeared in Selbyana 16(1): 110–122. 1995.

Subfam. Pitcairnioideae Harms

Dyckia tenebrosa Leme and H. Luther, sp. nov.

FIGURE 1

A *D. machrisiana* L.B.Sm., cui affinis, plantis triplo minoribus, laminis foliorum supra glabris, inflorescentia distincte albosublanata, lepidibus manifeste fimbriatis, pauciflora, bracteis floriferis longioribus, pedicellis brevioribus, petalis per anthesim subpatentibus differt; a *D. oligantha* L. B. Sm., cui proxima, foliis apice acuminato-caudatis, marginibus spinis acicularibus, distincte retrorsis longioribusque, bracteis floriferis longioribus, floribus suberectis usque ad patentibus (haud reflexis), pedicellis brevioribus, petalis apicem versus vinosis (haud aurantiaco-flavidis), stilo inconspicuo differt; a *D. hilaireana* Mez, cui affinis, plante minore, inflorescentia distincte albosublanata, lepidibus manifeste fimbriatis, pauciflora, petalis apicem versus vinosis, stilo inconspicuo differt.

TYPE: BRAZIL. Minas Gerais: road from Tombador to Andrequicé, Serra de Andrequicé, ca. 1,300 m alt., 30 Jan. 1995, *E. Leme* 2895, *P. Nahoum*, *H. Luther*, *W. Till* and *D. Benzing*. (Holotype: HB).

PLANT a terrestrial, flowering 30–40 cm high; LEAVES rosulate, rigid, thick, spreading-recurved, very narrowly triangular, involute and attenuate toward apex, the apex acuminate-caudate, nearly subulate; ca. 14 cm long, ca. 1.5 cm wide at base, green to reddish, densely white-lepidote abaxially, glabrous adaxially, nerved mainly abaxially, laxly uncinat-spinose, spines 1.5–2 mm long, ca. 1 mm wide at base, acicular, retrorse; SCAPE erect, 20–30 cm long, ca. 2–2.5 mm in diameter, subdensely white-floccose, scales fimbriate, yellowish-green; SCAPE BRACTS the basal ones subfoliaceous, the upper ones with a broadly ovate base and abruptly

contracted in a linear-triangular blade, long-acuminate, remotely denticulate-crenulate, 10–20 × 7 mm, nerved, green toward base and reddish toward apex, white-floccose to glabrescent, erect, distinctly carinate, several times shorter than the internodes, those near the apex resembling the floral bracts. INFLORESCENCE lateral, erect, simple, ca. 9 cm long, lax, white-sublanate at anthesis with exception of the petals, rachis slender, 2–2.5 mm diameter, flexuous; FLORAL BRACTS broadly ovate-triangular, nerved, subcarinate, the basal ones ca. 10 × 8 mm, apex acuminate-caudate, remotely denticulate near the apex, white-sublanate, suberect, slightly shorter than the sepals, the upper ones ca. 6–8 × 5–6 mm, shortly acuminate, entire, distinctly shorter than the sepals but exceeding the pedicels. FLOWERS four to nine in number, laxly arranged, ca. 16 mm long, suberect to spreading at anthesis, pedicel stout, 2–3 mm long, ca. 2 mm in diameter; SEPALS symmetrical, ovate, apex narrowly obtuse, ecarinate, 7–8 × 5 mm, reddish-green, densely white-sublanate, margins with fimbriate trichomes, entire; PETALS symmetric, broadly spatulate, narrowly obtuse, base very narrow, connate for ca. 2 mm in a common tube with the filaments, ca. 12 × 9 mm, ecarinate, glabrous, subspreading at anthesis, reddish-brown to wine-colored toward the apex, orange near the base; STAMENS included; filaments complanate, forming a common tube with the petals for ca. 2 mm and free above, ca. 6 × 2 mm, pale orange; ANTHERS very narrowly triangular, ca. 2.5 mm long, strongly recurved, base sagittate, apex acuminate, fixed near the base; STYLE 2–4 mm long, slightly surpassed by the anthers, yellow; STIGMA conduplicate-spiral, blades elliptic, ca. 1 mm long, wine colored; OVARY narrowly sub-

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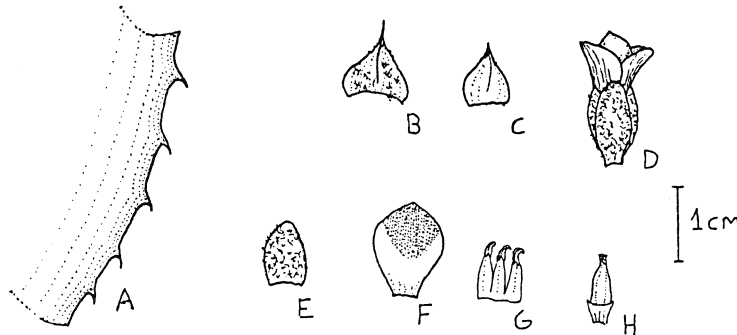


FIGURE 1. *Dyckia tenebrosa*. A, basal section of the leaf. B, basal floral bract. C, upper floral bract. D, flower. E, sepal. F, petal. G, 3 of 6 stamens. H, style and pedicel.

pyramidate, ca. 5 mm long, green; OVULES semicircular, exapendiculate, complanate.

PARATYPE: BRAZIL. Minas Gerais: near Diamantina, ca. 1,000 m alt., 27 Jan. 1995, *H. Luther et al. s. n.*, fl. cult. Feb. 1995 in SEL 95-203 (SEL).

Material examined for comparison:

Dyckia machrisiana L. B. Sm.

Goiás: Alto Paraíso, *E. Esteves E-410*, fl. cult. Aug. 1996, *E. Leme 2706* (HB); *E. Esteves s. n.*, fl. cult. May–June 1996, *E. Leme 3291* (HB).

Dyckia oligantha L. B. Sm.

Minas Gerais: Diamantina, Guinda, ca. 1,300 m alt., 14 Nov. 1971, *G. Hatschbach 27951* & *P. Pelanda* (MBM); Guinda to Cons. Mata, 17 Feb. 1973, *G. Hatschbach 31702* & *Z. Ahumada* (MBM).

D. hilaireana Mez

Minas Gerais: without exact locality, *Saint Hilaire 924* (photo HB); Inimutaba, near Córrego Garote, Br 253, 23 Feb. 1975, *G. Hatschbach 36403 et al.* (MBM); Serra do Cipó-Alto Palácio, km 133–135, 23 Nov. 1991, *E. Leme 1832*, *P. Nahoum* & *L. C. Marigo* (HB).

Dyckia tenebrosa is closely related to *D. machrisiana* L. B. Sm., differing from it by growing to only $\frac{1}{3}$ the size, leaf-blades glabrous adaxially, inflorescence few-flowered, distinctly white-sublanate, trichomes distinctly fimbriate, floral bracts longer, pedicels shorter, petals subspreading at anthesis. This new species also resembles *D. oligantha* L. B. Sm. and *D. hilaireana* Mez, but can be distinguished from the former by the leaves with long acuminate-caudate apex, margins with longer, acicular, retrorse spines, floral bracts longer, flowers suberect to

spreading (not reflexed), pedicels shorter, petals wine colored toward apex (not yellowish-orange), style very short; from the latter, *D. tenebrosa* differs by its smaller size, inflorescence few-flowered, distinctly white-sublanate, trichomes long-fimbriate, petals wine colored toward apex, and by style very short.

The specific name refers to the dark color of the petal blades.

Subfam. Bromelioideae Reichenbach

Aechmea canaliculata Leme and H. Luther, sp. nov. FIGURE 2.

Inter generis species valde singularis, a speciebus omnibus laminis foliorum angustis, basin versus manifeste canaliculatis, marginibus integris, inflorescentia simplex, dense subcylindrico-capitata, glabra, floribus flavidis, sepalis perasymmetricis, distincte mucronulatis, basi 2–3 mm connatis, petalis nudis, ovulis apiculatis, tubo epigyno 3–4 mm longo differt.

TYPE: BRAZIL. Bahia: Wenceslau Guimarães, ca. 3 km W of Nova Esperança, W edge of Reserva Estadual Wenceslau Guimarães, 500–600 m alt., moist Atlantic Forest on steep slope, 14 May 1992, *W. W. Thomas, A. Carvalho, T. S. dos Santos, A. Amorim, S. Sant'Ana* and *J. G. Jardim 9296* (Holotype: CEPEC. Isotype: NY).

PLANT a terrestrial. LEAVES ca. 10 in number, thin in texture, forming a narrowly funnellform to ellipsoid rosette; SHEATHS 11–12 × 3–3.5 cm, narrowly elliptic, very densely brown-lepidote both sides with trichomes slightly fused and forming a membrane; BLADES sublinear, 30–45 × 2 cm, distinctly narrowed and strongly canaliculate toward the base, pale green (*W. W. Thomas et al. 9296*), densely white-lepidote mainly abaxially, finely nerved, entire, the apex acuminate-caudate; SCAPE ca. 25 cm long, ca. 0.5 cm in diameter,

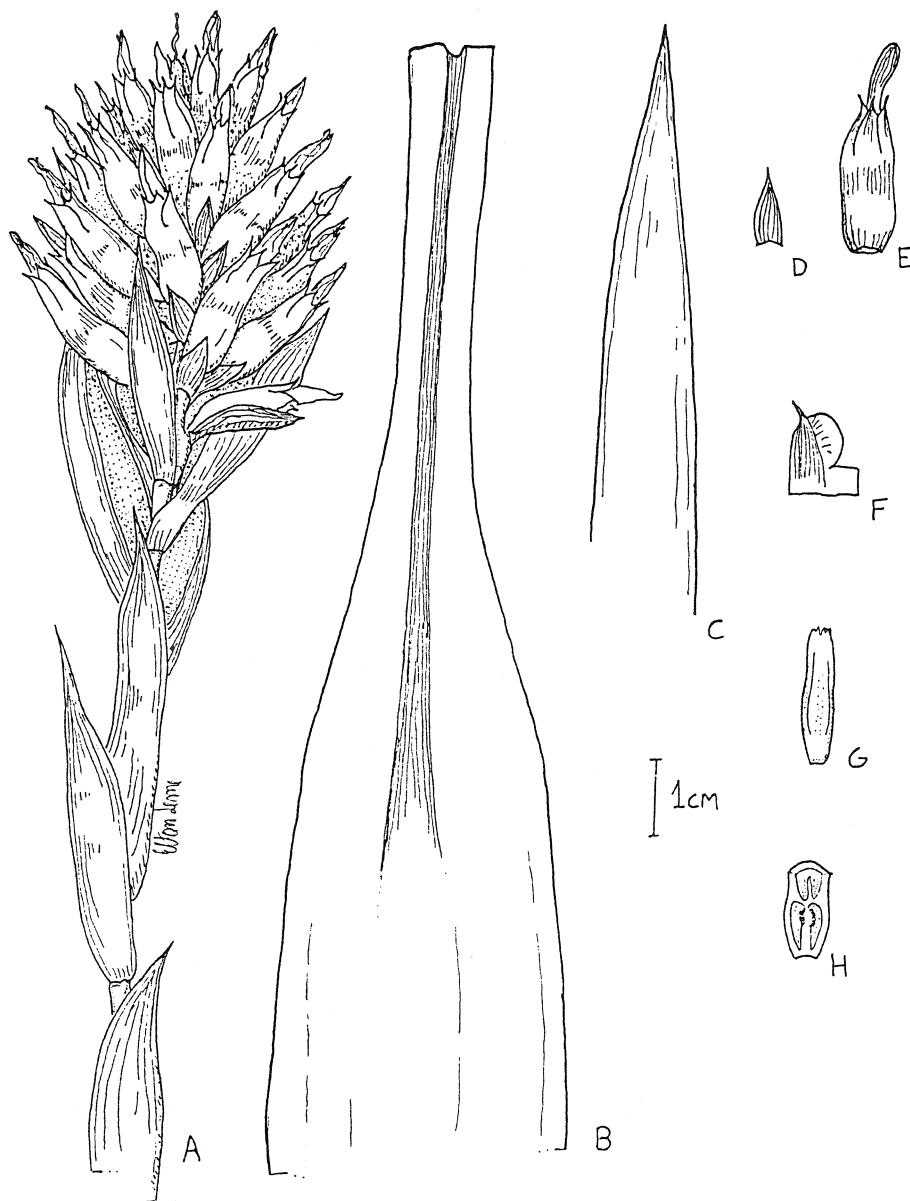


FIGURE 2. *Aechmea canaliculata*. A, inflorescence. B, basal section of the leaf. C, leaf-apex D, floral bract. E, flower. F, sepal. G, petal (apex unknown). H, longitudinal section of ovary.

erect, glabrous; SCAPE BRACTS sublinear-lanceolate, apex acuminate-caudate, 40–60 × 10–15 mm, membranaceous, entire, glabrescent, equally distributed along the scape, erect, exceeding the internodes. INFLORESCENCE simple, subcylindric-capitate, densely flowered, 50 × 35 mm, distinctly shorter than the leaves; RACHIS straight, glabrous; FLORAL BRACTS ovate-lanceolate, acuminate-caudate, 8–20 × 4–6 mm, entire, mem-

branaceous, nerved, inconspicuously lepidote, the basal ones nearly equaling the sepals, the upper ones shorter than the ovary. FLOWERS ca. 30 in number, ca. 28 mm long, sessile, suberect, densely and polystichously arranged, yellow (W. W. Thomas *et al.* 9296, a reference probably related to the color of the ovary and sepals, but not including petals); SEPALS strongly asymmetrical, connate at base for 2–3 mm, 12 mm long includ-

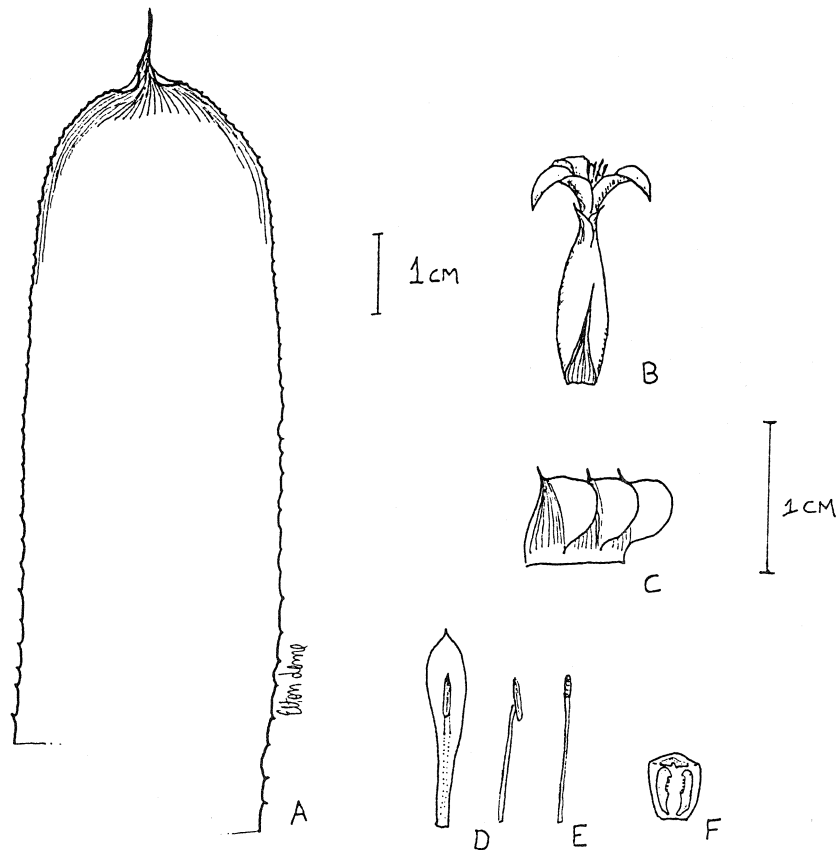


FIGURE 3. *Aechmea incompta*. A, leaf-apex. B, floral bract and flower. C, sepals; D, petal and antesepalous filament. E, style. F, longitudinal section of the ovary. B to F all $\times 2$.

ing the 2–2.5 mm long apical spine, 5–7 mm wide, ecarinate, glabrous, the lateral wing membranaceous and with a round apex; PETALS known only from fragments, sublinear, the apex unknown, at least $20 \times 3\text{--}4$ mm, free, bearing two well-developed longitudinal callosities, appendages not detected in the fragments; FILAMENTS the epipetalous ones highly adnate to the petals, the antisepalous free; ANTHERS unknown; STIGMA apparently ellipsoid, conduplicate-spiral; OVARY terete, $8\text{--}11 \times 6$ mm, glabrous; placentation apical; OVULES apiculate; EPIGYNOUS TUBE crateriform, 3–4 mm long.

Aechmea canaliculata does not present any close relationship with the already known species in the genus, unless it is with the complex of species containing *A. lingulata*, *bicolor*, *amorimii*, etc. that has a center of diversity in Bahia. It is very unusual mainly due to its narrow leaf-blades which are strongly canaliculate toward the base, bearing entire margins, the inflorescence is simple, glabrous, and densely subcylindric-capitate, the flowers are yellow according

to its collectors, the sepals are very asymmetrical, distinctly mucronulate, and connate at base for 2–3 mm. Finally, it has naked petals, apiculate ovules, and epigynous tube 3–4 mm long.

In some aspects—mainly leaves and inflorescence structures—this new species resembles *Ronnbergia brasiliensis* E. Pereira and Penna. This indicates the broad and rather unnatural concept of *Aechmea*, and the serious difficulties concerning circumscriptions of the related genera as well. Compared to *R. brasiliensis*, differences are related to denser-lepidote and entire leaves, denser-flowered inflorescence, longer flowers, sepals with longer apical mucro, longer petals, and apiculate ovules.

The specific name, *Aechmea canaliculata* refers to the conspicuously channeled base of the leaf blade.

Aechmea incompta Leme and H. Luther, sp. nov. FIGURE 3.

A *A. amorimii* Leme, cui affinis, plantis minoribus, laminae foliorum angustioribus, basin versus dense spi-

nulosis, inflorescentia laxe paniculata, bipinnata, floribus subduplo minoribus, filamentis epipetalis petala alte adnatis, antheris haud subsessilibus differt.

TYPE: BRAZIL. Bahia: Porto Seguro, *A. Seidel 1025*, fl. cult. May 1994, *E. Leme 904*. (Holotype: HB. Isotype: SEL).

PLANT probably epiphytic, flowering ca. 50 cm high. LEAVES coriaceous, forming a funnel-form rosette; SHEATHS elliptic, 7–10 × 6 cm, densely pale-lepidote, slightly wine-colored adaxially; BLADES sublinear, slightly if narrowed at base, canaliculate, 25–35 × 3–3.5 cm, densely serrulate, spines brown 0.5–1.5 mm long, densely but inconspicuously white-lepidote adaxially, very densely white-lepidote or sometimes white crossbanded abaxially, apex soon drying, inner leaves with subacute to rounded long-cuspidate abruptly recurved apex, the outer older leaves with acuminate apex; SCAPE suberect, ca. 35 cm long, ca. 0.5 cm in diameter, white-lanate becoming glabrous, green; SCAPE BRACTS narrowly linear-lanceolate, apex acuminate, stramineous, finely nerved, white-lepidote, spinulose, erect, equaling or slightly exceeding the internodes. INFLORESCENCE laxly paniculate, bipinnate, ca. 13 cm long; PRIMARY BRACTS resembling the upper scape bracts but smaller, distinctly shorter than the branches, spreading, the basal 2.5–3 cm long, ca. 0.5 cm wide, inconspicuously spinulose at base to entire; BRANCHES ca. 3 in number, cylindrical, laxly arranged, 4–5 cm long, 2–3 cm in diameter, peduncle ca. 8 mm long, spreading to slightly reflexed, densely flowered, the terminal ca. 9 cm long, rachis straight, pale-lepidote, green, 2.5–3 mm in diameter; FLORAL BRACTS narrowly triangular, acuminate-caudate, 6–13 mm long, 3–4 mm wide at base, entire, equaling to slightly exceeding the ovary, stramineous, finely nerved. FLOWERS ca. 16 mm long, sessile, densely and polystichously arranged; SEPALs strongly asymmetrical, ca. 6 × 4 mm, connate at base for ca. 1 mm, distinctly mucronate, mucro ca. 1.5 mm long, sparsely white-lepidote, green with exception of the stramineous apex; PETALS narrowly subspathulate, apex acuminate, ca. 13 × 2.5 mm, subspreading to slightly reflexed at anthesis, free, naked, white; FILAMENTS the epipetalous highly adnate to the petals, the antesealous free; ANTHERS ca. 3 mm long, base obtuse, apex apiculate, fixed near the middle; STIGMA conduplicate spiral, cylindrical, lobes inconspicuously crenulate; OVARY terete, ca. 4 mm long, ca. 3 mm in diameter, sparsely white-lepidote, green;

placentation apical; OVULES few, obtuse; EPIGYNOUS TUBE inconspicuous.

This new *Aechmea* species is somewhat related to *A. amorimii* Leme, but can be distinguished from it by its smaller size, leaf-blades narrower with basal margins densely spinulose, inflorescence laxly paniculate and bipinnate, flowers about ½ the size, epipetalous filaments highly adnate to the petals, and by the anthers which are fixed near the middle, not subsessile.

This species was introduced into North American horticulture many years ago by Robert Wilson of Fantastic Gardens in Miami, Florida. As it rarely flowers in cultivation, its identity was never definitely determined. It may be found in cultivation labelled as *A. "Tingua"* or misidentified as *A. lingulata*.

The specific name refers to the rather inconspicuous nature of this species.

Aechmea lingulatoides Leme and H. Luther, sp. nov. FIGURE 4.

A. A. lingulata (Linnaeus) Baker, cui affinis, planta longe stolonifera, foliis barbata spinosis, ramis conferte floridis, floribus plus numerosis, odoratis, petalis solum callosis differt.

TYPE: BRAZIL. Bahia: without exact locality, from caatinga vegetation; originally collected by *Roberto Burle Marx s. n.*; fl. cult. Sept. 1994, *E. Leme*. (Holotype: HB. Isotype: SEL).

PLANT terrestrial, saxicolous or rarely epiphytic, flowering 100–120 cm high, propagating by basal, stout, suberect stolons ca. 20 cm long. LEAVES coriaceous, forming a broad funnel-form rosette; SHEATHS oblong-elliptic, 17 × 10 cm, densely brown-lepidote, dark castaneous toward the base; BLADES linear, not narrowed at base, 40–50 × 6–7 cm, subdensely to laxly spinulose, spines mostly retrorse, dark brown, ca. 2 mm long, inconspicuously white-lepidote adaxially, densely white-lepidote abaxially, yellowish-green, apex acuminate to a stout dark rigid spine ca. 1.5 cm long; SCAPE suberect, 30–40 cm long, ca. 0.7 cm in diameter, sparsely white-lanate becoming glabrous, green; SCAPE BRACTS narrowly linear-lanceolate, apex acuminate, 8–10 × 1 cm, stramineous, sparsely white-lepidote, entire, erect, equaling or slightly exceeding the internodes, exposing most of the scape. INFLORESCENCE laxly paniculate, bipinnate, 40–50 cm long; PRIMARY BRACTS resembling the upper scape bracts but gradually smaller, distinctly shorter than the branches, spreading, entire; BRANCHES 11–14 in number, laxly arranged, cylindrical, suberect, with 30 to 100 flowers, 2–2.5 cm in diameter; the basal ones 13–18 cm long, the upper ones 5–10 cm

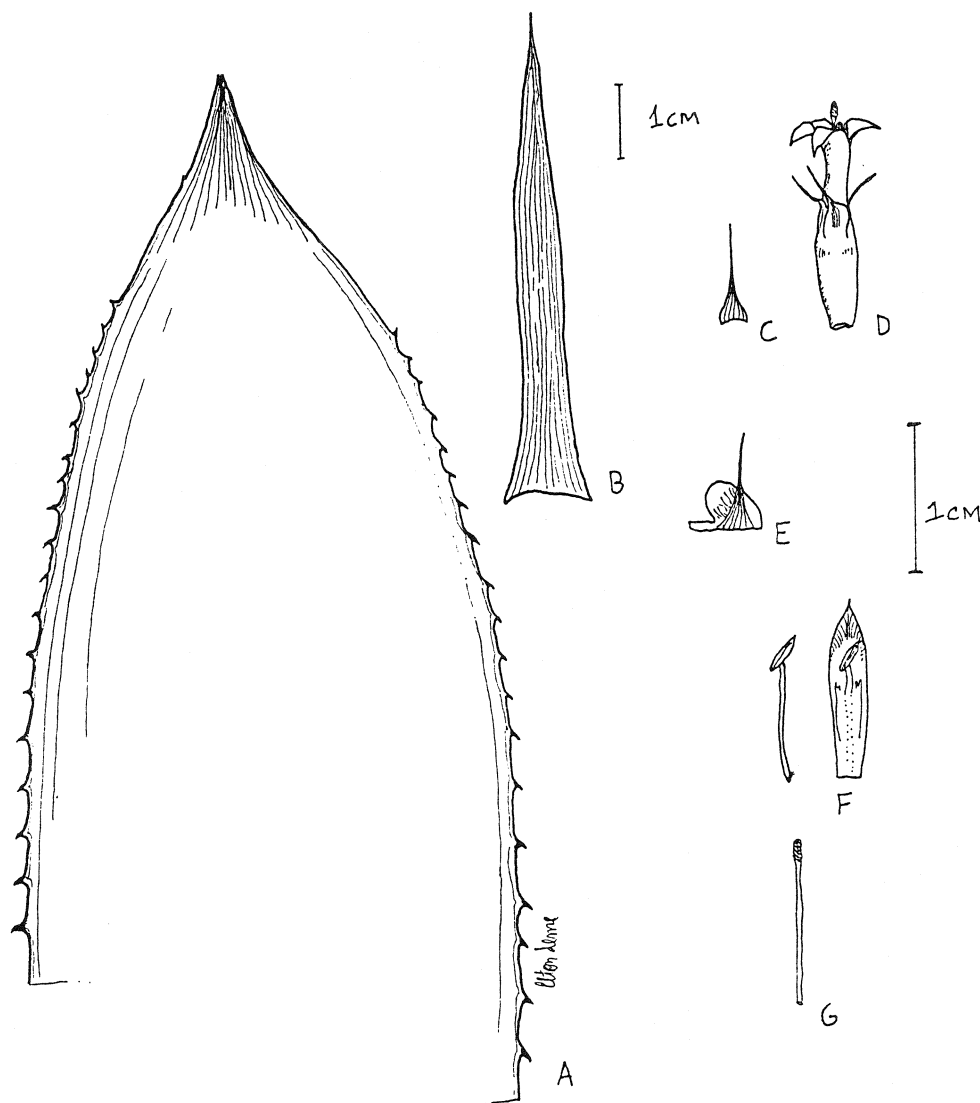


FIGURE 4. *Aechmea lingulatoides*. A, leaf-apex. B, primary bract. C, floral bract. D, flower. E, sepal. F, stamen and petal. G, style.

long, peduncle 1–2.5 cm long, naked or bearing two sterile bracts, densely flowered, the terminal 13–15 cm long, rachis straight, glabrous, light green, 2–3 mm in diameter; FLORAL BRACTS 4–6 mm long, with a triangular base of 1–1.5 mm in width and ending in a 3–5 mm acicular yellowish apex, entire, about equaling the ovary, stramineous, finely nerved. FLOWERS ca. 14 mm long, sessile, dense and polystichously arranged, spreading, fragrant; SEPALS strongly asymmetrical, 5 mm long including the 2–3 mm apical suberect acicular spine, ca. 3.5 mm wide, subfree, glabrous, pale yellowish-green; PET-

ALS narrowly subspathulate, apex acuminate, 11 × 2.5 mm, subspreading at anthesis, free, naked but with 2 well developed longitudinal callosities, white; FILAMENTS the epipetalous highly adnate to the petals, the antisepalous free; ANTHERS ca. 2mm long, base obtuse, apex conspicuously apiculate, fixed near 1/3 about its base; STIGMA conduplicate-spiral, cylindric, lobes inconspicuously crenulate, 1.5 mm long, green; OVARY terete, ca. 5mm long, ca. 2 mm in diameter, glabrous, light green; placentation apical; OVULES obtuse; EPIGYNOUS TUBE inconspicuous; FRUITS blue when mature.

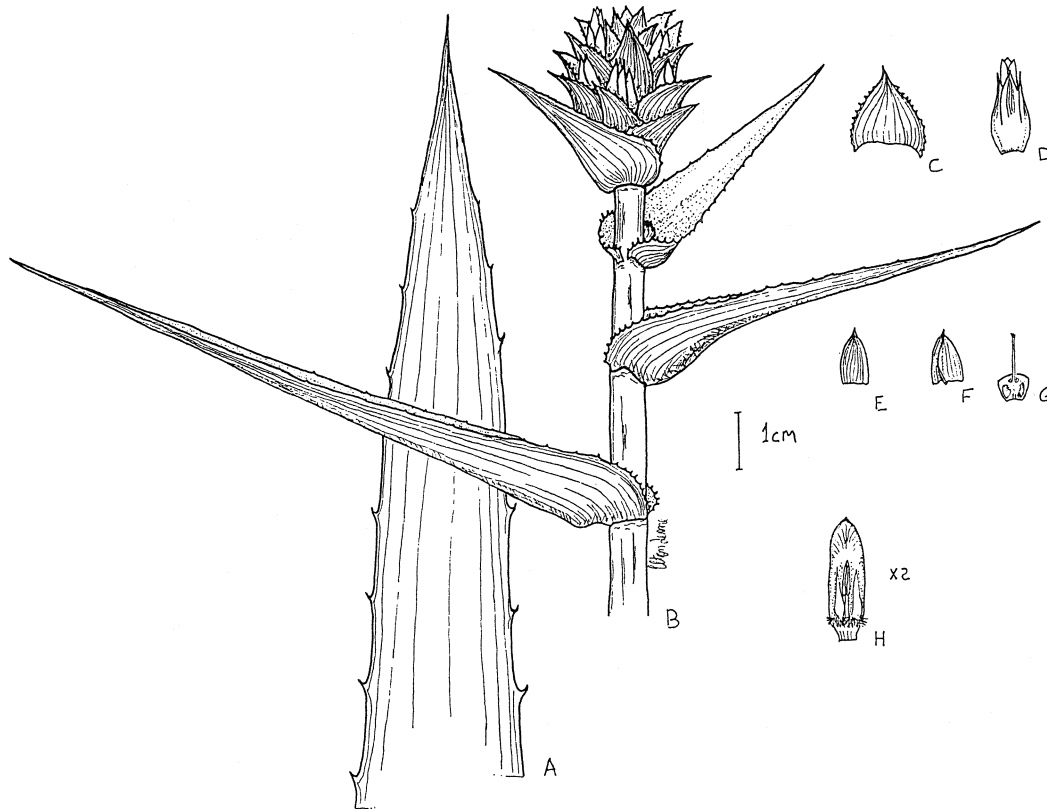


FIGURE 5. *Orthophytum lucidum*. A, leaf-apex. B, inflorescence. C, floral bract. D, flower. E, anterior sepal. F, posterior sepal. G, longitudinal section of ovary and style. H, petal.

PARATYPE: BRAZIL. Bahia: Jacobina, Serra do Tombador, road Jacobina to Morro do Chapéu, ca. 24 km from the Jacobina city, 28 Oct. 1995, A. Amorim, A. Carvalho, S. Sant'Ana, J. Jardim and G. Pitanga 1816 (CEPEC, NY);

The name of this new species indicates its very close resemblance to *A. lingulata*, and justifies its frequent misidentification as that widespread and variable species. A good example is the photo provided by Leme and Marigo (1993) on page 116 of *A. lingulatooides* (as *A. lingulata*), taken in the region of Milagres, Bahia, which can be compared with the illustration on page 35 of a typical *A. lingulata*.

Aechmea lingulatooides is a common species in the dry, shrubby caatinga vegetation of Bahia, or sometimes grows in grasslands on rocky soils found in the same state, often living exposed to intense sunlight when its leaves turn beautifully golden-yellow. It differs from *A. lingulata* by its propagation by means of long stout stolons,

stiffer leaf blades, the longer spines on the leaf-margins, the branches more densely flowered and with a higher number of slightly smaller flowers, and by the naked petals. This new species appears to be quite variable in size as indicated by the large specimen collected by A. Amorim *et al.* 1816, at least when compared to plants that flowered in cultivation.

Orthophytum lucidum Leme and H. Luther, sp. nov. FIGURE 5.

A. O. glabrum (Mez) Mez, cui affinis, planta haud stolonifera, foliis suberectis, laminis foliorum longioribus, spinis minoribus (1–2 mm longis) subacicularibus, inflorescentia pseudosimplex, fasciculis axillaribus abortivis, bracteis scapalibus superis et bracteis primariis suberectis, haud recurvatis, bracteis floriferis altitudinem sepalorum aequantibus vel brevioribus, petalis basi ligulis binis conferte fimbriatis differt.

TYPE: BRAZIL. Minas Gerais: Br. 367, Road Itaobim to Jequitinhonha, ca. 300 m alt., 2 Dec. 1996, E. Leme 3659, H. Luther, D. Benzing and

P. Nahoum fl. cult. Dec. 1997. Holotype: HB. Isotype: SEL.

PLANT rupicolous, caulescent, propagating by short basal shoots or sometimes by vegetative proliferations of the branches of the inflorescence, flowering ca. 45 cm high. LEAVES suberect, straight but slightly ascending toward apex, subcoriaceous, laxly arranged; SHEATH inconspicuous; BLADES sublinear, acuminate, apex rigid, 35–45 × 3.5–4.5 cm, very slightly narrowed near the base, canaliculate, yellow-green, green or reddish, lustrous, glabrous, abaxially distinctly nerved, margins straight, subdensely to laxly spinose, spines 1–2 mm long, subacicular. SCAPE erect, 6–10 mm diameter, glabrous, lustrous; SCAPE BRACTS foliaceous becoming smaller toward the apex, distinctly exceeding the internodes, the upper ones (primary bracts) very narrowly triangular-lanceolate, long acuminate, stiff, straight, suberect, distinctly canaliculate, 4–14 × 1.5–2 cm, glabrous, lustrous, nervate, densely spinulose toward the base, spines 0.5–1 mm long. INFLORESCENCE densely digitate, pseudosimple, basal fascicles mostly aborted, the terminal fascicles shortly and densely capitate-strobilate, ca. 18-flowered, the terminal single fascicle ca. 25 × 20 mm; FLORAL BRACTS broadly triangular, acute, stiff, densely spinulose, spines pale brown, 0.5–1 mm long, ecarinate or the upper ones slightly carinate, glabrous, lustrous, distinctly nervate, green, coriaceous, suberect to recurved toward the apex, ca. 14 × 12 mm, shorter than to equaling the sepals. FLOWERS sessile, ca. 17 mm long, suberect; SEPALS narrow-

ly ovate, acute mucronulate, 10 × 4–5 mm, free, entire, glabrous, lustrous, distinctly nervate, green, the posterior ones alate-carinate toward the base with keels decurrent on the ovary; PETALS sublinear, broadly acute, ca. 11 × 3 mm, free, green, erect or nearly so at anthesis, bearing at ca. 2 mm above the base two reflexed, densely fimbriate appendages, as well as two well-developed longitudinal callosities which equal the length of the anthers; FILAMENTS ca. 5 mm long, the epipetalous ones adnate to the petals for ca. 3 mm, the antesealous ones free; ANTHERS ca. 3 mm long, dorsifixed near the middle, base obtuse, apex apiculate; OVARY ca. 4 mm long, subtrigonal, green, alate-carinate; EPIGYNOUS TUBE inconspicuous, ca. 0.5 mm long; placentation apical; OVULES stipitate, obtuse; STIGMA simple-erect but slightly spiral, green, ca. 0.5 mm diameter, blades erect, suborbiculate, margins very minute crenulate.

This new species is closely related to *Ortho-phytum glabrum* (Mez) Mez, differing from it by propagating by short basal shoots (not stoloniferous), leaves suberect with longer blades and smaller subacicular spines on the margins, inflorescence densely digitate with axillary fascicles mostly aborted, upper scape bracts and primary bracts suberect, not recurved, floral bracts equaling to shorter than the sepals, and by the petals bearing at the base densely fimbriate appendages.

The specific name refers to the bright, lustrous quality of the leaves and bracts.

LITERATURE CITED

- LEME E.M.C. AND L.C. MARIGO. 1993. Bromeliads in the Brazilian wilderness. Marigo Com. Visual Ltda. Rio de Janeiro, Brasil.