

## MISCELLANEOUS NEW TAXA OF BROMELIACEAE (XVIII)

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ABSTRACT. Five new taxa of Bromeliaceae are described: *Guzmania gracilis*, *Pepinia werffii*, *Pitcairnia oxapampae*, *Pitcairnia rojasii*, and *Racinaea macrantha* from Peru. Miscellaneous new taxa of Bromeliaceae (XVII) appeared in Selbyana 23(1): 46–56. 2002.

Key words: Bromeliaceae, *Guzmania*, *Pepinia*, *Pitcairnia*, *Racinaea*, Peru

### INTRODUCTION

The Bromeliaceae with more than 3085 species in 57 genera (Luther 2006) still yields novelties as fieldwork in the neotropics continues. The following species from Peru are from general collections sent to the Mulford B. Foster Bromeliad Identification Center for routine identification.

### NEW SPECIES

#### Peru

***Guzmania gracilis*** H. Luther, sp. nov.

TYPE: Peru–Pasco: Oxapampa, San Francisco de Pichanaz, 10°29'12"S, 75°04'13"W, 610 m elev., primary forest. 28 Feb. 2004, R. Vásquez, A. Monteaguda, A. Peña, R. Francis & L. Mateo 29695 (Holotype: SEL; Isotype: MO). FIGURE 1.

A *Guzmania patula* Mez & Wercklé cui affinis, laminis foliorum perangustioribus et sepalis brevioribus; a *G. diazii* H. Luther cui laminis foliorum angustioribus et inflorescentia pauciflora differt.

**Plant** an epiphyte, flowering 70 cm tall. **Leaves** densely rosulate, erect to spreading, 25–35 cm long. **Leaf sheaths** narrowly elliptic, 3 × 1 cm, very thin coriaceous, nerved, sparsely brown-punctate lepidote, castaneous toward the base. **Leaf blades** very narrowly linear, attenuate, 5–8 mm wide, very thin coriaceous, nerved, sparsely punctate-lepidote throughout. **Scape** stiffly erect, 50 cm × 1–2 mm, glabrous. **Scape bracts** erect, imbricate, densely arranged below, laxly above and scarcely concealing the internodes, the lowest foliaceous, the upper narrowly elliptic, thin, nerved, sparsely punctate-lepidote. **Inflorescence** bipinnate with a single branch. **Primary bracts** like the uppermost scape bracts, longer than the bracteate, sterile peduncle of the lateral branch. **Lateral branch** spreading, with 2 sterile basal bracts, 5-flowered, 5 cm long; apical branch with 4 laxly disposed sterile bracts, 5-flowered, ca. 15 cm long. **Floral bracts** elliptic,

broadly acute 9–15 × 5–7 mm, thin-coriaceous, nerved, sparsely lepidote, green (Vásquez!). **Flowers** subsessile, spreading at ca. 45° from the axis at anthesis, laxly polystichous. **Sepals** elliptic, acute 7–9 mm long, basally connate for 1–3 mm, the adaxial pair obtusely carinate. **Corolla** unknown. **Immature fruit** a 17 mm long capsule.

*Guzmania gracilis* is one of the most delicate and graceful, with the narrowest leaves of any *Guzmania* species known. It is probably closely related to *G. diazii* from Dept. Amazonas in Peru, but that species has a simple, many-flowered inflorescence (45–60-flowered vs. 10-flowered) and wider leaf blades (8–15 mm vs. 5–8 mm wide). From the widespread *G. patula* this new species differs conspicuously by having narrow leaf blades (5–8 mm vs. 20–35 mm wide) and shorter sepals (7–9 mm vs. 13–16 mm long). The corolla of *G. gracilis* is unknown; the corolla of *G. patula* is widely spreading and pale creamy green opening after dark.

The epithet refers to the graceful appearance of this species.

***Pepinia werffii*** H. Luther, sp. nov.

TYPE: Peru–Pasco: Oxapampa, roadside Chatarra to Pto. Bermudez, 10°30'S, 75°03'W, 700 m elev., heavily logged forest. 9 July 2003, H. van der Werff, R. Vásquez, B. Grey, R. Ortíz, & N. Davila 18187 (Holotype: SEL; Isotype: MO). FIGURE 2.

A *Pitcairnia guzmanioides* L.B.Sm. *Pepinia fimbriatobracteata* (Rauh) G.S.Varad. & Gilmartin et *Pepinia neglecta* H.Luther quibus similes foliis omnino integris et floribus pendulis post anthesin differt.

**Plant** a terrestrial, acaulescent, flowering to at least 1 m tall. **Leaves** so far as known monomorphic, rosulate, spreading, pseudopetiolate, to 2 m long, entire throughout. **Leaf sheaths** elliptic, 8–10 × 2–3 cm, nerved, castaneous especially abaxially, brown-lepidote. **Leaf blades** with a 17–20 cm × 8–15 mm, channeled, sparsely lepidote pseudopetiole; the upper portion of the blade lanceolate, attenuate, 8–10 cm

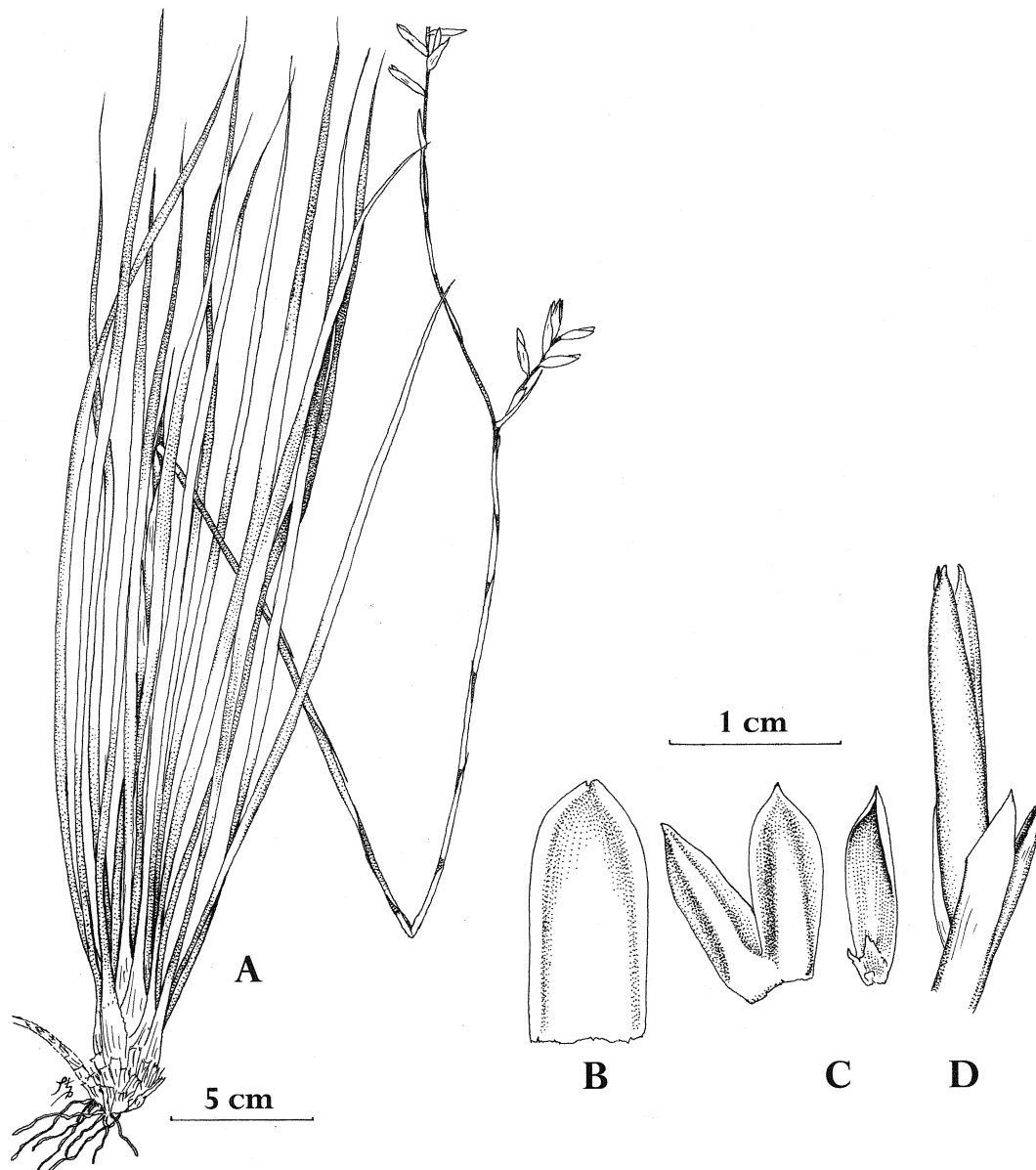


FIGURE 1. *Guzmania gracilis*. A. Habit. B. Floral bract. C. Sepals. D. Capsule. Drawing by Stig Dalström based on R. Vásquez, A. Monteaguda, A. Peña, R. Francis & L. Mateo 29695.

wide, basally channeled, nerved, abaxially with conspicuous transverse veination, very sparsely lepidote, green. **Scape** spreading, arcuate, creeping on the soil (van der Werff!), 25 cm  $\times$  10–13 mm, brown-lepidote. **Scape bracts** erect, sub-foliaceous, narrowly elliptic, long-attenuate, very thin coriaceous, castaneous toward their base, brown-lepidote, much exceeding the internodes but scarcely concealing the scape, soon drying. **Inflorescence** erect, simple, cylindrical,

35  $\times$  4–6 cm, densely polystichous-flowered, red (van der Werff!). **Floral bracts** elliptic, acute, 50–60  $\times$  16–22 mm, very thin coriaceous, nerved, scattered brown stellate-lepidote, somewhat lustrous, entire, red; erect and densely imbricate prior to anthesis, spreading with the flowers at anthesis and becoming tattered and deciduous after anthesis. **Flowers** with a stout 2–3 mm pedicel, erect prior to anthesis, spreading at ca. 45° from the axis at anthesis, becoming

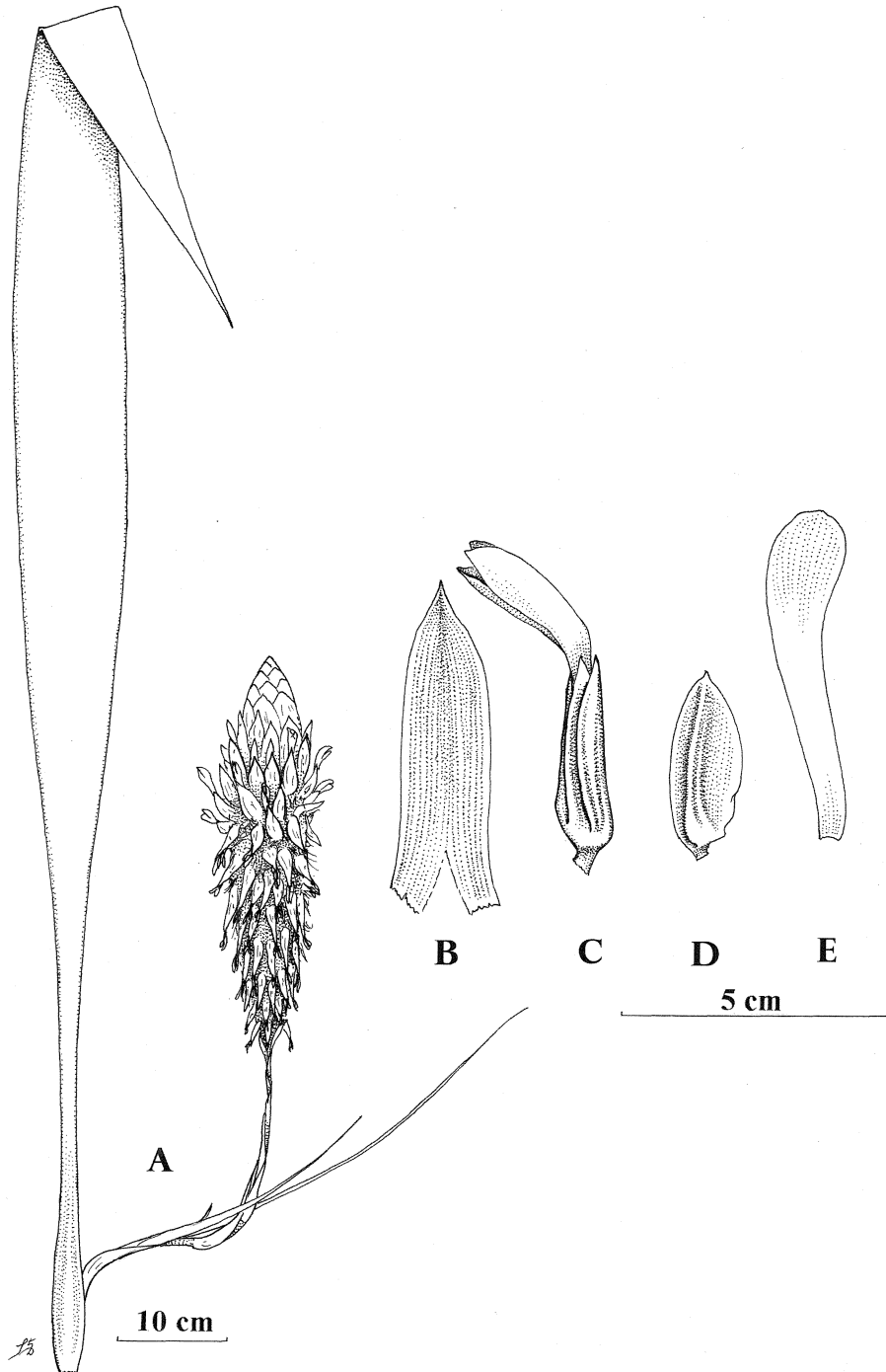


FIGURE 2. *Pepinia werffii*. A. Habit. B. Floral bract. C. Flower. D. Sepal. E. Petal. Drawing based on *H. van der Werff*, *R. Vásquez*, *B. Grey*, *R. Ortíz*, & *N. Davila* 18187 by Stig Dalström.

pendant and appressed to the axis after anthesis, red (van der Werff!). **Sepals** free, broadly elliptic, acute to apiculate, 30–36 × 11–14 mm, the adaxial pair carinate with the keels decurrent on the pedicel, brown-lepidote, nerved, thin-coriaceous. **Corolla** somewhat zygomorphic, arcuate. **Petals** oblanceolate, obtuse, 60–65 mm long, naked, the margins paler. **Ovary** more than ½ inferior; fruit unknown, ovules triangular, falcate.

*Pepinia werffii* is a member of a complex of pepinias with spreading or creeping inflorescences. These are nearly all with a western Amazonian distribution. So far as known, all have a long arcuate corolla suggesting pollination by low-foraging hermit (curved beak) hummingbirds. This new species seems most similar to *Pitcairnia guzmanoides*, *Pepinia fimbriatobracteata* and *Pepinia neglecta* on account of its dense, cylindrical inflorescence. With the first pair of species it also shares the characteristic of soon shattering or disintegrating and falling floral bracts. It can be immediately distinguished from all three by entire foliage and flowers that fold downward toward the rachis after flowering. This is a feature presented by a number of *Pitcairnia s.l.* species; for example *Pitcairnia bakeri* (André) André ex Mez; an unrelated scandent hemiepiphytic climber. Perhaps this flexing of the pedicel removes the old flowers from competing and interfering with the fresh ones.

The epithet honors Henk van der Werff, prodigious collector of Andean flora.

***Pitcairnia oxapampae*** H. Luther, sp. nov.

TYPE: Peru—Pasco: Oxapampa, Huancabamba, Huampal, 10°10'58"S, 075°34'17"W, 1100 m elev., roadside forest. 14 April 2004, R. Rojas & R. Vásquez 2218 (Holotype: SEL; Isotype: MO). FIGURE 3.

*Pitcairnia pungens* affinis sed bracteis florigeris perlongioribus et sepalis minoribus differt.

**Plant** a lithophyte or terrestrial, flowering 50–65 cm tall, the leaf bases forming an ovoid pseudobulb. **Leaves** incompletely known, dimorphic; the larger deciduous, linear-lanceolate to narrowly triangular, 50–65 cm long, the smaller persistent leaves very narrowly triangular, attenuate, entire, 2–8 cm long. **Leaf sheaths** ovate, thin-coriaceous, nerved, entire, somewhat lustrous, pale toward the base, castaneous toward the blade, fugaceously white-lanuginous especially toward the margins. **Leaf blades** of the larger leaves with a few 1–2 mm long marginal spines between the sheath and the straight abscission zone 1–2 cm above the sheath, entire elsewhere, 8–17 mm wide, subglabrous adaxially, densely pale-lepidote abaxially. **Scape** erect, 25–45 cm × 2–3 mm, densely pale lanuginous-lepidote. **Scape bracts** erect, laxly imbricate,

foliaceous, equaling to exceeding the internodes, glabrous adaxially, pale-lepidote abaxially. **Inflorescence** erect, simple, 17–19 × 4–6 cm, polystichously 40- to 60-flowered. **Floral bracts** very narrowly lanceolate, attenuate, 15–50 × 2–4 mm, very thin coriaceous, nerved, pale-lanuginous, spreading with the flowers and nearly equaling the lower ones. **Flowers** with a slender 5–9 mm long pedicel, spreading at ca. 30° from the axis at anthesis, pale-lanuginous-lepidote except for the petals, red (Rojas!). **Sepals** narrowly triangular, attenuate, 12–15 mm long, thin-coriaceous, nerved. **Corolla** erect, semi-tubular, slightly zygomorphic. **Petals** narrowly oblanceolate, 50 mm long, naked. **Ovary** ca. ⅓ superior.

This new species seems most closely related to *Pitcairnia pungens*, widespread in the northern Andes, on account of its deciduous habit and rather dense, erect, lepidote, red inflorescence. It differs most conspicuously by much longer floral bracts (15–50 vs. 8–20 mm long) and shorter sepals (12–15 vs. 25 mm long). In addition, *Pitcairnia oxapampae* appears to lack the numerous spinose-serrate reduced leaves common with *P. pungens*.

The specific name refers to the province where the only known specimen was collected.

***Pitcairnia rojasii*** H. Luther, sp. nov.

TYPE: Peru—Amazonas: Bagua, Aramango-Salinas, 05°25'00"S, 79°30'00"W, 380 m elev., dry forest. 6 Nov. 1999, R. Rojas & R. Vásquez 752 (Holotype: SEL; Isotype: MO). FIGURE 4.

A *Pitcairnia lignosa* L.B. Sm. cui affinis foliis integris et petalis brevioribus appendiculatæ differt.

**Plant** terrestrial, caulescent, the erect stems covered with old leaf sheaths, flowering 85–95 cm tall. **Leaves** dimorphic, the larger deciduous leaves linear, 30–50 cm long, the persistent smaller leaves essentially triangular, bladeless sheaths; all entire. **Leaf sheaths** broadly elliptic to ovate, 1–3 cm long, nerved, castaneous, sparsely villous toward the apex. **Leaf blades** deciduous at a sharp dehiscent zone 1–3 cm above the sheath, the persistent base incurving; the linear spreading portion of the blade 5–10 mm wide, densely white villous-lepidote abaxially, nearly glabrous adaxially. **Scape** erect, 50 cm × 3–5 mm, pale villous-lepidote. **Scape bracts** erect, lax, elliptic, attenuate, pale villous-lepidote abaxially, nearly glabrous adaxially. **Inflorescence** simple, 30 cm long, polystichously ca. 50-flowered. **Floral bracts** narrowly elliptic to narrowly triangular, acute to attenuate 5–15 mm long, abaxially covered with white villous trichomes; the lowest equaling or exceeding the pedicels, the upper much shorter. **Flowers** with

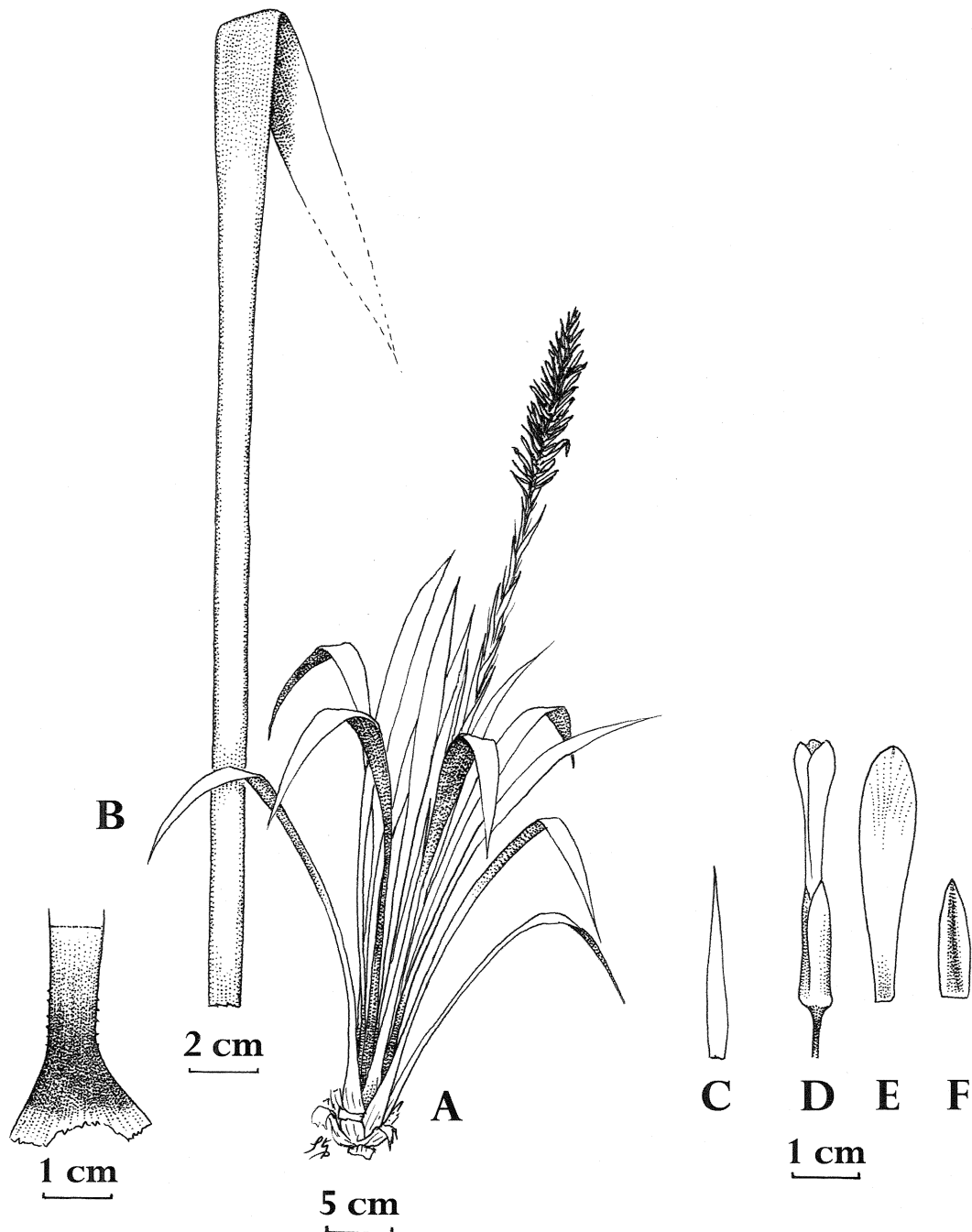


FIGURE 3. *Pitcairnia oxapamae*. A. Habit. B. Leaf. C. Floral bract. D. Flower. E. Petal. F. Sepal. Drawing based on R. Rojas & R. Vásquez 2218 by Stig Dalström.

a slender 5–10 mm long pedicel, spreading at ca. 30° from the axis at anthesis, orange (Rojas!). *Sepals* elliptic, acute 15–17 mm long, carinate, thin coriaceous, nerved, sparsely pale lep-

idote. *Corolla* erect, slightly zygomorphic. *Petal*s broadly acute, ca. 40 mm long, narrowly oblanceolate, each with a single nearly entire basal appendage. *Ovary* ca.  $\frac{2}{3}$  superior.

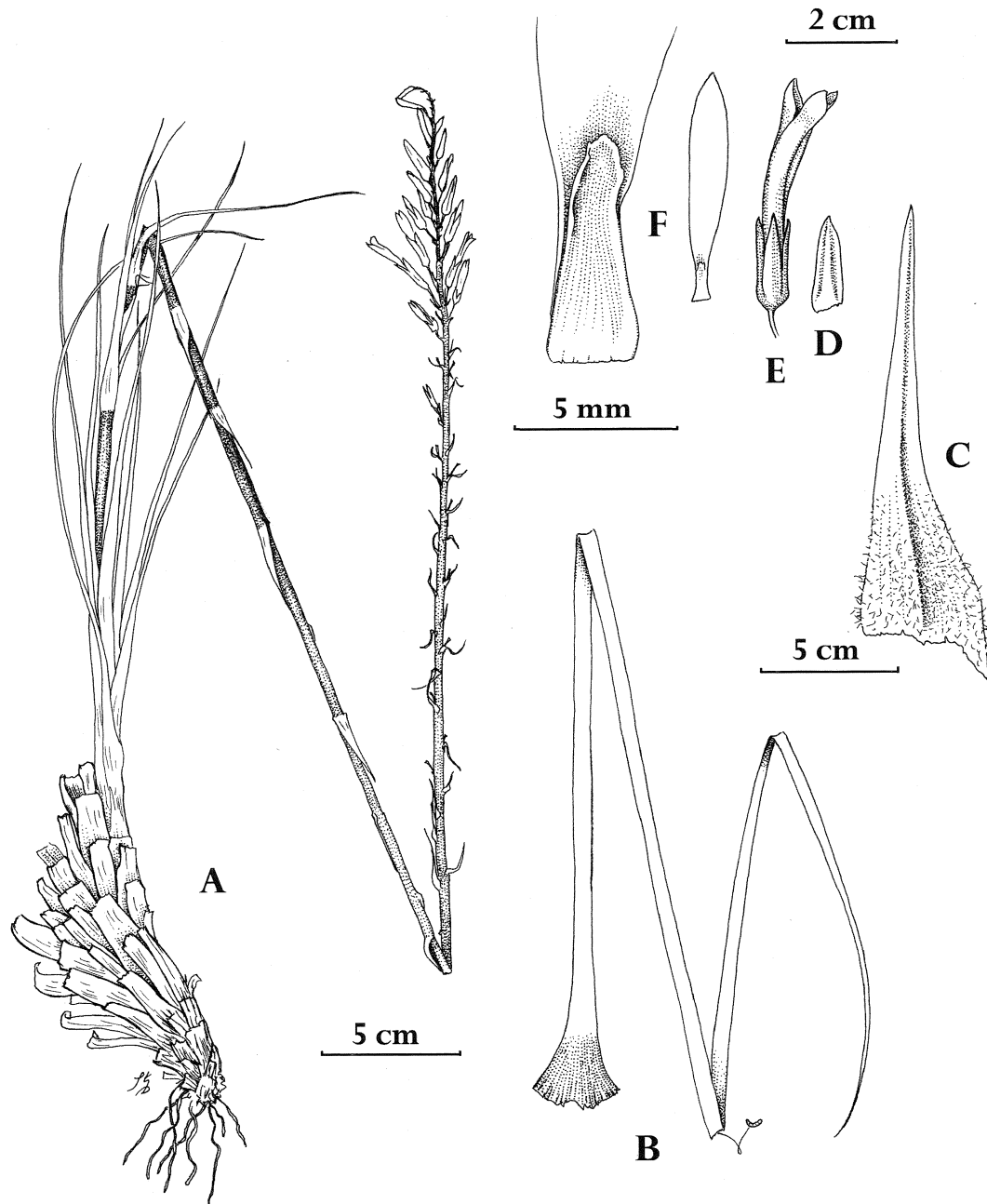


FIGURE 4. *Pitcairnia rojasii*. A. Habit. B. Leaf, deciduous. C. Leaf, persistent. D. Sepal. E. Flower. F. Petal and base. Drawing based on R. Rojas & R. Vásquez 752 by Stig Dalström.

This new species is similar to *Pitcairnia lignosa* from Colombia and Ecuador, but can be distinguished by having entire leaves (vs. basally serrate), shorter pedicels (5–10 mm vs. 16 mm long), and appendaged 4 cm long petals (vs. 5 cm long and naked). In addition, the collec-

tions of *P. lignosa* are all from much higher elevations, 1100–3000 m.

The name of this new *Pitcairnia* honors the collector, Rocío Rojas.

***Racinaea macrantha*** H. Luther, sp. nov.

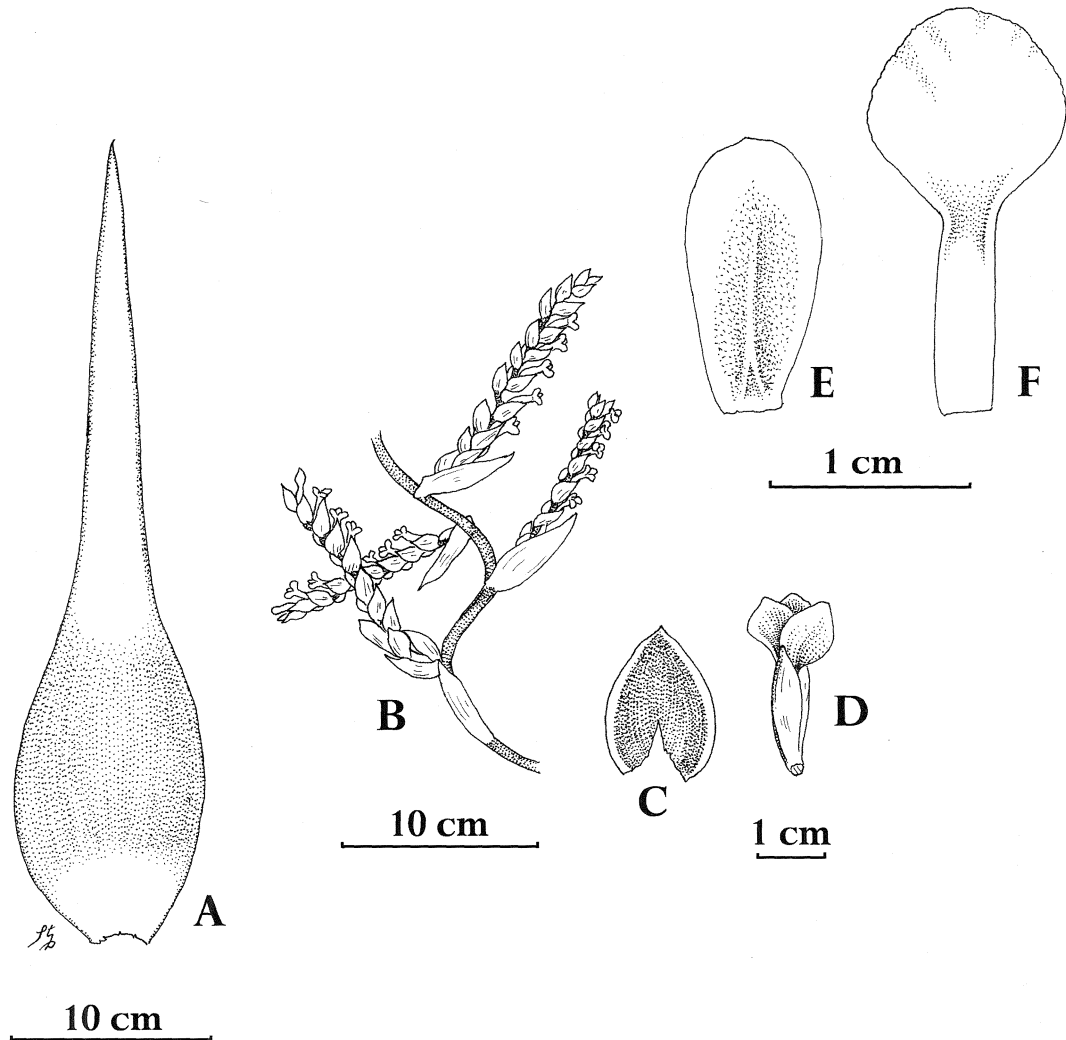


FIGURE 5. *Racinaea macrantha*. A. Leaf. B. Section of inflorescence. C. Floral bract. D. Flower. E. Sepal. F. Petal. Drawing based on A. Monteagudo, A. Peña, J. Perea & R. Francis 7060 by Stig Dalström.

TYPE: Peru—Pasco: Oxapampa, Huancabamba, Río Cueva Blanca y Milpo, 10°22'33"S, 75°36'48"W, 2720 m elev., primary forest. 18 September 2004, A. Monteagudo, A. Peña, J. Perea & R. Francis 7060. (Holotype: SEL; Isotype: MO).

FIGURE 5.

A *Racinaea riocreuxii* (André) M.A.Spencer & L.B.Sm., cui affinis laminis foliorum angustioribus, bracteis florigeris distichis longioribusque et sepalis longioribus differt.

**Plant** an epiphyte, incompletely known. **Leaves** in a suberect rosette, 30–50 cm long, rather stiff and coriaceous, nerved throughout. **Leaf sheaths** broadly elliptic, subinflated, 14–17

× 7–9 cm, castaneous except at the extreme base, densely brown punctate-lepidote on both surfaces. **Leaf blades** ligulate, acute, 17–26 mm wide, the margins somewhat involute, very densely pale punctate-lepidote on both surfaces. **Scape** incompletely known, 1.2 m (Monteagudo!) × 3–5 mm, subdensely pale stellate-lepidote. **Scape bracts** laxly imbricate, those known barely exceeding the internodes, erect, elliptic, 6–8 × 1–2 cm, pale punctate-lepidote especially abaxially. **Inflorescence** incompletely known, probably decurved, laxly bipinnate with the axis very flexuose and fugaceously pale stellate-lepidote. **Primary bracts** like the upper scape bracts, much exceeding the bracteate sterile ba-

ses of the branches. **Branches** spreading, 8–12 cm long, densely 12 to 18 secund-flowered, each branch with 1 or 2 sterile bracts at the base. **Floral bracts** broadly elliptic, acute, 16–19 × 7–11 mm, thin coriaceous, somewhat nerved, the lowest obscurely carinate, densely pale punctate-lepidote especially abaxially, becoming secund pendent with the flowers. **Flowers** secund pendent with a stout 1–4 mm long pedicel. **Sepals** obovate, asymmetrical, broadly acute, 12–13 mm long, pale punctate-lepidote, the adaxial pair carinate. **Corolla** spreading at anthesis. **Petals** obovate to spatulate, 16–19 × 5–9 mm, greenish-cream (Monteagudo!).

This new species seems to be closely related to *Racinaea riocreuxii* from Colombia and Ecuador on account of its secund flowers with large spreading corollas. It differs by having narrower leaves (17–26 vs. 20–40 mm wide), longer floral bracts that are secund with the flowers (16–19 vs. floral bracts 10–13 mm long and re-

maining distichously arranged) and much longer sepals (12–13 vs. 7–9 mm long).

Judging from the size and conformation of the corolla *R. macrantha* may be a nocturnal flowering phalenophilous species. This syndrome is also suspected for *R. riocreuxii* and *R. elegans* (L.B.Sm.) M.A.Spencer & L.B.Sm.

The specific name refers to the flower size, the largest known in the genus *Racinaea*.

#### ACKNOWLEDGMENTS

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#### LITERATURE CITED

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