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New combinations and description of two new species in *Pabstiella* Brieger & Senghas (Orchidaceae) from Brazil

Ludovic Jean Charles Kollmann

Abstract

KOLLMANN, L. J. C. (2010). New combinations and description of two new species in *Pabstiella* Brieger & Senghas (Orchidaceae) from Brazil. *Candollea* 65: 95-100. In English, English and French abstracts.

Five species of *Pleurothallis* R. Br. s.l. are transferred to *Pabstiella* Brieger & Senghas (Orchidaceae): *Pabstiella armeniaca* (Barb. Rodr.) L. Kollmann, *Pabstiella fragae* (L. Kollmann & A. P. Fontana) L. Kollmann, *Pabstiella henrique-aragonii* (Pabst) L. Kollmann, *Pabstiella mentigera* (Kraenzl.) L. Kollmann, *Pabstiella ramphastorhyncha* (Barb. Rodr.) L. Kollmann. *Lepanthes armeniaca* Barb. Rodr. is lectotypified. Two new species of *Pabstiella*, *Pabstiella cipoensis* L. Kollmann and *Pabstiella rupicola* L. Kollmann, are described and illustrated from Brazil. Information on the ecology and geographic distribution of the new taxa is also provided.

Key-words

ORCHIDACEAE – *Pabstiella* – *Pleurothallis* – Brazil – Nomenclature – Taxonomy – Typification

Résumé

KOLLMANN, L. J. C. (2010). Nouvelles combinaisons et description de deux nouvelles espèces chez *Pabstiella* Brieger & Senghas (Orchidaceae) du Brésil. *Candollea* 65: 95-100. En anglais, résumés anglais et français.

Cinq espèces de *Pleurothallis* R. Br. s.l. sont transférées dans *Pabstiella* Brieger & Senghas (Orchidaceae): *Pabstiella armeniaca* (Barb. Rodr.) L. Kollmann, *Pabstiella fragae* (L. Kollmann & A. P. Fontana) L. Kollmann, *Pabstiella henrique-aragonii* (Pabst) L. Kollmann, *Pabstiella mentigera* (Kraenzl.) L. Kollmann, *Pabstiella ramphastorhyncha* (Barb. Rodr.) L. Kollmann. *Lepanthes armeniaca* Barb. Rodr. est lectotypifié. Deux nouvelles espèces de *Pabstiella*, *Pabstiella cipoensis* L. Kollmann et *Pabstiella rupicola* L. Kollmann, sont décrites et illustrées du Brésil. L'écologie et la distribution géographique des nouvelles espèces sont présentées.

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The subtribe *Pleurothallidinae* Lindl. (*Orchidaceae*) is composed of about 4000 species in 29 genera (LUER, 1986). The genus *Pleurothallis* R. Br. s.l. is represented in Brazil by approximately 314 species (PABST & DUNGS, 1975, 1977).

Supported by the phylogenetic analyses of PRIDGEON & CHASE (2001, 2002), Brazilian *Pleurothallis* R. Br. were transferred to *Acianthera* Scheidw., *Anathallis* Barb. Rodr., *Andinia* (Luer) Luer, *Anthereon* Pridgeon & M. W. Chase, *Echinella* Ach., *Phloeophila* Hoehne & Schltr., *Pleurothallopsis* Porto & Brade, *Specklinia* Lindl. and *Stelis* Sw. Later, some authors (BARROS, 2002, 2003, 2005; BARROS & PINHEIRO, 2002; BORBA, 2003; GONÇALVES & WAECHTER, 2004; LUER, 2004) transferred further *Pleurothallis* species to these genera.

LUER (1986) considered *Pabstiella* Brieg. & Sengh. as to be an invalid name because a Latin description was not provided in the protologue, but BRIEGER & SENGHAS (1976) had validly published it. BARROS (2002) reestablished the genus *Pabstiella* and included in its synonymy the genus *Anthereon* Pridgeon & M. W. Chase (PRIDGEON & CHASE, 2001). LUER (2006) published a revision of *Specklinia* and vegetatively similar taxa, transferring three species from this genus to *Pabstiella*. Later, LUER (2007) transferred 67 species of *Pleurothallis* s.l. to *Pabstiella*.

Pabstiella is represented by caespitose herbs with lateral sepals and a lip united at the column foot, a dorsal or ventral anther and two pollinia.

BARROS (2002) and LUER (2006, 2007) transferred several species to *Pabstiella* although not all species were treated. Here five species are newly transferred to *Pabstiella*, including *Specklinia fragae* L. Kollmann & A. P. Fontana. A lectotypification of *Lepanthes armeniaca* Barb. Rodr. is proposed herein.

1. *Pabstiella armeniaca* (Barb. Rodr.) L. Kollmann, **comb. nova**

≡ *Lepanthes armeniaca* Barb. Rodr., Gen. Spec. Orchid. 2: 58. 1881.

≡ *Pleurothallis armeniaca* (Barb. Rodr.) Cogn. in Mart., Fl. Bras. 3(4): 470. 1895.

Holotypus: BRAZIL. Rio de Janeiro: Pascoinha près Palmeiras, s.d., *J. B. Rodrigues s.n.* (RB [destroyed]).

Lectotypus (designated here): [Icon] Barb. Rodr., Icon. Orchid. Brésil 3: fig. G, tab. 182 (RB!).

The original illustration of Barbosa Rodrigues has been reproduced in black and white by COGNIAUX (1893-1896: tab. 97, fig. III) and in colour by Sprunger (1996: 240, fig. G).

2. *Pabstiella fragae* (L. Kollmann & A. P. Fontana) L. Kollmann, **comb. nova**

≡ *Specklinia fragae* L. Kollmann & A. P. Fontana in Bol. Mus. Biol. Prof. Mello-Leitão 23: 15. 2008.

Holotypus: BRAZIL. Espírito Santo: Santa Teresa, Nova Lombardia, 750 m, Propr. J. V. Furlani, 11.II.2005, *L. Kollmann & al.* 7386 (MBML!).

3. *Pabstiella henrique-aragonii* (Pabst) L. Kollmann, **comb. nova**

≡ *Pleurothallis henrique-aragonii* Pabst in Bradea 1: 488. 1975.

≡ *Specklinia henrique-aragonii* (Pabst) Luer in Monog. Syst. Bot. Missouri Bot. Gard. 95: 661. 2004.

Holotypus: BRAZIL. Rio de Janeiro: Nova Friburgo, Vale da Cruz e Vale das Duas Pedras, V.1954, *J. P. de Lima* 10 (RB!).

4. *Pabstiella mentigera* (Kraenzl.) L. Kollmann, **comb. nova**

≡ *Pleurothallis mentigera* Kraenzl. in Kongl. Svenska Vetensk. Acad. Handl. ser. 2, 46(10): 50. 1911.

≡ *Specklinia mentigera* (Kraenzl.) F. Barros & Barberena in Rodriguesia 61 [sub praelo].

Isotypus: BRAZIL. Paraná: Roca Nova, 30.XII.1908, *P. Dusén* 7433 (HBG).

5. *Pabstiella ramphastorhyncha* (Barb. Rodr.) L. Kollmann, **comb. nova**

≡ *Lepanthes ramphastorhyncha* Barb. Rodr., Gen. Spec. Orchid. 2: 55. 1882.

≡ *Pleurothallis ramphastorhyncha* (Barb. Rodr.) Cogn. in Mart., Fl. Bras. 3(4): 458. 1895.

≡ *Specklinia ramphastorhyncha* (Barb. Rodr.) F. Barros in Bradea 11: 31. 2006.

Holotypus: BRAZIL. Rio de Janeiro: Serra de Santa Anna, VI, *J. B. Rodrigues s.n.* (RB!).

During fieldwork in the states of Espírito Santo and Minas Gerais, two new species of *Pabstiella* were collected and are described below:

1. *Pabstiella rupicola* L. Kollmann, **spec. nova** (Fig. 1)

Typus: BRAZIL. Espírito Santo: Castelo, Forno Grande, Forno Grande State Park, 20°31'0''S 41°05'40''W, 11.VI.2004, *Kollmann, L. & R. L. Kollmann* 11933 (holo-: MBML; iso-: RB).

Affinis *Pabstiella calcaratae* (Cogn.) Luer et *P. mentigerae* (Kraenzl.) L. Kollmann, sed foliis oblanceolatis, petalis apice obtusis, labello haud carnoso base ciliato differt.

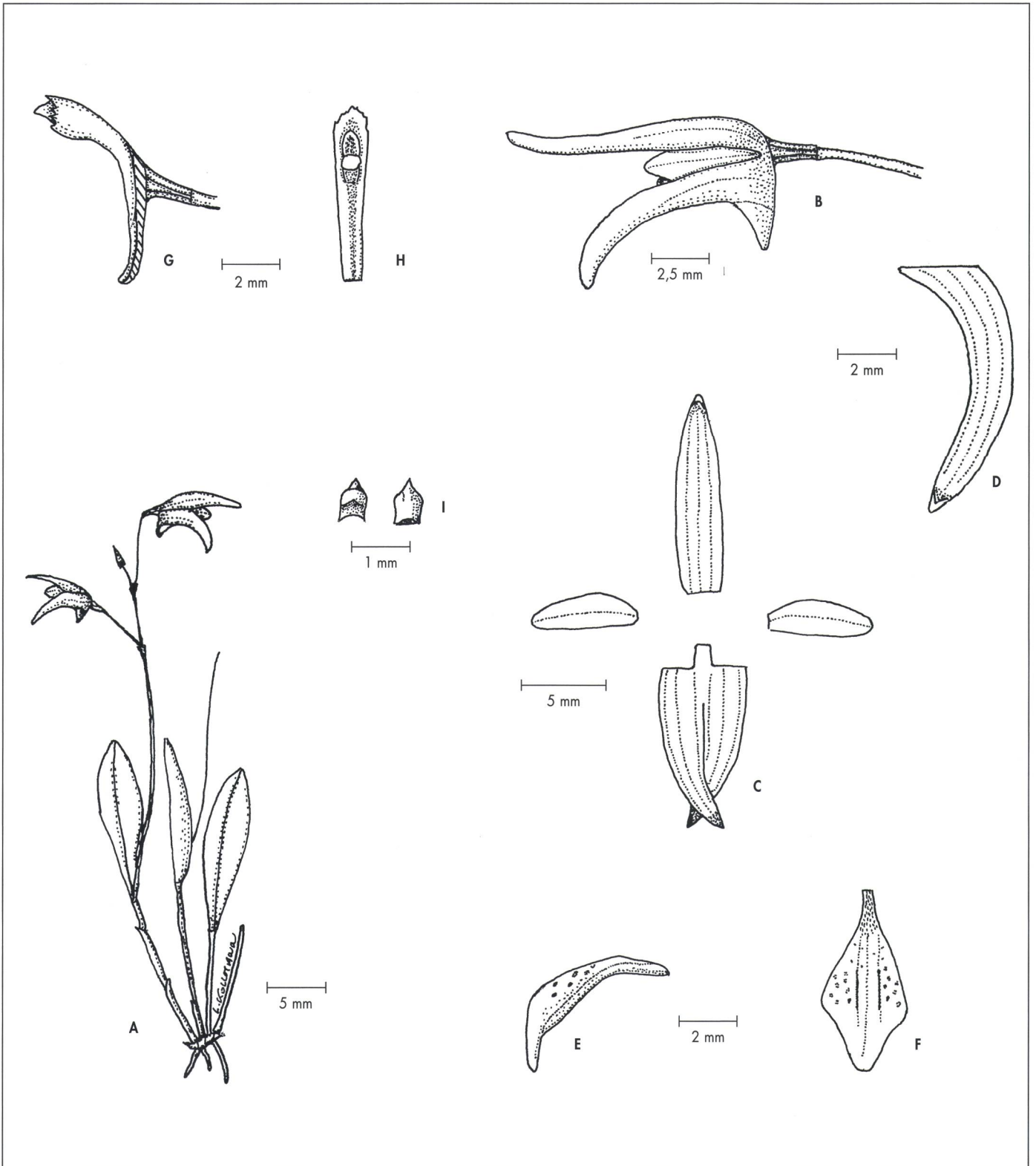


Fig. 1. – *Pabstiella rupicola* L. Kollmann. **A.** Plant in flower; **B.** Flower; **C.** Sepals and petals flattened; **D.** Right lateral sepal; **E.** Lip, lateral view; **F.** Lip, frontal view; **G.** Column and ovary; **H.** Column, ventral view; **I.** Anther, left ventral view, right dorsal view.

[Kollmann & Kollmann 11933, MBML] [Drawn by L. Kollmann]

Plant rupicolous, 3.5-3.8 cm tall, 5.5-8 cm tall (cultivated), erect, caespitose, glabrous. *Root* white, fasciculate, terete, glabrous. *Rhizome* ca. 1 mm long, green, with paleaceous sheaths. *Ramical* 1.5-2 × 0.5-0.8 cm, green, cylindrical, enclosed by tubular paleaceous sheaths, brown, apex acute. *Petiole* 2-2.5 mm long, yellowish-green. *Leaves* 1.5-1.85 × 0.7-0.75 cm., reddish-green, green in cultivation, oblanceolate, apex acute, base cuneate. *Inflorescence* 3.2-3.5 (5-7 cultivated) cm long, green-yellow, straight, 1 to 3-flowered. *Flowers* resupinate, opening together. *Floral sheath* ca. 2.5 mm long, green, tubular, apex acuminate. *Ovary* 1.7-2 mm long, green, sulcate. *Sepals* white, *dorsal sepal* 1-1.15 × 0.3-0.36 cm, oblong, apex acute, laterally margins incurved near the apex, abaxially 3-carinate, the central carina extending from the base to the apex and the external carinas extending from the base to the middle of the sepals; *lateral sepals* 8.5-9 × 1.7-2.2 mm, linear-oblong, adnate, arcuate, apex acute, lateral margins incurved near the apex, base straight and resembling a calcar, adaxially slightly carinate. *Petals* 6.5 × 2.2-2.5 mm, white, lanceolate with unequal faces, apex obtuse. *Lip* 6.8-7 × 2.8-3 mm, trilobate, arcuate, base green, puberulous, the disc papillate at the middle, narrow at the base, expanded in two white lateral lobes bearing wine spots, lobes with rounded apex, apical lobe white, obtuse, lip 3-nerved, bearing one central and two external nerves, external nerves projected. *Column* ca. 3 mm long, white, base slightly wine colored, apex dentate, foot of the column 3.5-4 mm long, base wine colored, apex cuspidate; anther white, apex cuspidate; 2-pollinia, yellow. *Capsule* unknown.

Etymology. – The name of the new species is a reference to its rupicolous habitat.

Habitat, distribution and conservation status. – *Pabstiella rupicola* was found during field work in the Forno Grande State Park, growing on a vertical rocky cliff at 1500 m elevation. The substrate was composed of a thin layer of humus and lichens that were in direct sunlight. The presence of this new species can be easily detected from a long distance during the flower season (October-November) due to the sharp contrast of the greenish color of its leaves and the white flowers with the rocky wall where it grows.

Due to the endemic distribution of *Pabstiella rupicola* in the Atlantic Forest of the central region of Espírito Santo State, as well as on the basis of the extension of its occurrence estimated to be less than 10 km², it seems appropriate to include this new species in the category “Critically Endangered” (CR) (B2ab(iii)) according to the criteria of the IUCN (2001).

Taxonomical notes. – *Pabstiella rupicola* L. Kollmann is similar to *P. calcarata* (Cogn.) Luer and *P. mentigera* (Kraenzl.) L. Kollmann, by the inflorescence with few flowers, flowers with a pseudocalcar, slightly carinate sepals, base of the lip narrow and apex obtuse. However, it differs from them by the oblanceolate leaves (vs. lanceolate), obtuse petal’s apex

(vs. acute), lip not fleshy (vs. fleshy), calli not present on the lateral lobes, but two projected external nerves in the middle of the lip (vs. calli on the lateral lobes and without projected external nerves), base of the lip puberulous (vs. glabrous).

2. *Pabstiella cipoensis* L. Kollmann, *spec. nova* (Fig. 2)

Typus: BRAZIL. Minas Gerais: Serra do Cipó, VII.1998, flowered in cultivation 30.VIII.2007, Kollmann, L. & R. L. Kollmann 10000 (holo-: MBML; iso-: RB).

Valde affinis Pabstiella armeniaca (Barb. Rodr.) L. Kollmann, *sed inflorescentia pluriflora, petalis oblanceolatis apice acutis differt. Similis P. ramphastorhyncha* (Barb. Rodr.) L. Kollmann, *sed foliis ellipticis-obovatis, petalis oblanceolatis et labello sine lobulis lateralibus differt.*

Plant epiphytic, caespitose, erect, ca. 6 cm tall, glabrous. *Root* whitish, cylindrical, flexuous, glabrous. *Rhizome* 1-1.3 mm long, green, with paleaceous sheaths. *Ramical* 2.5-3 cm long, green, with an annulus, cylindrical; sheaths, 0.3-1.9 cm long, funiculate, cylindrical, paleaceous, apex acute. *Leaf* 2.4-4 × 0.8-1.4 cm, 2.7-3 mm thick, green, elliptical-obovate to oblanceolate, succulent, apex obtuse to acute and minutely apiculate, margins thickened. *Inflorescence* 8-13.7 cm long, erect, subflexuous, successively several-flowered raceme. *Flowers* resupinate, opening in succession, occasionally 2 flowers at anthesis simultaneously. *Floral bracts* 2.6-3 mm long, cylindrical, apex acuminate. *Pedicel* 0.6-1 cm long; *ovary* 2.1-2.5 mm long. *Dorsal sepal* 5.2-6 × 2-2.3 mm, yellowish-green, with 3 purplish-lilac lines, elliptical, apex acute to obtuse. *Lateral sepals* 5-5.5 × 1.1 mm, yellowish-green, with 3 purplish-lilac lines, elliptical, adnate, external face 2-carinate, apex acute. *Petals* 2.4-3.5 × 0.8-1 mm, green-yellowish, with 3 purplish-lilac lines, 1 central and 2 marginal, oblanceolate, apex acute, central nerve slightly salient on two faces. *Lip* 3.2-3.6 × 1.2 mm, yellow, purplish-lilac margins extending from the base to the middle, oblanceolate, with 2 parallel callosities on the disco of the lip, callus higher at base and reduced toward the apex, lip apex obtuse, papillate. *Column* 2.7-3 mm long, yellowish-green except for the purplish-lilac margins, ventral face with 2 lines from the base to the middle, column-foot ca. 1 mm long.; anther, 0.8-1 mm long, green; 2-pollinia, yellow, obovate. *Capsule* unknown.

Etymology. – The name of the new species is based on the region of Serra do Cipó, Minas Gerais state where it was originally found.

Habitat, distribution and conservation status. – *Pabstiella cipoensis* L. Kollmann was found growing on trees in places with high radiation. It was growing in a straight canyon with vertical rocky walls up to 15 meters high, composed of sedimentary rock (limestone). This species was successfully cultivated for few years until now.

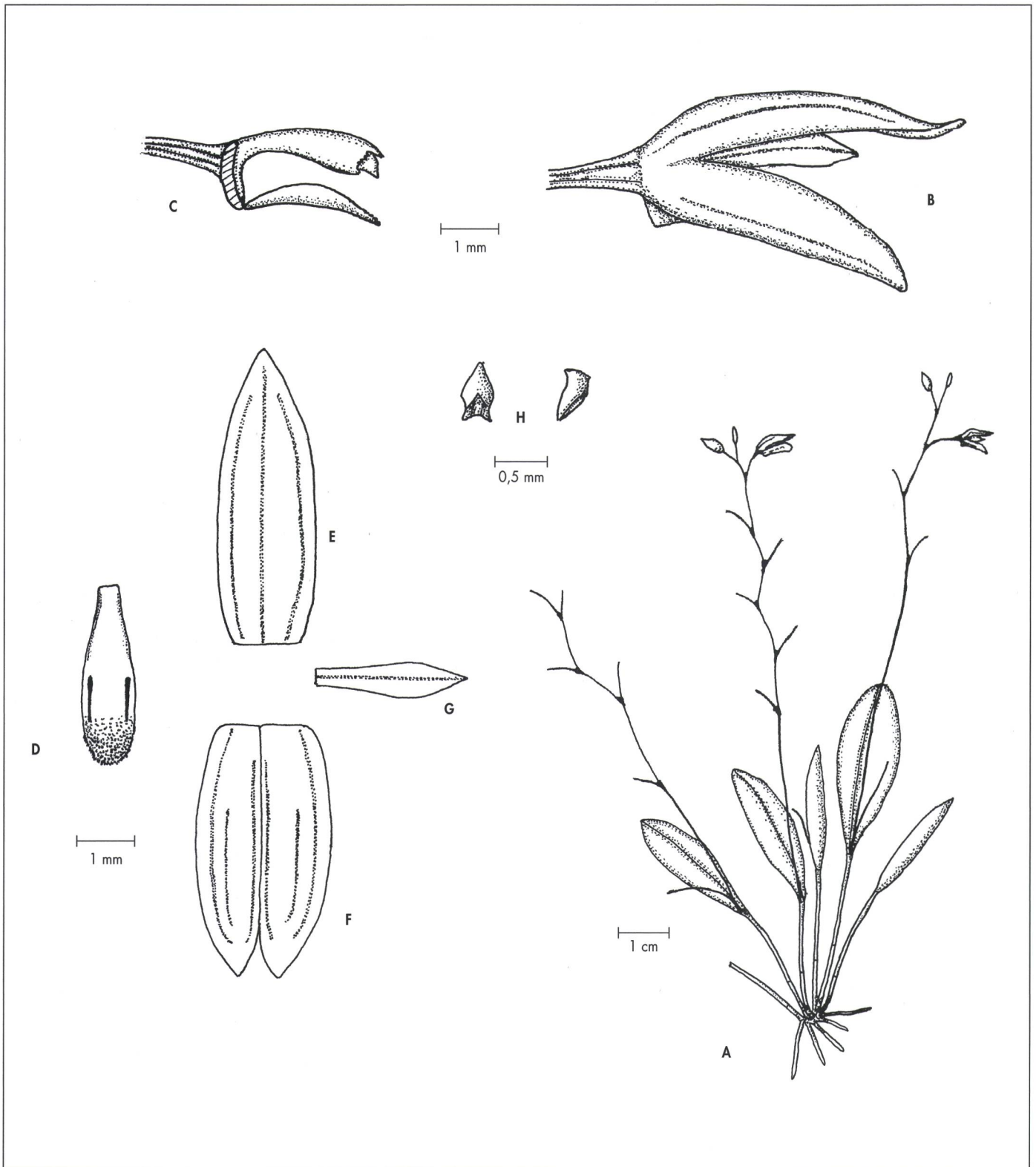


Fig. 2. – *Pabstiella cipoensis* L. Kollmann. **A.** Plant in flower; **B.** Flower; **C.** Ovary, column and lip, lateral face; **D.** Lip, ventral face; **E.** Dorsal sepal; **F.** Lateral sepal; **G.** Petal; **H.** Anther, ventral view, left; lateral view, right.

[Kollmann 10000, MBML] [Drawn by L. Kollmann]

Due to the endemic distribution of *P. cipoensis*, the estimated extension of its occurrence to be less than 10 km², it seems appropriate to include this species in the “Critically Endangered” (CR) category (B2ab(iii)) according to the criteria adopted by IUCN (2001).

Pabstiella cipoensis L. Kollmann is similar to *P. armenica* (Barb. Rodr.) L. Kollmann due to the lip without lateral lobes, 2 parallel callosities on the disc and the papillate apex. On the other hand, the new species can be distinguished from it by the many-flowered inflorescence (vs. single-flowered) and twice longer than the leaf (vs. less than twice longer than the leaf), petal oblanceolate (vs. cuneate), apex acute (vs. obtuse). *Pabstiella cipoensis* also resembles *P. ramphastorhyncha* (Barb. Rodr.) L. Kollmann by the 2 parallel callosities on the disc and papillate apex, but differ from it by the lip without lateral lobes, the leaf elliptic-obovate (vs. linear-oblong to elliptic-linear), petal oblanceolate (vs. spatulate), base of the lip without minute rounded lobe at both corners (vs. base of the lip with minute rounded lobe at both corners).

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