Selbyana 7(1): 34-54, 1982

A REEVALUATION OF THE GENUS *MYOXANTHUS* (ORCHIDACEAE)

*Carlyle A. Luer**

Presently residing within the conglomerate genus *Pleurothallis* R. Br. are 34 species which share a combination of characters sufficiently distinct to warrant their recognition as a genus. The idea, which is far from new, is supported by a study of vegetative anatomy reported in the following article by Pridgeon and Stern.

Based on a species superficially similar to *Pleurothallis*, Peoppig and Endlicher made the first of three previous attempts to recognize this genus when they described *Myoxanthus monophyllus* in 1835. In the opinion of Lindley, their criteria failed to sustain the proposal, and within the year, Lindley had reduced their species to *Pleurothallis* as *P. poeppigii.*

Karsten was the next author to identify a species of *Myoxanthus* as representing a new genus when he described *Duboisia reymondii* in 1847. Since the generic name was already occupied (*Duboisia* R. Br. in the Solanaceae), Karsten renamed the genus *Duboisia-Reymondia* the following year and added a second species ten years later. His criteria also failed to sustain the proposal. Reichenbach reduced the first of the two species to *Pleurothallis* in 1854 (*P. reymondii*), but it was not until 1919 that Schlechter eventually transferred the second (*P. lancipetala*).

The third independent effort to establish the genus, based on still two other species of *Myoxanthus*, was made by Barbosa Rodrígues in 1882 when he described *Chaetocephala punctata* and transferred his *Restrepia lonchophylla* to the genus. For the first time the shaggy-pilose cauline sheaths and solitary, fasciculate flowers were mentioned. Cogniaux transferred the former to *Pleurothallis* as *P. chaetocephala* (*punctata* being occupied), but the latter, although the epithet was older, had to fall into the synonymy of *P. warmingii*, a later synonym, because of prior use of *lonchophylla* in *Pleurothallis* by Reichenbach.

The species of *Myoxanthus* are characterized by a coarse, shortly to distinctly repent rhizome clothed in densely hispidulous sheaths. The secondary stems, prolific and scandent in some species, are well-developed, sometimes swollen at the base, and concealed by a few long, more or less imbricating, close, tubular sheaths bearing scale-like, often digitated trichomes, most dense on the lower sheaths. Simple trichomes appear on the sheaths of isolated species of other pleurothallid genera which are characterized by glabrous sheaths.

The leaves are joined to the secondary stems at an abscission layer a short distance above the emergence of the inflorescence. The foliar vascular bundles pass from the base of the secondary stem to the abscission layer without alteration or interruption at the level of the emergence of the inflorescence, that is, without the "node" as found in racemose species of *Masdevallia*, *Pleurothallis*, etc. The leaves may or may not be petiolate. The distinctive anatomy of the leaf is described in the following paper by Pridgeon and Stern.

The inflorescence is a fascicle of solitary, successive flowers, or a fascicle of numerous, simultaneous, single flowers springing from an aggregation of nodes exserted a short distance below the apex of the secondary stem (the abscission layer). The bracts, peduncles, pedicels, and ovaries usually bear trichomes. The sepals are usually free, but the lateral sepals may be connate

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in varying degrees. The apices of the elongated petals are often thickened, sometimes clavate, and in extreme cases, developed into osmophores. The lips display a potentiality for most of the characters found in other pleurothallid genera. They may be simple, 3- or even 5-lobed, with or without minute, membranous, basal lobules; the margins may be fringed, serrate, or entire; and the disc may be ecallose, uni-, or bicallose. The column is short, stout, and bi-alate, with or without terminal teeth; the anther is subapical and more or less hooded; the anther cap may or may not bear trichomes (a genetic propensity also found in other pleurothallid genera); the two pollinia are ovoid, lightly compressed medially, with small caudicles free from a viscidium; the rostellum and stigma are ventral; and the base of the column is produced into a well-developed foot to which the base of the lip is delicately hinged.

Some widespread species (e.g., *M. affinis*, *M. ceratothallis*, *M. scandens*) are variable in the size and shape of the vegetative and floral parts, but other species (e.g., *M. eumeces*, *M. georgei*, *M. sarcodactylae*) seem to be more constant in morphology and localized in distribution.

Myoxanthus Poepp. & Endl., Nov. Gen. Sp. Pl. 1: 50, 1835.

Etymology: From the Greek *myoxos* (μυωξος), "a dormouse," and *anthos* (ανθος), "flower," referring to some obscure character of the flower.

Type: *Myoxanthus monophyllus* Poepp. & Endl.

Syn: *Pleurothallis* sect. *Aggregatae* Lindl., Edward's Bot. Reg. 28: 77, 1842, in part.
Duboisia Karst., Allg. Gartenzeitung 15: 394, 1847, not R. Br. 1810.
Dubois-Reymondia Karst., Bot. Zeitung (Berlin) 6: 397, 1848.
Chaetocephala Barb. Rodr., Gen. Spec. Orchid. Nov. 2: 37, 1882.
Pleurothallis sect. *Chaetocephala* (Barb. Rodr.) Cogn., Fl. Bras. 3(4): 589, 1896.
Reymondia Karst. ex Kuntze, Lex. Gen. Phan. 481, 1903.

The following list of species includes 33 transfers from *Pleurothallis* and one new species.

Myoxanthus affinis (Lindl.) Luer, comb. nov.
Pleurothallis affinis Lindl., Companion Bot. Mag. 2: 354, 1836.
Pleurothallis rigidifolia Rchb. f., Bonplandia 3: 224, 1855.
Humboldtia affinis (Lindl.) Kuntze, Rev. Gen. Pl. 2: 667, 1891.
Humboldtia rigidifolia (Rchb. f.) Kuntze, Rev. Gen. Pl. 2: 668, 1891.
Pleurothallis furfuracea Lehm. & Krzl., Bot. Jahrb. Syst. 26: 441, 1899.

DISTRIBUTION: Panama, Colombia, Ecuador, Peru, and Bolivia
ILLUSTRATION: Selbyana 1: 226, 1975

Myoxanthus beyrichii (Rchb. f.) Luer, comb. nov.
Pleurothallis beyrichii Rchb. f., Linnaea 22: 829, 1849.
Humboldtia beyrichii (Rchb. f.) Kuntze, Rev. Gen. Pl. 2: 667, 1891.

DISTRIBUTION: Southern Brazil.

Myoxanthus ceratothallis (Rchb. f.) Luer, comb. nov.
Pleurothallis ceratothallis Rchb. f., Bonplandia 2: 25, 1854.
Pleurothallis longipes Koern., Allg. Gartenzeitung 23: 281, 1855.
Humboldtia ceratothallis (Rchb. f.) Kuntze, Rev. Gen. Pl. 2: 667, 1891.

DISTRIBUTION: Venezuela, Colombia, and Ecuador.
ILLUSTRATION: Venez. Orchids Ill. 1: 313, 1959.

Myoxanthus chlöe (Luer & Vásquez) Luer, comb. nov.
Pleurothallis chlöe Luer & Vásquez, Phytologia 46: 362, 1980.

DISTRIBUTION: Bolivia.
ILLUSTRATION: Figure 1, p. 37, this issue.

Myoxanthus cimex (Luer & Escobar) Luer, comb. nov.
Pleurothallis cimex Luer & Escobar, Orquideologia 14: 140, 1981.

DISTRIBUTION: Colombia.
ILLUSTRATION: Orquideologia 14: 141, 1981.

Myoxanthus colothrix (Luer) Luer, comb. nov.
Pleurothallis colothrix Luer, Phytologia, 49: 202, 1981.

DISTRIBUTION: Ecuador.
ILLUSTRATION: Figure 2, p. 38, this issue.

Myoxanthus ephelis (Luer) Luer, comb. nov.
Pleurothallis ephelis Luer, Selbyana, 1: 416, 1976.

DISTRIBUTION: Ecuador.
ILLUSTRATION: Selbyana 1: 417, 1976.

Myoxanthus eumeces (Luer) Luer, comb. nov.
Pleurothallis eumeces Luer, Selbyana 5: 164, 1979.

DISTRIBUTION: Ecuador.
ILLUSTRATION: Figure 3, p. 39, this issue.

Myoxanthus exasperatus (Lindl.) Luer, comb. nov.
Pleurothallis exasperata Lindl., Folia Orchid. Pleuroth. 15, 1859.
Humboldtia exasperata (Lindl.) Kuntze, Rev. Gen. Pl. 2: 667, 1891.

DISTRIBUTION: Ecuador.
ILLUSTRATION: Figure 4, p. 40, this issue.

Myoxanthus frutex (Schltr.), Luer, comb. nov.
Pleurothallis frutex Schltr., Repert. Spec. Nov. Regni Veg. 10: 454, 1912.

DISTRIBUTION: Peru and Bolivia.
ILLUSTRATION: Figure 5, p. 41, this issue.

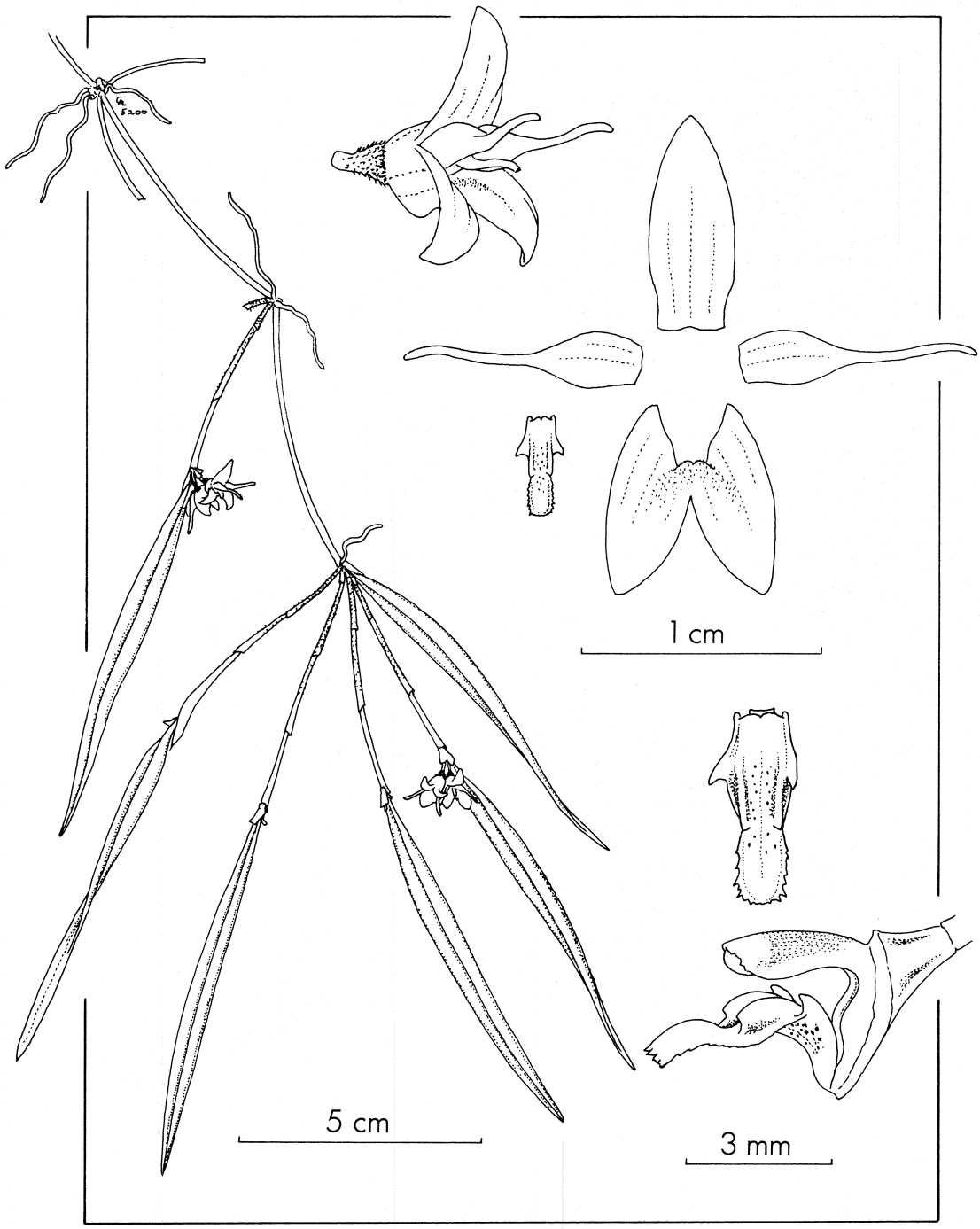

Figure 1. MYOXANTHUS CHLOE (Luer & Vasquez) Luer

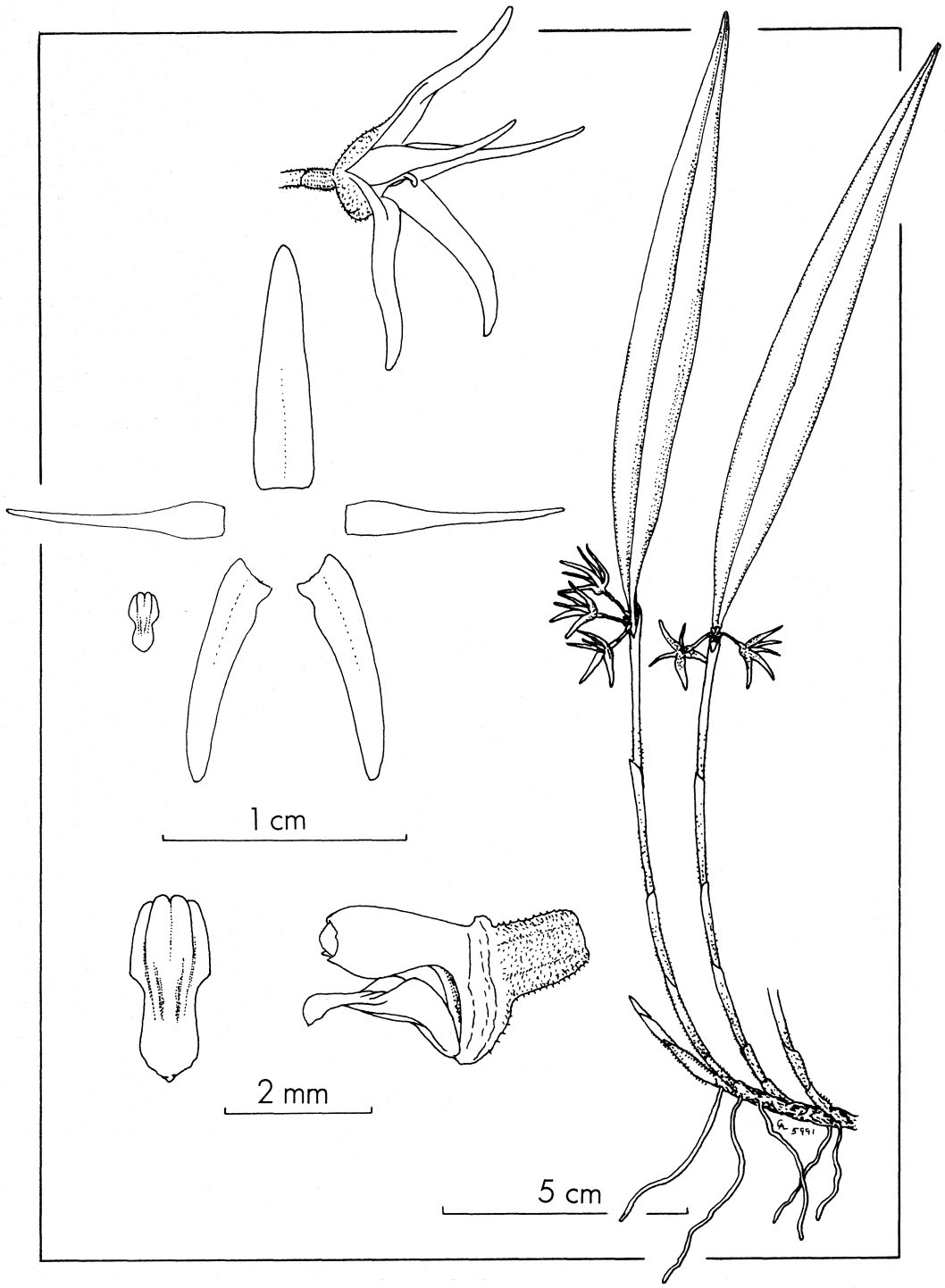

Figure 2. MYOXANTHUS COLOTHRIX (Luer) Luer

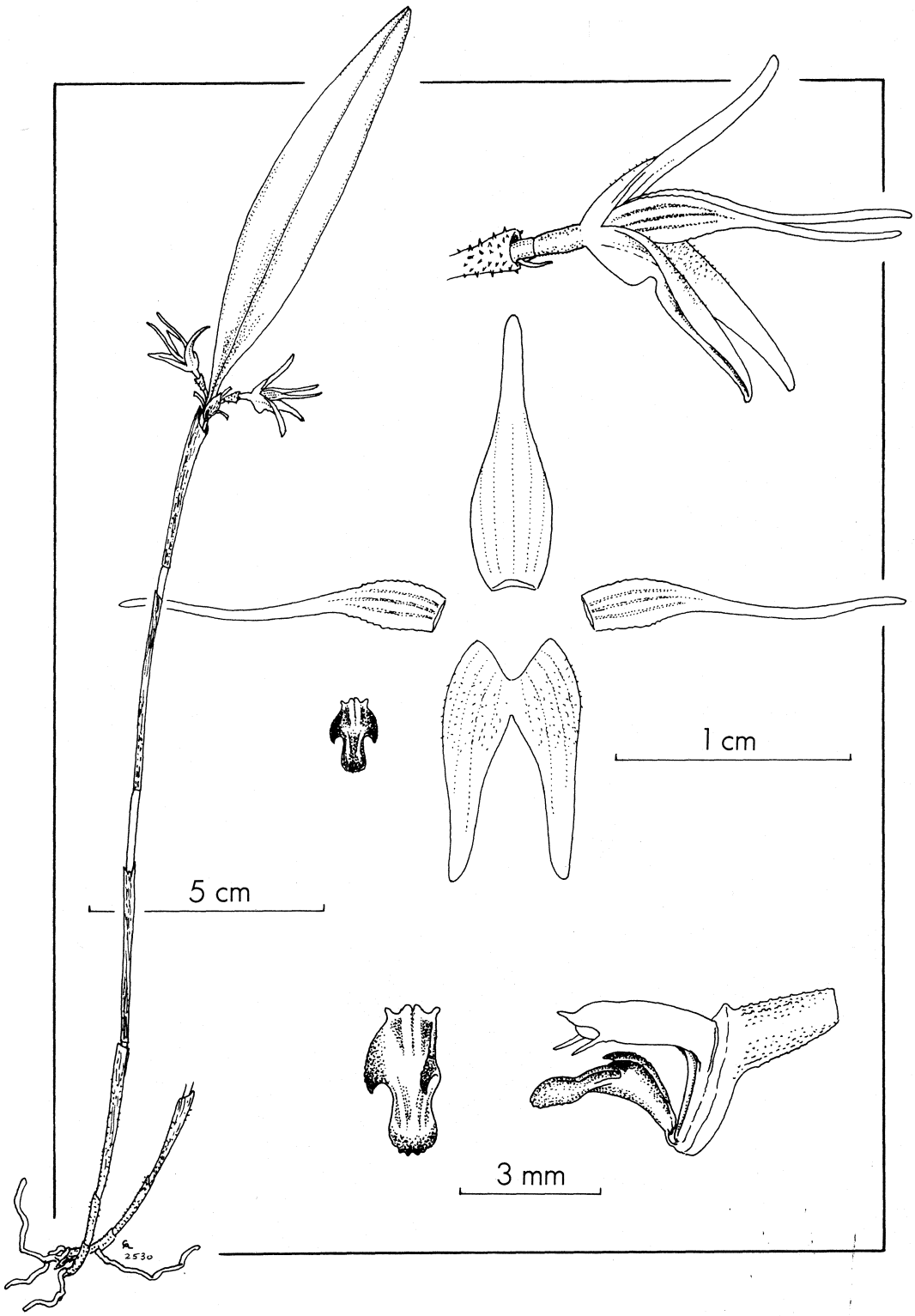

Figure 3. MYOXANTHUS EUMECES (Luer) Luer

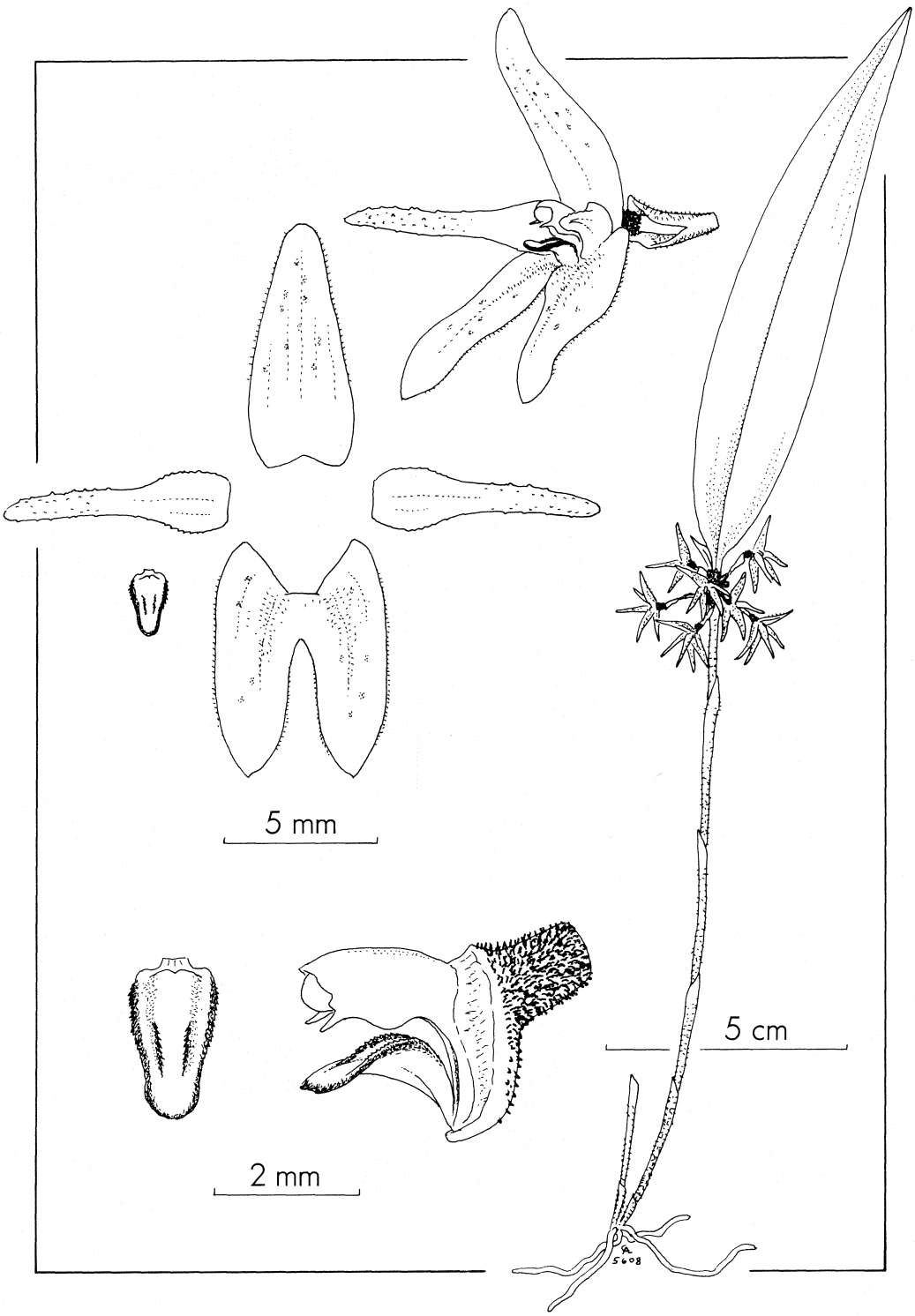

Figure 4. MYOXANTHUS EXASPERATUS (Lindl.) Luer

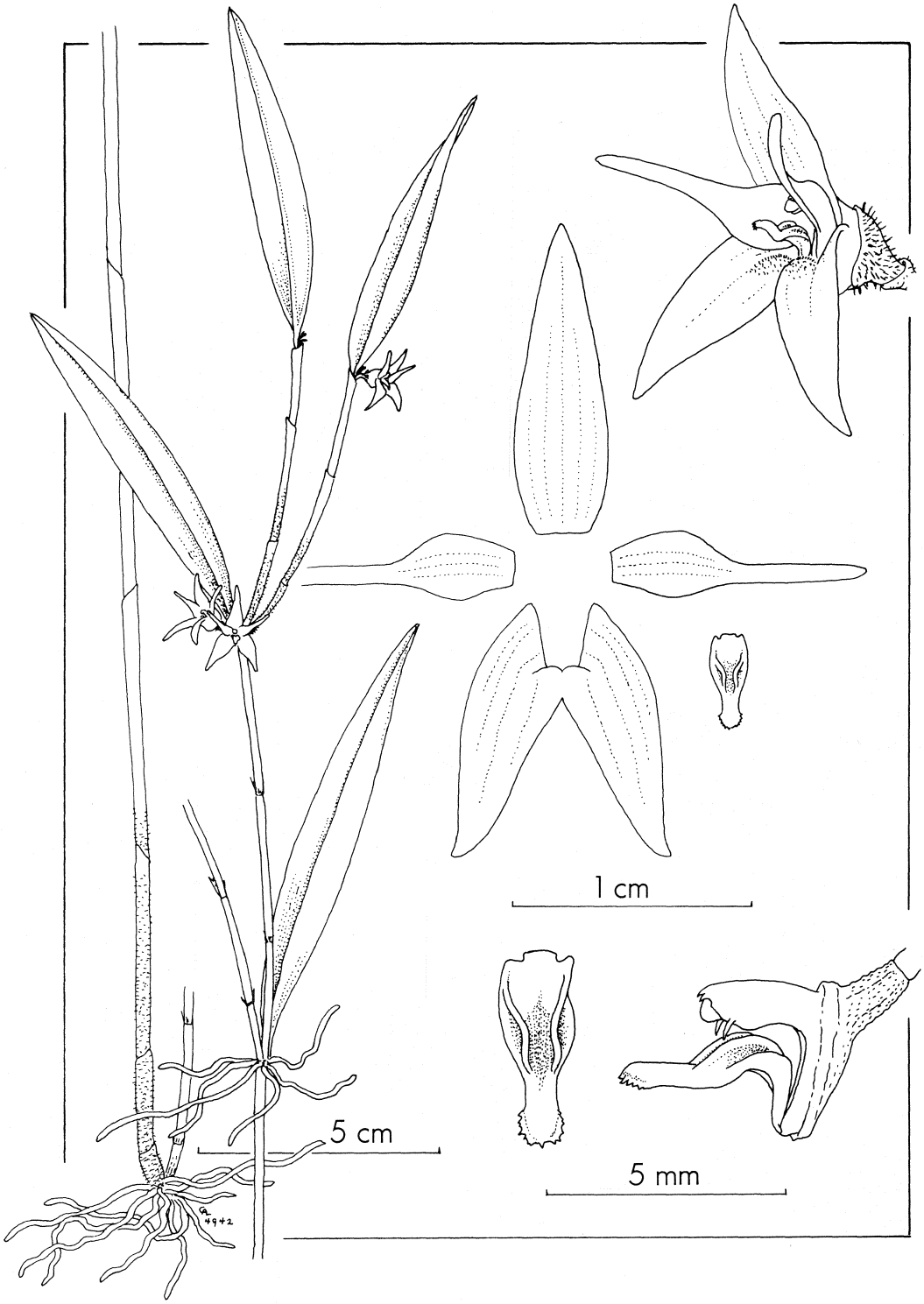

Figure 5. MYOXANTHUS FRUTEX (Schltr.) Luer

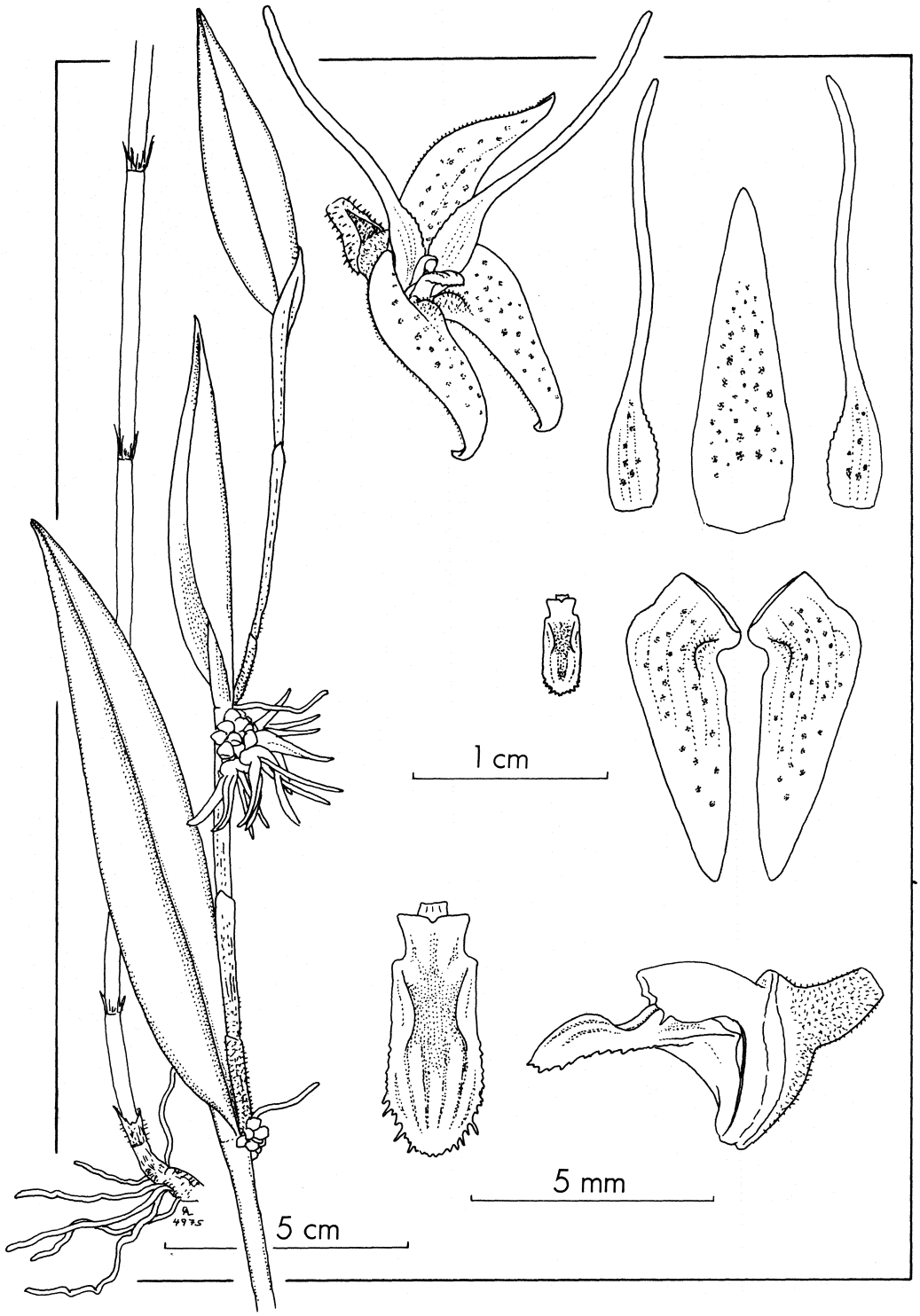

Figure 6. MYOXANTHUS GYAS (Luer & Vasquez) Luer

Myoxanthus georgei (Luer) Luer, comb. nov.
Pleurothallis georgei Luer, Selbyana 1: 246, 1975.

DISTRIBUTION: Ecuador.
ILLUSTRATION: Selbyana 1: 247, 1975.

Myoxanthus gyas (Luer & Vásquez) Luer, comb. nov.
Pleurothallis frutex var. *robusta* C. Schweinf., Bot. Mus. Leafl. 15: 91, 1951.
Pleurothallis gyas Luer & Vásquez, Phytologia 49: 207, 1981.

DISTRIBUTION: Peru and Bolivia.
ILLUSTRATION: Figure 6, p. 42, this issue.

Myoxanthus herzogii (Schltr.) Luer, comb. nov.
Pleurothallis herzogii Schltr., Repert. Spec. Nov. Regni Veg. 12: 487, 1913.
DISTRIBUTION: Bolivia.

Myoxanthus hirsuticaulis (Ames & Schweinf.) Luer, comb. nov.
Pleurothallis hirsuticaulis Ames & Schweinf., Sched. Orchid. 10: 29, 1930.

DISTRIBUTION: Panama.
ILLUSTRATION: Selbyana 3: 315, 1977.

Myoxanthus hirtipes (Schltr.) Luer, comb. nov.
Pleurothallis hirtipes Schltr., Repert. Spec. Nov. Regni Veg. Beih. 7:104, 1920.
DISTRIBUTION: Colombia.

Myoxanthus hystrix (Rchb. f.) Luer, comb. nov.
Pleurothallis hystrix Rchb. f., Bonplandia 2: 26, 1854.
Pleurothallis lonchophylla Rchb. f., Flora 49: 555, 1886, non (Barb. Rodr.) Cogn. 1896.
Humboldtia hystrix (Rchb. f.) Kuntze, Rev. Gen. Pl. 2: 667, 1891.
DISTRIBUTION: Colombia and Venezuela.
ILLUSTRATION: Venez. Orchids Ill. 6: 365, 1976.

Myoxanthus lancipetalus (Karst.) Luer, comb. nov.
Dubois-Reymondia lancipetala Karst., Fl. Colomb. 1: 95, t. 47, 1858.
Pleurothallis lancipetala (Karst.) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 6: 62, 1919.

DISTRIBUTION: Colombia and Venezuela.
ILLUSTRATION: Fl. Colomb. 1: 95, t. 47, 1858.

Myoxanthus lonchophyllus (Barb. Rodr.) Luer, comb. nov.
Restrepia lonchophylla Barb. Rodr., Gen. Sp. Orchid. Nov. 1: 35, 1877.
Pleurothallis warmingii Rchb. f., Otia Bot. Hamburgensis 2: 93, 1881.
Chaetocephala lonchophylla (Barb. Rodr.) Barb. Rodr., Gen. Sp. Orchid. Nov. 2: 39, 1882.
Humboldtia warmingii (Rchb. f.) Kuntze, Rev. Gen. Pl. 2: 668, 1891.
Pluerothallis lonchophylla (Barb. Rodr.) Cogn., Fl. Bras. 3(4): 589, 1896, non Rchb. f., 1886.

DISTRIBUTION: Southern Brazil.
ILLUSTRATION: Figure 7, p. 44, this issue.

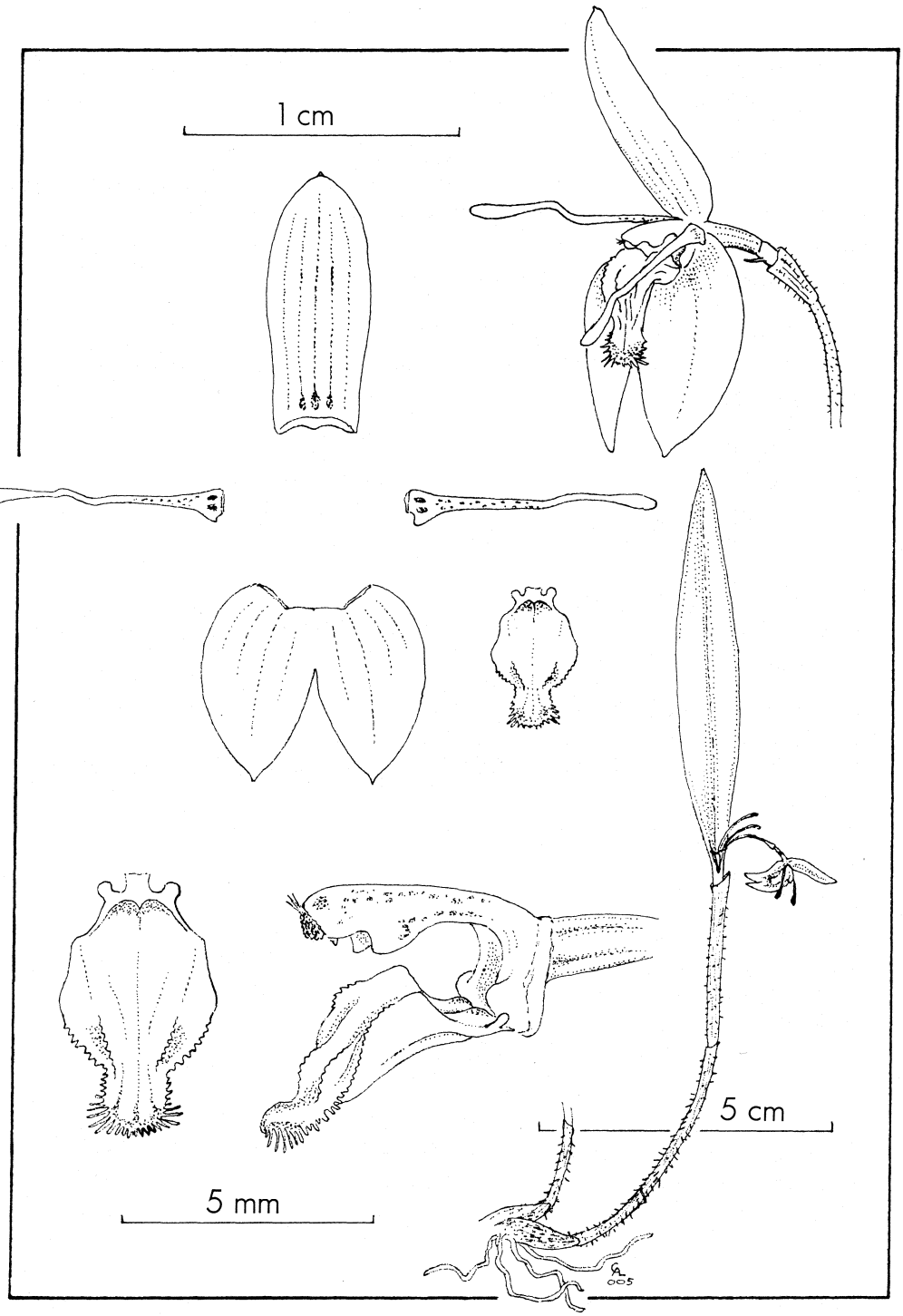

Figure 7. MYOXANTHUS LONCHOPHYLLUS (Barb. Rodr.) Luer

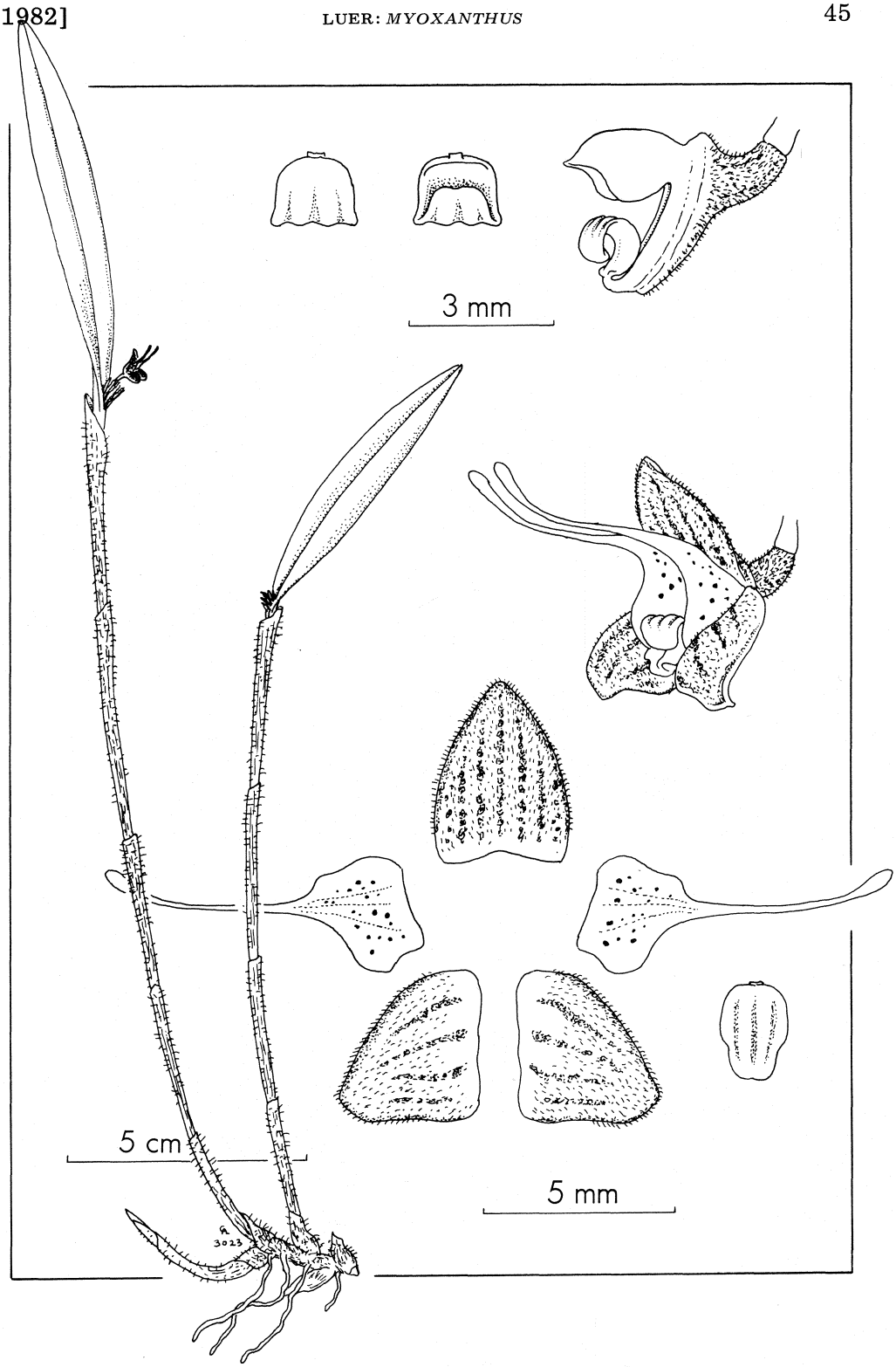

Figure 8. MYOXANTHUS MELITTANTHUS (Schltr.) Luer

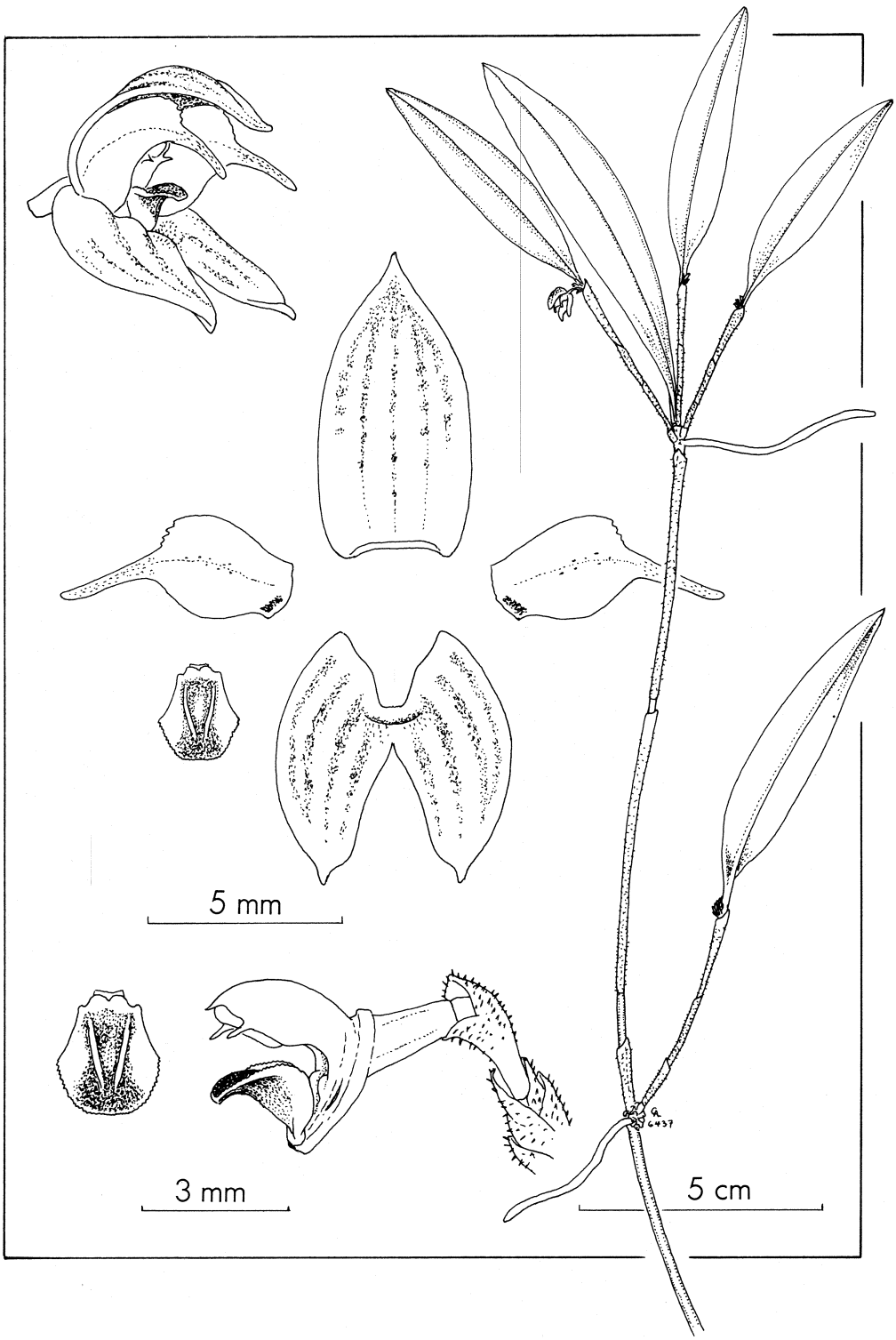

Figure 9. MYOXANTHUS PARVILABIUS (C. Schweinf.) Luer

Myoxanthus mejiae (Garay & Dunsterv.) Luer, comb. nov.
Pleurothallis mejiae Garay & Dunsterv., Venez. Orchid. Ill. 6: 354, 1976.
DISTRIBUTION: Venezuela.
ILLUSTRATION: Venez. Orchids Ill. 6: 355, 1976.

Myoxanthus melittanthus (Schltr.) Luer, comb. nov.
Pleurothallis melittantha Schltr., Repert. Spec. Nov. Regni Veg. Beih. 27: 49, 1924.
DISTRIBUTION: Colombia.
ILLUSTRATION: Figure 8, p. 45, this issue.

Myoxanthus merae (Luer) Luer, comb. nov.
Pleurothallis merae Luer, Selbyana 3: 144, 1976.
DISTRIBUTION: Ecuador.
ILLUSTRATION: Selbyana 3: 145, 1976.

Myoxanthus monophyllus Poepp. & Endl., Nov. Gen. Spec. Pl. 1: 50, t.88, 1835.
Pleurothallis poeppigii Lindl., Companion Bot. Mag. 2: 354, 1836.
Humboldtia poeppigii (Lindl.) Kuntze, Rev. Gen. Pl. 2: 668, 1891.
Pleurothallis myoxanthus Schltr., Repert. Spec. Nov. Regni Veg. Beih. 9: 141, 1921.
DISTRIBUTION: Ecuador and Peru.
ILLUSTRATION: Selbyana 1: 265, 1975.

Myoxanthus octomeriae (Schltr.) Luer, comb. nov.
Pleurothallis octomeriae Schltr., Repert. Spec. Nov. Regni. Veg. Beih. 17: 21, 1922.
Pleurothallis cerea Ames, Sched. Orchid. 4: 19, 1923.
Pleurothallis ramentacea Garay & Dunsterv., Venez. Orchid. Ill. 6: 634, 1976.
DISTRIBUTION: Nicaragua, Panama, Venezuela and Ecuador.
ILLUSTRATION: Venez. Orchids Ill. 6: 355, 1976; Selbyana 1: 313, 1975.

Myoxanthus octomerioides (Lindl.) Luer, comb. nov.
Pleurothallis octomerioides Lindl., Companion Bot. Mag. 2: 354, 1836.
Pleurothallis congesta A. Rich. & Gal., Ann. Sci. Nat. Bot. ser. 3, 3: 17, 1845.
Pleurothallis elongata Kl., Ind. Sem. Hort. Berol. App. 1, 1853.
Humboldtia elongata (Kl.) Kuntze, Rev. Gen. Pl. 2: 667, 1891.
Humboldtia octomerioides (Lindl.) Kuntze, Rev. Gen. Pl. 2: 667, 1891.
DISTRIBUTION: Mexico and Nicaragua.
ILLUSTRATION: Selbyana 3: 355, 1977.

Myoxanthus parahybunensis (Barb. Rodr.) Luer, comb. nov.
Pleurothallis peduncularis Lindl., Edward's Bot. Reg. 29: misc. 47, 1843, non Hook. 1841.

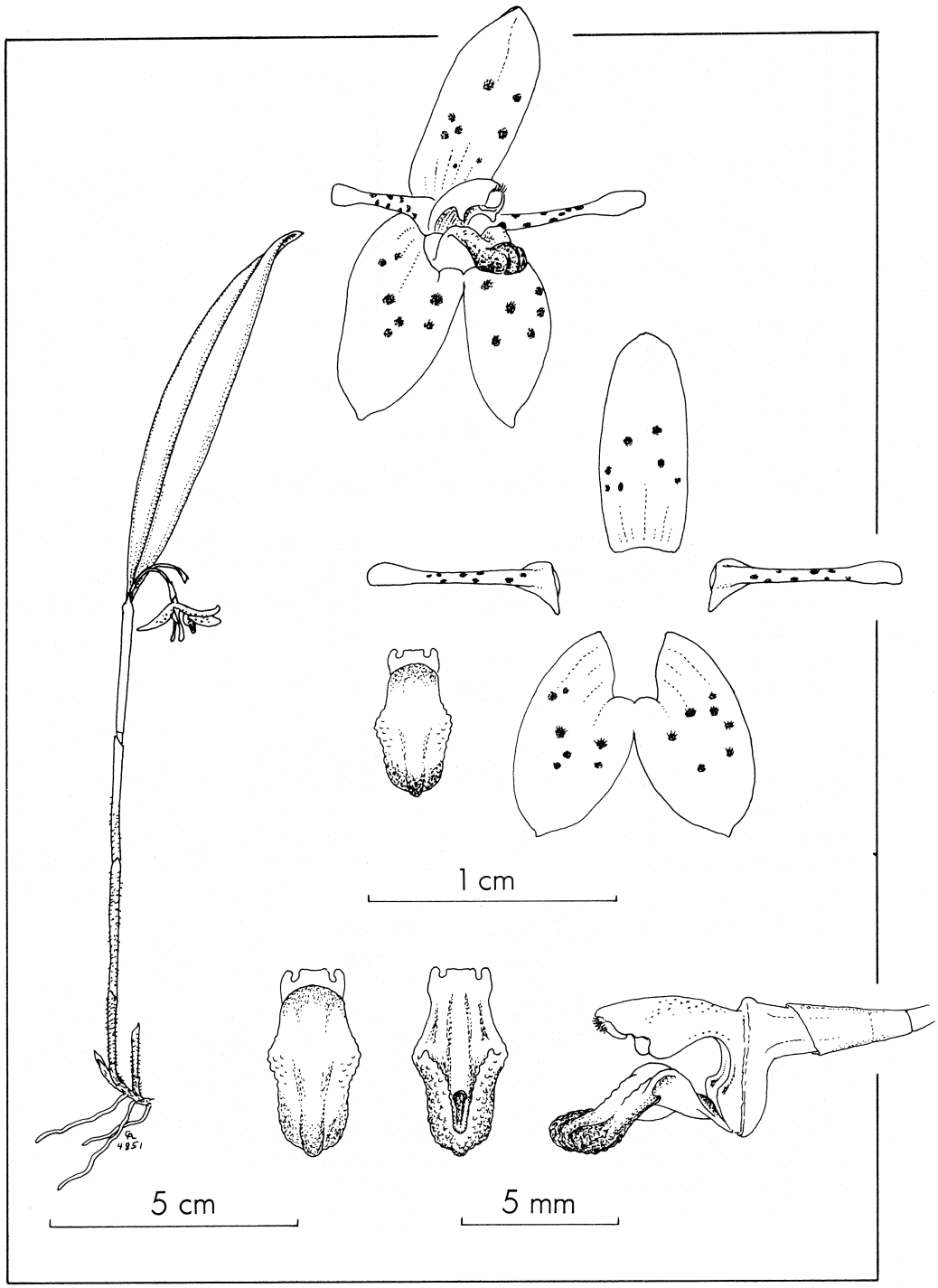

Figure 10. MYOXANTHUS PUNCTATUS (Barb. Rodr.) Luer

Anathallis parahybunensis Barb. Rodr., Gen. Spec. Orchid. Nov. 2: 76, 1882.
Humboldtia peduncularis (Lindl.) Kuntze, Rev. Gen. Pl. 2: 668, 1891.
Pleurothallis macropus Schltr., Repert. Spec. Nov. Regni Veg. 14: 131, 1915.

DISTRIBUTION: Panama, Colombia, Ecuador, Venezuela, Surinam, British Guayana, and Brazil.
ILLUSTRATION: Selbyana 1: 261, 1975.

Myoxanthus parvilabius (C. Schweinf.) Luer, comb. nov.
Pleurothallis parvilabia C. Schweinf., Bot. Mus. Leafl. 20: 14, 1962.

DISTRIBUTION: Guayana, Surinam, and Ecuador.
ILLUSTRATION: Figure 9, p. 46, this issue.

Myoxanthus punctatus (Barb. Rodr.) Luer, comb. nov.
Chaetocephala punctata Barb. Rodr., Gen. Spec. Orchid. Nov. 2: 38, 1882.
Pleurothallis chaetocephala Cogn., Fl. Bras. 3(4): 590, 1896.

DISTRIBUTION: Southern Brazil.
ILLUSTRATION: Figure 10, p. 48, this issue.

Myoxanthus reymondii (Karst.) Luer, comb. nov.
Duboisia reymondii Karst., Allg. Gartenzeitung 15: 394, 1847.
Dubois-Reymondia palpigera Karst., Bot. Zeitung (Berlin) 6: 398, 1848.
Pleurothallis reymondii (Karst.) Rchb. f., Ann. Bot. Syst. 3: 520, 1852.
Humboldtia reymondii (Karst.) Kuntze, Rev. Gen. Pl. 2: 668, 1891.
Pleurothallis palpigera (Karst.) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 6: 63, 1919.

DISTRIBUTION: Colombia and Venezuela.
ILLUSTRATION: Venez. Orchids Ill. 1: 343, 1959.

Myoxanthus sarcodactylae (Luer) Luer, comb. nov.
Pleurothallis sarcodactylae Luer, Selbyana 1: 422, 1976.

DISTRIBUTION: Ecuador.
ILLUSTRATION: Selbyana 1: 432, 1976.

Myoxanthus scabripes (Lindl.) Luer, comb. nov.
Pleurothallis scabripes Lindl., Edward's Bot. Reg. 25: misc. 94, 1839.
Humboldtia scabripes (Lindl.) Kuntze, Rev. Gen. Pl. 2: 668, 1891.

DISTRIBUTION: Southern Brazil.

Myoxanthus scandens (Ames) Luer, comb. nov.
Pleurothallis scandens Ames, Sched. Orchid. 5: 18, 1923.
Pleurothallis pennellia Luer, Selbyana 3: 160, 1976.

DISTRIBUTION: Costa Rica, Panama, Colombia, and Ecuador.
ILLUSTRATION: Selbyana 3: 181, 1976.

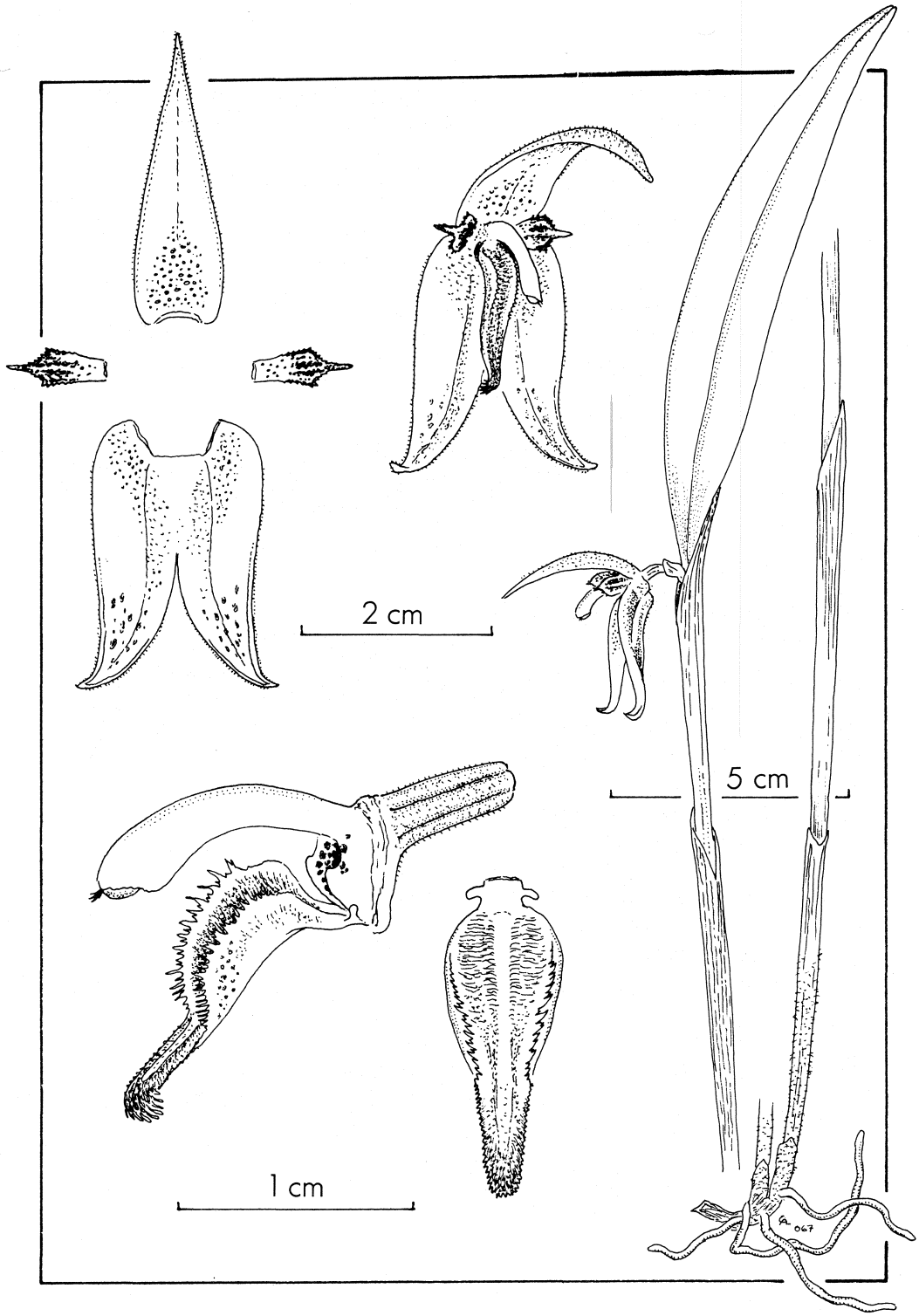

Figure 11. MYOXANTHUS SERRIPETALUS (Krzl.) Luer

Myoxanthus seidelii (Pabst) Luer, comb. nov.
Pleurothallis seidelii Pabst, Bradea 2: 54, 1975.
DISTRIBUTION: Southern Brazil.
ILLUSTRATION: Bradea 2: 55, 1975.

Myoxanthus serripetalus (Krzl.) Luer, comb. nov.
Pleurothallis serripetala Krzl., Bot. Jahrb. Syst. 54(117): 23, 1916.
DISTRIBUTION: Ecuador and Peru.
ILLUSTRATION: Figure 11, p. 50, this issue.

Myoxanthus simplicicaulis (C. Schweinf.) Luer, comb. nov.
Pleurothallis scandens var. *simplicicaulis* C. Schweinf., Bot. Mus. Leafl. 20: 16, 1962.
Pleurothallis simplicicaulis (C. Schweinf.) Luer, Selbyana 3: 388, 1977.
DISTRIBUTION: Venezuela.
ILLUSTRATION: Venez. Orchids Ill. 2: 289, 1961; Selbyana 3: 389, 1977.

Myoxanthus speciosus (Luer) Luer, comb. nov.
Pleurothallis speciosa Luer, Selbyana 3: 392, 1977.
DISTRIBUTION: Panama, Venezuela, and Ecuador.
ILLUSTRATION: Selbyana 3: 393, 1977.

Myoxanthus trachychlamys (Schltr.) Luer, comb. nov.
Pleurothallis trachychlamys Schltr., Repert. Spec. Nov. Regni Veg. Beih. 17: 23, 1922.
Pleurothallis cymbicalli Pabst, Arq. Bot. Estado Sao Paulo 3: 268, 1962.
DISTRIBUTION: Costa Rica, Panama, Colombia, Venezuela, Ecuador, Peru and Brazil.
ILLUSTRATION: Venez. Orchids Ill. 4: 247, 1966; Selbyana 3: 193, 1976.

Myoxanthus uxorius (Luer) Luer, comb. nov.
Pleurothallis uxoria Luer, Selbyana 5: 186, 1979.
DISTRIBUTION: Ecuador.
ILLUSTRATION: Figure 12, p. 52, this issue.

Myoxanthus xiphion Luer, sp. nov.

Planta mediocris caespitosa, caulibus secundariis gracilibus vaginis pubescentibus quam foliis ensatis longioribus, floribus parvis successivis brevipedunculatis aggregatis, sepalis brunneis extus minute pubescentibus, petalis trilobatis lobo antico tereti, labello minuto oblongo limbato angulis lateralibus brevibus retrorsis.

Plant medium in size, epiphytic, very shortly repent to caespitose; roots coarse, flexuous. Secondary stems erect, slender, 7-19 cm long, enclosed by 3 close, tubular, imbricating, hispidulous, easily disintegrating sheaths. Leaf erect, coriaceous, narrowly ovate, acute, 5-12 cm long, 0.7-1.1 cm wide, narrowly cuneate below to the subsessile base. Inflorescence a succession of solitary flowers from an aggregation of nodes just below the apex of the leaf; peduncles 2-3 mm long; floral bract pubescent, 4 mm long; pedicel 4 mm long; ovary puberulent, 1 mm long; sepals brown, cellular pubescent exter-

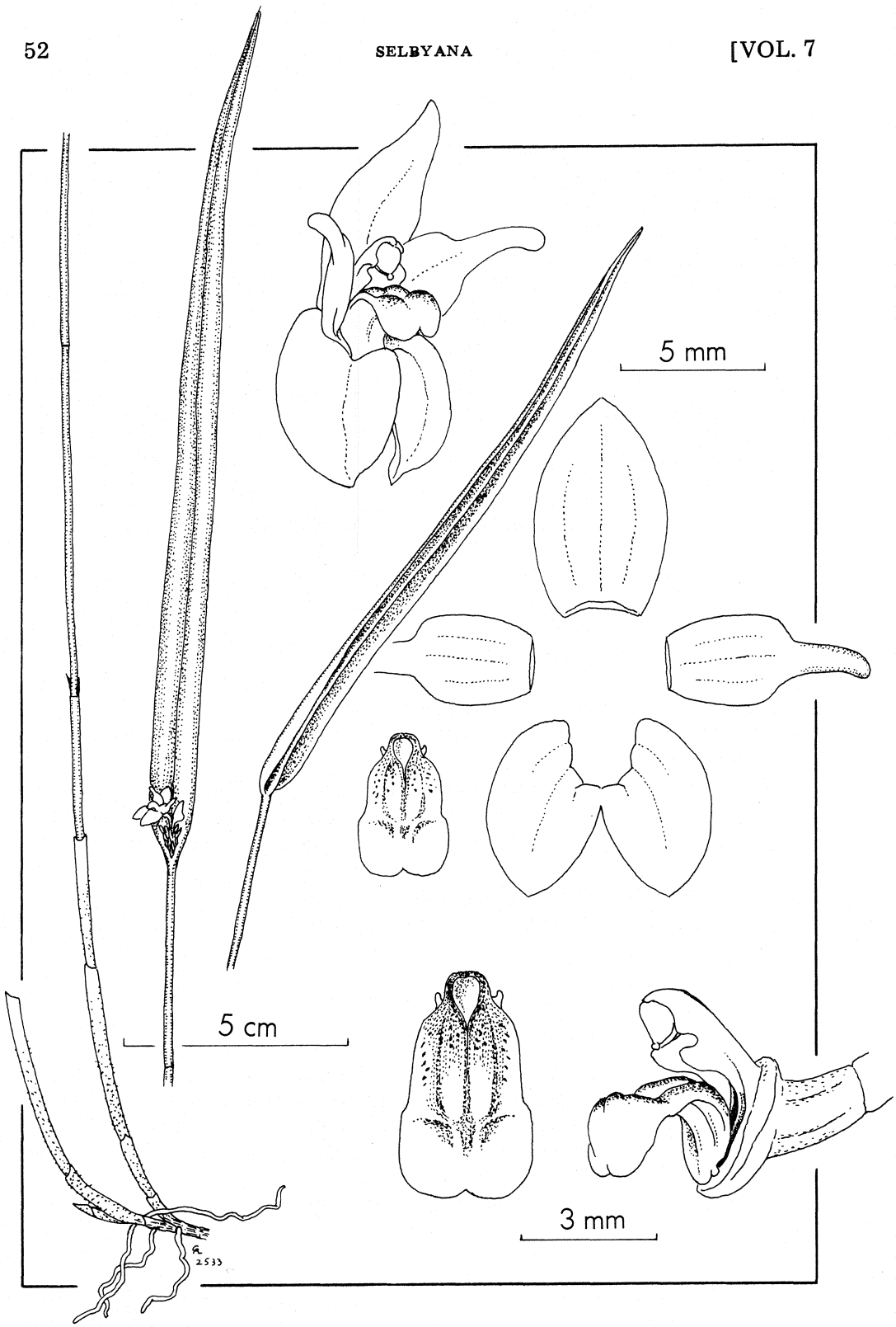

Figure 12. MYOXANTHUS UXORIUS (Luer) Luer

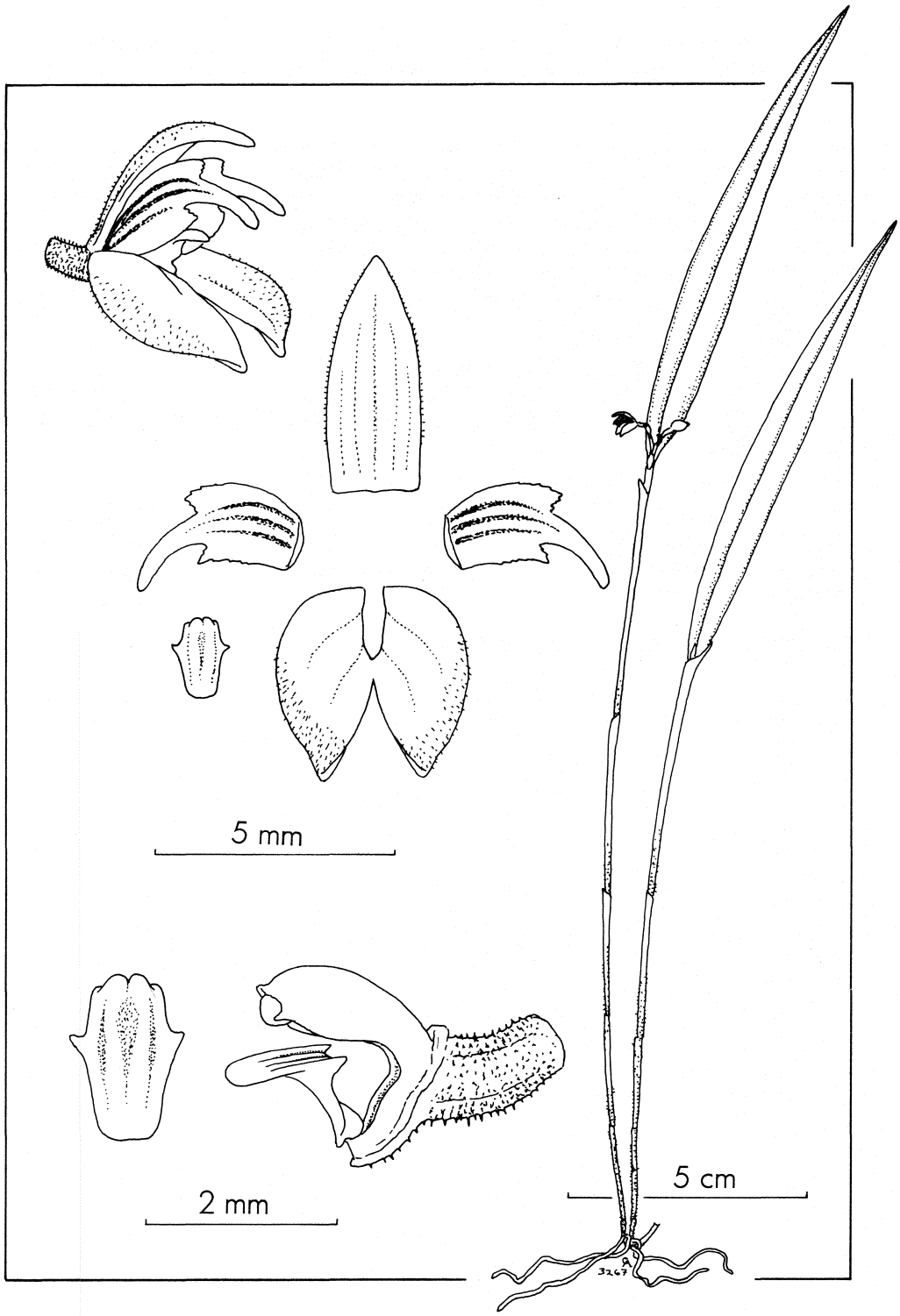

Figure 13. MYOXANTHUS XIPHION Luer

nally, the laterals shortly pubescent internally, the dorsal sepal free, ovate, acute, 5 mm long, 2 mm wide, the lateral sepals connate basally, ovate, oblique, acute, 4 mm long, 2 mm wide; petals yellow with 3 purple veins, 4 mm long, 1.75 mm wide, subquadrate in the lower half, 3-lobed just above the middle, the lateral lobes acute, minutely denticulate, abruptly contracted into a terete middle lobe 1.5 mm long; lip oblong, 1.75 mm long, 1 mm wide, dark purple with yellow or white margins, the apex subtruncate to rounded, the sides with short, acute, retrorse angles, the base truncate with a bilobed callus extending forward onto the disc as a pair of low calli; column stout, longitudinally winged, 2 mm long, the foot thick, 0.5 mm long.

Etymology: From the Greek *xiphion* (ξιφιον), "a little sword," in allusion to the appearance of the leaf.

TYPE: *ECUADOR:* NAPO: epiphytic in wet forest south of Baeza, alt. 1000-1500 m, 11 Aug. 1978, *C. Luer, J. Luer, A. Andreetta & A. Hirtz 3276* (Holotype: SEL); new road to Coca, alt. 1100 m, 22 Feb. 1982, *C. Luer & A. Hirtz 6953* (SEL).

Distribution: Eastern Ecuador.

This species seems to be most similar to *M. simplicicaulis* (C. Schweinf.) Luer of Venezuela, but *M. xiphion* may be distinguished by the denticulate lateral lobes of the petals, and by the small, dark purple lip with a whitish margin with a pair of retrorse lateral angles.

ILLUSTRATION: Figure 13, p. 53, this issue.