

MISCELLANEOUS NEW TAXA OF BROMELIACEAE (XV)

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ABSTRACT. Six new taxa of Bromeliaceae are described: *Pitcairnia kroemeri* from Bolivia; *Guzmania formosa* and *Guzmania laeta* from Colombia; *Guzmania manzanaresiorum* from Ecuador; and *Aechmea vasquezii* and *Pepinia minicorallina* from Peru. Miscellaneous new taxa of Bromeliaceae (XIV) appeared in Selbyana 20(1): 10–15. 1999.

Key words: Bromeliaceae, *Aechmea*, *Guzmania*, *Pepinia*, *Pitcairnia*, Bolivia, Colombia, Ecuador, Peru

BOLIVIA

Pitcairnia kroemeri H. Luther, sp. nov. TYPE: Bolivia. Dept. Beni: Prov. Gral. Ballivián, road from Quiquibey to Yucomo, 15°16'S, 67°04'W, 860 m, 3 Oct. 1999, T. Krömer, A. Acebey & R. Gradstein 898 (Holotype: LPB; Isotype: SEL). FIGURE 1.

A *Pitcairnia cardenasii* L.B. Sm., cui similis, pedicellis, sepalis et petalis longioribus differt.

Plant a terrestrial or lithophyte, pseudobulbous, probably stemless and clustering, flowering to 65 cm tall. **Leaves** dimorphic; some reduced to dark spinose-serrate spines; others probably seasonally deciduous, linear or very narrowly lanceolate, 60–90 cm long. **Leaf sheaths** broadly ovate, very thin-coriaceous, entire, nerved, castaneous, densely and coarsely brown-lepidote. **Leaf blades** very narrowly lanceolate to nearly linear, retrorse-serrate toward the base, 5–10 mm wide toward the middle, thin, nerved, appressed-lepidote, green, paler abaxially. **Scapae** erect, 30 cm × 4–5 mm, sparsely white-floccose. **Scapae bracts** erect, imbricate; the lowest subfoliaceous; the upper elliptic, attenuate; all entire and exceeding the internodes, green. **Inflorescence** simple, racemose, 20–25 × 5–10 cm, 20–30-flowered. **Floral bracts** narrowly elliptic, acute to attenuate, entire, 6–20 mm long, all shorter than the pedicels, thin, nerved, densely pale-floccose toward the apex, elsewhere nearly glabrous. **Flowers** with a very slender 10–25 mm long pedicel, glabrous, polystichous to slightly secund-spreading. **Sepals** subtriangular, straight, acute to attenuate, 20–27 mm long, carinate at the base, nerved, yellow. **Corolla** erect, slightly zygomorphic. **Petals** narrowly elliptic to oblanceolate, rounded, 50–63 mm long, each with a single triangular basal appendage, yellow. **Ovary** ca. ½ superior. **Ovules** bicaudate. **Fruit** and seeds not known.

This species differs from *Pitcairnia cardenasii* from the Dept. of Santa Cruz, Bolivia by hav-

ing longer pedicels (10–25 mm vs. 6–8 mm long), longer sepals (20–27 mm vs. 18 mm long) and longer petals (50–63 mm vs. 45 mm long). In addition the flowers are orange-red in *P. cardenasii*, yellow in *P. kroemeri*. From the poorly known *P. platystemon* Mez, the new species differs by having straight (vs. uncinately recurved) sepals and longer (50–63 mm vs. 34 mm long) petals.

COLOMBIA

Guzmania formosa H. Luther, sp. nov. TYPE: Colombia. Antioquia: Municipio Urrao, Corregimiento de Pabón, 06°11'N, 76°09'W, 2200 m, forest of *Quercus*, 31 Oct. 1987, J. Betancur & A. Brant 520 (Holotype: HUA; Isotypes: COL, JAUM, MO, NY, QCA, TULV, US). FIGURE 2.

A *Guzmania xanthobracteata* Gilmartin, cui affinis, ramis brevioribus et bracteis florigeris angustioribus acutisque differt.

Plant a clustering epiphyte, flowering to ca. 1 m tall. **Leaves** densely rosulate, laxly spreading, 60–80 cm long, thin-coriaceous. **Leaf sheaths** elliptic, 14–15 × 5–7 cm, somewhat castaneous, appressed dark punctate-lepidote. **Leaf blades** ligulate, acute to attenuate, 2–3 cm wide, red-striate toward the base, appressed brown-lepidote especially abaxially. **Scapae** erect, ca. 70 cm × 5 mm. **Scapae bracts** erect, imbricate, the lowest foliaceous, the upper narrowly elliptic, appressed brown-lepidote, green. **Inflorescence** bipinnate with 10–12 branches, ca. 23 × 15 cm. **Primary bracts** narrowly elliptic, attenuate, 35–65 mm long, exceeded by the branches, thin-coriaceous, orange-yellow. **Branches** with a 2–5 mm long naked peduncle, spreading at ca. 90° from the main axis, 50–75 mm long, polystichously 6–12-flowered. **Floral bracts** narrowly elliptic, acute to attenuate, 40 × 10–15 mm, subchartaceous, nerved, glabrous, exceeding and clasping the sepals, orange-yellow. **Flowers** sub-

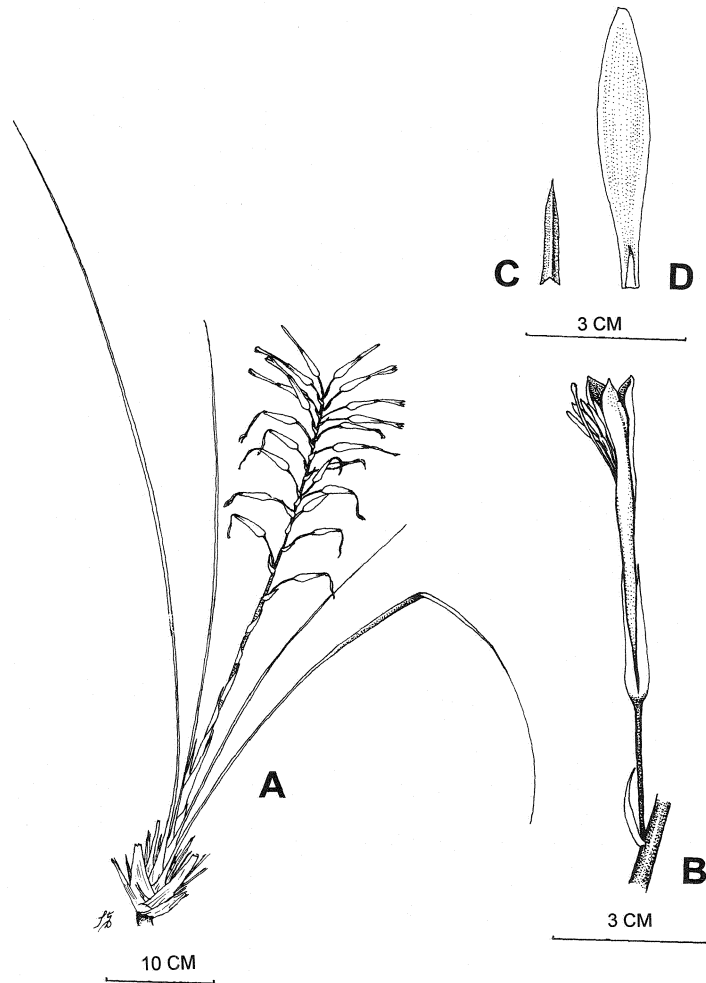


FIGURE 1. *Pitcairnia kroemeri*: A. Habit. B. Flower and Bract. C. Sepal. D. Petal.

sessile, spreading at ca. 30° from the axis at anthesis. **Sepals** elliptic, acute, 22 mm long, 2–4 mm connate, thin, nerved, glabrous, yellow. **Corolla** spreading at the apex. **Petals** ligulate, obtuse, ca. 55 mm long, ca. 2/3 connate, yellow-green. **Fruit** and seeds not known.

This beautiful species differs from *Guzmania xanthobracteata* by having the lateral branches much shorter (50–75 mm vs. 100–150 mm long) and the floral bracts narrower (10–15 mm vs. 15–18 mm wide) and acute (vs. obovate and apiculate).

Guzmania laeta H. Luther, sp. nov. TYPE: Colombia. Antioquia: Municipio Frontino, Corregimiento La Blanquita, 06°45.12'N, 76°11.88'W, 1250–1750 m, 11 July 1988, J. Betancur, R. Callejas, A.L. Arbeláez & I.

Castaño 574 (Holotype: HUA; Isotypes: COL, MO, NY, US).

FIGURE 3.

A *Guzmania delicatula* L.B. Sm., cui affinis, bracteis florigeris et sepalis majoribus et pedicellis brevissimus differt.

Plant an epiphyte or terrestrial, flowering to 65 cm tall. **Leaves** rosulate, spreading, 50–65 cm long, thin coriaceous. **Leaf sheaths** narrowly elliptic, 5–8 × 3–4 cm, dark-castaneous especially abaxially, appressed brown-lepidote throughout. **Leaf blades** ligulate, attenuate, 15–25 mm wide, green, reddish striate toward the sheaths, sparsely appressed brown-lepidote throughout. **Scape** erect, 35 cm × 3–4 mm, reddish. **Scape bracts** erect, densely imbricate, the lowest foliaceous, the upper elliptic, attenuate, all green, reddish striate toward the sheath. **In-**

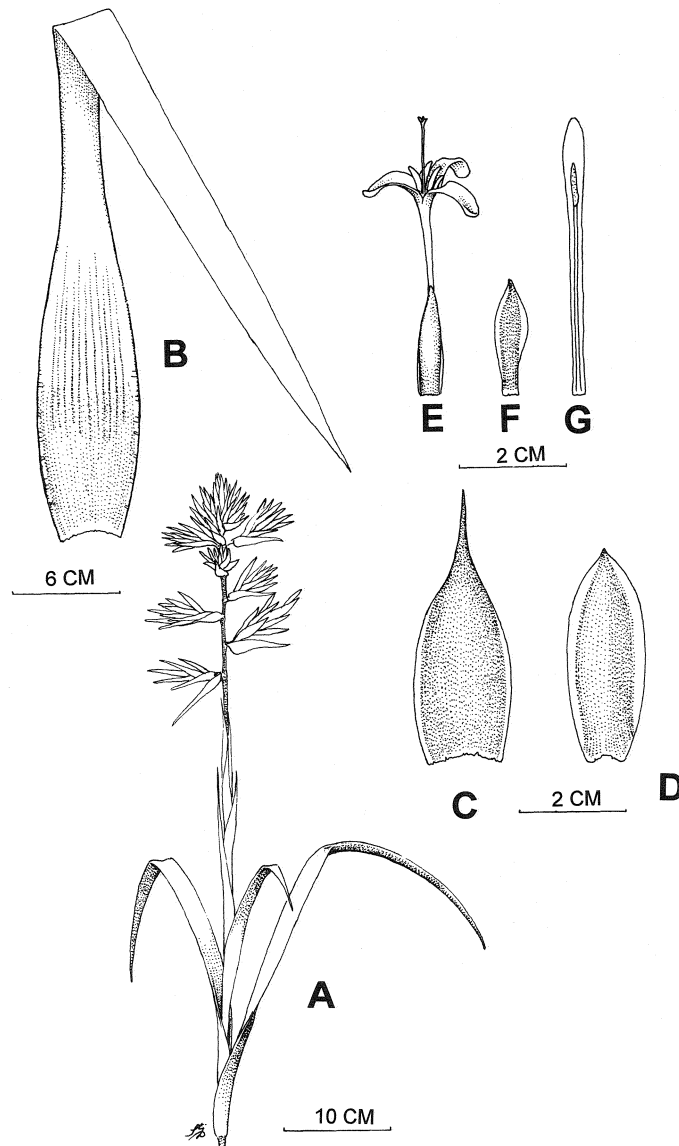


FIGURE 2. *Guzmania formosa*: A. Habit. B. Leaf. C. Lower primary bract. D. Floral bract. E. Flower. F. Sepal. G. Petal and stamen.

florescence bipinnate, $17 \times 6-8$ cm with 10 branches. **Primary bracts** elliptic to ovate with attenuate blades, equalling to much shorter than the branches, green and red to totally red. **Branches** spreading with a 3-5 mm long peduncle, polystichously 3-5-flowered. **Floral bracts** elliptic to broadly acute, 16-18 mm long, very thin-coriaceous, nerved, cucullate, the most distal ones carinate, all much exceeded by the sepals. **Flowers** 1-3 mm pedicellate, spreading at $15-30^\circ$ from the slightly geniculate rachis. **Sepals** elliptic, obtuse, 23-24 mm long, 13-17

mm connate, thin, nerved, white. Mature **corolla** unknown. **Fruit** and seeds not known.

This colorful new species seems most closely related to *Guzmania delicatula* but differs by having longer floral bracts (16-18 mm vs. 8-12 mm long) and sepals (23-24 mm vs. 16 mm long) and shorter pedicels (1-3 mm vs. 6-8 mm long).

ECUADOR

Guzmania manzanaresiorum H. Luther, sp. nov. TYPE: Ecuador. Pastaza: Puyo, $01^\circ 25' S$,

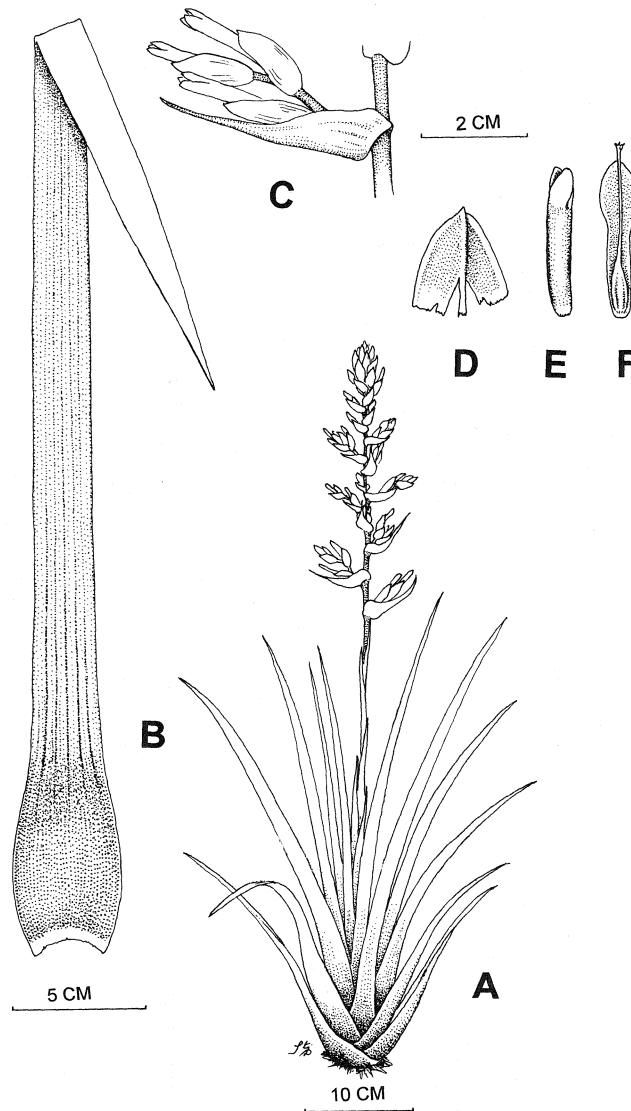


FIGURE 3. *Guzmania laeta*: A. Habit. B. Leaf. C. Branch and primary bract. D. Floral bract. E. Flower. F. Immature petal and pistil.

78°00'W, 900 m, August 1994, J.M. Manzanares, K. Bracke, P., N., & R. Manzanares 5172 (Holotype: QCNE; Isotype: MO).

FIGURE 4.

A *Guzmania pungens* L.B. Sm., cui similis, bracteis primariis brevioribus, late ellipticis non lanceolatis et sepalis brevioribus carinatusque differt.

Plant flowering to 1 m tall (Manzanares et al.). **Leaves** rosulate, more or less erect, rather stiff, 55–75 cm long. **Leaf sheaths** elliptic, 15 × 10 cm, coriaceous, very densely brown punctate-lepidote, and dark-castaneous especially

abaxially. **Leaf blades** ligulate, acute with a dark pungent apex, 4–6 cm wide, coriaceous, somewhat nerved, appressed brown-lepidote throughout, green but reddish striate towards the sheaths. **Scape** incompletely known, erect, at least 1 cm in diameter. **Scape bracts** unknown except for the uppermost which is erect, coriaceous, appressed brown-lepidote throughout, narrowly elliptic with an attenuate, pungent blade. **Inflorescence** erect, bipinnate, 45 × 15 cm with 17 branches, green (Manzanares et al.). **Primary bracts** broadly elliptic, acute, attenuate, 2–6 cm long, coriaceous, exceeding the sterile

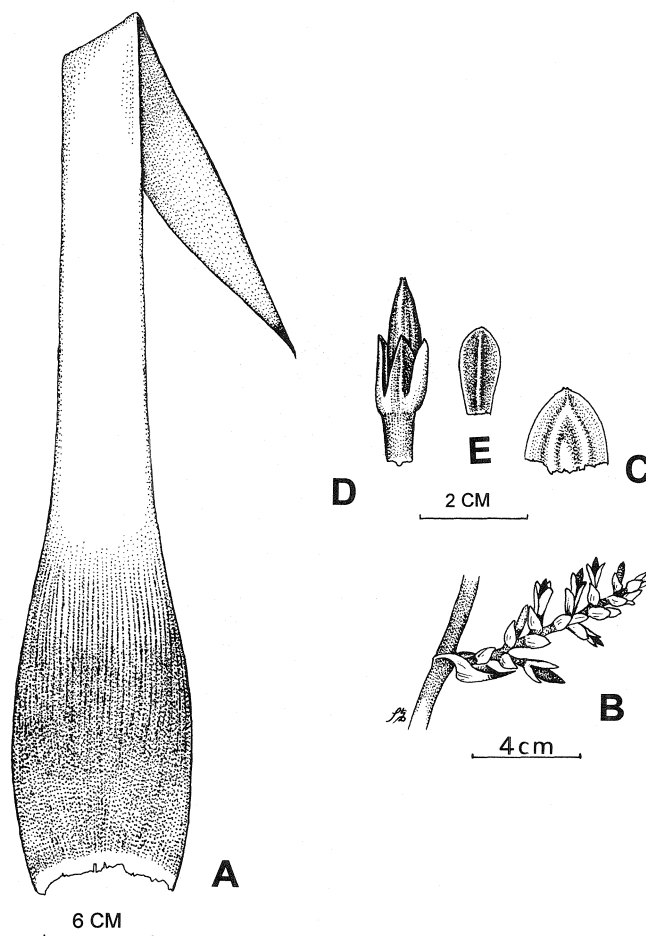


FIGURE 4. *Guzmania manzanaresiorum*: A. Leaf. B. Branch of inflorescence. C. Floral bract. D. Flower and developing fruit. E. Sepal.

base of the branches. **Branches** with a 10–15 mm long, 1 or 2-bracteate peduncle, spreading at ca. 45° from the axis, 5–12 cm long, 5–15-flowered. **Floral bracts** elliptic, broadly acute to obtuse, ecarinate, coriaceous, nerved, sparsely appressed-lepidote, 15 mm long. **Flowers** with a 5–10 mm long stout, bicarinate pedicel. **Sepals** broadly elliptic to obovate, broadly acute, 15–18 mm long, connate for 3–5 mm, coriaceous, slightly nerved, the adaxial pair carinate. **Corolla** unknown. **Fruit** a dry capsule to 28 mm long. **Seed** coma brown.

This new species differs from the similar *Guzmania pungens* from Nariño, Colombia by having the broadly elliptic (vs. narrowly lanceolate) primary bracts all much shorter than the branches (vs. the lowest about equalling the branches) and by having the sepals shorter (15–18 mm vs. 25 mm long) with the adaxial pair carinate (vs. all ecarinate).

This species is dedicated to the bromeliad collector, José Manzanares, his wife K. Bracke, and his children, Pablo, Nele and Rebeca of Quito, Ecuador.

PERU

Aechmea vasquezii H. Luther, sp. nov. TYPE: Peru. Amazonas: Prov. Condorcanqui, Dist. El Cenepa, Comunidad Agaruna Pagki-Suwa, Rio Cenepa, 04°31'35"S, 78°10'34"W, 289 m, 21 Jan. 1997, R. Vásquez, R. Rojas, A. Pena, E. Chavez & E. Quiaco 22094 (Holotype: MO). FIGURE 5.

A *Aechmea weberi* (E. Pereira & Leme) Leme, cui similis, foliorum laminis serrulatis, bracteis florigeris minoribus et sepalis 5–7 mm connatis differt.

Plant an epiphyte, flowering to ca. 25 cm tall. **Leaves** rosulate, spreading, 50–60 cm long. **Leaf**

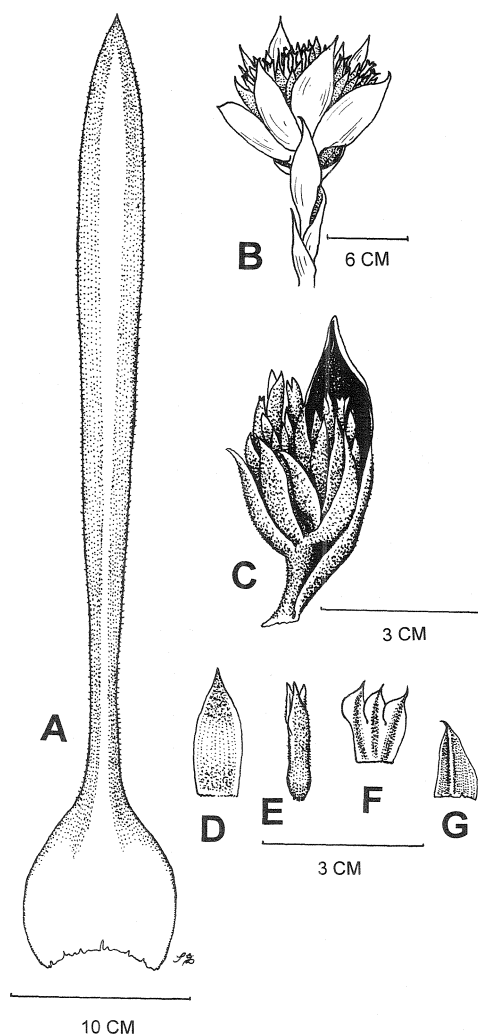


FIGURE 5. *Aechmea vasquezii*: A. Leaf. B. Inflorescence. C. Primary bract and branch. D. Secondary bract. E. Flower. F. Calyx. G. Floral bract.

sheaths broadly elliptic to ovate, 8–11 × 6–9 cm, entire, somewhat nerved, densely brown-punctate-lepidote especially adaxially, more or less concolorous with the blades. *Leaf blades* narrowly lanceolate, acute, 2–4 cm wide, channeled, thin coriaceous, densely serrulate with dark, straight to antrorse 1 mm long spines, inconspicuously appressed punctate-lepidote especially abaxially. *Scape* erect, 8–10 cm × 5 mm, brown-lanate, only slightly exerted above the leaf sheaths. *Scape bracts* erect, densely imbricate, elliptic, serrulate, brown-lepidote, reddish. *Inflorescence* subglobose, tripinnate, 6 × 4–6 cm with 8 primary branches. *Primary bracts* elliptic, acute, apiculate, serrulate, thin-

coriaceous, nerved, brown-lepidote throughout, exceeding the branches, reddish. *Primary branches* 3–15 mm pendunculate, 3–4 × 2–3 cm with 2–4 secondary branches. *Secondary bracts* elliptic, acute, entire, thin-coriaceous, nerved, brown-lepidote throughout, shorter than the secondary branches, reddish. *Secondary branches* densely and polystichously 3–6-flowered. *Floral bracts* subtriangular to elliptic, mucronate, 10–15 mm long, thin-coriaceous, nerved, carinate, brown-lepidote especially abaxially, reddish. *Flowers* subsessile, erect. *Sepals* 5–7 mm connate, 12–15 mm long, very asymmetrical, oblanceolate with a broad wing, thin-coriaceous, nerved, mucronate, fugaciously brown-lanate. *Petals* unknown. *Ovary* ellipsoid in fruit. *Fruit* a 5–8 × 2–3 mm, blue berry.

This strange plant seems to be most similar to *Aechmea weberi* from coastal Bahia, Brazil. It differs by having the leaf blades densely serrulate (vs. remotely serrulate to nearly entire) with smaller floral bracts (10–15 vs. 25 mm long) and higher connate sepals (5–7 mm vs. 2–3 mm connate). Unfortunately, no corollas could be found on the collection examined.

Similar odd disjunctions between Andean or Amazonian bromeliads and related taxa in the Atlantic Forest of Brazil are the Peruvian *Neoregelia johnsoniae* H. Luther (its congeners are in eastern Brazil) and the three eastern Brazilian species of *Ronnbergia* (most species are Andean).

The name honors Rodolfo Vásquez, prolific field collector and botanical artist.

Pepinia minicorallina H. Luther, sp. nov. TYPE: Peru. Amazonas: Prov. Bagua, Dist. Imaza, Tau Mujaji, 05°15'25"S, 78°21'41"W, 800 m, 23 Oct. 1997, R. Rojas, A. Pena, J. Aaq & E. Yagkuag 456 (Holotype: MO). FIGURE 6.

A *Pepinia corallina* (Linden & André) Varadarajan & Gilmartin, cui similis, foliis angustioribus, sepalis et petalis minoribus differt; a *P. nematophora* L.B. Sm. & Read, cui similis, laminis foliorum latioribus, inflorescentia longioribus, longiora et sepalis minoribus differt.

Plant a lithophyte. *Leaves* dimorphic, some reduced to bladeless sheaths, others pseudopetiolate to 1 m long, thin-coriaceous. *Leaf sheaths* elliptic to ovate, 1–6 × 1–2 cm, entire, even to slightly nerved, dark-castaneous, densely brown-lepidote abaxially. *Leaf blades* with a 10–15 × 1 cm, channeled, entire pseudopetiole; the upper portion of the blade narrowly elliptic to lanceolate, long-attenuate, 25–35 mm wide, entire, channeled, nerved, more or less glabrous adaxially, densely pale-lepidote abaxially. *Scape* curved, 10 cm × 5 mm, densely and coarsely brown-lepidote. *Scape bracts* laxly imbricate,

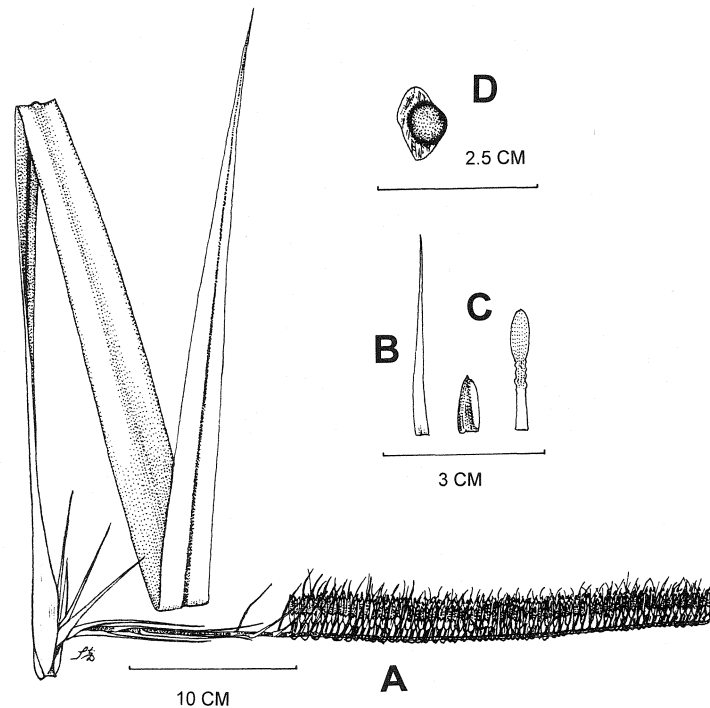


FIGURE 6. *Pepinia minicorallina*: A. Habit. B. Floral bract. C. Sepal and petal. D. Seed.

narrowly elliptic, long-attenuate, thin-coriaceous, densely brown-lepidote, abaxially. **Inflorescence** simple, 35 cm long, densely secund-many-flowered. **Floral bracts** densely secund with the flowers, very narrowly lanceolate to narrowly triangular, attenuate, 8–50 × 2–5 mm, thin-coriaceous, nerved, brown-lepidote throughout. **Flowers** all secund with a 5–10 mm long, very slender pedicel, red (Rojas et al.). **Sepals** elliptic to subtriangular, slightly asymmetrical, acute, 10–13 mm long, nerved, obtusely carinate, brown-lepidote abaxially. **Petals** narrowly oblanceolate, 20–25 mm long, unappendaged. **Ovary** more than 4/5 superior. **Fruit** a dry capsule to ca. 5 mm long. **Seeds** narrowly winged.

Based on the only known herbarium material of *Pepinia minicorallina*, it is impossible to be certain of its overall habit and the orientation of the inflorescence and flowers. If the inflorescence is produced horizontally with secund-erect flowers it would resemble *Pepinia corallina* but with narrower leaf blades (25–35 mm vs. 100 mm wide) and smaller flowers (ca. 35 mm vs. 80 mm long), hence the name. *Pepinia corallina*

is known to occur in the Dept. of Amazonas in Peru at lower elevations. If the inflorescence is stiffly erect with secund spreading flowers it would resemble *Pitcairnia nematophora* from the Amazonas State in Venezuela. From this species *Pepinia minicorallina* can be distinguished by its broader leaf blades (25–35 mm vs. 5–13 mm wide), much longer inflorescence (35 cm vs. 10–20 cm long) and shorter sepals (10–13 mm vs. 27–35 mm long). *Pitcairnia nematophora* has not been transferred to *Pepinia* (Varadarajan & Gilmartin 1988) although it does produce alate seeds.

ACKNOWLEDGMENTS

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