

Critical notes on *Draconanthes aberrans* (Orchidaceae, Pleurothallidinae) with description of new species

Marta KOLANOWSKA^{1,2}, Sławomir NOWAK^{3,*}, Dariusz L. SZLACHETKO³

¹Department of Geobotany and Plant Ecology, Faculty of Biology and Environmental Protection, University of Lodz, Lodz, Poland

²Department of Biodiversity Research, Global Change Research Institute AS CR, Brno, Czech Republic

³Department of Plant Taxonomy and Nature Conservation, University of Gdańsk, Gdańsk, Poland

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Abstract: The actual variation and specific diversity of Neotropical *Draconanthes aberrans* is evaluated based on morphological data. As recognized in this paper *D. aberrans* complex includes a total of 6 species, 3 of which are described here. New combinations are proposed for *Lepanthes prionota* and *L. trachysepala*. Two species, including *D. aberrans*, are lectotypified. The previous incorrect typifications are discussed. Each of 6 species is morphologically characterized. The perianth segments of all discussed taxa are illustrated. The key to identification of species belonging to the *Draconanthes aberrans* complex is presented together with the comparative morphology of studied taxa.

Key words: *Lepanthes*, morphology, species complex, taxonomy

1. Introduction

Lepanthes Sw. subgenus *Draconanthes* Luer (Orchidaceae) was established in 1986 to accommodate 4 high-Andean species (Luer 1986). This taxon was typified by *Lepanthes aberrans* Schltr., formally described in 1915 (Schlechter, 1915). All 4 species assigned to this subgenus can be defined by the set of common characters. Unifoliate ramicauls of these plants are enclosed by a lepanthiform sheaths (Luer, 1986). The inflorescence is racemose, composed of successive, resupinate flowers (Luer, 1986). The outer surface of the flower segments is verrucose. The petals are unlobed, linear to oblong (Luer, 1986). The helmet-like dorsal sepal is larger than lateral sepals and it envelops gynostemium (Luer, 1986). The fleshy, verrucose, 3-lobed lip is sagittate to cordate in outline, with lateral lobes upward and surrounding a slender gynostemium (Luer, 1986). The lip base is long-clawed and connate to the base of the column (Luer, 1986). According to our observations, their gynostemium is slender, terete, slightly arcuate, basally swollen, with much protruding ligulate to long triangular rostellum, and erect, dorsal anther. The most unique character of *Lepanthes* subgenus *Draconanthes* is the lower surface of the lip - in 3 of the genus representatives it is ornamented with protruding, horn-like or irregular calli, often adorned with additional processes.

In 1996 Luer elevated subgenus *Draconanthes* to the rank of genus and modified species concept in it (Luer, 1996). He recognized only 2 species in the newly created taxon: *D. aberrans* (Schltr.) Luer and *D. bufonis* (Luer & Hirtz) Luer, simultaneously considering *L. trachysepala* Schltr and *L. prionota* Luer & Hirtz as synonyms of *D. aberrans*. However, in the new concept *D. aberrans* presented an extremely broad spectrum of morphological variability, not common in pleurothallid orchids.

The closest relatives of *Draconanthes* are representatives of *Lepanthes* (Pérez-Escobar et al., 2017; Bogarín et al., 2018). In the latter genus extremely high level of endemism can be observed. For example, only 3 of more than 90 species of this taxon reported from the Caribbean islands were found in more than 1 island (Tramblay et al., 1998). In Colombia ca. 71% of national *Lepanthes* representatives are endemics (Bernal et al., 2016). Considering the close relationship between both genera the similar endemism level could be observed also in *Draconanthes* and that the current broad concept of *D. aberrans* is misleading. Moreover, merging several species into one can result in decrease of species conservation efforts - larger taxon characterized by a broader range is usually downgraded to a lower category of conservation concern (Morrison III et al., 2009). The available data suggest that species of *Draconanthes* can grow sympatrically - *D. bufonis* and

* Correspondence: martakolanowska@wp.pl

Lepanthes prionota were found flowering at the same time in the cloud forest above Jimbura, Ecuador.

Due to morphological differences and existence of geographical gaps between populations of *D. aberrans*, we propose narrower concept of species classified in *D. aberrans*-complex.

2. Materials and methods

Flowers preserved in alcohol and dried specimens of *Lepanthes* s.l. deposited in AMES, COL, HA, HBG, HUTPL, LOJA, MO, P, Q, QCNE, QPLS, US, and W (Thiers 2019) were examined according to the standard procedures. Each studied sheet was photographed and the data from the labels were taken. Both vegetative and reproductive characters of every plant were studied. The length of ramicaul and presence of sheaths/leaves were examined first. The morphology of the flower was examined after it was softened in boiling water. The surface of each floral element was studied under a stereomicroscope. The examined specimens were compared with original diagnoses and illustrations.

Digital photographs of *Draconanthes ecuadoriana* were taken using a digital camera Leica DFC295 connected with a Leica M205C stereomicroscope and compiled by LAS v.4.5 Ink. software.

3. Results and discussion

Key to the species of *Draconanthes aberrans*-complex

1. Plants very small, up to 5 cm tall, with a shortened ramicaul up to 1.4 cm long *D. ecuadoriana*
- 1* Plants at least 10 cm tall, with ramicauls 3–15 cm long 2
2. Lip apex truncate *D. lueriana*
- 2* Lip apex rounded 3
3. Lip undersurface callus dentate-fringed or fimbriate 4
- 3* Lip undersurface callus with glabrous or papillose-ciliolate margin 5
4. Lip with a pair of horn-like, acute appendages near the base *D. venezuelana*
- 4* Lip with a thick, 3-parted, verrucose-spiculate, descending callus above the base *D. prionota*
5. Lip blade wider than long or equally long and wide *D. aberrans*
- 5* Lip blade longer than wide *D. trachysepala*

Taxonomic treatment

Draconanthes aberrans (Schltr.) Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 61(1): 3. 1996. ≡ *Lepanthes aberrans* Schltr., Repert. Spec. Nov. Regni Veg. 14: 125. 1915; **Type:** ECUADOR. In clivis occidentalibus montis Pichincha prope Lloa. *L. Sodiro 21* (B†; QPLS?); Pichincha, Atacaso. Alt. 3500 m. *Hirtz 1056* (MO, neotype designated by Luer (1996); SEL, isoneotype). (Figure 1A-E)

Plant up to 25 cm tall, caespitose. Ramicaul up to 17 cm long, slender, erect, enclosed by 5–6 lepanthiform sheaths. Leaf erect, coriaceous, about 5 cm long (including short petiole), 0.5–0.7 cm wide, elliptic-ligulate, apiculate. Inflorescence a subax, pendent, successively few-flowered raceme up to 8 cm long including the slender peduncle. Floral bracts ca. 3 mm long. Ovary with pedicel ca. 3 mm long, verrucose. Sepals pubescent-spiculate externally. Dorsal sepal 7 mm long, 4 mm wide, concave, ovate, acuminate, 3-veined. Lateral sepals basally shortly connate, diverging, 7 mm long, 1.5 mm wide, obliquely oblong-lanceolate, acuminate, 1-veined. Petals 6 mm long, 0.6 mm wide, subfalcate-linear, subacute, 1-veined. Lip 5 mm long, 4 mm wide, long-unguiculate, claw channelled, basally connate to the column; lamina ovate-cordate in outline, 3-veined, fleshy, obscurely 3-lobed, undersurface verrucose with the conical, hooked callus; lateral lobes surrounding the column, margin crenate, apex obtuse. Gynostemium 3 mm long, erect, slender.

Notes: Luer (1996) designated a specimen collected by *Hirtz 1056* (MO) as a lectotype of *Lepanthes aberrans* Schltr. However, his lectotypification is obviously cannot be accepted because *Hirtz's* gathering is not a part of the original material. The term “lectotype” should be corrected to “neotype” under the terms of Art. 9.10. of ICN (Turland et al., 2018).

The extensive orchid collection made by Luis Sodiro is deposited in the herbarium of the Biblioteca Ecuatoriana Aurelio Espinosa Pólit (QPLS). However, during our visit in this facility we did not find specimens numbered as *Sodiro 21*. Nevertheless, numerous specimens in QPLS herbarium are not marked in detail so we cannot exclude the possibility that the specimen from the original collection is placed in this institution.

Draconanthes ecuadoriana Kolan., S. Nowak & Szlach., **sp. nov.** (Figure 2A-H, Figure 3A-D, Figure 4)

Type: ECUADOR. Loja. *Ecuagenera sub. Kolanowska & Nowak s.n.* (HA!, holotype; UGDA!, isotype).

Etymology: In reference to the country of origin of the type specimen.

Diagnosis: Species similar to *D. prionota* distinguished by smaller plant size (up to 15 cm tall), short ramicaul (up to 1.4 mm long), distinctly 3-lobed lip with suborbicular middle lobe, serrate margins of lateral lobes, lip disc ornamented with 2 parallel lamellae, and the lip undersurface ornamented with a descending, dentate-fringed callus and triangular projection.

Plant up to 5 cm tall, caespitose. Ramicaul 0.7–1.4 cm long, slender, erect, with 3 lepanthiform (in all examined plants), ciliate sheaths. Leaf 1.4–1.7 cm long, 0.8 cm wide, coriaceous, elliptic, acute, margin serrate near the apex. Inflorescence successively 4–6-flowered, peduncle up to 3.5 cm long, erect, raceme up to 1.5 cm long, pendent.

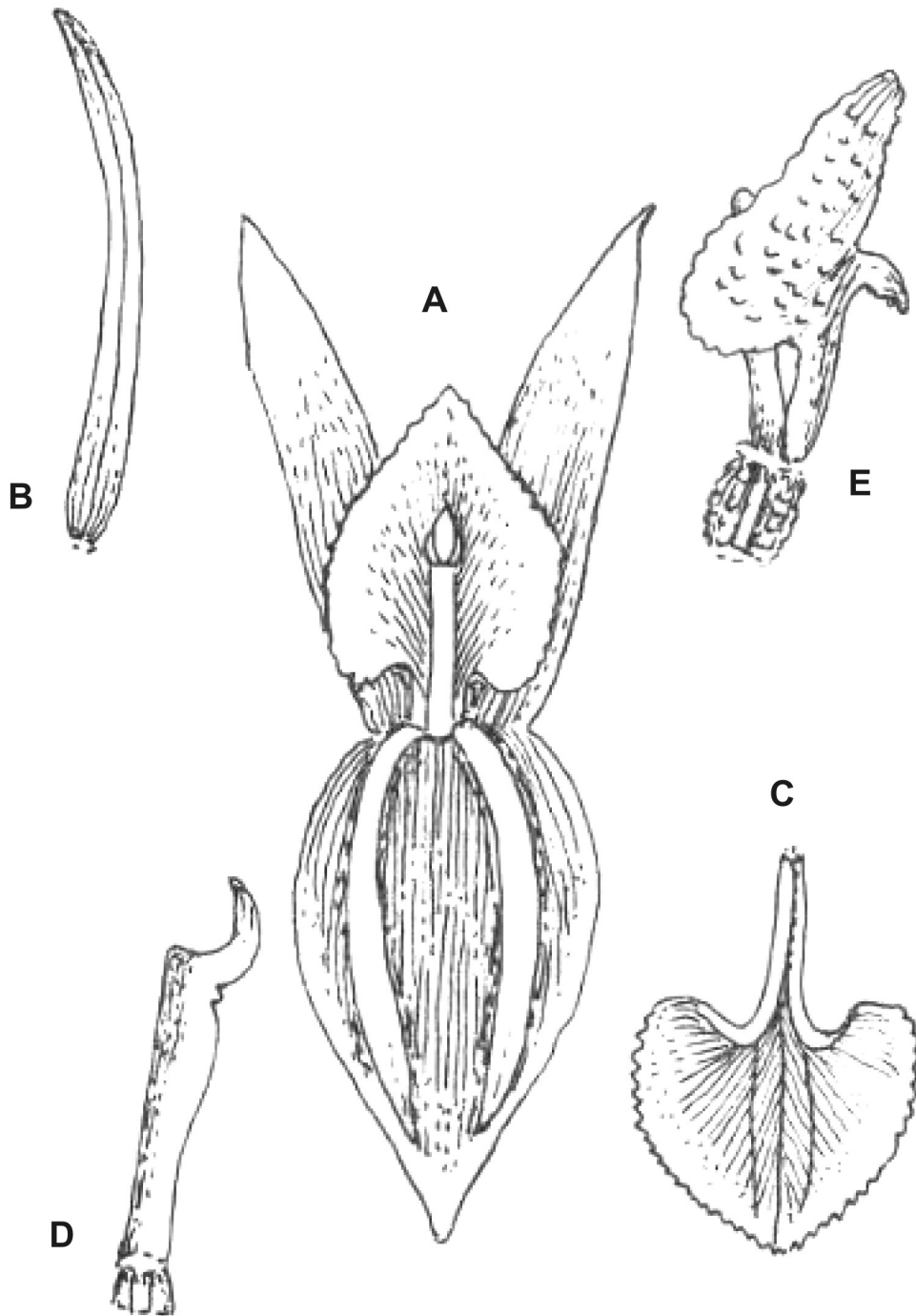


Figure 1. *Draconanthes aberrans* (Schltr.) Luer – original Schlechter's illustration of *Lepanthes aberrans* published by Mansfield (1929). A: Flower, B: Petal, C: Lip, front view, D: Gynostemium, side view, E: Gynostemium and lip, side view.

Flowers purple-red. Floral bracts ca. 1.8 mm long, tubular, ciliate. Ovary 1.2 mm long, verrucose; pedicel 2 mm long. Sepals externally verrucose. Dorsal sepal 7 mm long, 3.5 mm wide, concave, ovate, acuminate, 3-veined, margin serrate. Lateral sepals shortly connate at the base (for ca.

0.5 mm), 8 mm long, 2 mm wide, not diverging, narrowly oblong-ovate, acute, 1-veined, margins incurved, serrate. Petals 6 mm long, 0.7 mm wide, linear, acute, falcate, 1-veined. Lip 4 mm long, 2.2 mm wide, long-unguiculate, connate to the column above its base, claw shallowly

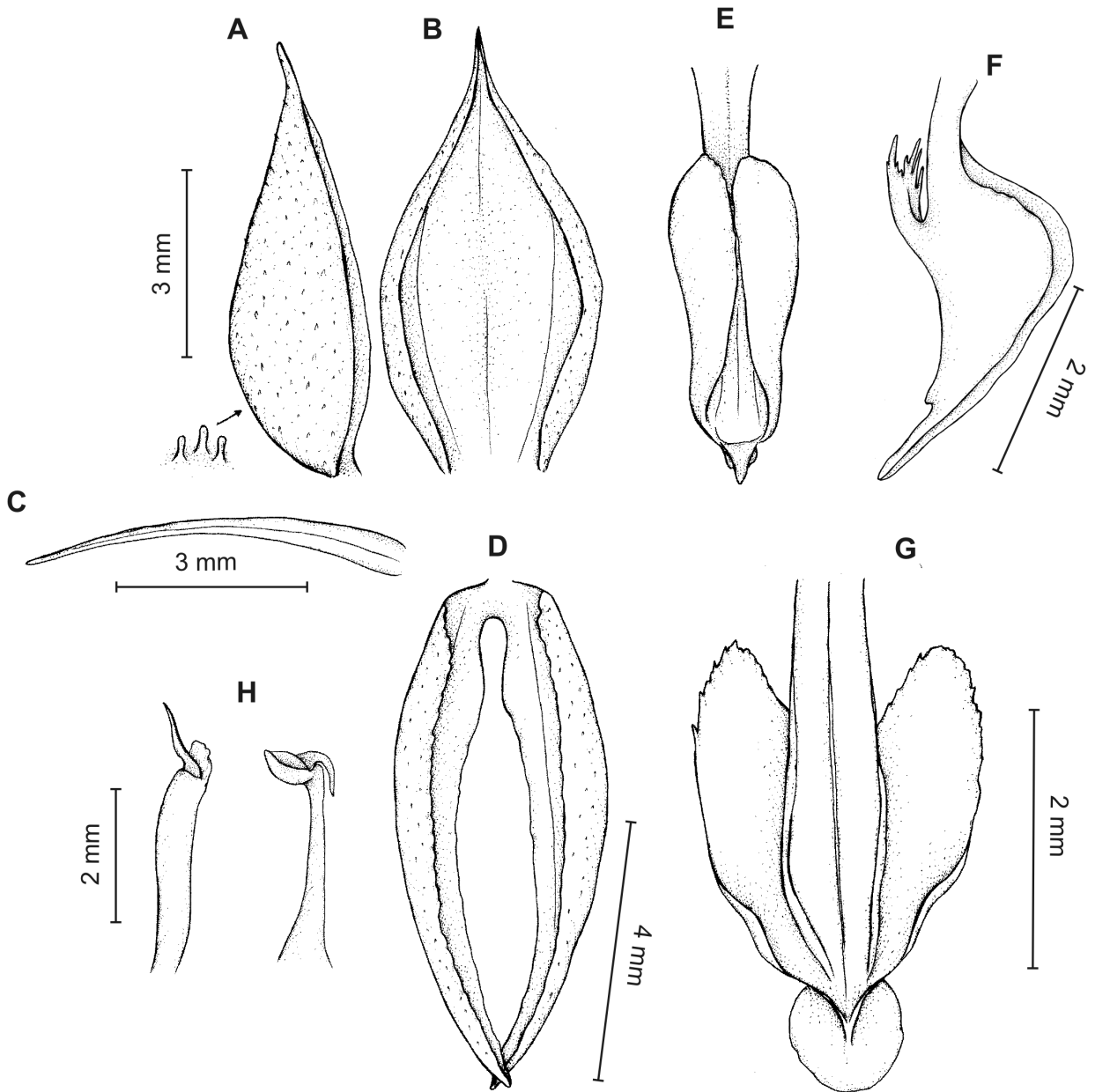


Figure 2. *Draconanthes ecuadoriana* Kolan., S. Nowak & Szlach. A: Dorsal sepal, side view, B: Dorsal sepal, front view, C: Petal, D: Lateral sepals, E: Gynostemium and lip, upper view, F: Lip, side view, G: Lip, front view when flattened, H: Gynostemium.

channelled; lamina 3-lobed, 3-veined, fleshy, with 2 parallel lamellae in the central part, undersurface with a descending, dentate-fringed callus and minute triangular projection; lateral lobes obliquely ovate, surrounding the column, verrucose externally and serrate along margin; middle lobe suborbicular when spread, rounded at the apex. Gynostemium 5–6 mm long, slender, suberect.

Notes. This is the smallest representative of the genus. The whole plant is less than 5 cm tall, with very short ramicaul up to 1.4 mm long. From the similar *D. prionota* the new species differs in 3-lobed lip with suborbicular

lip middle lobe, serrate margins of lateral lobes, and the presence of minute triangular projection on the lip undersurface (Fig. 3A-B). Moreover, the dentate-fringed callus is not composed of distinctive 3 parts and the lip disc is ornamented with 2 parallel lamellae. We did not record any plants with broadly opened flowers – we suppose this species is cleistogamous. The comparative morphology of the new species and other *Draconanthes aberrans*-complex representatives are presented in the Table.

***Draconanthes lueriana* Kolan., S. Nowak & Szlach., sp. nov.** (Figure 5A-G)

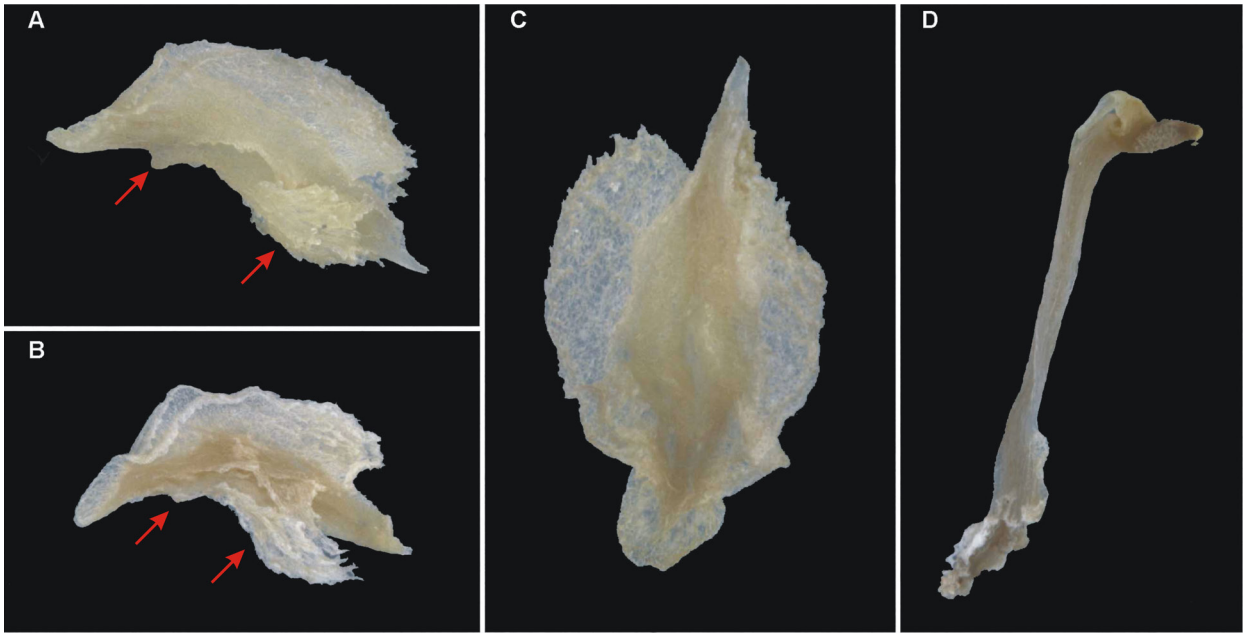


Figure 3. *Draconanthes ecuadoriana* Kolan., S. Nowak & Szlach. - photos taken using Leica stereoscopic microscope. A-B: Lip, side view, C: Lip, ventral view, D: Gynostemium. Lip undersurface callus pointed with arrows.



Figure 4. *Draconanthes ecuadoriana* Kolan., S. Nowak & Szlach. In situ photos (A, B – Kolanowska, C – Nowak).

Table. Comparative morphology of species belonging to *Draconanthes aberrans*-complex.

	<i>D. aberrans</i>	<i>D. ecuadoriana</i>	<i>D. lueriana</i>	<i>D. prionota</i>	<i>D. trachysepala</i>	<i>D. venezuelana</i>
Plant size	up to 25 cm	up to 5 cm	ca. 15 cm	up to 15 cm	20–25 cm	ca. 20 cm
Ramical length	up to 17 cm	0.7–1.4 cm	up to 5 cm	3–10 cm	5–7 cm	4–6.5 cm
Lepanthiform sheaths	5–6	3	4–5	4–7	4–5	3–5
Leaf	about 5 × 0.5–0.7 cm, elliptic-ligulate, apiculate	1.4–1.7 × 0.8 cm, elliptic, acute	up to 2.5 × 0.8 cm, narrowly elliptic, acute	2.5–5 × 0.8–1.5 cm, elliptic, acute, base truncate into a petiole 2–5 cm long	about 2.5 cm × 1 cm, oblong, obtuse	about 3.5 cm × 1.5 cm, oblong-elliptic, obtuse, apiculate
Inflorescence size	up to 8 cm	up to 5 cm	11.5 cm	up to 10 cm	up to 5 cm	up to 15 cm
Dorsal sepal	7 × 4 mm, concave, ovate, acuminate, 3-veined	7 × 3.5 mm, concave, ovate, acuminate, 3-veined	8.5 × 4.3 mm, concave, ovate, acuminate, 5-veined	9 × 4.5 mm, concave, ovate, acuminate, 5-veined	7 × 2.8 mm, concave, ovate, acute, 3-veined	7 × 3.7 mm, concave, ovate-elliptic, acuminate, 3-veined
Lateral sepals	basally shortly connate, diverging, 7 × 1.5 mm, obliquely oblong-lanceolate, acuminate, 1-veined	basally shortly connate, not diverging, 8 × 2 mm, narrowly oblong-ovate, acute, 1-veined	shortly connate at the base, 8.8 × 1.6 mm, diverging, narrowly oblong-lanceolate, acute, 1-veined	shortly connate at the base, 10 × 2 mm, diverging, narrowly triangular, acute, 1-veined	basally shortly connate, 7 × 1.8 mm, diverging, narrowly lanceolate, acute, 1-veined	basally shortly connate, 8 × 1.3 mm, diverging, narrowly lanceolate-triangular, acute, 1-veined
Petals	6 × 0.6 mm, subfalcate-linear, subacute, 1-veined	6 × 0.7 mm, linear, acute, falcate, 1-veined	6.8 × 0.6 mm, linear, acute, 1-veined	8 × 0.4 mm, narrowly linear, acute, 1-veined	5.5 × 0.4 mm, linear-falcate, subacute, 1-veined	6.3 × 0.7 mm, obliquely linear, acute, 1-veined
Lip lamina	5 × 4 mm, ovate-cordate in outline, obscurely 3-lobed, 3-veined, fleshy	4 × 2.2 mm, 3-lobed, 3-veined, fleshy, with 2 parallel lamellae in the central part	4.5 × 3.8 mm, cordate-ovate in outline, obscurely 3-lobed, 3-veined, fleshy, verrucose	4 × 2 mm, subpentagonal in outline, obscurely 3-lobed, cannot be expanded, fleshy	5 × 2.5 mm, sagittate in outline, 3-lobed, 3-veined, fleshy	4.3 × 2.8 mm, cordate in outline, 3-lobed, 3-veined, fleshy
Lip claw	channelled	channelled	channelled	channelled	flat	channelled
Lip undersurface callus	conical, hooked callus	descending, dentate-fringed callus and minute triangular projection	descending, massive crest-shaped callus	verrucose, above the base with a thick, 3-parted, verrucose-spiculate, descending callus	callus lamelliform	a basal pair of horn-like, acute appendages and a conical, fimbriate appendix between them, the additional obtuse thickening is observed also in the apical third part of the undersurface
Gynostemium	3 mm long	5–6 mm long	4 mm long	5.5 mm long	4.5 mm long	3.5 mm long

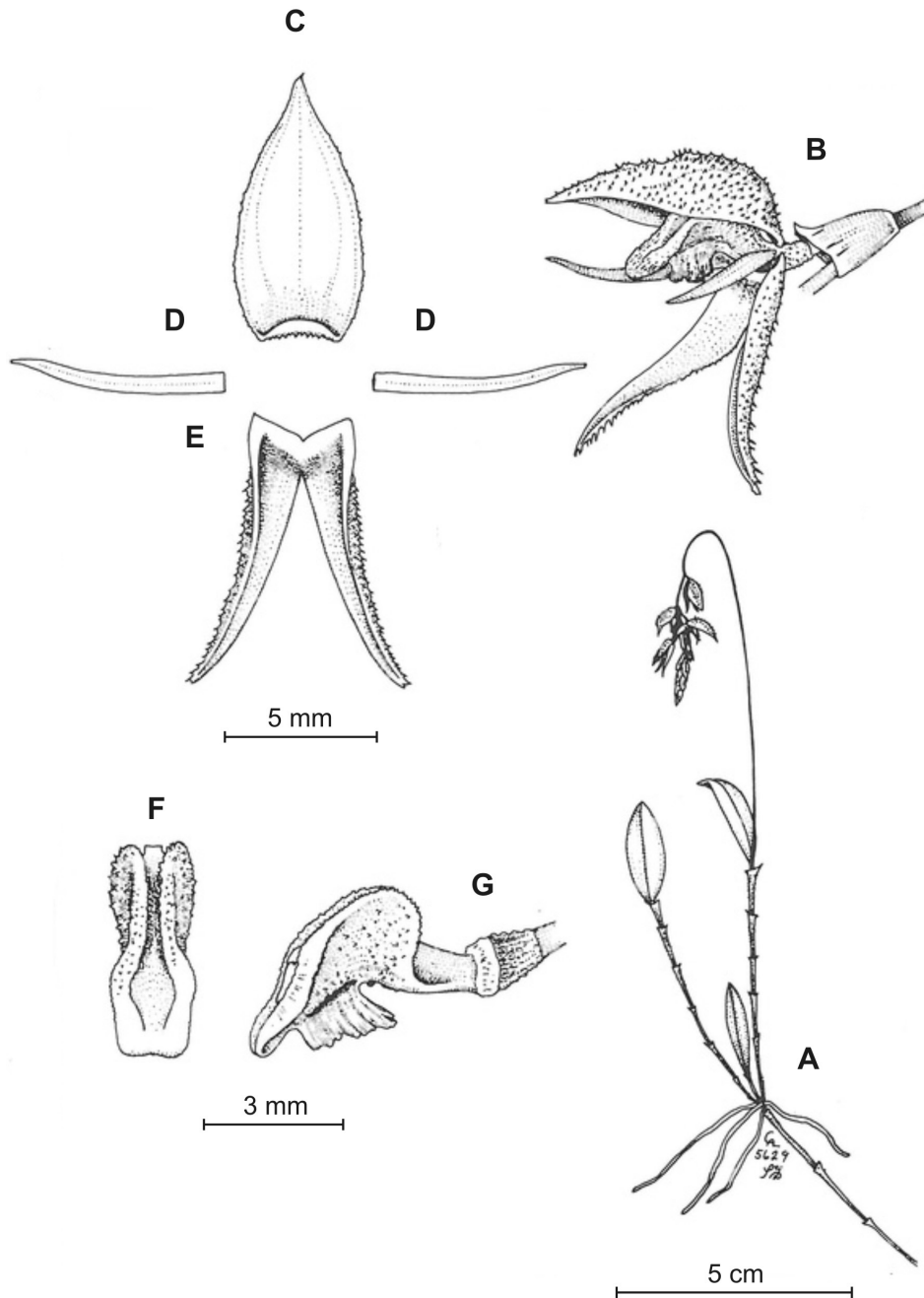


Figure 5. *Draconanthes lueriana* Kolan., S. Nowak & Szlach., sp. nov. A: Habit, B: Flower, C: Dorsal sepal, D: Petal, E: Lateral sepals, F: Lip, front view, G: Lip and ovary, side view. Illustration reproduced with the permission of the Missouri Botanical Garden Press from Luer (1996, *Icones Pleurothallidarum* XIV, figure 3).

Type: BOLIVIA. Cochabamba. Capare, terrestrial on wet embankment, Balconcillo. Alt. 3260 m. 13 January 1981. *Luer & al.* 5629 (SEL, holotype).

Etymology: Dedicated to C. A. Luer

Diagnosis: Species similar to *D. prionota* distinguished by the apically truncate lip middle lobe and the presence of descending, massive, crested callus on the undersurface.

Plant about 15 cm tall, caespitose. Ramicaul up to 5 cm long, slender, erect, with 4–5 lepanthiform, ciliate sheaths. Leaf up to 2.5 cm long, 0.8 cm wide, narrowly elliptic, acute. Inflorescence successively few-flowered, peduncle 8.5 cm long, erect, raceme ca. 3 cm long, pendent. Floral bract ca. 3 mm long, tubular. Ovary 1.4 mm long, verrucose; pedicel 3 mm long. Sepals externally verrucose.

Dorsal sepal 8.5 mm long, 4.3 mm wide, concave, ovate, acuminate, 5-veined, margin serrate. Lateral sepals shortly connate at the base, 8.8 mm long, 1.6 mm wide, diverging, narrowly oblong-lanceolate, acute, 1-veined. Petals 6.8 mm long, 0.6 mm wide, linear, acute, 1-veined. Lip 4.5 mm long, 3.8 mm wide, 3-veined, shortly unguiculate, connate to the column above its base, claw channelled; lamina cordate-ovate in outline, obscurely 3-lobed, fleshy, verrucose, undersurface with a descending, massive crest-shaped callus; lateral lobes obliquely ovate, surrounding the column, verrucose externally and serrate along margin; middle lobe subquadrate when spread, truncate at the apex. Gynostemium 4 mm long, slender, suberect.

Notes: This species was illustrated by Luer (1996 - figure 3) but considered by this author as representative of *D. aberrans*. However, in our opinion, the lip and undersurface callus shape distinguishes it from all other genus representatives. The descending, crested callus is not observed in other *Draconanthes* as well as the subrectangular, apically truncate lip middle lobe.

Draconanthes prionota (Luer & Hirtz) Kolan., S. Nowak & Szlach., **comb. nov.** (Figure 6A-H)

Basionym: *Lepanthes prionota* Luer & Hirtz, *Lindleyana* 2(2): 102. 1987; **Type:** ECUADOR. Loja. Epiphytic in cold, cloud forest above Jimbura, alt. 3350 m, 21 March 1984. *C. Luer, S. Dalström, T. Höjjer & J. Kuijt 9635* (MO, holotype).

Plant up to 15 cm tall, caespitose. Ramicaul 3–10 cm long, slender, erect, enclosed by 4–7 ciliate, lepanthiform sheaths. Leaf 2.5–5 cm long, 0.8–1.5 cm wide, erect, coriaceous, elliptic, acute, base cuneate into a petiole 2–5 cm long. Inflorescence a loose, successively few-flowered, pendent raceme up to 2.5 cm long, borne by a slender, arching peduncle 2.5–7.5 cm long. Floral bracts 3 mm long, shortly spiculate. Ovary 1 mm long, verrucose; pedicel 1 mm long. Sepals dark red-purple, sometimes yellow, fleshy, verrucose externally, petals red-purple, lip dark red-purple. Dorsal sepal 9 mm long, 4.5 mm wide, concave, ovate, acuminate, 5-veined. Lateral sepals 10 mm long, 2 mm wide, narrowly triangular, acute, diverging, 1-veined, connate basally for 1 mm. Petals 8 mm long, 0.4 mm wide, narrowly linear, acute, 1-veined. Lip 4 mm long, 2 mm wide, shortly unguiculate, connate to the column above its base, claw shallowly channelled; lamina subpentagonal in outline, obscurely 3-lobed, cannot be expanded, fleshy, undersurface verrucose, above the base with a thick, 3-parted, verrucose-spiculate, descending callus 5 mm long; lateral lobes thick, erect, broadly rounded, surrounding the column; apex rounded. Gynostemium 5.5 mm long, suberect, slender.

Notes: This species is easily distinguishable by relatively large, jagged, and 3-pronged? callus. Luer and Hirtz (1987) mistakenly illustrated this species with the same figure as *Lepanthes bufonis* Luer & Hirtz.

Draconanthes trachysepala (Schltr.) Kolan., S. Nowak & Szlach., **comb. nov.** (Figure 7A-H)

Basionym: *Lepanthes trachysepala* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 7: 100. 1920; **Type:** COLOMBIA. Cauca. An Erdwällen um La Laguna, auf dem Paramo von Guanacas. 3500–4000 m. *F.C. Lehmann 6910* (B⁺); COLOMBIA. Nariño. Alt. 3000 m. 26 January 1987. *Luer et al. 12520* (MO, neotype designated by Luer (1996)).

Plant 20–25 cm tall, caespitose. Ramicaul 5–7 cm long, slender, erect, enclosed by 4–5 ciliate, lepanthiform sheaths. Leaf about 2.5 cm long (including short petiole), 1 cm wide, erect, coriaceous, oblong, obtuse. Inflorescence a subax, successively few-flowered raceme up to 5 cm long including the slender peduncle. Floral bracts ca. 3.5 mm long. Ovary with pedicel ca. 3 mm long, verrucose. Flowers pale brown, sepals pubescent-spiculate externally. Dorsal sepal 7 mm long, 2.8 mm wide, concave, ovate, acute, 3-veined. Lateral sepals basally shortly connate, diverging, 7 mm long, 1.8 mm wide, narrowly lanceolate, acute, 1-veined. Petals 5.5 mm long, 0.4 mm wide, linear-falcate, subacute, 1-veined. Lip 5 mm long, 2.5 mm wide, long-unguiculate, claw flat, connate to the column above its base; lamina sagittate in outline, 3-veined, fleshy, 3-lobed, externally verrucose, with a lamelliform callus on the undersurface; lateral lobes surrounding the column, externally verrucose; middle lobe ligulate-ovate, obtuse, margin papillose-ciliolate. Gynostemium 4.5 mm long, slender, erect.

Notes: Luer (1996) considered this species as conspecific with *D. aberrans*, but at the same time he selected *Luer et al. 12520* specimen (MO) as a lectotype of *Lepanthes trachysepala* Schltr. The term “lectotype” used by Luer should be corrected to “neotype” under the terms of Art. 9.10. of ICN (Turland et al., 2018).

D. trachysepala differs from *D. aberrans* in the lip form (lanceolate-triangular in outline above the claw vs subcordate) and the ornamentation of the lip undersurface. In *D. trachysepala* a lamelliform callus on the undersurface is observed while in *D. aberrans* the callus is conical.

Draconanthes venezuelana Kolan., S. Nowak & Szlach., **sp. nov.** (Figure 8A-I)

Type: VENEZUELA. Táchira: Lithophytic in bed of Quebrada Las Copas, headwaters of Río Quinimari. Alt. ca. 2400 m. Jan 1968. *G.C.K. Dunsterville 1028* (AMES – spirit, holotype).

Etymology: In reference of the country of origin of the type specimen.

Diagnosis: Species distinguished by the presence of a pair of basal, horn-like, acute appendages and a conical, fimbriate appendix between them.

Plant ca. 20 cm tall, caespitose. Ramicaul 4–6.5 cm long, slender, erect, enclosed by 3–5 ciliate, lepanthiform sheaths. Leaf erect, coriaceous, about 3.5 cm long, 1.5 cm

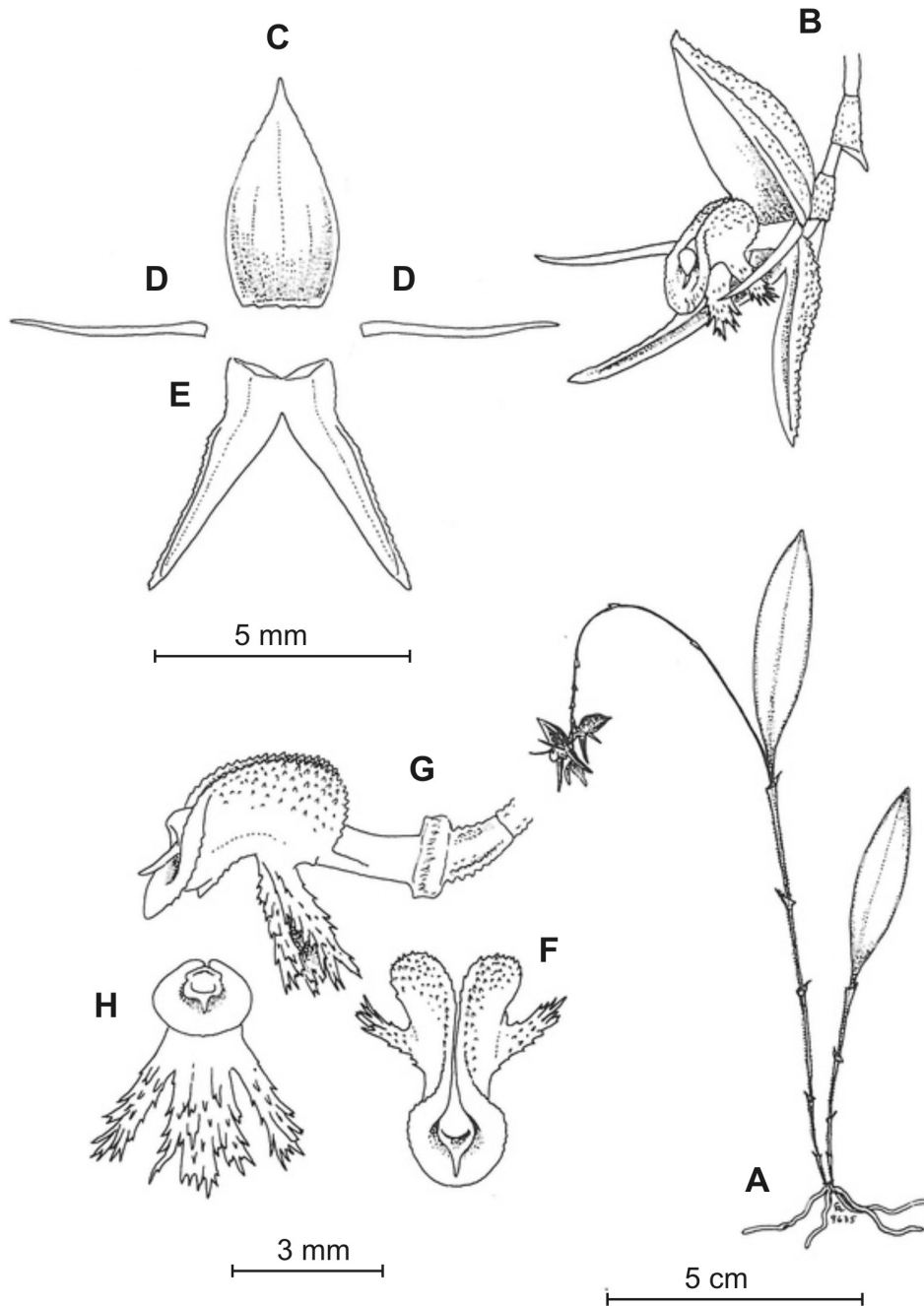


Figure 6. *Draconanthes prinota* (Luer & Hirtz) Kolan., S. Nowak & Szlach. A: Habit, B: Flower, C: Dorsal sepal, D: Petal, E: Lateral sepals, F: Lip, front view, G: Lip and ovary, side view, H: Lip, undersurface. Illustration reproduced with the permission of the Missouri Botanical Garden Press from Luer (1996, *Icones Pleurothallidarum* XIV, figure 2).

wide, oblong-elliptic, obtuse, apiculate. Inflorescence a subdense, successively few-flowered raceme up to 15 cm long including the slender peduncle 12 cm long. Floral bracts ca. 4–5 mm long. Ovary with pedicel ca. 7–9 mm long, verrucose. Flowers brown-purple, tepals with pale purple, brown, or yellow spots (according to Foldats 1970). Dorsal sepal 7 mm long, 3.7 mm wide, concave, ovate-

elliptic, acuminate, 3-veined. Lateral sepals basally shortly connate, diverging, 8 mm long, 1.3 mm wide, narrowly lanceolate-triangular, acute, 1-veined. Petals 6.3 mm long, 0.7 mm wide, obliquely linear, acute, 1-veined. Lip 4.3 mm long, 2.8 mm wide, claw ca 2 mm long, channelled, connate to the column above its base; lamina cordate in outline, fleshy, 3-veined, externally verrucose, basal margins

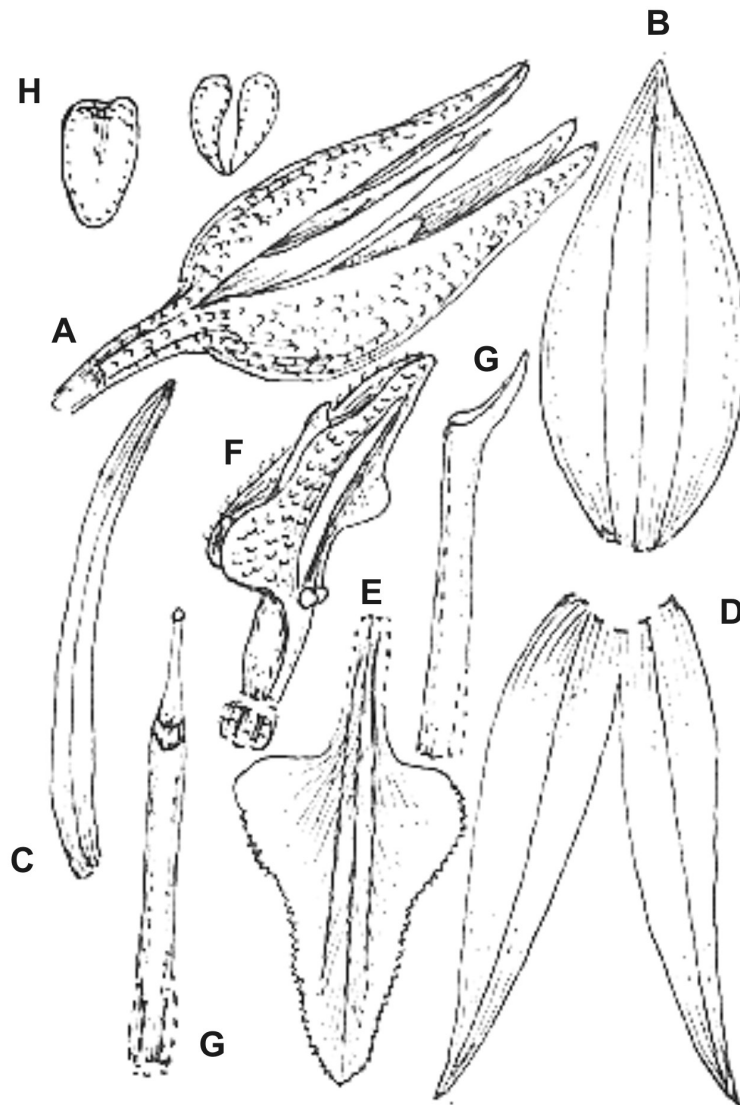


Figure 8. *Draconanthes venezuelana* Kolan., S. Nowak & Szlach. A: Habit, B: Inflorescence details, C: Flower, D: Dorsal sepal, E: Petal, F: Lateral sepals, G: Lip, side view, H: Lip and gynostemium, side view, I: Pollinia. Illustration reproduced from Dunsterville & Garay (1976).

microscopically denticulate, 3-lobed, undersurface with a basal pair of horn-like, acute appendages and a conical, fimbriate appendix between them, the additional obtuse thickening is observed also in the apical third part of the undersurface; lateral lobes surrounding the column, trapeziform, margin papillose-ciliolate; apex obtuse. Gynostemium 3.5 mm long, erect.

Notes: This species differs from all other representatives of *Draconanthes* by the presence of a pair of basal, horn-like, acute appendages and a conical, fimbriate appendix between them. The horn-like appendages are not observed in any other species in this genus. In the previous treatments of *Lepanthes* of Venezuela this species was recognized as *L.*

trachysepala from which it is clearly distinguished based on the ornamentation of the lip undersurface as well as by the lip lateral lobes being longer than middle lobe.

Notes on *Draconanthes bufonis*

Draconanthes bufonis (Luer & Hirtz) Luer (Figure 9) is not typical representative of the genus. Its inflorescence is relatively short (shorter than subtending leaf) and suberect vs. elongated (longer than subtending leaf) with pendent to nodding raceme in most of species. It has verrucose and bent downwards petals, which are glabrous and straight in other taxa. Unlike other representatives of the genus, *D. bufonis* has no callus on the lip undersurface. But in the form of dorsal sepal, lateral sepals and gynostemium it

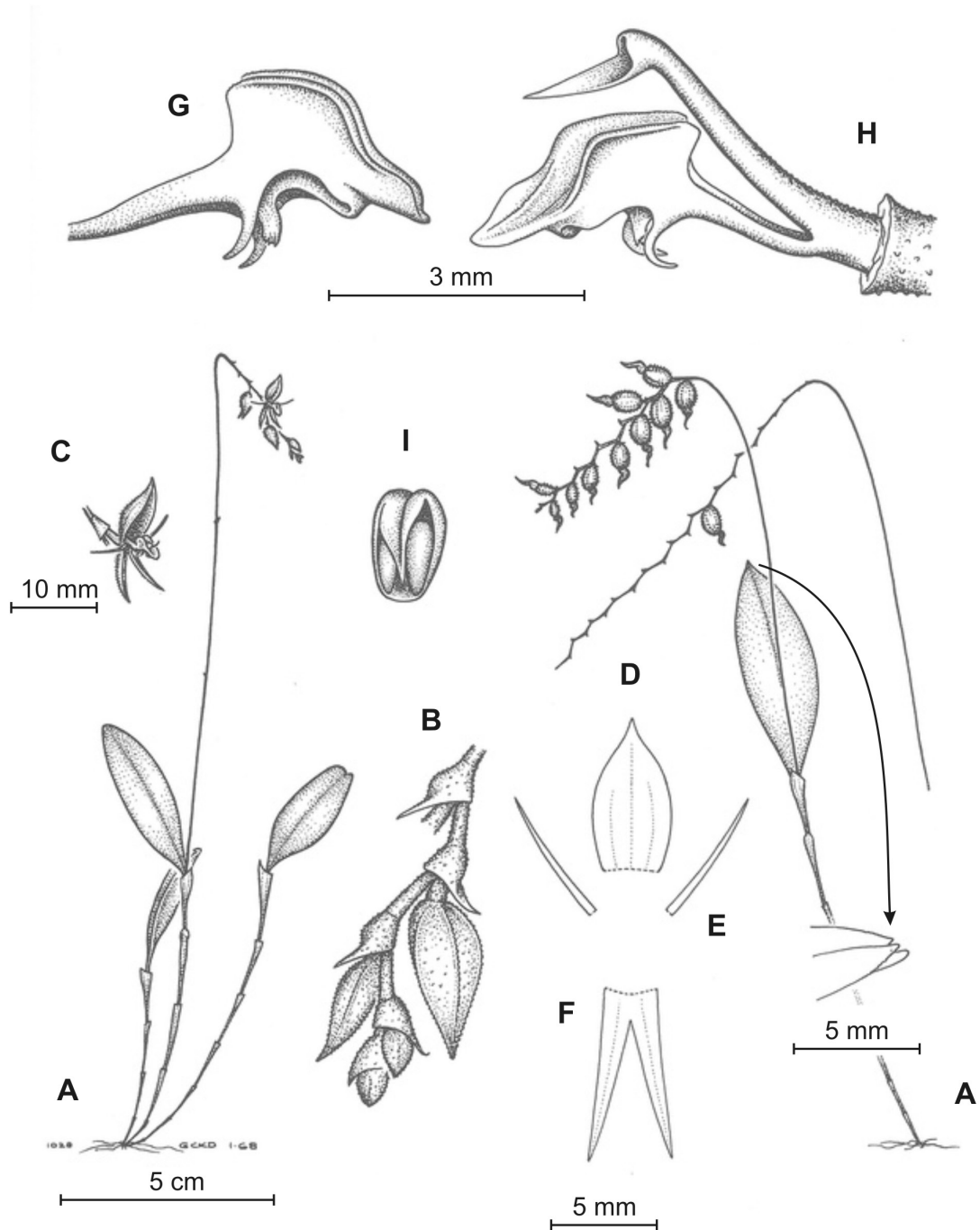


Figure 9. *Draconanthes bufonis* (Luer & Hirtz) Luer. A: Habit, B: Flower, C: Dorsal sepal, D: Petal, E: Lateral sepals, F: Lip, front view, G: Lip and ovary, side view. Illustration reproduced with the permission of the Missouri Botanical Garden Press from Luer (1996, *Icones Pleurothallidarum* XIV, figure 4).

fits well to other *Draconanthes* representatives. Without molecular studies it is difficult to confirm the proper generic placement of this species.

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