

## MISCELLANEOUS NEW SPECIES IN THE PLEUROTHALLIDINAE (ORCHIDACEAE)

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**ABSTRACT.** New species in the following genera and infrageneric taxa of Pleurothallidinae (not yet treated in *Icones Pleurothallidarum*) are described and illustrated: non-Ecuadorian *Lepanthes*, *Octomeria*, and *Pleurothallis*. The 30 species and one subspecies are *Lepanthes adrianae* (Peru), *L. applanata* (Peru), *L. arbaceae* (Peru), *L. aubryi* (Cuba), *L. bivalvis* (Peru), *L. capistrata* (Peru), *L. erucifera* (Peru), *L. hollymountensis* (Jamaica), *L. martineae* (Peru), *L. migueliana* (Guatemala), *L. minyglossa* (Panama), *L. mollis* (Panama), *L. nana* (Cuba), *L. pedunculata* (Peru), *L. selenitepala* subsp. *ackermanii* (Puerto Rico), *L. sijmii* (Peru), *L. stimsonii* (Puerto Rico), *L. tricuspida* (Peru), *L. vulpina* (Peru), *Octomeria auriculata* (Ecuador), *O. bomboizae* (Ecuador), *O. hirtzii* (Ecuador), *O. lamellaris* (Venezuela), *O. medinae* (Ecuador), *O. ximenae* (Ecuador), *Pleurothallis discalis* (Ecuador), *P. haberi* (Costa Rica), *P. sanchezii* (Ecuador), *P. schudelii* (Ecuador), *P. villosilabia* (Ecuador), and *Zootrophion williamsii* (Panama). A new combination is made in *Stelis* (*S. declivis*; basionym *Pleurothallis declivis*).

**Key words:** Orchidaceae, Pleurothallidinae, *Lepanthes*, *Octomeria*, *Pleurothallis*, *Stelis*

### INTRODUCTION

Thirty new species and one new subspecies in the following pleurothallid genera not yet treated in *Icones Pleurothallidarum* are described and illustrated: non-Ecuadorian *Lepanthes*, *Octomeria*, and *Pleurothallis* subgenus *Specklinia*. One new combination in *Stelis* is made.

### NEW SPECIES

***Lepanthes adrianae*** Luer, sp. nov. TYPE: Peru. Huánuco: near Tingo Maria, collected by A.P. Sijm, Nov. 1998, cultivated at Venhuizen, The Netherlands, 13 Aug. 1999, A.P. Sijm 200310 (Holotype: MO), C. Luer illustr. 19467. FIGURE 1.

Planta mediocris, racemo paucifloro folio anguste ovato subverrucoso brevior, sepalis breviter ciliatis late ovatis breviter acuminatis, petalorum lobis aequalibus oppositis elongatis angustissime triangularibus attenuatis pubescentibus, labelli laminis oblongis convexis pubescentibus, appendice crassa subquadrata ciliata distinguitur.

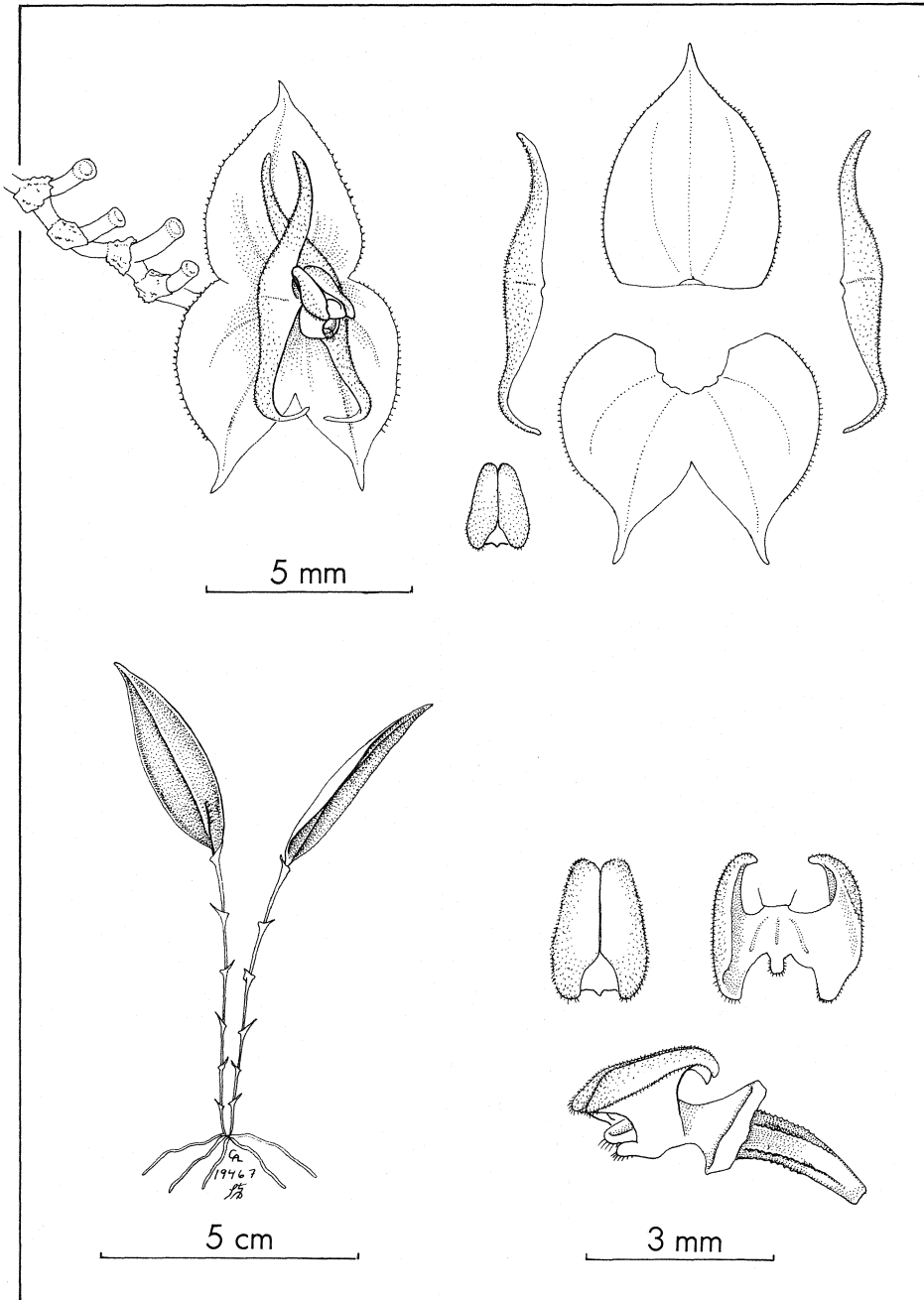
**Plant** medium in size, epiphytic, caespitose; roots slender. **Ramicauls** slender, erect, 5–6 cm long, enclosed by 7–9 lepanthiform sheaths with acuminate ostia. **Leaf** erect, dark green, purple beneath, coriaceous, narrowly ovate, acute, slightly acuminate, convex, microscopically verrucose, margined, 4–5 cm long, 1.5 cm wide, the base cuneate, contracted into a petiole ca. 3 mm long. **Inflorescence** an erect, congested, secund, successively several-flowered raceme, up to 15 mm long including the peduncle 5–6 mm, borne on top of the leaf; floral bracts 1 mm long;

pedicel 2 mm long; ovary 3 mm long; sepals minutely short-ciliate, the dorsal sepal broadly ovate, obtuse, shortly acuminate, 8 mm long, 7 mm wide, 3-veined, connate to the lateral sepals for 1.5 mm, the lateral sepals broadly ovate, oblique, obtuse, shortly acuminate, 8 mm long, 5 mm wide, each 2-veined, connate 2.5 mm; petals shortly pubescent, transversely bilobed, opposite, 1.5 mm long, 13.5 mm wide, the lobes subequal, narrowly triangular, acuminate, the upper lobe 6 mm long, the lower lobe 7.5 mm long; lip shortly pubescent, bilaminate, the lobes oblong, obtuse at the ends, 2.5 mm long, the connectives broadly cuneate, short, with the broad body connate to the base of the column, the sinus obtuse with a subquadrate, ciliate appendix; column thick, 2 mm long, the anther apical, the stigma ventral.

**Etymology.** Named for Adriana Sijm, wife of A.P. Sijm of Venhuizen, The Netherlands.

This species, collected by Ton Sijm in central Peru, is characterized by narrowly ovate, slightly acuminate, longitudinally convex leaves borne by equally long ramicauls with acuminate sheaths. The raceme is short and successively few-flowered. The sepals are broadly ovate and minutely ciliate. Most remarkable are the long-attenuate, opposite lobes of the petals that together are longer than a sepal. The blades of the lip are oblong with broad connectives and a short, thick appendix.

***Lepanthes applanata*** Luer & Sijm, sp. nov. TYPE: Peru. Huánuco: near Tingo Maria, collected by A.P. Sijm, Nov. 1998, cultivated at Venhuizen, The Netherlands, 13 Aug.

FIGURE 1. *Lepanthes adrianae*.

1999, A.P. Sijm 200210 (Holotype: MO), C. Luer illustr. 19468.

FIGURE 2.

Planta parva, racemo paucifloro folio anguste ovato brevior, sepalis glabris ovatis acutis, petalorum lobis glabris, lobo superiore subquadrato oblique truncato, lobo inferiore minore oblongo-rotundo, labelli laminis

ellipticis glabris applanatis, connectivis elongatis, appendice oblonga distinguitur.

**Plant** small, epiphytic, caespitose; roots slender. **Ramicauls** slender, erect, 4–5 cm long, enclosed by 6–7 ciliate, lepanthiform sheaths. **Leaf** erect, coriaceous, narrowly ovate, acute, 2–3 cm

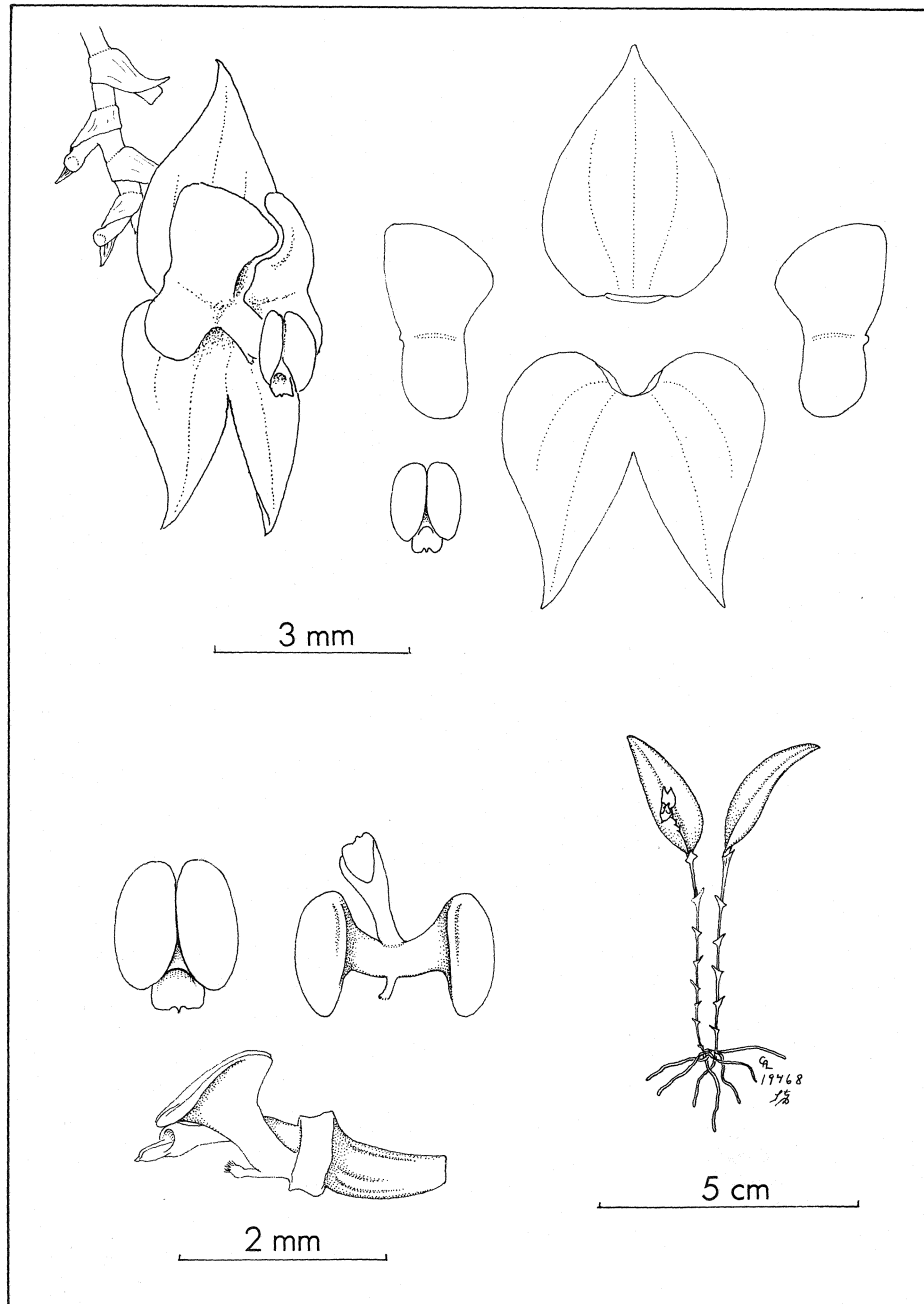


FIGURE 2. *Lepanthes applanata*.

long, 1 cm wide, the base cuneate, contracted into a petiole 2 mm long. **Inflorescence** an erect, congested, successively several-flowered raceme, up to 10 mm long including the peduncle 5 mm, borne behind the leaf; floral bracts 1 mm long; pedicel 1 mm long; ovary 1 mm long; se-

pals glabrous, broadly ovate, acute, shortly acuminate, the dorsal sepal 4 mm long, 3 mm wide, 3-veined, connate to the lateral sepals for 0.5 mm, the lateral sepals oblique, 4 mm long, 2 mm wide, each 2-veined, connate 1 mm; petals glabrous, transversely bilobed, 1.25 mm long, 3

mm wide, the upper lobe subquadrate, oblique, truncate, 2 mm long, 1.75 mm wide, the lower lobe suborbicular, 1.25 mm long, 1.3 mm wide; lip glabrous, bilaminar, the lobes flat, elliptical, round at the ends, 1.25 mm long, the connectives broad but elongate, with an equally broad body, connate to the base of the column, the sinus obtuse with an oblong, minutely ciliate appendix; column slender, 1.5 mm long, the anther apical, the stigma ventral.

**Etymology.** From the Latin *applanatus*, "flattened," referring to the blades of the lip.

This species, collected by Ton Sijm in central Peru, is characterized by a small, ovate, acute leaf borne by a slightly longer ramicaul. The raceme is short, borne behind the leaf, and successively few-flowered. The sepals are broadly ovate, acute and glabrous. The petals are transversely bilobed with the anterior margins of the truncate, upper lobes in apposition. Borne above the column by elongated connectives, the blades of the lip are elliptical and flat with round ends. The appendix is small, oblong with a pubescent tip.

**Lepanthes arbaceae** Luer & Cloes, sp. nov.

TYPE: Peru. Pasco: collected by Patrick & Martine Cloes, cultivated in Hasselt, Belgium, *P. Cloes 201119* (Holotype: MO), C. Luer illustr. 19459. FIGURE 3.

*Planta mediocris, pedunculo gracili folio late elliptico acuminato aequilongo, racemo congesto disticho, sepalis ovatis caudatis carinatis erosis, petalorum lobo inferiore caudato, labelli laminis longiciliatis, et appendice lata brevi crassa distinguitur.*

**Plant** medium in size, epiphytic, caespitose; roots slender. **Ramicauls** slender, erect, 5–12 cm long, enclosed by 10–15 sparsely ciliate, lepanthiform sheaths with dilated ostia. **Leaf** erect, coriaceous, broadly elliptical-ovate, obtuse, shortly acuminate, 3.5–6 cm long, 1.7–2.7 cm wide, the base rounded, contracted into a petiole 2–3 mm long. **Inflorescence** an erect, congested, successively many-flowered raceme, 10–15 mm long, borne behind the leaf by a slender peduncle 3–4.5 cm long; floral bracts oblique, 2 mm long; pedicel 2 mm long; ovary 3.5 mm long; sepals carinate with the carinae erose-fimbriate, the dorsal sepal ovate, concave, the subacute apex contracted into a tail 3 mm long, 9 mm long including the tail, 4 mm wide, 3-veined, connate to the lateral sepals for 1.5 mm, the lateral sepals ovate oblique, concave, acute, acuminate, 9 mm long, 2 mm wide, each 2-veined, connate 1.5 mm; petals microscopically pubescent, transversely bilobed, 1 mm long, 4 mm wide, the upper lobe oblong, oblique, the lower lobe triangular, long-acuminate; lip bilaminar,

the lobes elliptical, obtuse at the ends, 2 mm long, minutely pubescent with the margins thickly long-ciliate, the connectives broadly cuneate, the body broad, connate to the column above the base, the sinus obtuse, filled with a short, broad, thick appendix; column stout, 2 mm long, the anther stigma apical, the stigma ventral.

**Etymology.** Named for the order Arbacea, the sea urchins, of Echinodermata, referring to the lip.

This species, collected by Patrick and Martine Cloes in central Peru, is characterized by a broadly elliptical-ovate leaf borne by a longer ramicaul. The raceme is short, congested, successively many-flowered, and borne beyond the tip of the leaf by a slender peduncle from behind the leaf. The sepals are carinate-erose and caudate. The petals are transversely bilobed with a caudate lower lobe. The blades of the lip, borne by broad connectives, are densely long-ciliate the two appearing suborbicular, suggesting a species of sea urchin.

**Lepanthes aubryi** Luer & Jesup, sp. nov. TYPE:

Cuba. Santiago de Cuba: Sierra Maestra, Pico Turquino, collected by Y. Aubry, Dec. 2000, cultivated in Bristol, CT, by *P. Jesup 8* (Holotype: MO), C. Luer illustr. 20090. FIGURE 4.

*Planta parva, racemo congesto folio elliptico brevior, sepalis late ovatis sparsim ciliatis, petalis latissime oblongis, et labelli apicibus decurvis uncinatis distinguitur.*

**Plant** small, epiphytic, caespitose; roots slender. **Ramicauls** slender, erect, 2.5 cm long, enclosed by 4–5 sparsely short-ciliate, lepanthiform sheaths. **Leaf** erect, coriaceous, elliptical, subacute or obtuse, with smooth margins, 15 mm long, 7 mm wide, the base cuneate into a petiole 1 mm long. **Inflorescence** a congested, distichous, successively several-flowered raceme up to 3 or more mm long, borne on top of the leaf by a filiform peduncle 5 mm long; floral bracts tubular, long-apiculate, 1 mm long; pedicels 0.5–1 mm long; ovary 1 mm long; sepals yellow-green, with minutely and sparsely ciliate margins, the dorsal sepal ovate, acute to subacute, 3.2 mm long, 2.2 mm wide, 3-veined, connate to the lateral sepals for 0.6 mm, the lateral sepals ovate, oblique, subacute to obtuse, 2.5 mm long, 1.6 mm wide, 2-veined, connate 0.6 mm; petals dull red with yellow tips, microscopically pubescent, transversely bilobed, 0.5 mm long, 3.5 mm wide, the upper lobe narrowly linear-oblong, subfalcate, acute, 1.8 mm long, the lower lobe similar but smaller, 1.5 mm long; lip dull red, microscopically pubescent, bilobed,

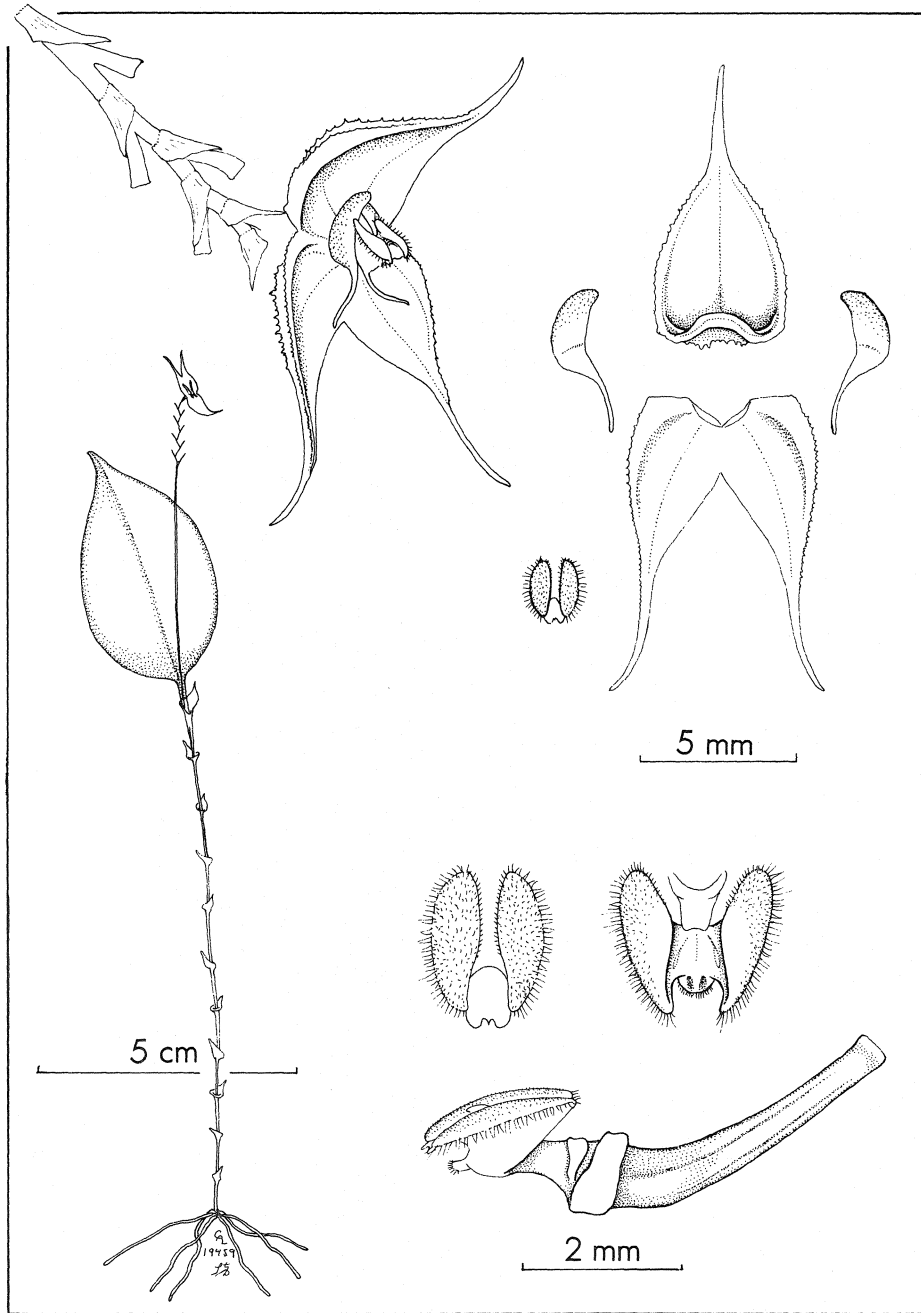


FIGURE 3. *Lepanthes arbaceae*.

2 mm long, the lobes narrowly oblong with rounded ends, with the apical third uncinately decurved below the column; the connectives broadly oblong, the body proportionately long, connate to the base of the column, the sinus rounded with a pubescent appendix with minute,

protruding, clavate process; column semiterete, 1.5 mm long, the anther dorsal and stigma apical with the rostellum protruding.

**Etymology.** Named for Yves Aubry, ornithologist and amateur orchidologist of

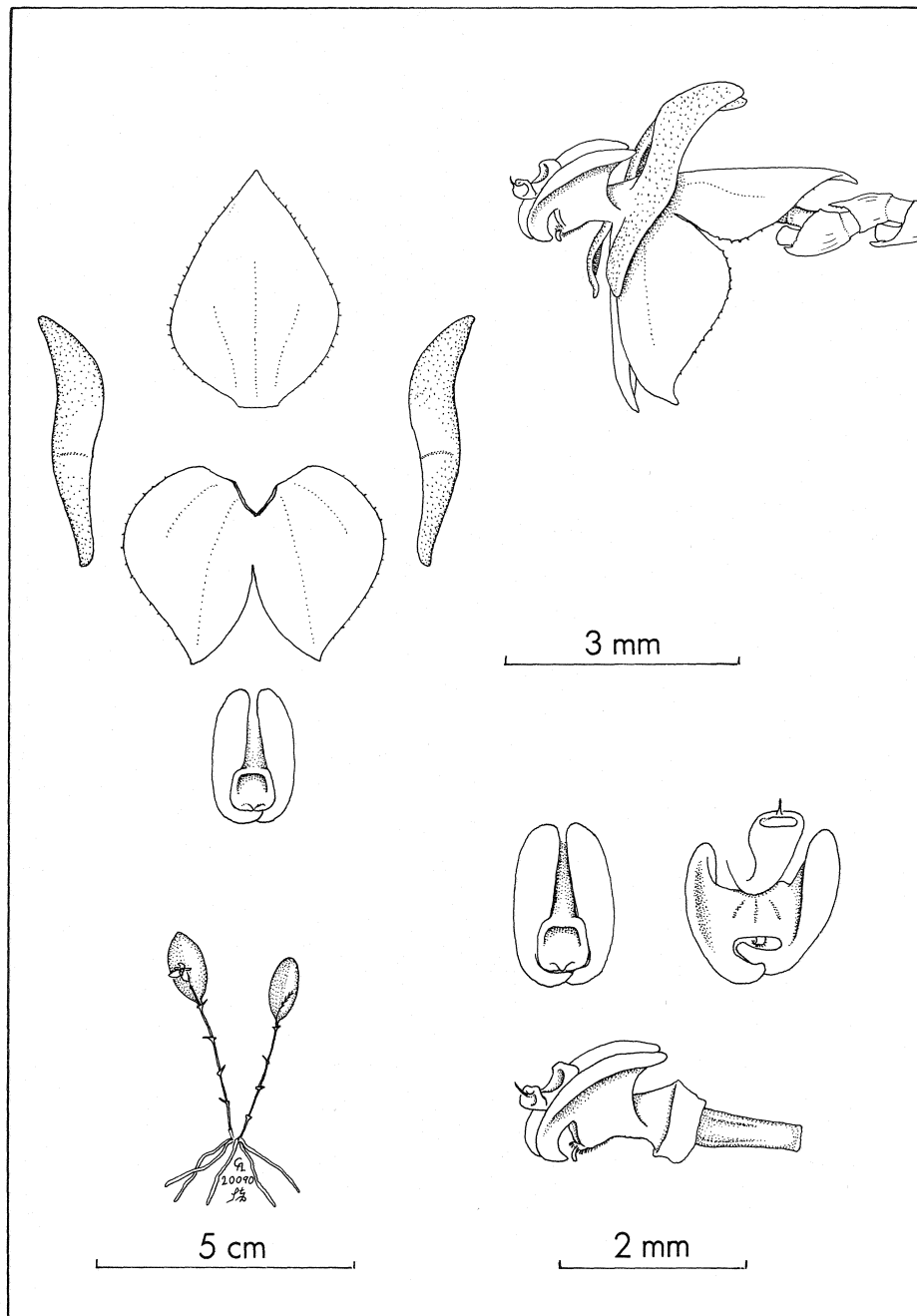


FIGURE 4. *Lepanthes aubryi*.

Charlesbourg, Quebec, who collected this species.

This species is apparently confined to the slopes of Pico Turquino in southeastern Cuba. It is characterized by a small habit and a short, successively flowered raceme borne on top of a

small, smooth, elliptical leaf. The sepals are broadly ovate, subacute and sparsely short-ciliate. The narrow petals are wider than the dorsal sepal is long. The blades of the lip are oblong with the free apical third recurved below the column. When the blades are expanded, these un-

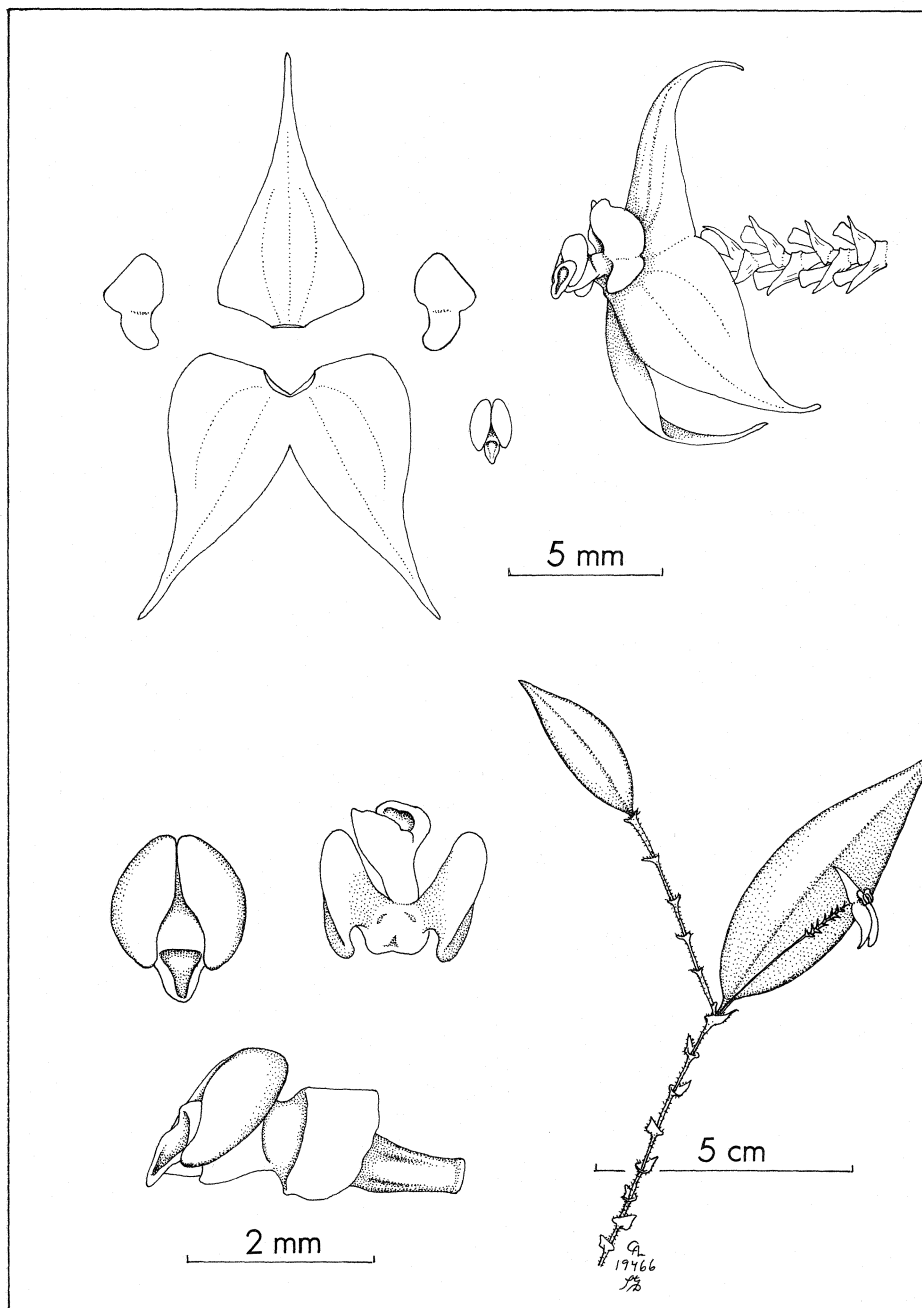


FIGURE 5. *Lepanthes bivalvis*.

cinate apices overlap. The body of the lip is broad with a minute, clavate, hairlike process protruding from the small, pubescent appendix.

***Lepanthes bivalvis*** Luer & Sijm, sp. nov. TYPE: Peru. Huánuco: near Tingo Maria, collected by A.P. Sijm, Nov. 1998, cultivated at Ven-

huizen, The Netherlands, 13 Aug. 1999, A.P. Sijm 200301 (Holotype: MO), C. Luer illustr. 19466.

FIGURE 5.

Planta mediocris prolificans, racemo congestissimo folio ovato acuto brevior, sepalis glabris ovatis acuminatis, petalis glabris, lobo superiore oblique trun-

cato, lobo inferiore minore oblongo-rotundo, labelli laminis hemisphaericis convexis glabris, connectivis brassis brevibus, appendice late membranacea distinguatur.

**Plant** medium in size, epiphytic, scandent; roots slender. **Ramicauls** slender, erect to oblique, prolific, 5 cm or more long, enclosed by 7–8 prominently ciliate, lepanthiform sheaths with dilated ostia. **Leaf** erect, coriaceous, elliptical-ovate, acute, slightly acuminate, 5–6 cm long, 1.5–2 cm wide, the base cuneate, contracted into a petiole 3–5 mm long. **Inflorescence** an erect, congested, distichous, successively many-flowered raceme, up to 10 mm or more long including the peduncle, borne behind the leaf; floral bracts 1 mm long; pedicel 1 mm long; ovary 1 mm long; sepals glabrous, ovate-triangular, acute, acuminate, the dorsal sepal 8.5 mm long, 3.75 mm wide, 3-veined, connate to the lateral sepals for 1.5 mm, the lateral sepals oblique, 8.5 mm long, 3.75 mm wide, each 2-veined, connate 1 mm; petals glabrous, transversely bilobed, 1.75 mm long, 3 mm wide, the upper lobe subtriangular, obtuse, obliquely truncate, the lower lobe smaller, oblong, rounded at the apex; lip glabrous, bilaminate, the lobes convex, hemispherical, round at the ends, 1.5 mm long, the connectives thick, broad, short, with an equally broad body, connate to the base of the column, the sinus obtuse, filled with a transverse, protruding membrane; column stout, 1.5 mm long, the anther apical, the stigma ventral.

**Etymology.** From the Latin *bivalvis*, “bivalved” referring to the blades of the lip.

This species, collected by Ton Sijm in central Peru, is characterized by a prolific habit; short, congested racemes; small, bilobed petals; and convex, hemispherical blades of the lip. The connectives are short and thick with a thick body. The appendix appears to be represented by a broad, protruding membrane that is in contact with the undersurface of the column.

**Lepanthes capistrata** Luer & Sijm, sp. nov.

TYPE: Peru. Huánuco: near Tingo Maria, collected by A.P. Sijm, Nov. 1998, cultivated at Venhuizen, The Netherlands, 13 Aug. 1999, *A.P. Sijm 991702* (Holotype: MO), C. Luer illustr. 19301. FIGURE 6.

Planta mediocris caespitosa, racemo plurifloro folio anguste ovato leviter brevior, sepalis glabris ovatis subacutis, petalis glabris, lobis subaequalibus oblongis apice rotundis, labelli laminis minute pubescentibus ovatis incurvis columnam amplectentibus, connectivis corporeque latis, appendice parva, oblonga distinguatur.

**Plant** medium in size, epiphytic, caespitose; roots slender. **Ramicauls** proportionately stout,

erect, 4–8 cm long, enclosed by 8–10 microscopically ciliate, lepanthiform sheaths. **Leaf** erect, coriaceous, suffused with purple beneath, narrowly ovate, acute, 4–6.5 cm long, 1.2–1.5 cm wide, the base cuneate, contracted into a petiole 4–5 mm long. **Inflorescence** an erect, congested, secund, successively several-flowered raceme, up to 3.5 cm long including the peduncle 20 mm long, borne behind the leaf; floral bracts 1.5 mm long; pedicel 2 mm long; ovary 2.5 mm long; sepals yellow, glabrous, the dorsal sepal broadly ovate, obtuse, 3.75 mm long, 3 mm wide, 3-veined, connate to the lateral sepals for 0.5 mm, the lateral sepals oblique, connate 2 mm into an ovate, bifid lamina, 3.75 mm long, 3.5 mm wide, 4-veined, with the apices acute in apposition; petals yellow-orange, glabrous, transversely bilobed, 1.2 mm long, 2.8 mm wide, the lobes oblong with rounded ends, the lower lobe slightly smaller; lip purple, bilaminate, microscopically ciliate-pubescent, the lobes ovate, the apices rounded, incurved beneath the column, the bases rounded, 1.8 mm long, the connectives broadly cuneate, with an equally broad body, connate to the base of the column, the sinus obtuse with a small, oblong, minutely ciliate appendix; column stout, 1.5 mm long, the anther and stigma apical.

**Etymology.** From the Latin *capistratus*, “with a head halter,” referring to the blades of the lip.

This species, collected by Ton Sijm in central Peru, is characterized by elliptical-ovate leaves slightly longer than the several-flowered raceme; a broadly ovate dorsal sepal, and a similar, but shortly bifid synsepal; bilobed petals with the opposite lobes with rounded ends about equal; and ovate blades of the lip that surround the short, thick column.

**Lepanthes erucifera** Luer & Sijm, sp. nov.

TYPE: Peru. Huánuco: near Tingo Maria, collected by A.P. Sijm, Nov. 1998, cultivated at Venhuizen, The Netherlands, 13 Aug. 1999, *A.P. Sijm 992402* (Holotype: MO), C. Luer illustr. 19300. FIGURE 7.

Planta parva caespitosa, racemo congesto disticho folio ovato acuto brevior, sepalis denticulatis ovatis leviter acuminatis, petalis bilobis, lobo superiore oblongo apice rotundo, lobo inferiore minore triangulari, labelli laminis glabris oblongis obtusis, connectivis cuneatis, appendice grandi oblongo ciliato parti apicali bipartido distinguatur.

**Plant** small, epiphytic, caespitose; roots slender. **Ramicauls** slender, erect, 3–7 cm long, enclosed by 5–9 cellular-ciliate, lepanthiform sheaths. **Leaf** erect, coriaceous, elliptical-ovate, acute, 25–38 mm long, 10–12 mm wide, the base cuneate, contracted into a petiole 2 mm



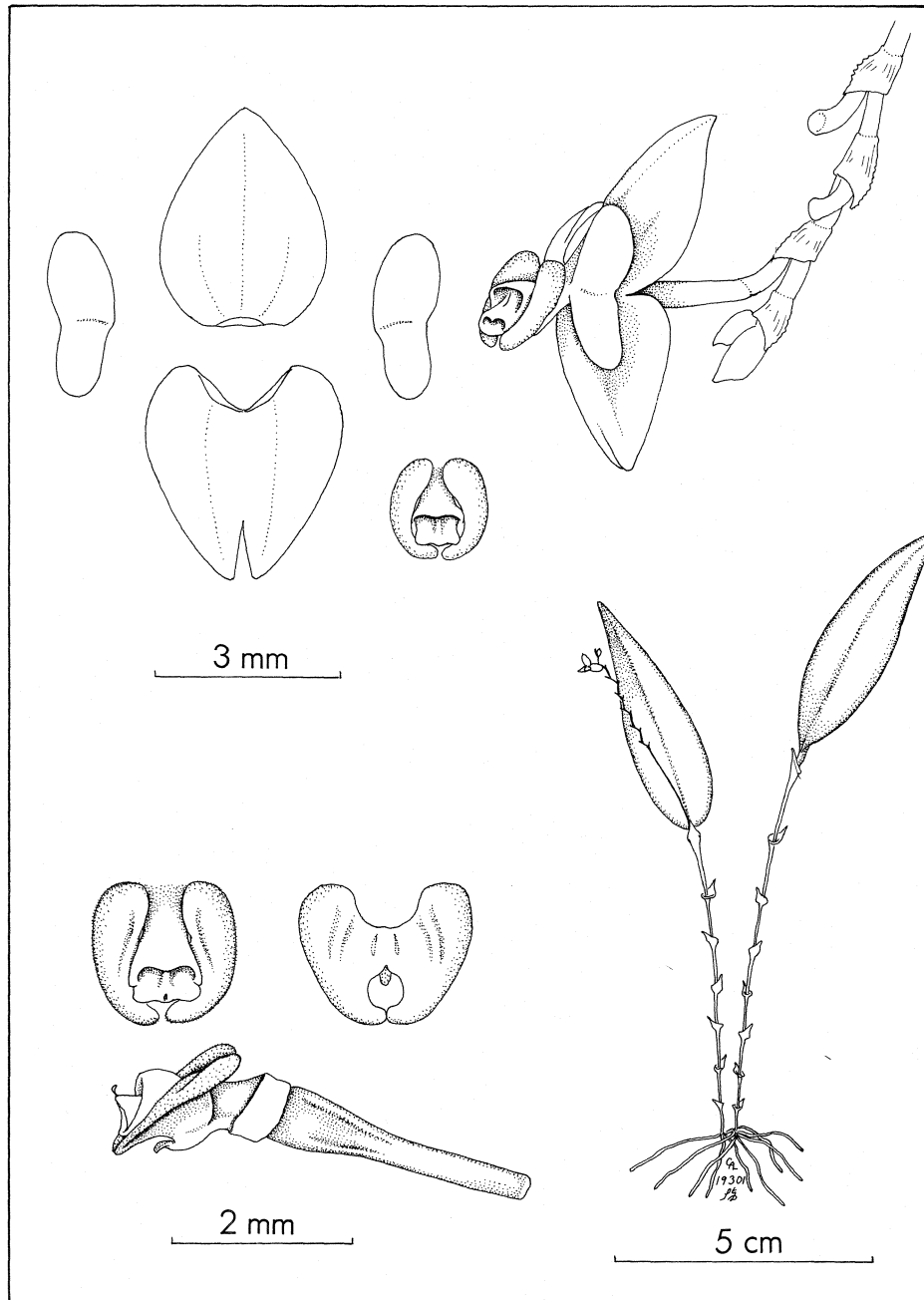


FIGURE 6. *Lepanthes capistrata*.

long. **Inflorescence** an erect, congested, distichous, successively many-flowered raceme, up to 20 mm long, borne behind the leaf by a peduncle 8–10 mm long; floral bracts muricate, oblique, 1.5 mm long; pedicel 2 mm long; ovary 1 mm long; sepals yellow, suffused with brown

medially, carinate, denticulate, ovate, acute, slightly acuminate, the dorsal sepal 4.5 mm long, 3.5 mm wide, 3-veined, connate to the lateral sepals for 1 mm, the lateral sepals oblique, 4.25 mm long, 2.5 mm wide, each 2-veined, connate 1 mm; petals yellow with the margin

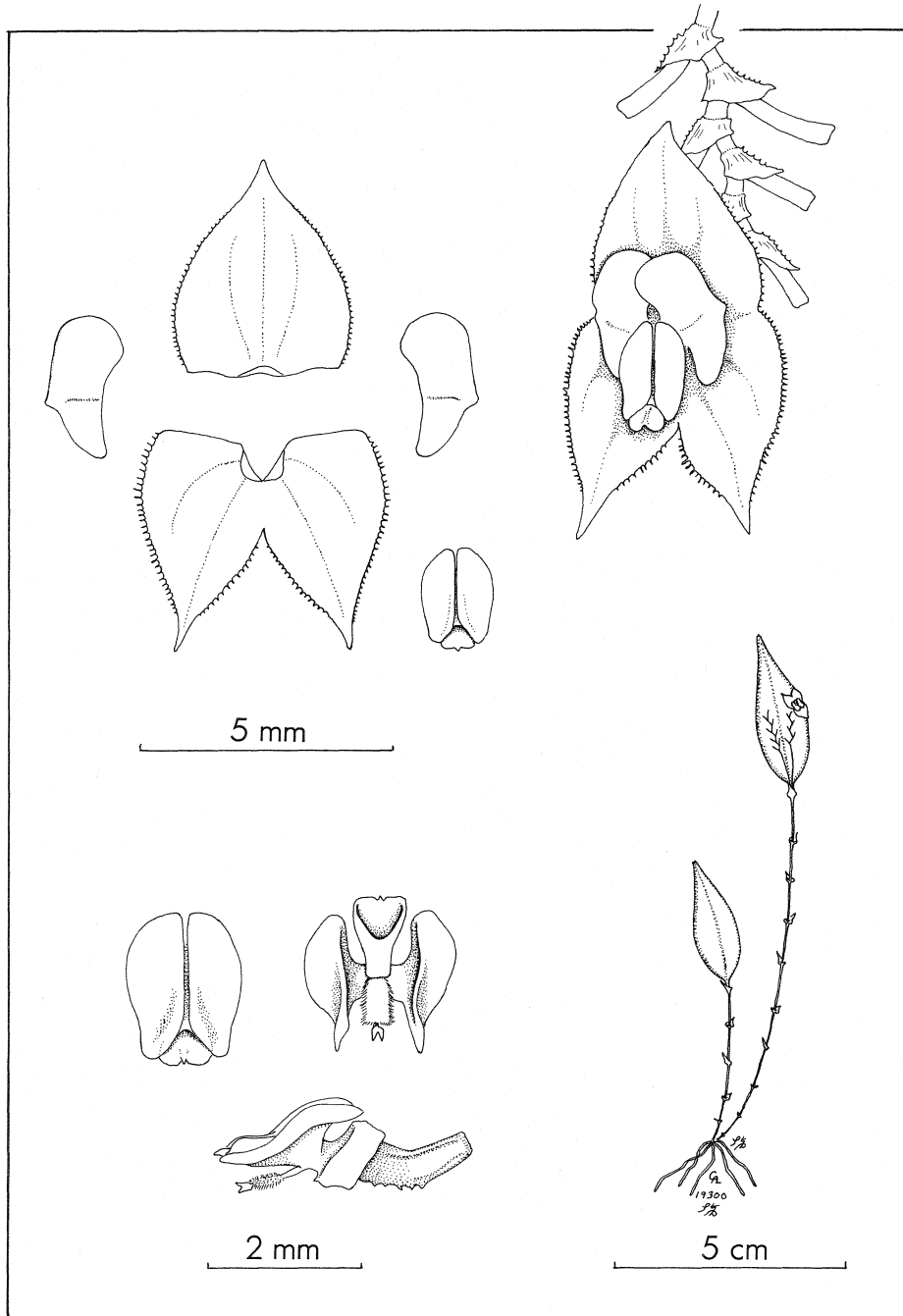


FIGURE 7. *Lepanthes erucifera*.

brown, cellular, transversely bilobed, 1 mm long, 2.75 mm wide, the upper lobe oblong, oblique, round at the apex, the lower lobe smaller, triangular, rounded at the apex; lip tan, suffused with purple medially, glabrous, bilamina-

te, the lobes oblong, slightly concave, round at the ends, 2 mm long, the connectives broadly cuneate, short, with an equally broad body, connate to the base of the column, the sinus obtuse, the appendix bisegmented, oblong, ciliate, with

the terminal segment bifid; column stout, 1.5 mm long, the anther apical, the stigma ventral.

**Etymology.** From the Latin *erucifer*, "cat-erpillar-bearing," referring to the appendix.

This species, collected by Ton Sijm in central Peru, is characterized by a small, caespitose habit; a distichous, congested raceme shorter than the leaf; ovate, denticulate sepals; bilobed petals; oblong blades of the lip; and a large, bisegmented appendix. The body of the appendix is oblong and ciliate; the distal segment is smaller and bifid.

**Lepanthes hollymountensis** Luer & Jesup, sp. nov. TYPE: Jamaica. St. Catherine: Hollymount, Mt. Diablo, collected by Henry Brown, flowered in cultivation, Bristol, CT, 26 Apr. 1987, by *H.P. Jesup s.n.* (Holotype: MO), C. Luer illustr. A12846. FIGURE 8.

Species haec *Lepanthes interiorubrae* Hesp. affinis, sed petalis oblique divergentibus illis *L. wulschlaegelii* Fawc. & Rendle similis, labelli laminis parvulis illis *L. interiorubrae* similis, et appendice proportione majore differt.

**Plant** small, epiphytic, caespitose; roots slender. **Ramicauls** erect, slender, 3–5.5 cm long, enclosed by 7–8 minutely scabrous, lepanthiform sheaths. **Leaf** erect to subpendent, coriaceous, elliptical-ovate, subacute to obtuse, 16–20 mm long, 11–14 mm wide, the base cuneate into a petiole 1–1.5 mm long. **Inflorescence** a congested, distichous, successively several-flowered raceme 6–12 mm long, borne on top of the leaf by a filiform peduncle 5–8 mm long; floral bracts muricate, 0.5 mm long; pedicels 0.75 mm long; ovary 1 mm long; sepals yellow-green, entire, ovate, subacute to ovate, the dorsal sepal 2.2 mm long, 1.6 mm wide, connate to the lateral sepals for 0.25 mm, the lateral sepals oblique, 2 mm long, 2.2 mm wide together, connate 1 mm; petals microscopically pubescent, transversely bilobed with lobes obliquely diverging, 0.6 mm long, 1.5 mm wide, the upper lobe bright crimson, obliquely triangular, narrowly rounded at the apex, 1 mm long, the lower lobe orange, obliquely triangular, rounded at the apex, 1.5 mm long; lip bright crimson, cellular-glandular, bilaminar, the blades thick, oblong with the apex narrowly rounded, with the base rounded, 0.6 mm long, flanking the column, the connectives cuneate-oblong, thick, the body broad, connate to the base of the column, the appendix proportionately large, oblong, pubescent, originating external to the sinus; column stout, 0.6 mm long, the anther apical, the stigma ventral.

**Etymology.** Named for Hollymount, Jamaica, where the specimen was collected.

This taxon is possibly a natural hybrid between *Lepanthes wulschlaegelii* and *L. interiorubra*, all three taxa occurring in the same area. Intermediate variations were noted by Hesp. heide. The sepals of all three taxa are similar, those of *L. wulschlaegelii* being slightly larger. The obliquely diverging lobes of the petals are similar to those of *L. wulschlaegelii*, but the blades of the lip are half the size and flank the column like those of *L. interiorubra* instead of covering it.

**Lepanthes martineae** Luer & Cloes, sp. nov.

TYPE: Peru. Huánuco: between Carpish and Tingo Maria, alt. 1900–2000 m, collected July 1998 by Patrick and Martine Cloes, cultivated in Hasselt, Belgium, by *P. Cloes s.n.* (Holotype: MO), C. Luer illustr. 19269. FIGURE 9.

Species haec *Lepanthes nycteris* Luer & Vásquez affinis, sed synsepalo late et profunde concavo non convexo cum caudis brevioribus differt.

**Plant** small, epiphytic, caespitose; roots slender. **Ramicauls** slender, erect, 1.5–4 cm long, enclosed by 4–5 microscopically scabrous, lepanthiform sheaths with thick margins. **Leaf** erect, coriaceous, broadly elliptical-ovate, obtuse, 20 mm long, 11 mm wide, the base broadly cuneate, contracted into a petiole 2–3 mm long. **Inflorescence** a lax, successively few-flowered raceme, up to 10 cm long including the slender peduncle 2–4 cm long, exceeding the leaf; floral bracts 1.5 mm long, minutely muricate; pedicels 0.75 mm long; ovary echinate, 1–1.5 mm long; sepals light yellow, striped longitudinally and transversely with orange-brown, the margins erose-fimbriate, with a zone of scurfy trichomes a short distance within the margins, the veins branching, the dorsal sepal broadly obovate, shallowly concave, 8 mm long, 8 mm wide, rounded at the apex with a slender tail 2 mm long, connate to the lateral sepals for 1 mm, the lateral sepals connate 7 mm into an ovoid, deeply concave synsepal, 9 mm long, 9 mm wide, with the tips of the laterals decurved from the cavity and contracted into acute, incurved tails 3.5 mm long; petals light yellow, transversely lobed, crescent-shaped, 1 mm long, 3.5 mm wide, the lobes obliquely triangular, narrowly obtuse with the tips incurved, the lower lobe slightly broader and longer; lip light yellow, bilobed, the lobes falcate-triangular, erect, 3 mm long, 1 mm wide, flanking the column, with the anterior corners obtuse and the posterior angles acute, long-ciliate-pubescent, the body narrow, connate to under surface of the column, the appendix, minute, orbicular; col-

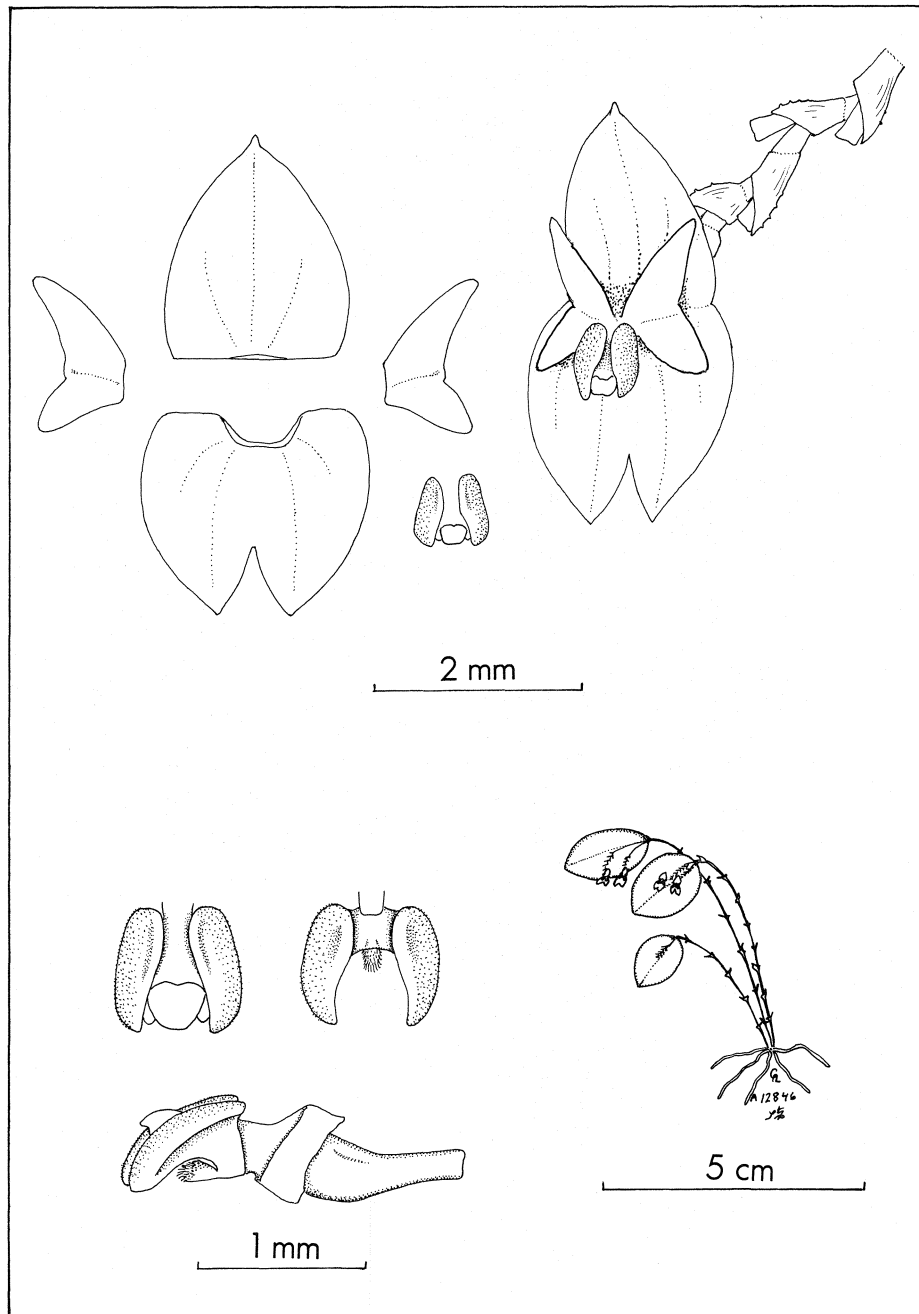


FIGURE 8. *Lepanthes hollymountensis*.

um terete, 3 mm long, the anther and the stigma apical.

**Etymology.** Named for Martine Cloes, co-collector of this species.

This species is closely related to Bolivian

*Lepanthes nycteris*, but the flowers are easily distinguished by the broadly and deeply concave synsepal. The free apices of the lateral sepals decurve before they are contracted into short, acute tails. The prominent convexities of the synsepal above the middle are absent.

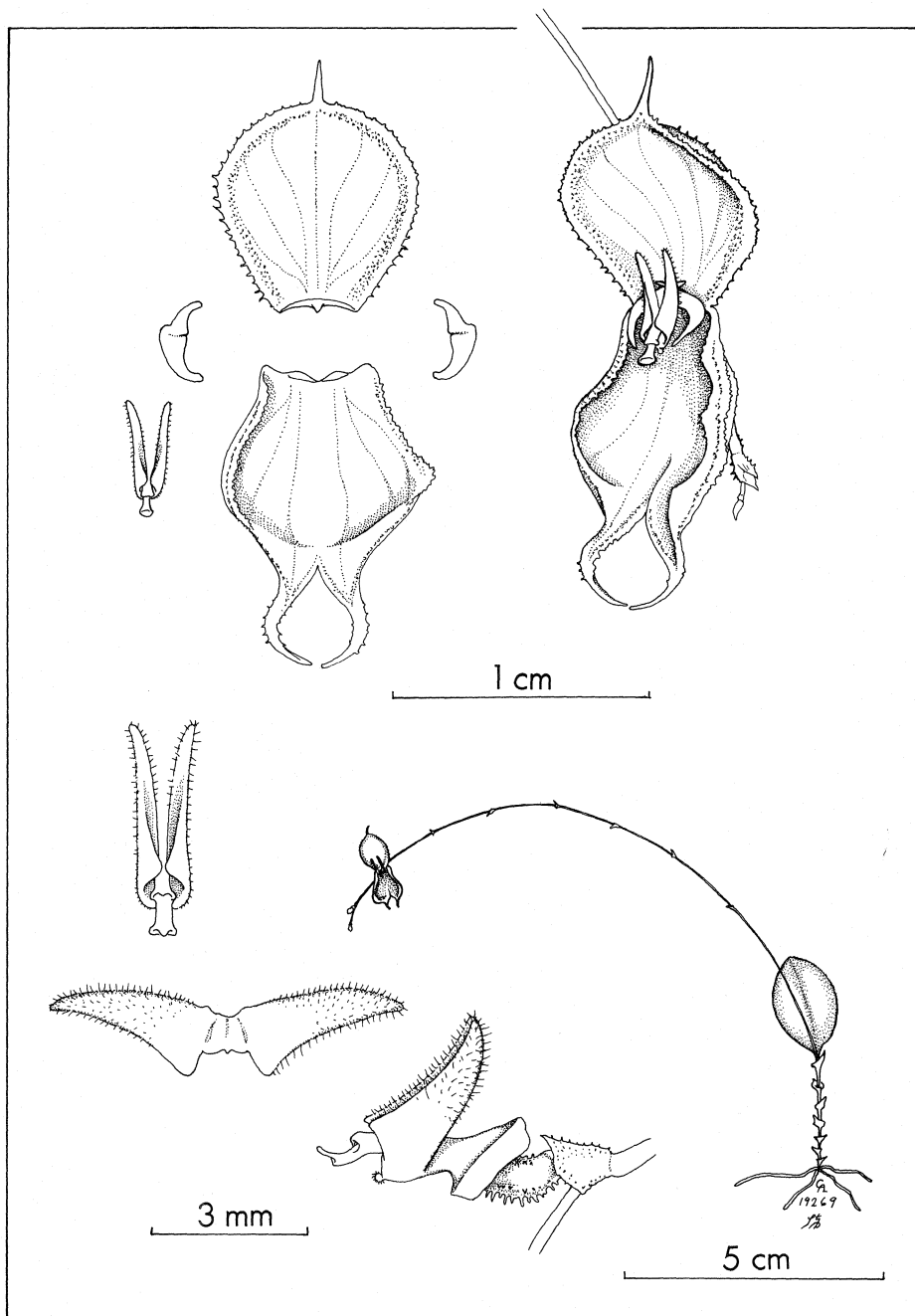


FIGURE 9. *Lepanthes martineae*.

As in *L. nycteris*, the lobes of the lip are falcate-triangular and erect.

***Lepanthes migueliana*** Luer & Behar, sp. nov.

TYPE: Guatemala. Baja Verapaz: Chilascó, Salamá, alt. 1800 m, collected by Noel Cruz

Chavarria, flowered in cultivation, Jan 2002, by M. Behar 155 (Holotype: MO), C. Luer illustr. 20090.

FIGURE 10.

Species haec *Lepanthes stenosepalae* Luer & Behar affinis, sed habitu minore, sepalis latioribus longi-ac-

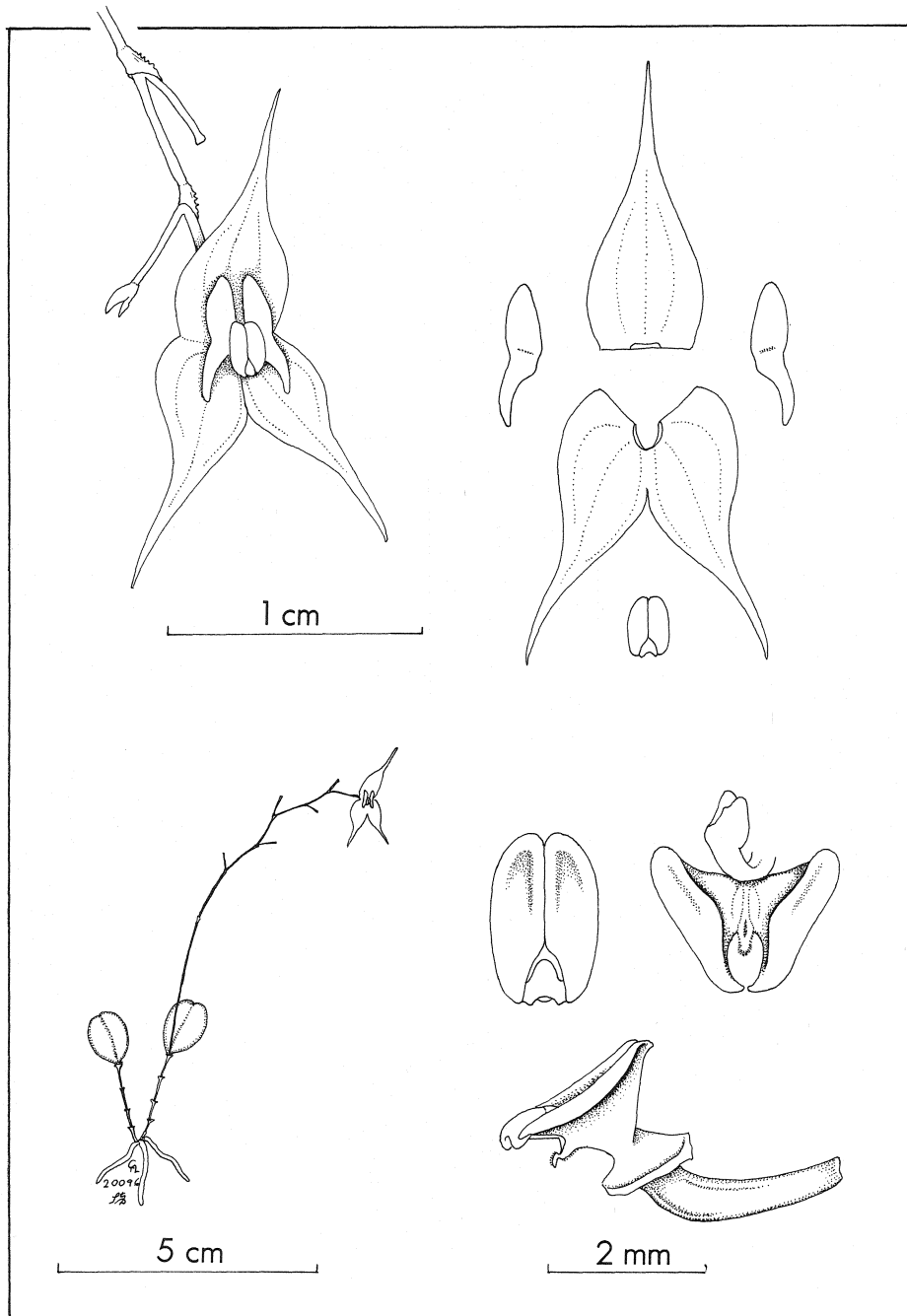


FIGURE 10. *Lepanthes migueliana*.

uminatis, labelli lamina glabris et appendice integra distinguitur.

**Plant** small, epiphytic, caespitose; roots slender. **Ramicauls** slender, erect, 10–15 mm long, enclosed by 4–5 microscopically ciliate, lepanthiform sheaths. **Leaf** erect, coriaceous, broadly

elliptical, rounded at the apex, 10–12 mm long, 7–8.5 mm wide, the base cuneate into a petiole 1 mm long. **Inflorescence** a loose, subflexuous, distichous, successively several-flowered raceme, up to 7 cm long including the peduncle 3–4 cm long, borne far beyond the leaf; floral

bract 1.5 mm long, minutely muricate; pedicel 2.5–3 mm long; ovary 2 mm long; sepals bright rose, glabrous, carinate, the dorsal sepal ovate, acute, long-acuminate, 11.5 mm long, 5 mm wide, connate basally to the lateral sepals for 1.5 mm, the lateral sepals ovate, oblique, acute, long-attenuate, 11 mm long, 3.5 mm wide, connate 1.5 mm; petals white with dark rose tips of the lobes, microscopically pubescent, transversely bilobed, 1.5 mm long, 5.5 mm wide, the upper lobe 2.5 mm long, oblong-ovate, obtuse, the lower lobe 3 mm long, narrowly oblong-triangular, obtuse; lip dark rose, bilaminar, the blades glabrous, oblong, flat, 2.2 mm long, the apices narrowly obtuse, and bases rounded, the connectives short, broadly cuneate, from the full length of the blades, the body cleft, connate to the base of the column, the sinus acute, the appendix pubescent, oblong, entire, ca. 0.3 mm long; column stout, 2 mm long, the anther dorsal, the stigma ventral.

**Etymology.** Named for Sr. Miguel Angel Mendoza, orchid hobbyist of Guatemala City, Guatemala.

This species is related to both *Lepanthes guatemalensis* and *L. stenosepala* but differs from them in the smaller habit with broadly elliptical leaves; longer pedicels; broader, long-attenuate lateral sepals; glabrous blades of the lip; and an entire appendix. In the other two species, the appendix is distinctly bisegmented.

**Lepanthes minyglossa** Luer, sp. nov. TYPE: Panama. Chiriquí: epiphytic in cloud forest, Cerro Colorado, alt. 1650 m, 15 Feb. 1985, C. Luer, J. Luer, R. & K. Dressler 10540 (Holotype: MO). FIGURE 11.

Planta mediocris, racemo congestissimo disticho folio elliptico brevior, sepalis obtusis, petalis bilobis, lobo superiore grandi, lobo inferiore triangulari parvo, labelli laminis pubescentibus quam columna minore.

**Plant** small to medium in size, epiphytic, caespitose; roots slender. **Ramicauls** slender, erect, 3–9 cm long, enclosed by 5–9 microscopically scabrous, closely fitting, nondilated, lepanthiform sheaths. **Leaf** erect, coriaceous, suffused with purple beneath, elliptical, acute, slightly acuminate, 2.5–3.2 cm long, 1.3–2 cm wide, the base broadly cuneate into a petiole ca. 2 mm long. **Inflorescence** a very congested, distichous, successively many-flowered raceme up to 5 mm long, borne behind the leaf by a filiform peduncle 10–15 mm long; floral bracts imbricating, 1.5 mm long, muricate; pedicels 1.5–2.5 mm long; ovary 2 mm long; sepals bright yellow, glabrous, carinate, ovate, subacute or obtuse, the dorsal sepal 3 mm long, 2.25 mm wide, connate to the lateral sepals for 0.5 mm, the lat-

eral sepals oblique, 3.25 mm long, 1.8 mm wide, connate 1 mm; petals yellow with red edges, microscopically cellular-pubescent, transversely bilobed, 1 mm long, 3.5 mm wide, the upper lobe oblong-ovate, rounded at the apex, the lower lobe triangular, much smaller; lip yellow with red edge, bilaminar, the blades ovate, ciliate-pubescent, oblong, with the apices acute and bases rounded, 0.8 mm long, smaller than and flanking the shaft of the column, the connectives cuneate, the body narrow, connate to the base of the column, the appendix minute, external; column semiterete, 1 mm long, the anther dorsal, the stigma apical.

**Etymology.** From the Greek *minyglossa*, “a very small tongue,” referring to the labellum.

In habit this species is similar to those species related to *Lepanthes disticha*, but it differs from them by the proportionately very small, triangular, lower lobe of the petals, and pubescent blades of the lip that are smaller than the column. The appendix is minute and external.

**Lepanthes mollis** Luer, sp. nov. TYPE: Panama. Chiriquí: epiphytic in forest, Cerro Colorado, alt. 1500 m, 15 Feb. 1985, C. Luer, J. Luer, R. & K. Dressler 10532 (Holotype: MO). FIGURE 12.

Planta mediocris mollis, racemo congesto folio elliptico tenui acuminato brevior, sepalis obtusis, petalorum lobis triangularibus, labelli laminis ovatis corpore lato, appendice parva apice biglandulosa.

**Plant** medium in size, epiphytic, caespitose; roots slender. **Ramicauls** slender, erect, 4–9 cm long, enclosed by 10–11 scabrous lepanthiform sheaths with dilated, long-acuminate ostia. **Leaf** erect to suberect, thin, subcoriaceous, ovate-elliptical, acute, acuminate, 2.5–4.5 cm long, 1.3–2 cm wide, the cuneate-rounded base contracted into a petiole 1–1.5 mm long. **Inflorescence** a congested, distichous, successively many-flowered raceme up to 10 mm long, borne on top of the leaf by a filiform peduncle 9–20 mm long; floral bracts 1.5 mm long, minutely muricate; pedicels 1.5 mm long; ovary 1 mm long; sepals yellow, ovate, carinate, acute to obtuse, the dorsal sepal 2.75 mm long, 2 mm wide, connate to the lateral sepals for 0.5 mm, the lateral sepals oblique, 2.25 mm long, 1.6 mm wide, connate 1 mm; petals orange, microscopically cellular, transversely bilobed, 0.75 mm long, 2 mm wide, the lobes triangular, acute, the upper lobe slightly larger; lip rose, glabrous (microscopically cellular), bilaminar, with the blades ovate with the ends subacute, 1.25 mm long, the connectives broadly oblong, the body broad, connate to the base of the col-

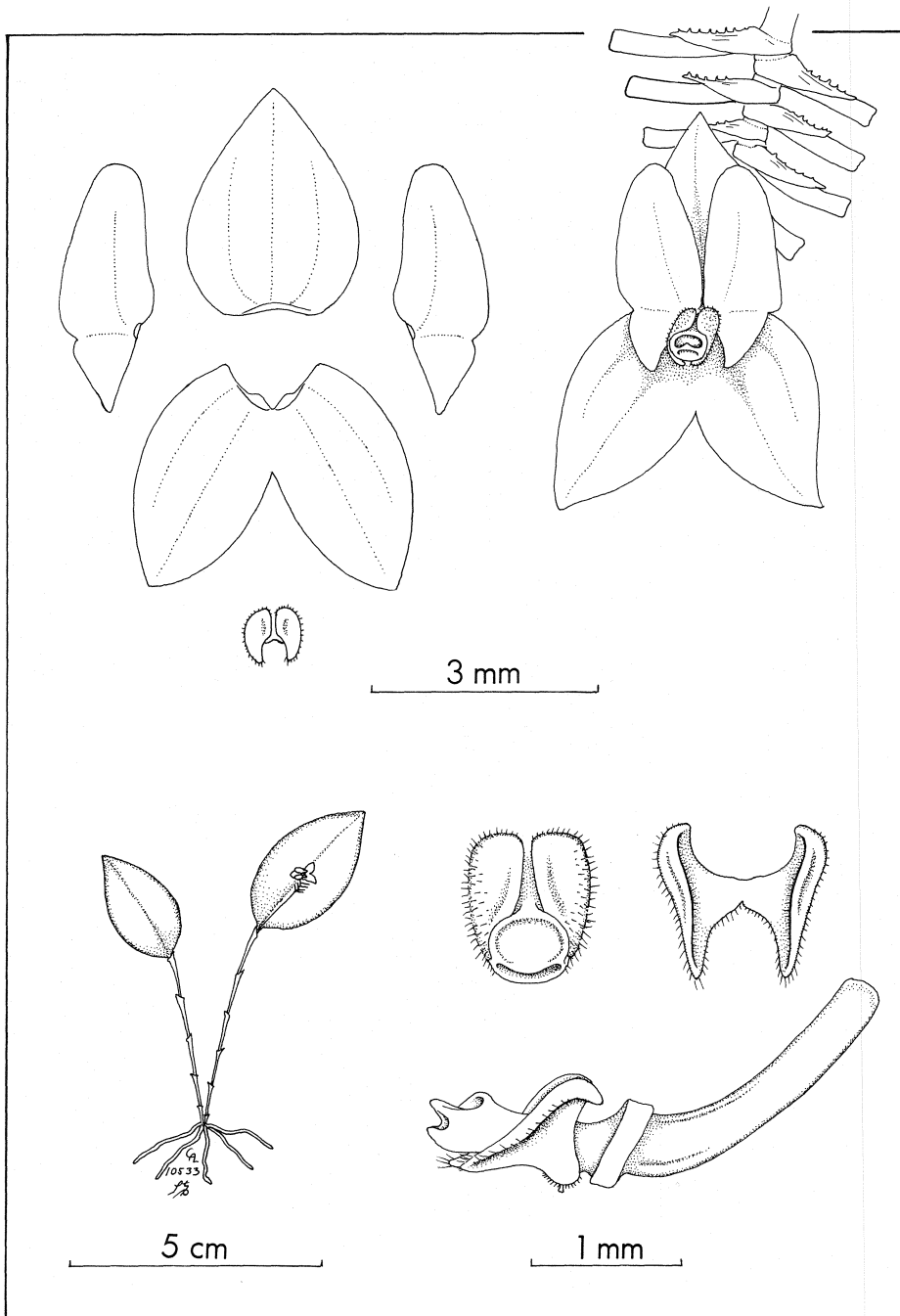


FIGURE 11. *Lepanthes minyglossa*.

umn, the sinus rounded with a pedunculate, ovoid appendix biglandular at the ciliate tip; column stout, 1 mm long, the anther apical, the stigma ventral.

**Etymology.** From the Latin *mollis*, "soft, tender," referring to the leaves.

This species is not remarkably distinct from the majority in the genus. However, it is dis-



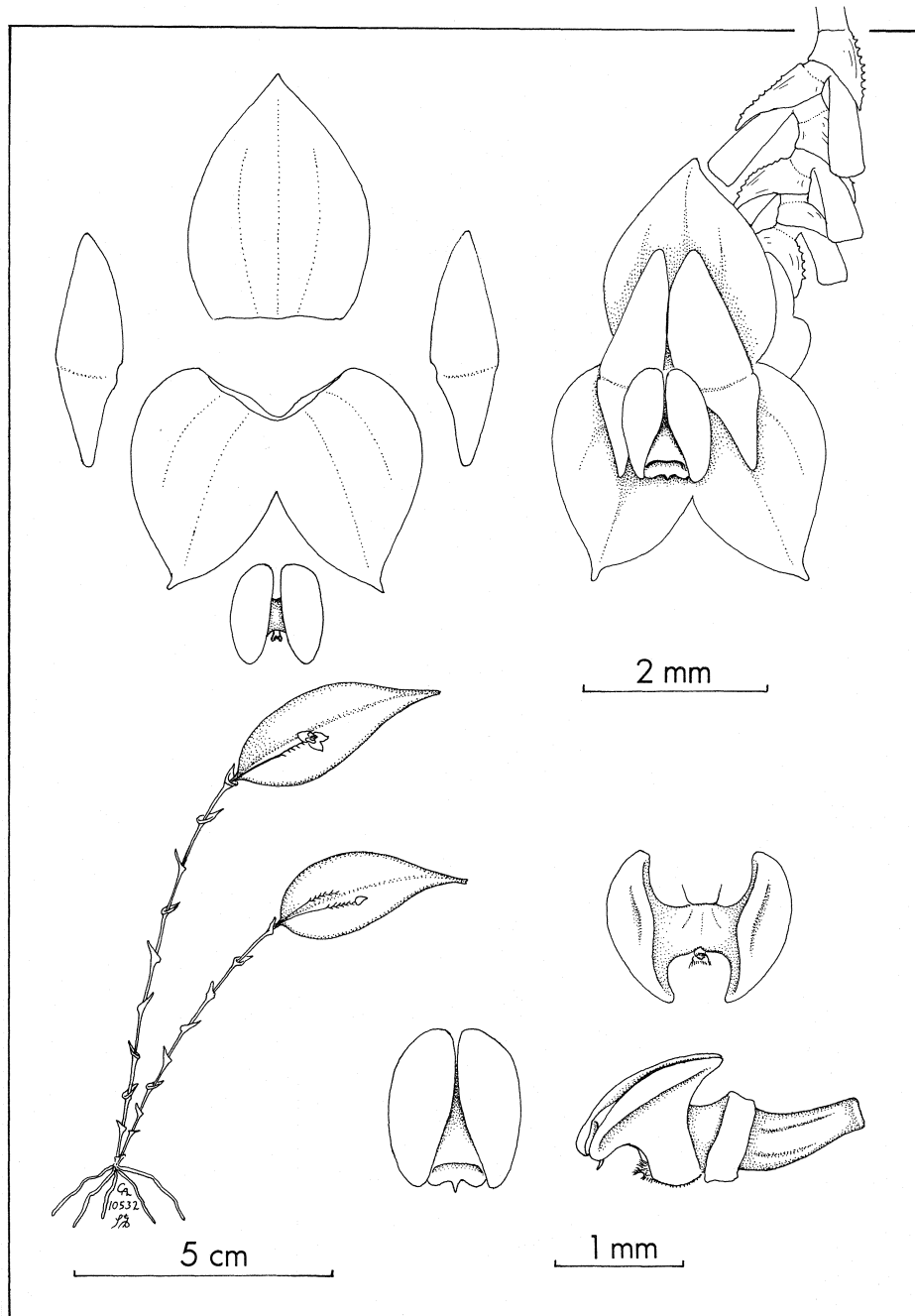


FIGURE 12. *Lepanthes mollis*.

tinguished by the congested raceme shorter than the soft, elliptical, acuminate leaf upon which it is borne. The sepals are obtuse, the lobes of the petals are acute, and the blades of the lip are ovate and borne by broad connec-

tives. The appendix is minute, ovoid and biglandular.

***Lepanthes nana*** Luer & Jesup, sp. nov. TYPE: Cuba. Santiago de Cuba: Sierra Maestra,

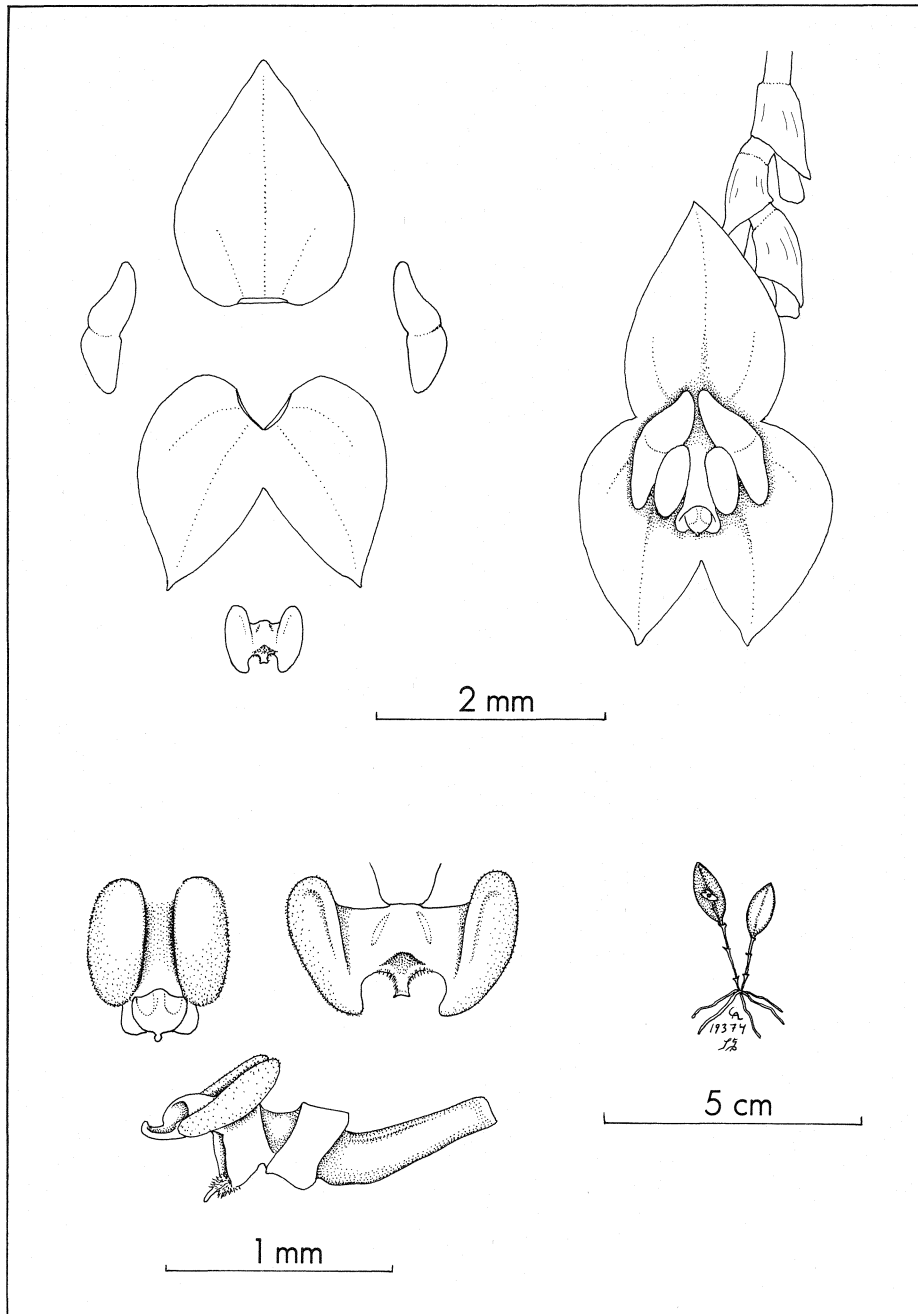


FIGURE 13. *Lepanthes nana*.

Pico de Santiago, alt. 1200 m, collected by Y. Aubry, May 2000, cultivated in Bristol, CT, by P. Jesup s.n. (Holotype: MO), C. Luer illustr. 19374. FIGURE 13.

Planta perparva, racemo congesto disticho folio elliptico brevioribus, sepalis ovatis acutis glabris, petalis

transverse oblongis cum lobis obtusis plus minusve aequalibus, labelli laminis ellipticis quam columna brevioribus, appendice triangulari concava pubescenti cum processu oblongo distinguitur.

*Plant* very small, epiphytic, caespitose; roots slender. *Ramicauls* slender, erect, 7–8 mm long,

enclosed by 3 microscopically ciliate-scabrous, lepanthiform sheaths. **Leaf** erect, coriaceous, elliptical-ovate, acute, with smooth margins, 13 mm long, 6 mm wide, the base cuneate into a petiole 1 mm long. **Inflorescence** a congested, distichous, successively several-flowered raceme 2 or more mm long, borne on top of the leaf by a filiform peduncle 3 mm long; floral bracts oblique, 0.8 mm long; pedicels 0.6 mm long; ovary 0.75 mm long; sepals yellow, glabrous, the dorsal sepal ovate, acute, 2 mm long, 1.6 mm wide, 3-veined, connate to the lateral sepals for 0.25 mm, the lateral sepals ovate, oblique, acute, 1.8 mm long, 1 mm wide, connate 0.5 mm; petals red, microscopically pubescent, transversely oblong, bilobed, obtuse, 0.75 mm long, 1 mm wide, the lobes more or less equal; lip microscopically pubescent, bilaminar, the blades elliptical-oblong, with rounded ends, 0.5 mm long, the connectives broadly oblong, the body broad, connate to the base of the column, the sinus broad, with a triangular, concave, pubescent appendix with an oblong, protruding process; column stout, semiterete, 0.7 mm long, the anther dorsal and the stigma ventral.

**Etymology.** From the Latin *nanus*, "dwarf," referring to the size of the species.

This tiny species is apparently confined to the slopes of Pico de Santiago in southeastern Cuba. Similar to twice larger *Lepanthes vulgaris*, it is characterized by a combination of ordinary physical features, which alone are not distinctive, except for their minute size. A short, successively flowered raceme is borne on top of a smooth, elliptical leaf. The sepals are ovate, acute and glabrous. The petals are minutely pubescent, transversely oblong and obtuse. The blades of the lip are elliptical-oblong with the ends rounded; the connectives are oblong and broadly cuneate; and the appendix is broadly triangular, pubescent and concave with a small, oblong, protruding process.

**Lepanthes pedunculata** Luer & Sijm, sp. nov.

TYPE: Peru. Huanuco: near Tingo Maria, collected by A.P. Sijm, Nov. 1998, cultivated at Venhuizen, The Netherlands, 13 Aug. 1999, A.P. Sijm 991802 (Holotype: MO), C. Luer illustr. 19307. FIGURE 14.

Planta parva caespitosa, racemo paucifloro folio elliptico brevior, sepalis glabris ovatis obtusis vel subacutis, petalis glabris lobis inaequalibus, lobo superiore subquadrato oblique truncato, lobo inferiore minore oblique oblongo, labelli laminae glabris ellipticis concavis columnam amplexantibus, connectivis triangularibus, corpore angusto, appendice pedunculata longipubescenti distinguitur.

**Plant** small, epiphytic, caespitose; roots slender. **Ramicauls** slender, erect, 3 cm long, enclosed by 6 minutely scabrous, lepanthiform

sheaths. **Leaf** erect, coriaceous, elliptical, narrowly ovate, subacute, 20 mm long, 10 mm wide, the base broadly cuneate, contracted into a petiole 1.5 mm long. **Inflorescence** a subcongested, distichous, successively few-flowered raceme, up to 3 mm long, borne by a peduncle also 3 mm long; floral bracts 1.5 mm long, submuricate; pedicel 1 mm long; ovary 3 mm long; sepals glabrous, entire, the dorsal sepal broadly ovate-triangular, obtuse, 3.5 mm long, 2.5 mm wide, 3-veined, connate to the lateral sepals for 0.5 mm, the lateral sepals ovate, oblique, subacute, 3.25 mm long, 1.75 mm wide, 2-veined, connate 1.5 mm; petals glabrous, transversely bilobed, 1.5 mm long, 3.5 mm wide, the upper lobes subquadrate, obliquely truncate, the lower lobe slightly smaller, obliquely oblong, obtuse; lip bilaminar, glabrous, the lobes elliptical, concave, with the ends rounded, 1.5 mm long, the connectives triangular-cuneate, the body narrow, connate to the base of the column, with the sinus deeply cleft, the appendix pedunculate with the distal segment long-pubescent; column stout, 1.5 mm long, the anther and stigma apical.

**Etymology.** From the Latin *pedunculatus*, "pedunculate," referring to the appendix.

This small species, apparently restricted to central Peru, is characterized by elliptical leaves; a successively few-flowered raceme half as long as the leaf; broad, entire, obtuse sepals; bilobed petals with the upper, subquadrate lobe larger than the lower lobe; elliptical, concave blades of the lip; and a pedunculate appendix, the distal segment long-pubescent.

**Lepanthes selenitepala** Rchb. f., Ber. Deutsch.

Bot. Ges. 3: 297, 1885, subsp. **ackermanii** Luer subsp. nov. TYPE: Puerto Rico. Quebrada Grande, alt. 450 m, 20 Jan. 1984, J.D. Ackerman 1904 (Holotype: UPRRP; Isotype: MO), C. Luer illustr. 17831.

FIGURE 15.

Subspecies haec *Lepanthes selenitepala* Rchb.f. similis, sed habitu multiminore differt.

**Plant** very small, epiphytic to lithophytic, caespitose; roots slender. **Ramicauls** erect, slender, 5–15 mm long, enclosed by 4–5 microscopically ciliate, lepanthiform sheaths. **Leaf** erect, coriaceous, elliptical, subacute to obtuse, 10–16 mm long, 5–10 mm wide, the base cuneate into a petiole 1 mm long. **Inflorescence** a congested, distichous, successively several-flowered raceme, up to 3 mm long, borne on top of the leaf by a peduncle 3–5 mm long; floral bracts echinate, 1 mm long; pedicels 1 mm long; ovary 1 mm long; sepals yellow, denticulate, ovate, acute, the dorsal sepal 3 mm long, 1.75–2 mm wide, connate to the lateral sepals for 0.5 mm, the lateral sepals oblique, 2.5 mm long, 1.3 mm wide, connate 1

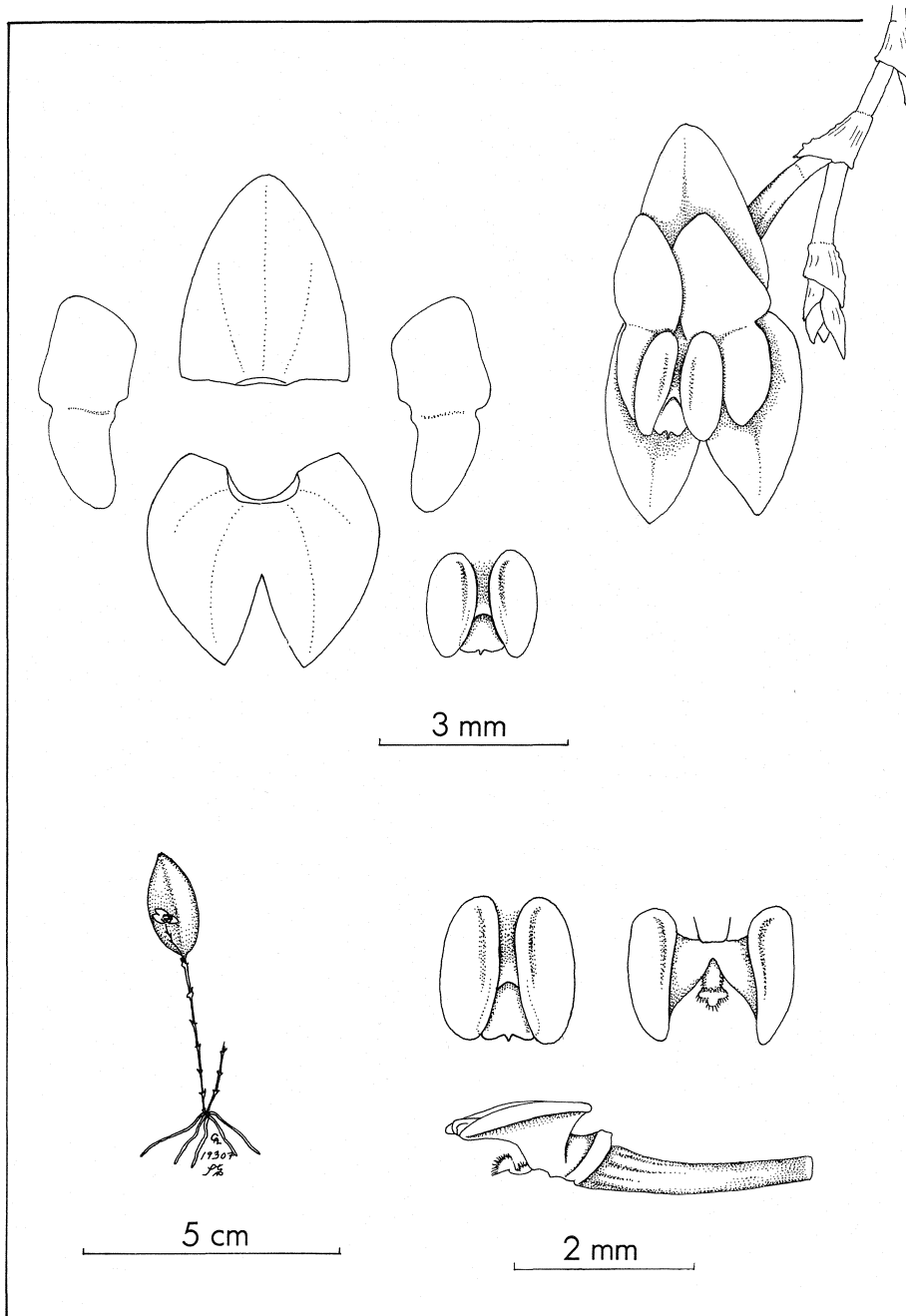


FIGURE 14. *Lepanthes pedunculata*.

mm; petals orange, transversely bilobed, microscopically pubescent, 0.5 mm long, 2.5 mm wide, the upper lobe diverging, falcate, obliquely acute, 1.75 mm long, 0.75 mm wide, the lower lobe diverging, oblong, curved, rounded on the end, 1.5 mm long, 0.5 mm wide; lip red, microscopi-

cally pubescent, bilaminiate, the blades lunate, 1.4 mm long, with ends rounded, the connectives short, broadly oblong, the body connate to the base of the column, the sinus obtuse with a short, ovoid, pubescent appendix; column 1.5 mm long, the anther apical, the stigma ventral.

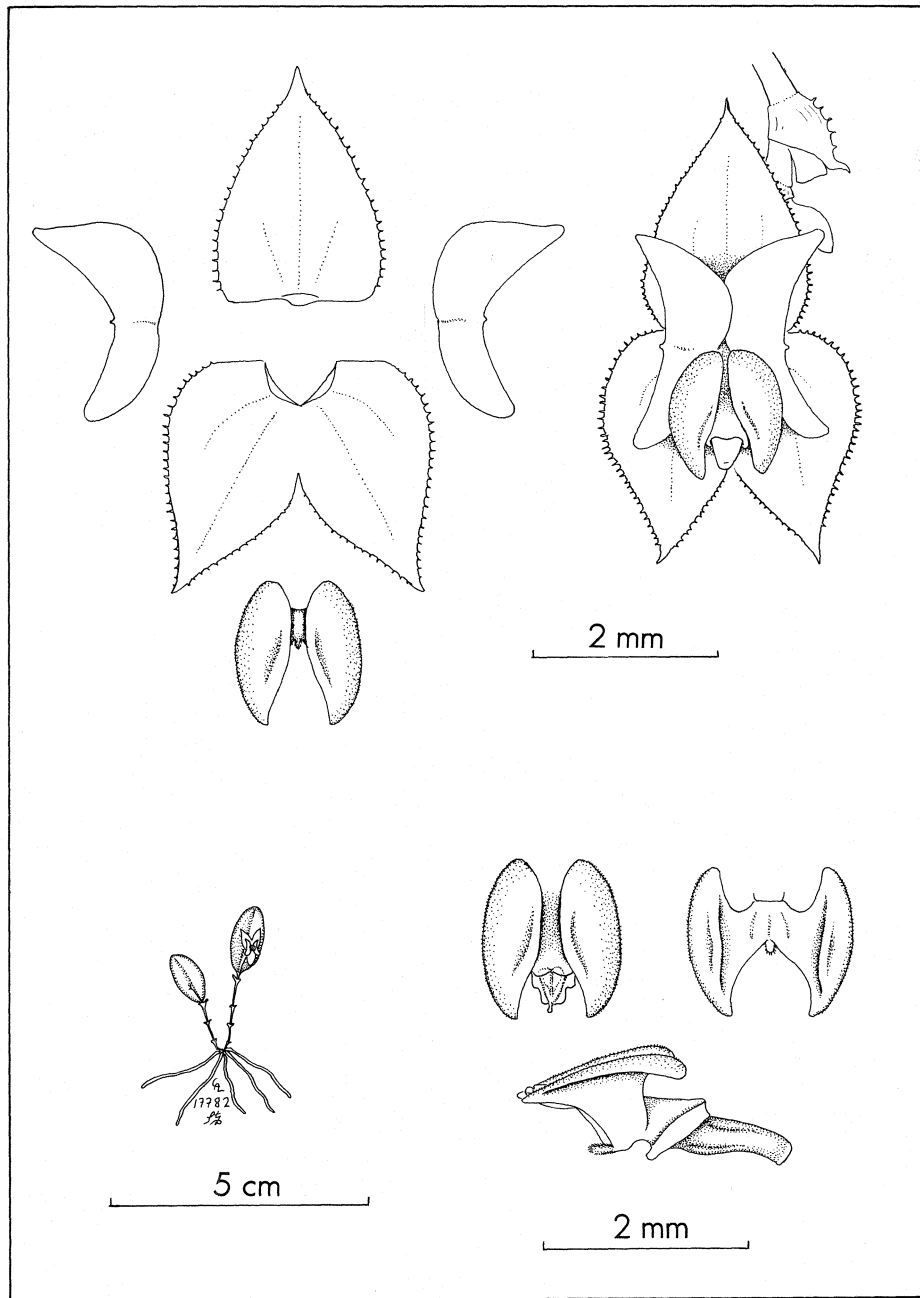


FIGURE 15. *Lepanthes selenitepala* subsp. *ackermanii*.

**Etymology.** Named for Dr. James D. Ackerman who pointed out the difference in the populations.

**Paratypes.** Puerto Rico: Quebrada Grande, alt. 470 m, 5 Apr. 1984, *J.D. Ackerman 1982* (UPRRP); Quebrada Grande, alt. 450 m, 4 Nov.

1995, *C. Luer, J. Luer & J.D. Ackerman 17781* (MO); Río Sonadora, lithophytic on boulders, collected by J. Ackerman, alt. 350 m, 4 Nov. 1995, *C. Luer, J. Luer & J.D. Ackerman 17782* (MO). Sierra Luquillo, Mt. Hymens, 29 May 1885, *P. Sintenis 1736* (C); prope Utuado ad

Boncador, 16 Mar. 1885, P. *Sintenis* 6469 (C). El Yunqui, 16 June 1939, J.I. *Otero* 662 (UPR); El Yunqui, 2 Apr. 1960, R.O. *Woodbury* s.n. (UPR); El Toro trail, Dec. 1962, R.O. *Woodbury* s.n. (UPR); Guavate, 600–800 m, Apr. 1962, R.O. *Woodbury* s.n. (SJ); El Verde area, 29 Jan. 1967, R.O. *Woodbury* s.n. (SJ); Luquillo Mts., south of El Verde, alt. 450–600 m, 27 Oct. 1987, J.D. *Ackerman* & A. *Montalvo* 2398 (UPRRP); Río Grande, Río Jiménez, alt. 216 m, 26 Mar. 1989, G.G. *Ruiz* 9 (UPRRP); Caribbean National Forest, alt. 275–300 m, 10 Aug. 1990, F. *Axelrod*, J.D. *Ackerman* & I. *Rodríguez* 6790 (UPRRP).

*Lepanthes selenitepala* is distributed in Puerto Rico in two areas, one in an eastern part of the island, described here as subspecies *ackermanii*, and the other in a far western part. Reichenbach described the species from a collection by Sintenis near Maricao in westernmost Puerto Rico where it is still to be found today. In the eastern part of the island, it is represented by a very small, vegetative variation that has similar flowers except for a slightly smaller size. I have no doubt that the sizes would be found to overlap, if more flowers were measured. Vegetatively, however, the distinction is remarkable. The ramicauls of typical, far western plants reach nine centimeters in length with leaves up to three and a half centimeters long. Plants from the east have ramicauls no more than one and a half centimeter long with a leaf about equally long. The peduncles and racemes are also proportionately shorter.

***Lepanthes sijmii*** Luer & Sijm, sp. nov. TYPE: Peru. Huánuco: near Tingo María, collected by A.P. Sijm, Nov. 1998, cultivated at Venhuizen, The Netherlands, 13 Aug. 1999, A.P. *Sijm* 992901 (Holotype: MO), C. Luer illustr. 19305. FIGURE 16.

Planta grandis, ramicaulorum vaginis nondilatatis, racemo pendenti congesto multifloro successivifloro folio ovato acuminato plus minusve aequilongo, floribus grandis, sepalo dorsali triangulari acuto, sepalis lateralibus late ovatis obtusis ad medium in synsepalum latum connatis, petalis bilobis, labelli laminis ovatis connectivis brevissimis, appendice subquadrata ciliata distinguitur.

**Plant** large, epiphytic, caespitose; roots slender. **Ramicauls** stout, erect, 10–17 cm long, enclosed by 11–14 microscopically ciliate, lepanthiform sheaths with nondilated ostia. **Leaf** erect, coriaceous, ovate, shortly acuminate, subacute, 7–9 cm long, 2.5–3.5 cm wide, the base rounded, contracted into a twisted petiole 5 mm long. **Inflorescence** an arcuate, pendent, congested, successively many-flowered raceme, up to 10 mm long including the peduncle ca. 4 cm, borne from behind the leaf; floral bracts 1.5 mm

long; pedicel 1 mm long; ovary 2 mm long; sepals glabrous, the dorsal sepal ovate-triangular, acute, slightly acuminate, 8.5 mm long, 5.5 mm wide, 3-veined, connate to the lateral sepals for 1.5 mm, the lateral sepals broadly ovate, oblique, obtuse, very shortly acuminate, 8 mm long, 6 mm wide, each 2-veined, connate 4.5 mm into a broadly expanded synsepal; petals glabrous, transversely bilobed, 1.5 mm long, 3.5 mm wide, the upper lobe oblong, 2 mm long, rounded on the end, the lower lobe 1.25 mm long; lip glabrous, bilaminar, the lobes ovate, acute, rounded at the base, 3 mm long, the connectives cuneate, broad, short, with the broad body connate to the base of the column, the sinus short to either side of a subquadrate, ciliate appendix; column thick, 1.5 mm long, the anther apical, the stigma ventral.

**Etymology.** Named for A.P. Sijm of Venhuizen, The Netherlands, who collected this species.

This species, collected by Ton Sijm in central Peru, is characterized by tall, stout ramicauls with closely fitting sheaths; a large cordate leaf; and an arching-pendent, successively many flowered raceme that eventually becomes longer than the leaf. The flower is large with a broadly expanded synsepal of deeply connate, obtuse sepals. The blades of the lip are ovate borne by very short connectives. The broad, ciliate appendix is in contact with the stigma.

***Lepanthes stimsonii*** Luer, sp. nov. TYPE: Puerto Rico. Cerro Santa Ana, alt. 800 m, 2 Nov. 1995, C. *Luer*, J. *Luer* & R. *Tremblay* 17771 (Holotype: MO). FIGURE 17.

**Synonym.** *Lepanthes veleziana* var. *retusicolumna* Stimson, *Brittonia* 21: 344. 1969.

Species haec *Lepanthes velezianae* Stimson similis, sed petalorum lobis latioribus trinervis, labelli laminis anguste oblongis non incurvis, appendice crassa dense pubescenti, et rostello retuso differt.

**Plant** medium in size, epiphytic, caespitose; roots slender. **Ramicauls** erect, slender, 3–7 cm long, enclosed by 5–9 microscopically ciliate, lepanthiform sheaths. **Leaf** erect, coriaceous, ovate, acute, 20–33 mm long, 14–17 mm wide, the base rounded, contracted into a petiole 2 mm long. **Inflorescence** a congested, distichous, successively several-flowered raceme, up to 5 mm long, borne behind the leaf by a peduncle 8–12 mm long; floral bracts echinate, 0.75–1 mm long; pedicels 1–1.25 mm long; ovary 2.5 mm long; sepals light orange, entire, ovate, acute, the dorsal sepal 4 mm long, 3 mm wide, 3-veined, connate to the lateral sepals for 1 mm, the lateral sepals oblique, 3.75 mm long, 1.5 mm wide, connate 1 mm; petals orange, transversely bilobed, microscopically pubescent, 1 mm long, 2.4 mm wide, 3-veined, the

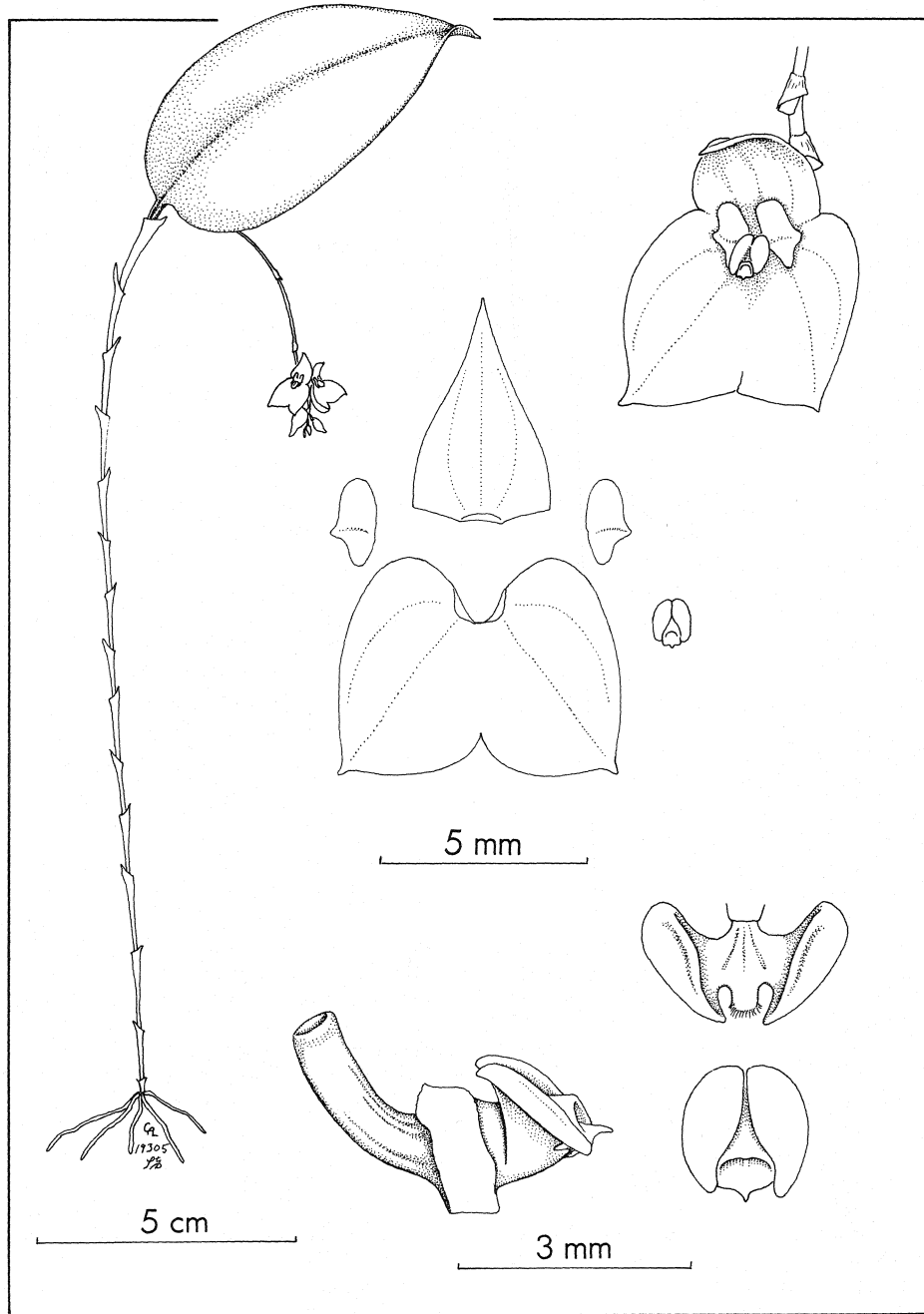


FIGURE 16. *Lepanthes sijmii*.

upper lobe oblong, oblique, obtusely rounded at the end, diverging, 2 mm long, 1.25 mm wide, the lower lobe similar but smaller, 1.4 mm long, 1 mm wide; lip red-orange, bilaminiate, the blades

rounded, the connectives short, broadly cuneate, the body connate to the base of the column, the sinus obtuse, with a thickly ovoid, densely pubescent appendix; column stout, 1 mm long, the anther apical and the stigma ventral.

**Etymology.** Named for William Stimson, who first collected this species.

**Paratype.** Puerto Rico: Reserva Forestal de Toro Negro, southeast of Cerro Punta, alt. ca. 4200 ft., *W. Stimson 1686* (Holotype of var. *retusicolumna*: DUKE).

This species was first recognized as a variety of *Lepanthes veleziana* by William Stimson. Superficially similar to *L. veleziana*, undoubtedly some collections of this species lie mixed with those of *L. veleziana*. Because he noted collections thought to be intermediate variations, Stimson declined to recognize it as a species. Typical *L. stimsonii* is characterized by ovate leaves that are not slightly acuminate. A short, congested raceme is similarly borne behind the leaf. The sepals are indistinguishable from those of *L. veleziana*, but the petals are distinctly broader and three-veined, instead of single-veined. The blades of the lip are oblong without narrow, incurved apices. The appendix is thick and densely pubescent, instead of narrowly oblong and glabrous. The rostellar flap is slightly retuse and apiculate, as seen commonly in species with a ventral stigma. The rostellar flap of *L. veleziana* protrudes and is broadly obtuse and entire as commonly seen in species with an apical stigma.

**Lepanthes tricuspida** Luer & Sijm, sp. nov.

TYPE: Peru. Huánuco: near Tingo Maria, collected by A.P. Sijm, Nov. 1998, cultivated at Venhuizen, The Netherlands, 13 Aug. 1999, *A.P. Sijm 200129* (Holotype: MO), C. Luer illustr. 19465. FIGURE 18.

Planta mediocris, racemo paucifloro folio late elliptico obtuso brevior, sepalis glabris triangularibus acutis, petalorum lobis glabris subaequalibus oppositis anguste oblongis, labelli laminae anguste oblongis glabris planis, connectivis triangularibus, appendice compressa oblonga distinguitur.

**Plant** medium in size, epiphytic, caespitose; roots slender. **Ramicauls** slender, erect, 7–11 cm long, enclosed by 8–9 microscopically scabrous, nondilated, lepanthiform sheaths. **Leaf** erect, coriaceous, broadly elliptical-ovate, obtuse, 4–5 cm long, 3–3.5 cm wide, the base rounded, contracted into a petiole 2–3 mm long. **Inflorescence** an erect, congested, successively many-flowered raceme, 10–15 mm long including the peduncle 5–8 mm, borne behind the leaf; floral bracts 1 mm long; pedicel 1 mm long; ovary 1 mm long; sepals glabrous, narrowly triangular, acute, the dorsal sepal 5.5 mm long, 3 mm wide, 3-veined, connate to the lateral sepals for 1 mm, the lateral sepals oblique, 5 mm long, 2.5 mm wide, each 2-veined, connate 1 mm; petals glabrous, transversely bilobed, 0.75 mm long, 7 mm wide, the lobes opposite, about equal, nar-

rowly oblong; lip glabrous, bilaminar, the lobes flat, narrowly oblong, subacute at the ends, 2.8 mm long, the connectives broad cuneate-triangular, the body narrow, connate to the base of the column, the sinus acute with an oblong, compressed appendix; column slender, 3 mm long, the anther and stigma apical.

**Etymology.** From the Latin *tricuspis*, “three-pointed,” referring to the sepals.

This species, collected by Ton Sijm in central Peru, is characterized by a broadly elliptical leaf borne by a longer ramicaul with closely appressed sheaths. The raceme is short, congested, successively many-flowered, and borne behind the leaf. The sepals are glabrous, narrowly triangular and acute. The petals are transversely bilobed with narrowly oblong lobes opposite and together longer than a sepal. The blades of the lip are narrowly oblong and borne by triangular connectives. The appendix is small, oblong and compressed.

**Lepanthes vulpina** Luer & Sijm, sp. nov. TYPE:

Peru. Huánuco: near Tingo Maria, collected by A.P. Sijm, Nov. 1998, cultivated at Venhuizen, The Netherlands, 13 Aug. 1999, *A.P. Sijm 992603* (Holotype: MO), C. Luer illustr. 19303. FIGURE 19.

Species haec *Lepanthes tracheiae* Rchb.f. similis, sed petalorum lobis superioribus triangularibus strictis, labelli laminae columnae longioribus, et appendice minore distinguitur.

**Plant** small, epiphytic, caespitose; roots slender. **Ramicauls** slender, erect, 3–4 cm long, enclosed by 6 minutely ciliate, lepanthiform sheaths. **Leaf** erect, coriaceous, broadly ovate, obtuse at the apex, transverse at the base, 12–16 mm long, 11–13 mm wide, the base abruptly contracted into a petiole 1.5–2 mm long. **Inflorescence** an erect, congested, successively several-flowered raceme, up to 15 mm long including the peduncle 7–8 mm long, borne on top of the leaf; floral bracts 1.5 mm long; pedicel 2 mm long; ovary 2 mm long; sepals ovate, subacute, carinate, denticulate, the dorsal sepal concave, 4.5 mm long, 2.75 mm wide, 3-veined, connate to the lateral sepals for 0.5 mm, the lateral sepals oblique, 4.5 mm long, 2.25 mm wide, each 2-veined, connate 1.5 mm; petals shortly pubescent, transversely bilobed, 1 mm long, 4.5 mm wide, the lobes triangular, acute, opposite, the upper lobe 3 mm long, the lower lobe 1.5 mm long; lip bilaminar, the lobes glabrous, narrowly oblong, obtuse rounded at the base, narrow at the apex, 2 mm long, the connectives cuneate from below the middle, elongate, the body connate to the base of the column, the sinus obtuse with a bipartite, ciliate appendix; column thick, 2 mm long, the anther apical, the stigma ventral.



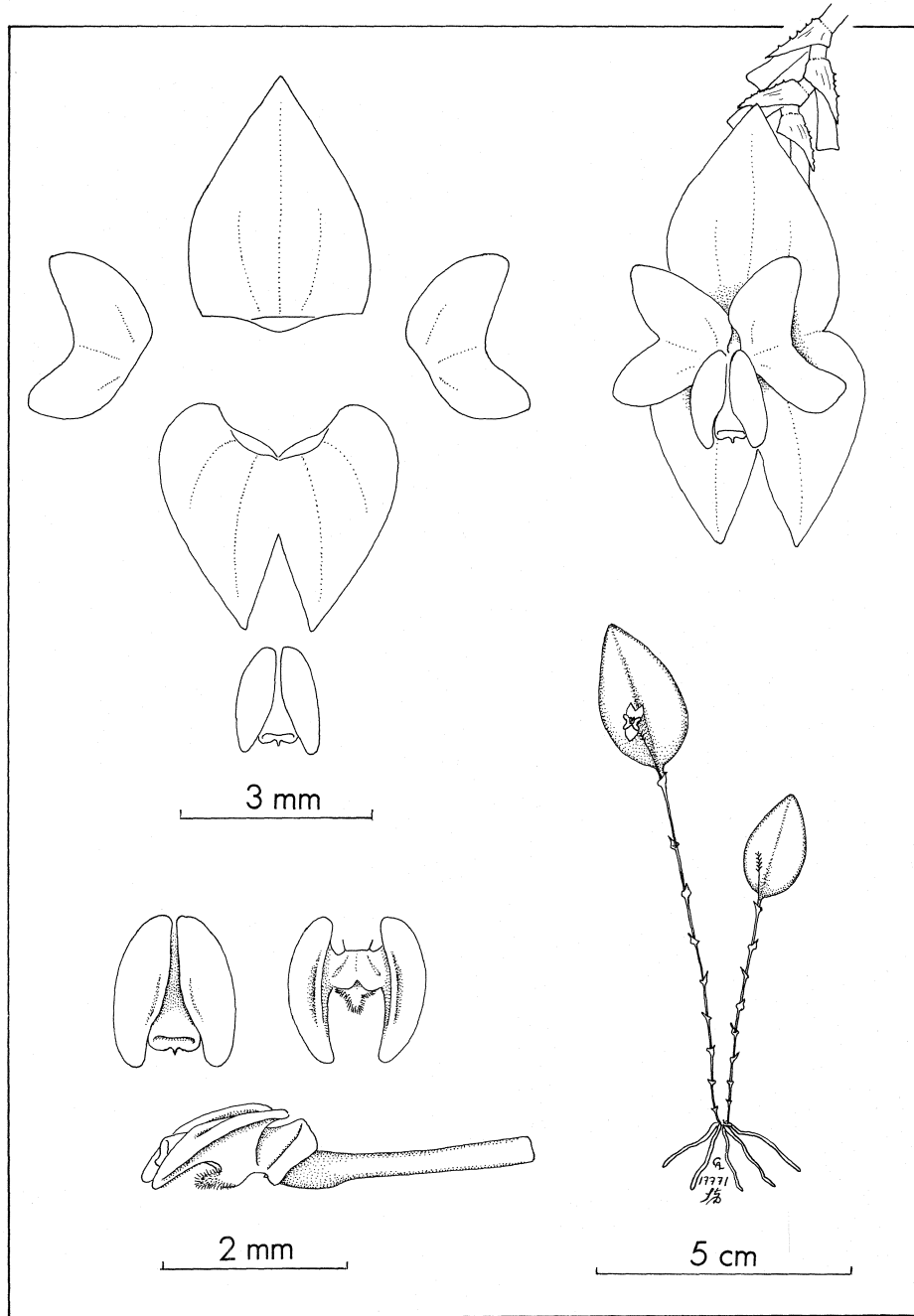


FIGURE 17. *Lepanthes stimsonii*.

**Etymology.** From the Latin *vulpina*, "like a fox," referring to the erect, upper lobes of the petals.

This species, collected by Ton Sijm in central Peru, is similar vegetatively to *Lepanthes trach-*

*eia*. The denticulate sepals are also similar, but the characteristic falcate upper lobes of the petals are triangular, straight and erect. The blades of the lip are longer, protruding beyond the column, and the appendix is less than half the size.

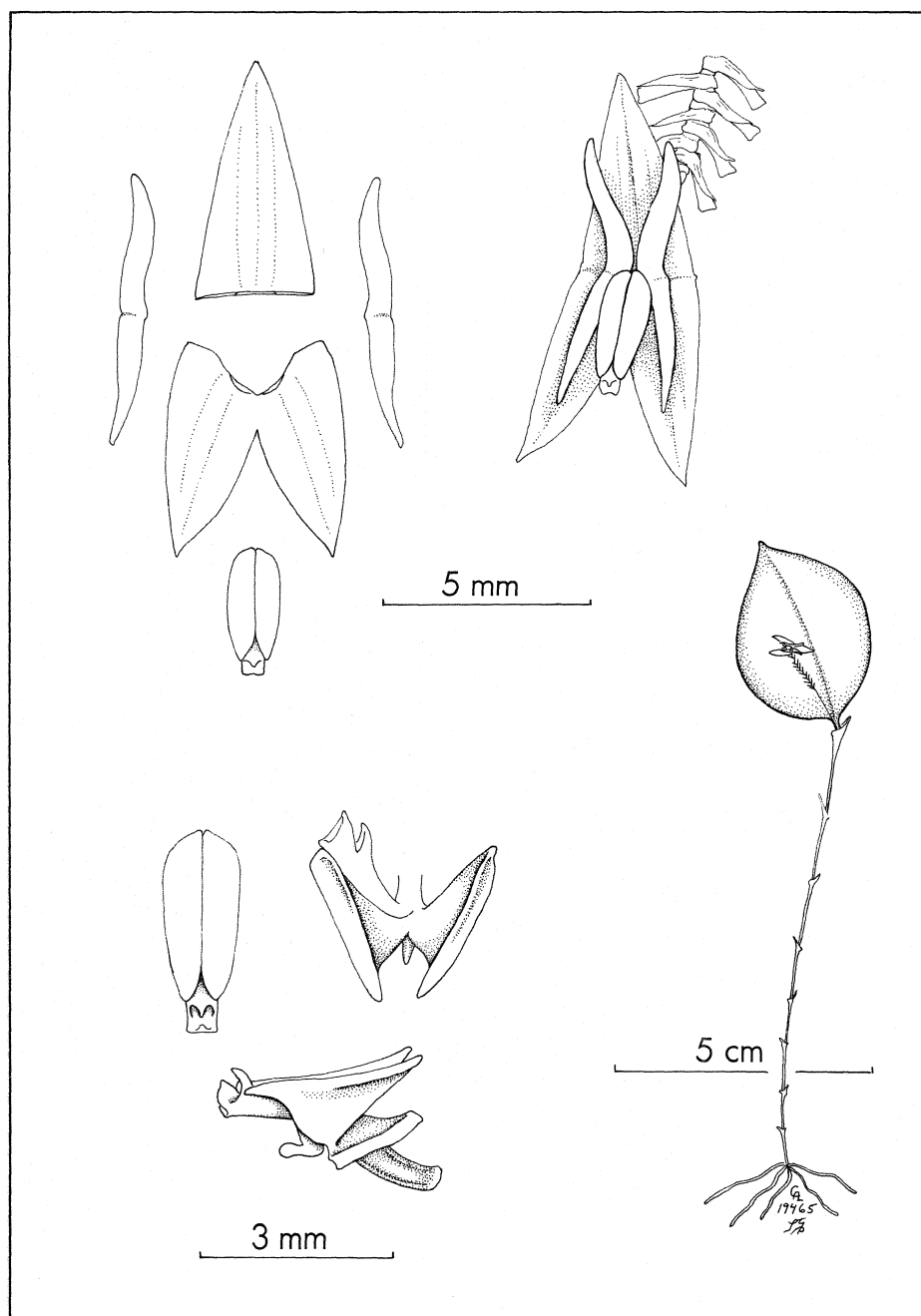


FIGURE 18. *Lepanthes tricuspidata*.

**Octomeria auriculata** Luer & Dalström, sp. nov. TYPE: Ecuador. Morona-Santiago: Cordillera del Cutucú, east of Mendez, between Mendez and Morona, alt. 1050 m, 16 Feb. 1993, S. Dalström, T. Höjjer & H. Wannatorp 1922 (Holotype: MO), C. Luer illustr. 19164. FIGURE 20.

Planta parva breviter repens, ramicaulis gracilibus folio angustissime elliptico longioribus, flore successivo, sepalis petalisque ellipticis acutis, labello suboblongo lobis lateralibus supra basim erectis rotundis prominentibus distinguitur.

**Plant** small, epiphytic, shortly repent, the rhizome narrow, 3–5 mm long between ramicauls,

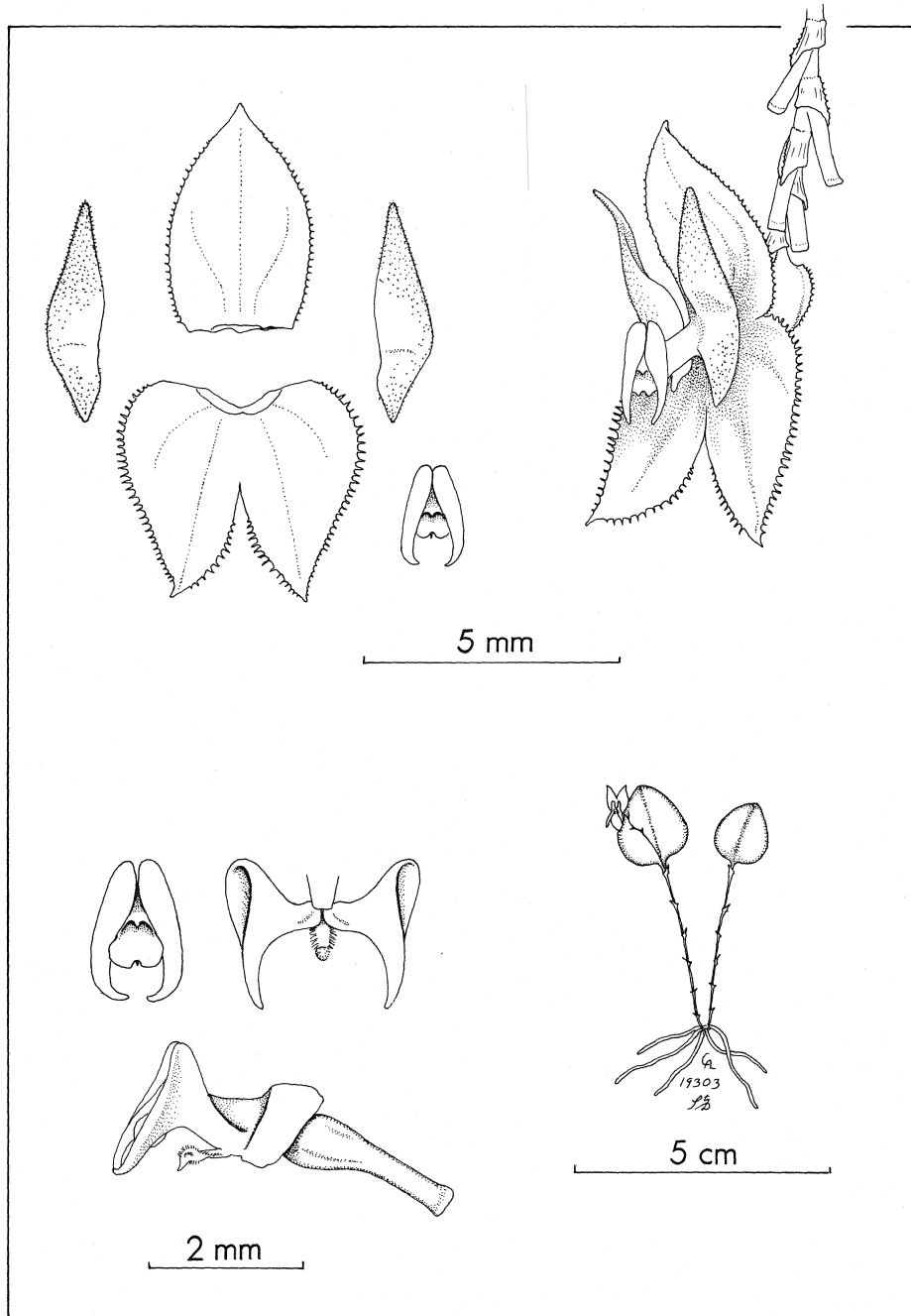


FIGURE 19. *Lepanthes vulpina*.

roots slender. **Ramicauls** erect, slender, terete, 3–6 cm long, enclosed by 3 tubular sheaths. **Leaf** erect, coriaceous, narrowly elliptical, acute, 2.5–4.5 cm long, 3–4 mm wide, cuneate below into a petiole ca. 3–4 mm long. **Inflorescence** a single

flower produced successively in a fascicle, borne by abbreviated peduncles ca. 1 mm long, at the apex of the ramicaul; floral bracts 2 mm long; pedicels 2 mm long; ovary 1.5 mm long; flowers dark yellow; sepals free, glabrous, elliptical, acute, the

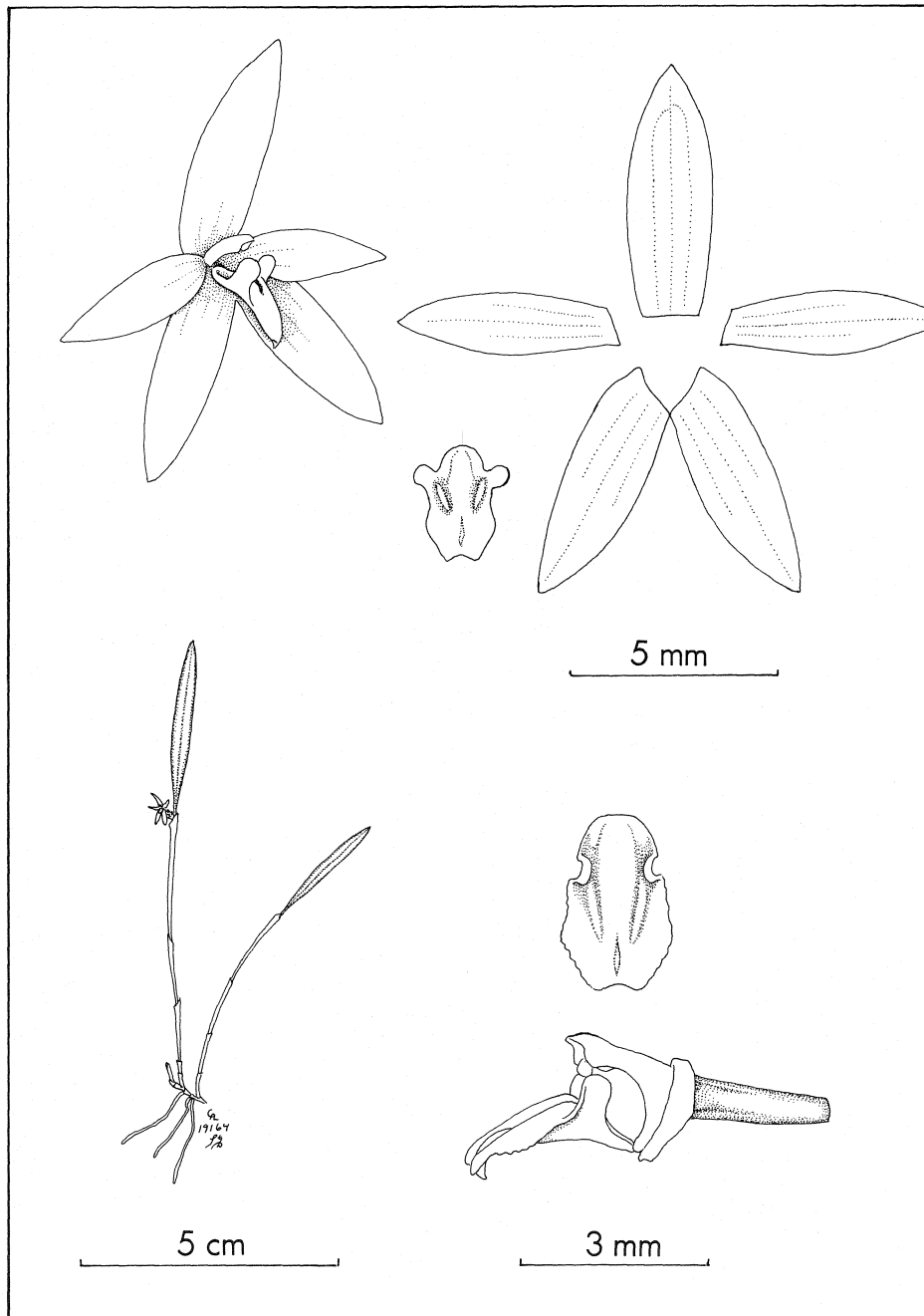


FIGURE 20. *Octomeria auriculata*.

dorsal sepal 6 mm long, 2.2 mm wide, 3-veined, the lateral sepals 6 mm long, 2 mm wide, 3-veined; petals elliptical, acute, 5.5 mm long, 1.6 mm wide, 3-veined; lip thick, suboblong-trilobed, glabrous, 3 mm long, 1.75 mm wide, the apex truncate, subretuse, with minutely erose margins,

the lateral lobes erect, rounded, above the broadly unguiculate base, the disc shallowly sulcate between a pair of calli on the middle third, the base broadly truncate, hinged to a short column-foot; column white, semiterete, 1.5 mm long, with the anther apical and stigma ventral.

**Etymology.** From the Latin *auriculatus*, "with ears," referring to the lateral lobes of the lip.

This small species is basically similar to small species that are related to *Octomeria grandiflora*. Found at relatively low altitudes in the Oriente of Ecuador, it is distinguished by a shortly creeping rhizome, slender ramicauls slightly longer than narrowly elliptical leaves, and successive, small, dark yellow flowers. The sepals and petals are elliptical and acute. The lip is oblong with a pair of prominent, erect, rounded, marginal lobes above a broadly unguiculate base.

**Octomeria bomboizae** Luer, sp. nov. TYPE: Ecuador. Zamora-Chinchi: Cordillera del Condor, near Paquisha, collected Jan. 1989 by C. & J. Luer & A. & P. Jesup, cultivated by P. Jesup in Bristol, CT, in flower 21 May 1982, *C. Luer 16248* (Holotype: MO).

FIGURE 21.

Species haec *Octomeria cordilabiae* C. Schweinf. affinis, sed ramicaulinus maturis brevioribus, foliis latioribus, flore majore, et labello tricalloso non-eroso differt.

**Plant** medium in size, epiphytic, caespitose, roots slender. **Ramicauls** stout, erect, 7–11 cm long, enclosed by 7–8 imbricating to shredded, tubular sheaths. **Leaf** erect, coriaceous, elliptical, subacute, 4.5–5.5 cm long, 1–2 cm wide, narrowly cuneate below into the sessile base. **Inflorescence** a single flower produced successively in a fascicle of abbreviated peduncles ca. 2 mm long deep within the fascicle, at the apex of the ramicaul; floral bracts 2–3 mm long; pedicels 2–3 mm long; ovary 1.5 mm long; sepals pale apricot, lightly suffused with rose, glabrous, free, the sepals elliptical, obtuse to rounded at the apex, the dorsal sepal 7 mm long, 3.5–4 mm wide, 3-veined, the lateral sepals slightly oblique, overlapping below the middle, 7–7.25 mm long, 3.5–4 mm wide, 3-veined; petals colored as the sepals, broadly obovate, obtuse, 5.5–6 mm long, 3–4 mm wide, 3-veined; lip rose, glabrous, broadly elliptical-subtrilobed, with margins entire, 3.5 mm long, 3 mm wide, the apex truncate-retuse, the lateral lobes low, rounded, below the middle, the disc shallowly concave between a pair of calli on the middle third, and with a midline callus on the apical third, the base broadly truncate, hinged to the free tip of the column-foot; column semiterete, 2 mm long, with a thick foot nearly as long, the anther apical and stigma subapical.

**Etymology.** Named for the Mission Bomboiza, near where the species was collected.

**Paratype.** Ecuador: Morona-Santiago: Bom-

boiza, cultivated in Gualaceo by Ecuagenera, Mar. 2001, *C. Luer 19841* (MO).

This species, apparently endemic in south-eastern Ecuador, is characterized by stout ramicauls longer than the elliptical, sessile leaf. Flowers are produced successively in a compact fascicle at the base of the leaf. The sepals and petals are broadly elliptical, obtuse to rounded at the apex, and overlapping. The lip is short and broad with low, obscure lobes below the middle. On the disc are a pair of calli on the middle third and a midline callus on the apical third.

**Octomeria hirtzii** Luer, sp. nov. TYPE: Ecuador. Zamora-Chinchi: south of Yangana above Valladolid, alt. 1900 m, 23 Mar. 1985, *C. Luer, J. Luer, A. Hirtz & W. Flores 10838* (Holotype: MO). FIGURE 22.

Species haec *Octomeria grandiflorae* Lindl. affinis, sed planta caespitosa elatiore cum foliis angustissime linearibus, et labelli lobis latioribus minoribus et lobo antico late obtuso differt.

**Plant** large, epiphytic, caespitose, roots slender. **Ramicauls** stout, erect, terete, 30–42 cm long, enclosed by 8–11 shredded, tubular sheaths. **Leaf** erect, coriaceous, narrowly linear-oblong, acute, 19–32 cm long, 1–1.5 cm wide, narrowly cuneate below into a subpetiolate base. **Inflorescence** a single flower produced successively in a fascicle of abbreviated peduncles 2–3 mm long, at the apex of the ramicaul; floral bracts 2–3 mm long; pedicels 2–3 mm long; ovary 4–5 mm long; sepals yellow, glabrous, free, the dorsal sepal elliptical, acute, 13 mm long, 4.5 mm wide, 5-veined (incompletely 7-veined), the lateral sepals elliptical, slightly oblique, acute, 13 mm long, 4.5 mm wide, 5-veined (incompletely 7-veined); petals yellow, elliptical, acute, 12 mm long, 4 mm wide, 5-veined; lip yellow, suffused with brown centrally, glabrous, obovate-trilobed, with erose apical margins, 6 mm long, 4 mm wide, the apex broadly rounded to truncate-apiculate, the lateral lobes low, oblique, erect, subacute, antrorse, below the middle, the disc shallowly concave between a pair of calli on the middle third, the base broadly truncate, hinged to the free tip of the column-foot; column yellow, semiterete, slender, 4 mm long, with the anther apical and stigma subapical.

**Etymology.** Named for Alexander C. Hirtz who collected this species.

This species is one of the tallest in the genus. With the long leaves together with the long ramicauls, some plants stand 80 cm tall. The leaves are narrowly linear. The only other species this size is the Brazilian *Octomeria seegersiana* Kraenzl. with wider, narrowly ovate leaves.

The flowers are as large as those of *O. grandiflora* with the sepals 6- to 7-veined. The petals

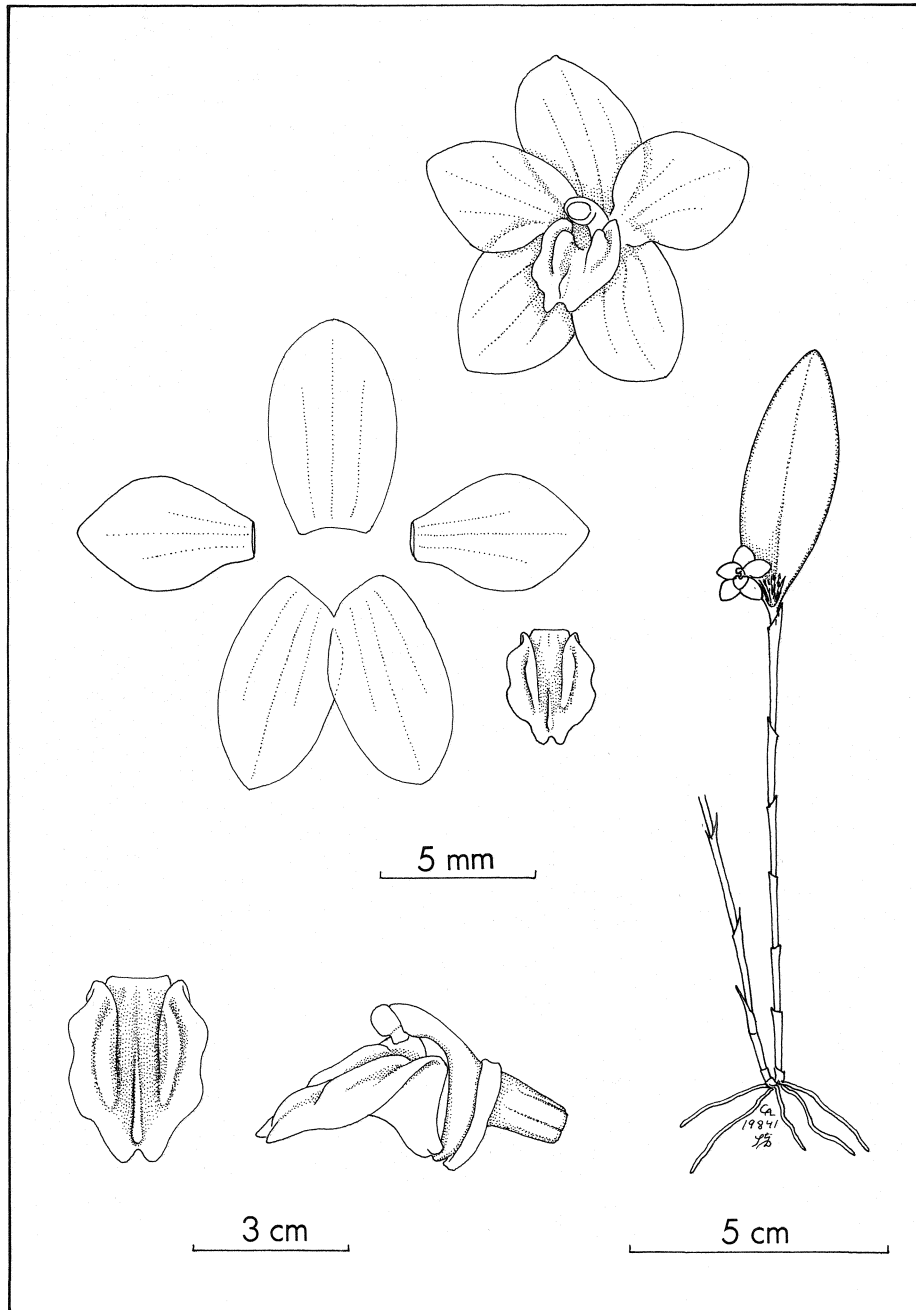


FIGURE 21. *Octomeria bomboizae*.

are similar, nearly as large as the sepals. The lip is similar to that of *O. grandiflora*, but the lateral lobes are smaller, subacute, and antrorse. The apex is broadly rounded and erose with a minute apiculum at the tip.

***Octomeria lamellaris*** Luer, sp. nov. TYPE: Ve-

nezuela. Bolívar: Cerro Venamo, near border of Guyana, alt. 1400 m, 31 Dec. 1963, J.A. Steyermark, G.C.K. & E. Dunsterville 92459 (Holotype: AMES), C. Luer illustr. 19222.

FIGURE 23.

Inter species generis *Octomeriae* planta parva, foliis

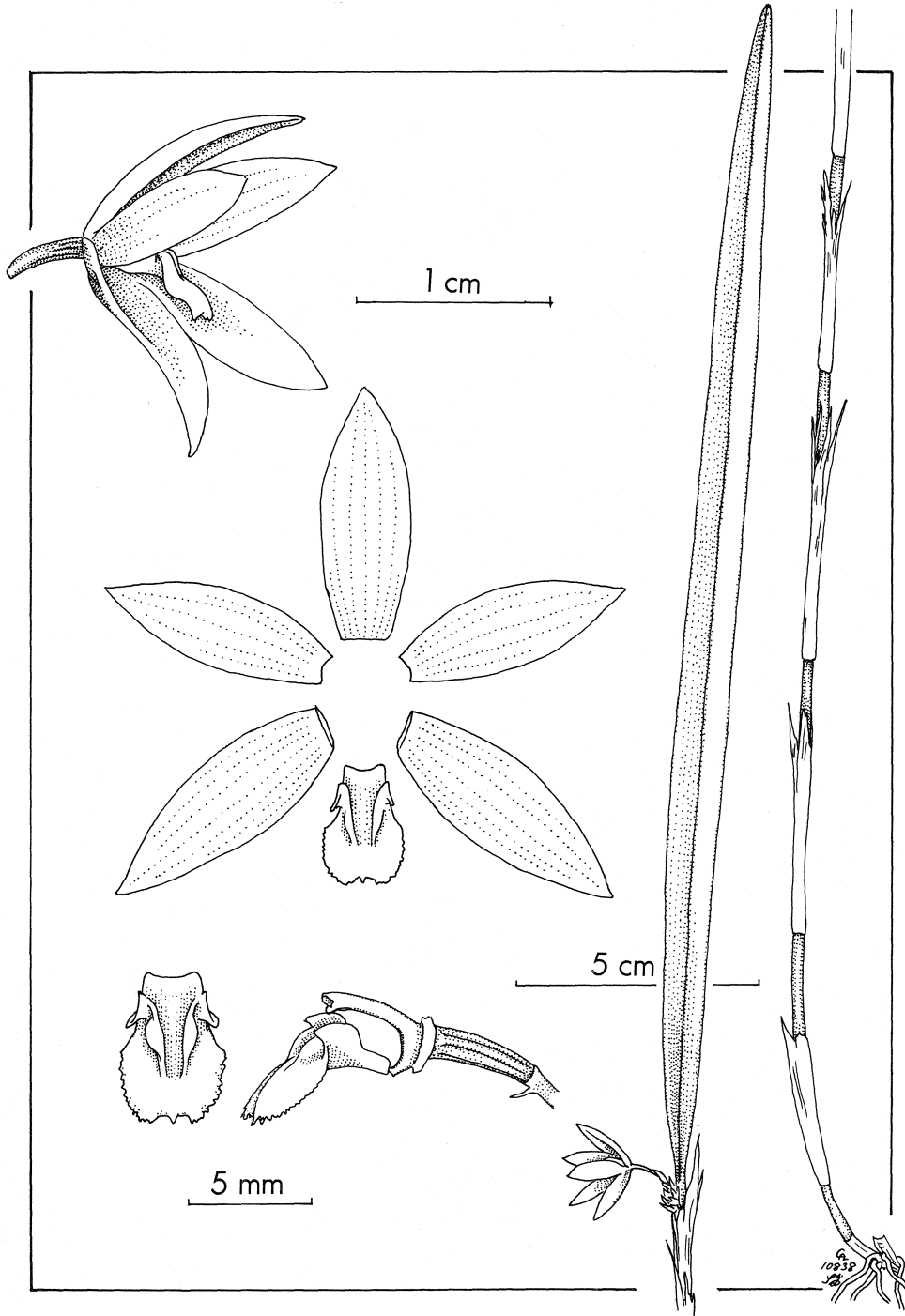


FIGURE 22. *Octomeria hirtzii*.

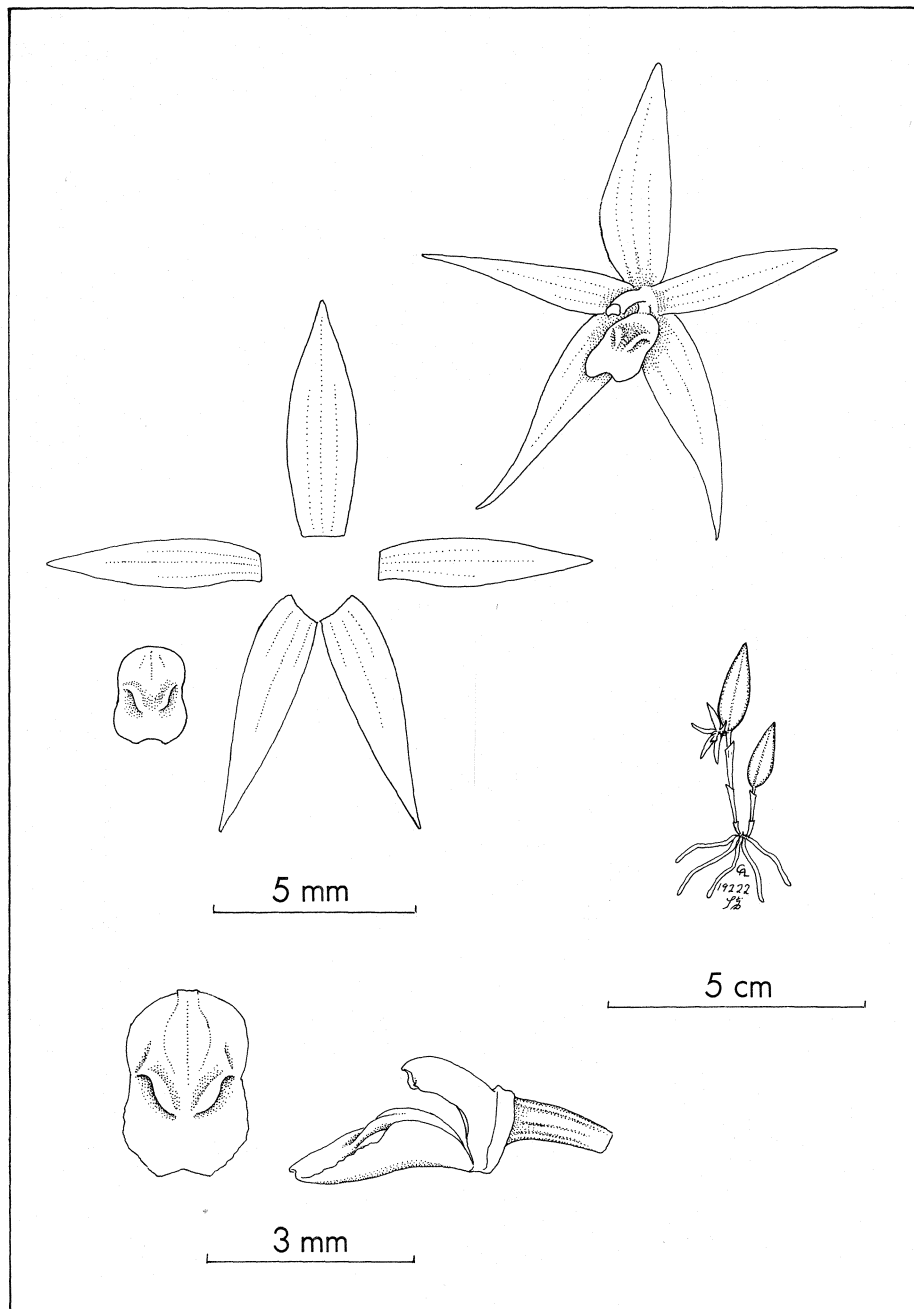


FIGURE 23. *Octomeria lamellaris*.

ovatis acutis, sepalis petalisque anguste ovatis acutis, et labello subquadrato bilamellato distinguitur.

**Plant** small, epiphytic, caespitose, roots proportionately stout. **Ramicauls** slender, erect, 8–25 mm long, enclosed by 2 loose, tubular sheaths and another at the base. **Leaf** erect,

thickly coriaceous, ovate, acute, the blade 12–18 mm long, 5–6 mm wide, cuneate below into a petiole 2 mm long. **Inflorescence** a single flower produced successively in a fascicle at the apex of the ramicaul, with a spathe 2.5 mm long; peduncles ca. 1 mm long; floral bracts 2 mm



long; pedicels 2 mm long; ovary 1.25 mm long; sepals free, glabrous, narrowly ovate, acute, the dorsal sepal 6.5 mm long, 2 mm wide, 3-veined, the lateral sepals 6.5 mm long, 1.75 mm wide, 3-veined; petals as the sepals, narrowly ovate, acute, 6 mm long, 1.5 mm wide, 3-veined; lip subquadrate, glabrous, 2.5 mm long, 2 mm wide, the apex broadly shallowly retuse, with minutely irregular margins, barely narrowed near the middle, the disc with a tall pair of oblique lamellae from the margins near the middle, extending obliquely to above the middle, the base truncate, hinged to the tip of the column-foot; column semiterete, 1.5 mm long, with the anther apical and stigma ventral.

**Etymology.** From the Latin *lamellaris*, "with lamellae," referring to the lip.

This tiny species is rare, known only from the original collection by Steyermark. The leaves are ovate and acute; the sepals and petals are narrowly ovate and acute; and the lip is broadly subquadrate with a pair of tall lamellae near the center.

**Octomeria medinae** Luer & J. Portilla, sp. nov.

TYPE: Ecuador. Morona-Santiago: Cordillera del Cutucú, between Mendez and Morona, alt. 950 m, 18 Jan. 1989, C. Luer, J. Luer, A. Hirtz, S. Ortega, A. & P. Jesup 13989 (Holotype: MO). FIGURE 24.

Planta mediocris breviter repens, ramicaulibus crassis folio elliptico leviter longioribus, flore successivo, sepalis petalisque anguste ovatis acutis, labello subobovato lobis lateralibus rotundis humilibus supra unguem distinguitur.

**Plant** small to medium in size, epiphytic, shortly repent, the rhizome stout, 5–8 mm long between ramicauls, roots slender. **Ramicauls** stout, erect, terete, 4–9 cm long, enclosed by 4–5 tubular sheaths. **Leaf** erect, thickly coriaceous, narrowly elliptical, acute to subacute, 3–7.5 cm long, 1–1.5 cm wide, cuneate below into a petiole ca. 0.5 cm long. **Inflorescence** a single flower produced successively in a fascicle, borne by abbreviated peduncles ca. 1 mm long, at the apex of the ramicaul; floral bracts 2 mm long; pedicels 2 mm long; ovary 2.5 mm long; sepals light rose or yellow-orange suffused with red, free, glabrous, elliptical, acute, the dorsal sepal 8.5 mm long, 2.6 mm wide, 3-veined, the lateral sepals 8 mm long, 2.2 mm wide, 3-veined; petals colored as the sepals, elliptical, acute, 7–8 mm long, 2–2.4 mm wide, 3-veined; lip red, thick, subobovate-trilobed, glabrous, 4.5 mm long, 2.5 mm wide, the apex subtruncate with minutely erose margins, narrowed below the middle to the lobes, the lobes erect, low, rounded, above the unguiculate

base, the disc shallowly sulcate between a pair of calli on the middle third, the base broadly truncate, hinged to a short column-foot; column white, semiterete, 2.5 mm long, with the anther apical and stigma ventral.

**Etymology.** Named for Hugo Medina of Gualaceo, Ecuador, who collected this species.

**Paratypes.** Ecuador: Morona-Santiago: Santiago, alt. 300 m, collected by H. Medina, cultivated in Gualaceo by Ecuagenera, Mar. 2001, C. Luer 19695. Esmeraldas: west of Lita toward San Lorenzo, alt. 300 m, 12 Jan. 1992, C. Luer, J. Luer, A. Hirtz, A. & P. Jesup 15584 (MO).

This species has been found on both sides of the Andes of Ecuador at relatively low altitudes. It is distinguished by a stout, shortly creeping rhizome, stout ramicauls only slightly longer than elliptical leaves, and a successive, medium-sized, rose-colored flower. The relatively narrow sepals and petals are acute. The lip is widest above the middle, with low, rounded, marginal lobes above a broadly unguiculate base.

**Octomeria ximena** Luer & Hirtz, sp. nov.

TYPE: Ecuador. Morona-Santiago: below Chigiüinda, alt. 1500 m, cultivated at Ecuagenera, Gualaceo, Dec. 2001, A. Hirtz 7854 (Holotype: MO), C. Luer illustr. 20074. FIGURE 25.

Planta mediocris grandisve, ramicaulibus folio anguste lineari brevioribus, floribus successivis fasciculatis, sepalis petalisque ellipticis subacutis, labello subquadrato-trilobo lobis lateralibus antrorsis uncinatis distinguitur.

**Plant** medium to large, epiphytic, caespitose, roots slender. **Ramicauls** stout, erect, 12 cm long, enclosed by 5 shredded sheaths. **Leaf** erect, coriaceous, narrowly linear-elliptical, acute, 18 cm long, 1 cm wide, narrowly cuneate below into a channeled petiole ca. 1 cm long. **Inflorescence** a successively flowering fascicle of single flowers with several flowers open simultaneously at the apex of the ramicaul; peduncles less than 1 mm long; floral bracts imbricating, ribbed, fragmenting, 2–3 mm long; pedicels 2 mm long; ovary 3 mm long; sepals pale yellow, glabrous, free, overlapping, elliptical, subacute, 8 mm long, 2.5 mm wide, 5-veined, the lateral sepals slightly oblique; petals light yellow, elliptical, subacute, 7 mm long, 2.75 mm wide, 3-veined; lip yellow, suffused with red centrally, glabrous, subquadrate-trilobed, 5 mm long, 2.5 mm wide, 3.5 mm wide expanded, slightly erose above the middle, the apex broadly truncate, the lateral lobes proportionately large on the middle third, erect, antrorse, uncinata, disc shallowly channeled

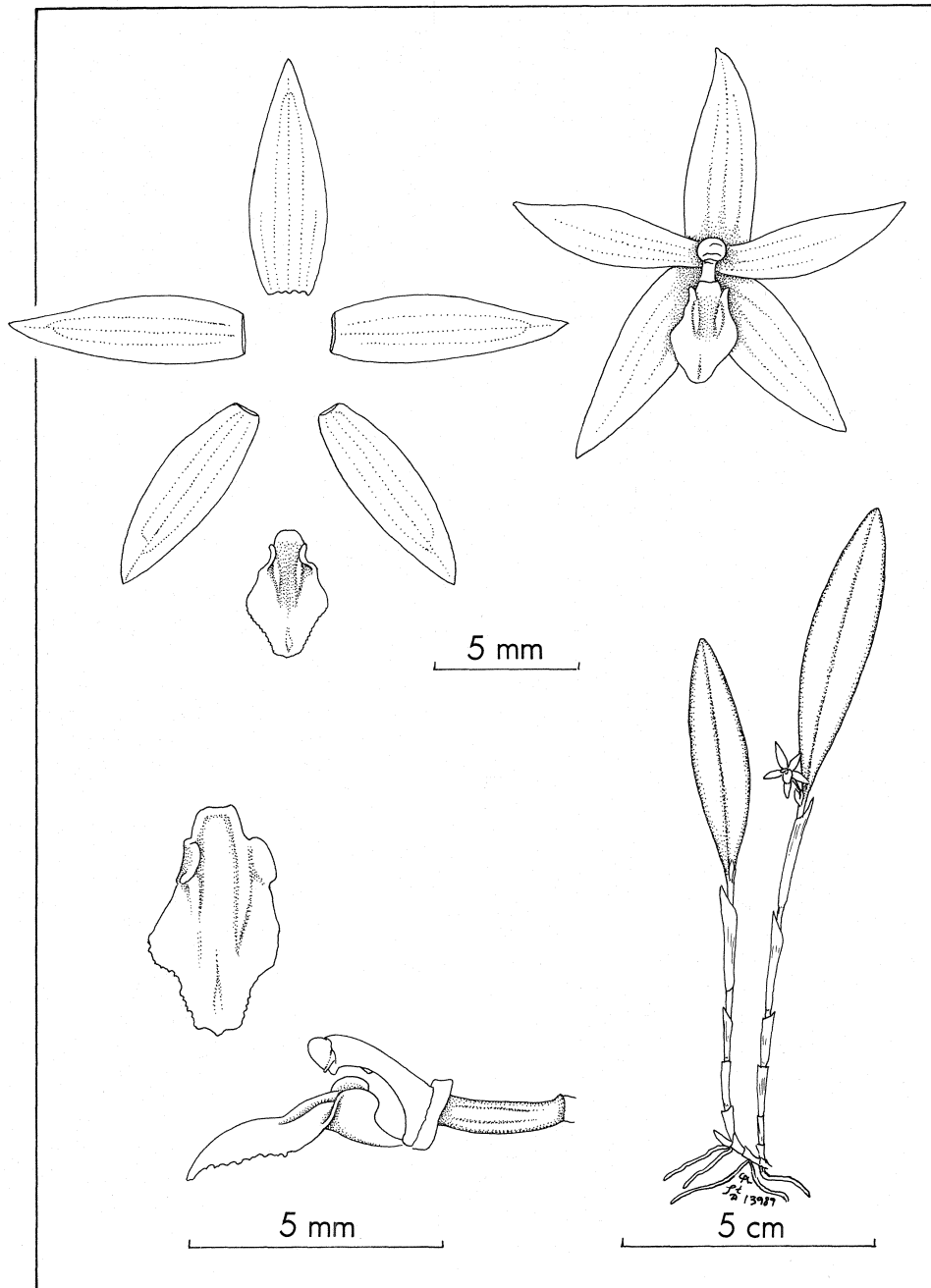


FIGURE 24. *Octomeria medinae*.

between a pair of calli on the middle third, the base broadly truncate, hinged to the free tip of the column-foot; column slender, semiterete, 3 mm long, with the anther apical and stigma subapical.

**Etymology.** Named for Ximena Leon de Hirtz, wife of Alexander C. Hirtz.

This species is characterized by long, narrow leaves, distinctly longer than the ramicaul. Flowers are produced successively in a dense fasci-

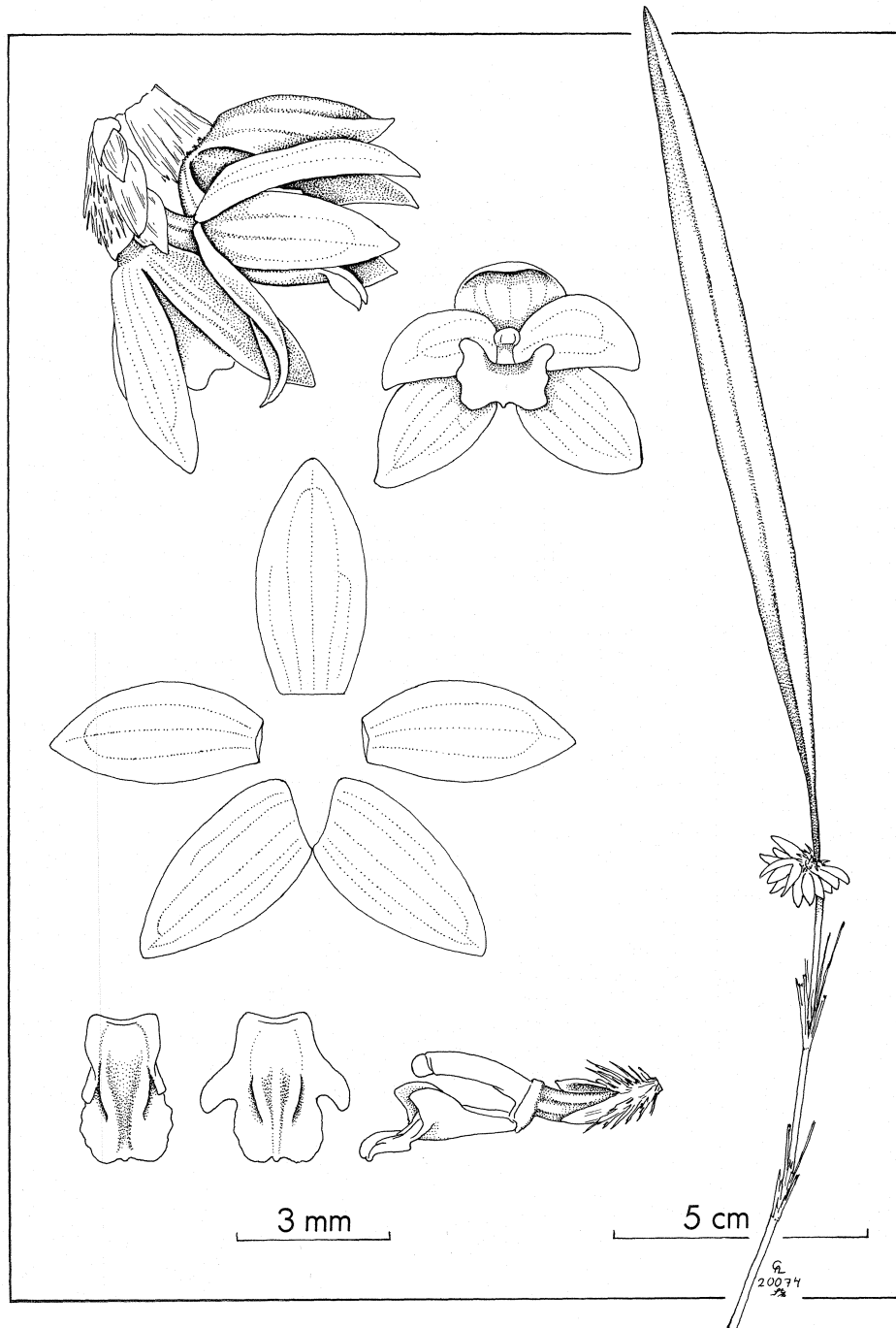


FIGURE 25. *Octomeria ximenesae*.

cle, with several flowers open simultaneously. The sepals and petals are elliptical and subacute. The lip is subquadrate with large, erect, obtuse, uncinuate lateral lobes on the middle third.

***Pleurothallis discalis*** Luer & Portilla, sp. nov.  
 TYPE: Ecuador. Zamora-Chinchipec: Cordillera del Condor, Paquisha, alt. ca. 1500 m, cultivated at Ecuagenera, Gualaceo, 5

Mar, 2001, *C. Luer 19699* (Holotype: MO). FIGURE 26.

Species haec *Pleurothallis samacensis* Ames affinis, sed sepalis obtusis, petalis serratis, et labelli apice discoideo differt.

**Plant** very small, epiphytic, caespitose; roots slender. **Ramicauls** erect, slender, 4–5 mm long, enclosed by 2 thin sheaths. **Leaf** erect, coriaceous, narrowly obovate, subacute to obtuse, 20–25 mm long including the petiole 7–9 mm long, 5 mm wide, the cuneate into the petiole. **Inflorescence** a suberect, lax, successively few-flowered raceme, up to 2 cm long including the filiform peduncle ca. 1 cm long, borne laterally from the ramicaul; floral bract 1 mm long; pedicel slender, 1.5 mm long; ovary spiculate, 0.6 mm long; sepals translucent yellow, with margins and carinae spiculate, the dorsal sepal oblong-obovate, obtuse, 4.5 mm long, 1.3 mm wide, 3-veined, the lateral sepals elliptical, obtuse, 4.5 mm long, 1.6 mm wide, 3-veined, connate 0.5 mm; petals translucent yellow, narrowly obovate in lower half, serrulate, 3.5 mm long, 1 mm wide, the apex acute, contracted into a filiform tail; lip deep brown, spatulate, microscopically denticulate, 2.6 mm long, 0.8 mm wide below the middle, 1.2 mm wide above the middle, the anterior third suborbicular, shallowly channeled between a pair of low, longitudinal calli below the middle, the base truncate, hinged to the column-foot; column semiterete, bicallous near the middle, 1.5 mm long, the anther, rostellum and stigma ventral.

**Etymology.** From the Latin *discoïd*, “like a disc,” referring to the apex of the lip.

This tiny species of subgenus *Specklinia* is most similar to sympatric *Pleurothallis samacensis*, which is frequent in the Oriente of Ecuador, but infrequent in Guatemala from whence it was described. With non-caudate, non-attenuated sepals, serrated petals, and a discoid apex of the lobeless lip, *P. discalis* is distinguished from the latter.

**Pleurothallis haberi** Luer, sp. nov. TYPE: Costa Rica. Alajuela: Reserva Biológica Monteverde, Río Peñas Blancas, alt. 900 m, 15 Dec. 1987, *W. Haber & E. Bello 7917* (Holotype: CR; Isotype: MO), *C. Luer* illustr. 16514. FIGURE 27.

Planta parvula ramicaulibus brevissimis, inflorescencia fasciculata, pedunculo folio obovato leviter brevior, sepalis carnosius acutis, petalis supra medium abrupte angustatis, labello crasso oblongo ciliato marginibus infra medium erectis, disco profunde canaliculato basi callo parvo erecto, basi bilobulato.

**Plant** very small, epiphytic, caespitose; roots slender. **Ramicauls** short, erect, 2–3 mm long,

enclosed by 2 tubular sheaths. **Leaf** erect, coriaceous, obovate, obtuse, petiolate, 10–15 mm long including a petiole 2–5 mm long, 3–4 mm wide, cuneate below into the petiole. **Inflorescence** a fascicle of single, successive flowers, borne by a slender peduncle 10–12 mm long, from the ramicaul; floral bracts tubular, 2 mm long; pedicel 3 mm long; ovary 0.5 mm long; sepals purple, darker along the veins, fleshy, subcarinate, glabrous, the dorsal sepal ovate-triangular, acute, 3 mm long, 1 mm wide, 3-veined, the lateral sepals connate to near the apices into an ovate, bifid lamina with acute apices, 2.75 mm long, 2 mm wide, 4-veined; petals oblong below the middle, abruptly narrowed above obtuse, marginal angles above the middle to a narrowly obtuse apex, 2 mm long, 0.8 mm wide at the middle; lip fleshy, oblong, obtuse, ciliate, 2 mm long, 0.5 mm wide, with the margins thin and erect in the lower third, the disc deeply channeled longitudinally between a pair of calli that terminate in a small, erect point above the base, the base delicately hinged to the column-foot between membranous lobules; column semiterete, tridentate at the apex, 1.5 mm long, the foot 0.5 mm long, the anther and stigma hooded and ventral.

**Etymology.** Named in honor of William Haber of the Missouri Botanical Garden, who discovered this species.

This small species of subgenus *Specklinia*, is apparently rare, or overlooked, known only by the original collection. It is distinguished by obovate leaves borne by abbreviated ramicauls. The fascicle of small, single, purple flowers with darker purple stripes is borne by a hairlike peduncle nearly as long as the leaves. The sepals are fleshy, subcarinate and acute, the laterals connate to near the apices. The petals are abruptly narrowed above the middle. The oblong lip is minutely ciliate, deeply channeled down the center with a “sun-dial” callus above the base, and the base is minutely bilobulate.

**Pleurothallis sanchezii** Luer & Hirtz, sp. nov. TYPE: Ecuador. Zamora-Chinchipec: between Limón and Río Zamora, along Río Yanguza, alt. 1200 m, 22 Oct. 1999, *A. Hirtz, E. Sánchez & S. Marin 7053* (Holotype: MO), *C. Luer* illustr. 19355. FIGURE 28.

Species haec *Pleurothallis dalessandroi* Luer affinis, sed floribus minoribus, sepalis trinervis et labelli lobis lateralibus subnullis differt.

**Plant** large for the subgenus, epiphytic, caespitose; roots slender. **Ramicauls** erect, 2–3 cm long, enclosed by 3, loose, imbricating, tubular sheaths. **Leaf** erect, coriaceous, elliptical, obtuse, 6–9 cm long including a petiole 1–1.5 cm long,

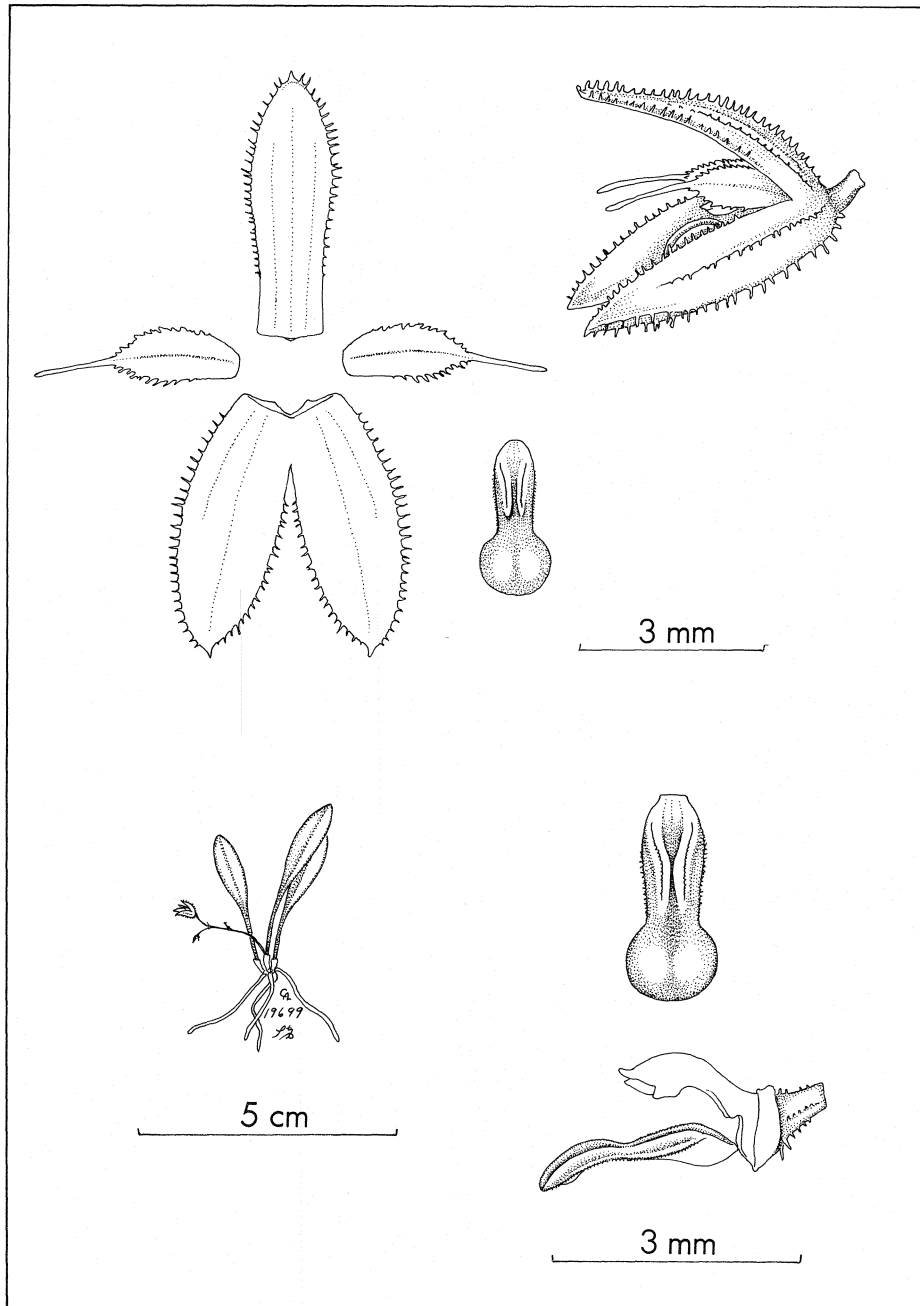


FIGURE 26. *Pleurothallis discalis*.

1.5–2 cm wide, cuneate below into the petiole. **Inflorescence** a fascicle of congested, successively few-flowered racemes ca. 3 mm long, borne by peduncles ca. 1 mm long, from a node 4 mm below the apex of the ramicaul (abscission layer); floral bract 1.5–2 mm long; pedicel 2–2.5 mm

long; ovary triquetrous, 1.5 mm long; sepals red-brown, white toward the base, minutely ciliate, carinate, the dorsal sepal ovate, acute, 8 mm long, 2.5 mm wide, 3-veined, the lateral sepals narrowly triangular, oblique, acute, 8 mm long, 2 mm wide, connate 0.5 mm, 3-veined; petals dark pur-

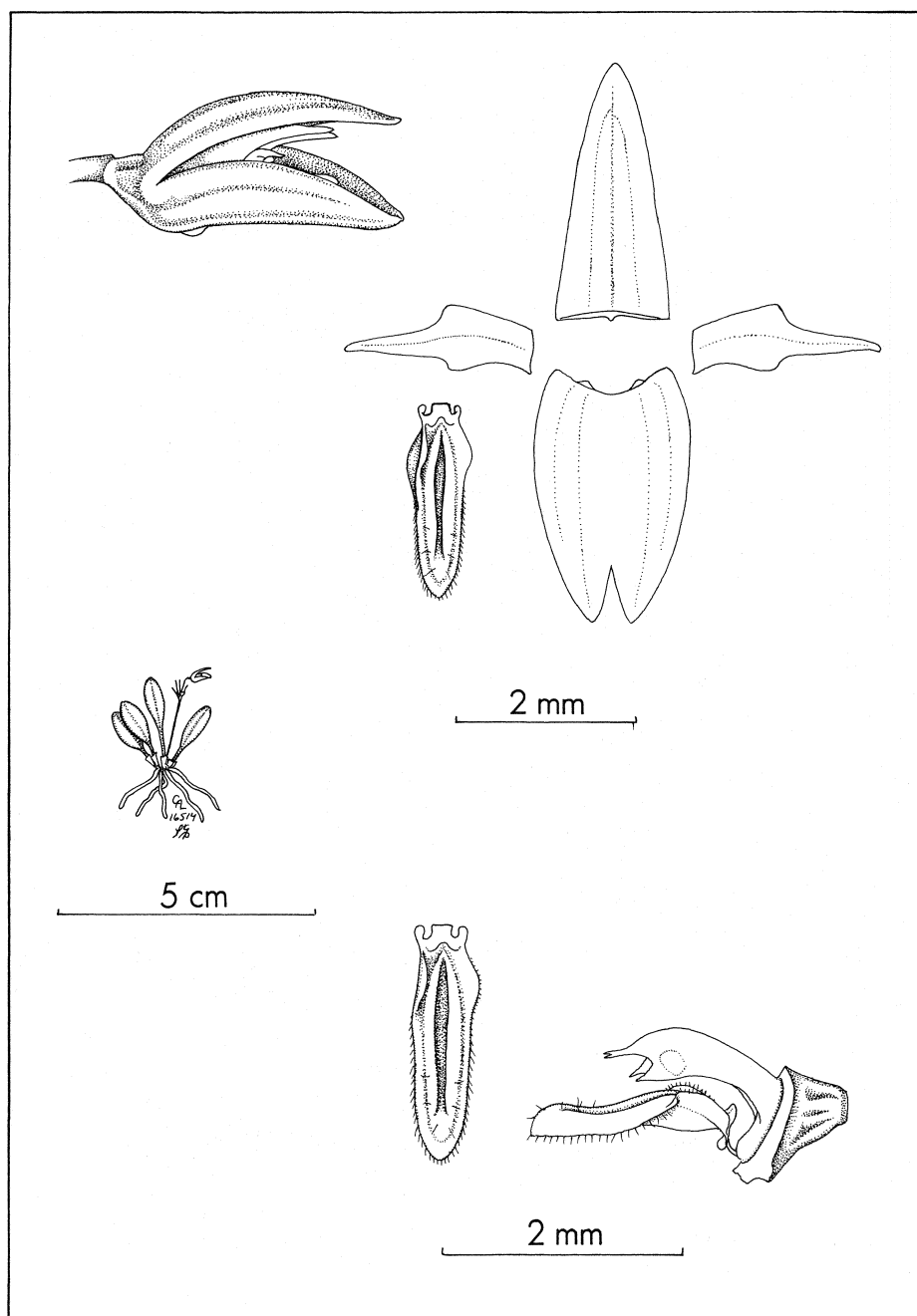


FIGURE 27. *Pleurothallis haberi*.

ple, narrowly elliptical, acute, ciliate-pubescent, 4.5 mm long, 1 mm wide, 1-veined; lip dark purple, oblong-pyriform, 2.25 mm long, 1.1 mm wide, with the apex rounded, the lateral lobes low, broadly obtuse, below the middle, the disc densely glandular-pubescent above the base, the

base subtruncate, bilobulate, hinged to the column-foot; column winged above the middle, denticulate at the apex, 2 mm long, with the anther, rostellum and stigma hooded and ventral.

**Etymology.** Named in honor of Eduardo

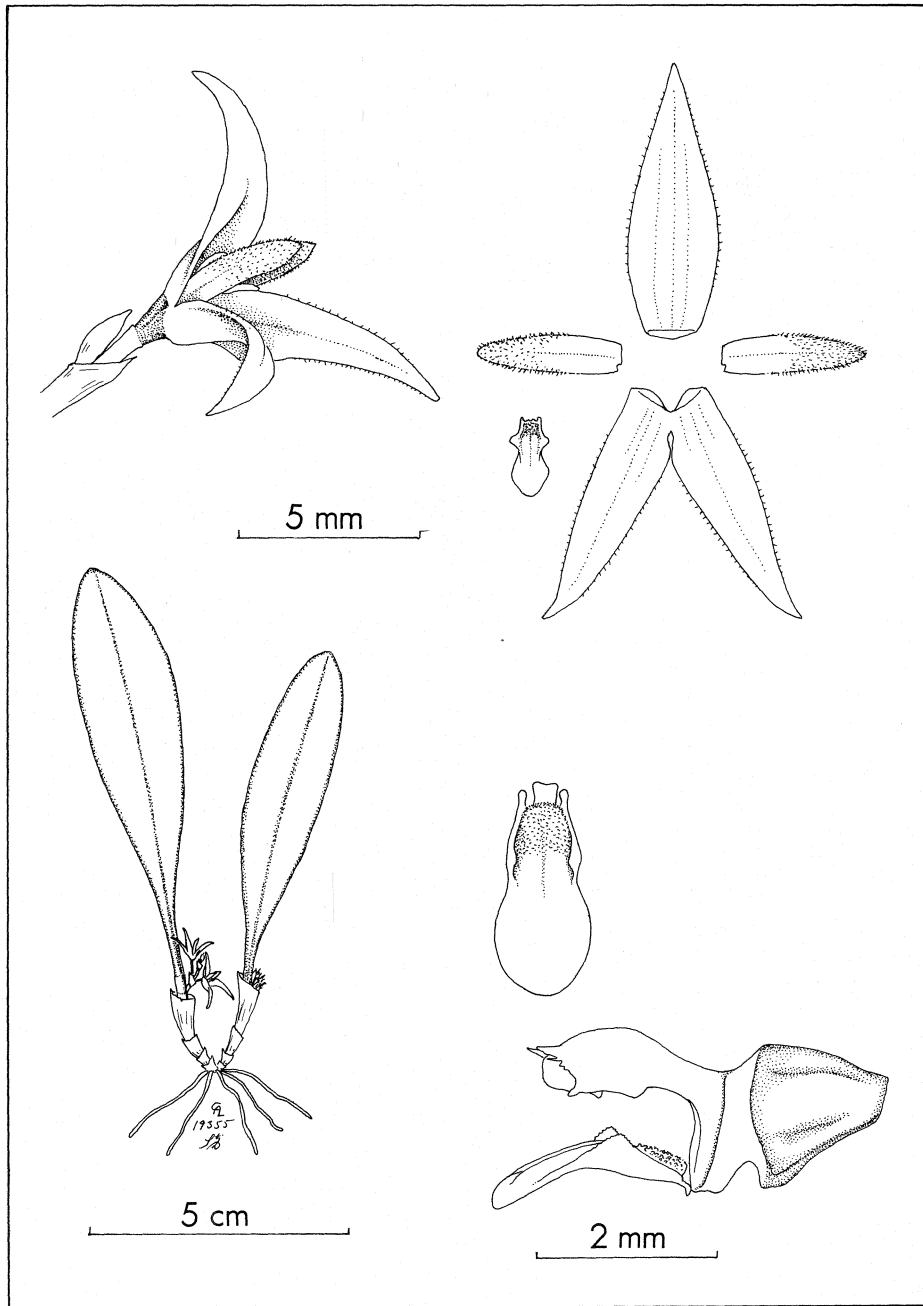


FIGURE 28. *Pleurothallis sanchezii*.

Sánchez of Cuenca, Ecuador, co-collector of this species.

This species of subgenus *Specklinia*, is most similar to *Pleurothallis dalessandroi*, with which it is also apparently endemic in southeastern Ecuador. Both species are characterized

by habits far greater than other related species of the subgenus. From the latter, *P. sanchezii* is distinguished by smaller flowers with the sepals only three-veined instead of multiveined. The petals are oblong and acute, and the lateral lobes of the lip are low and broadly obtuse.

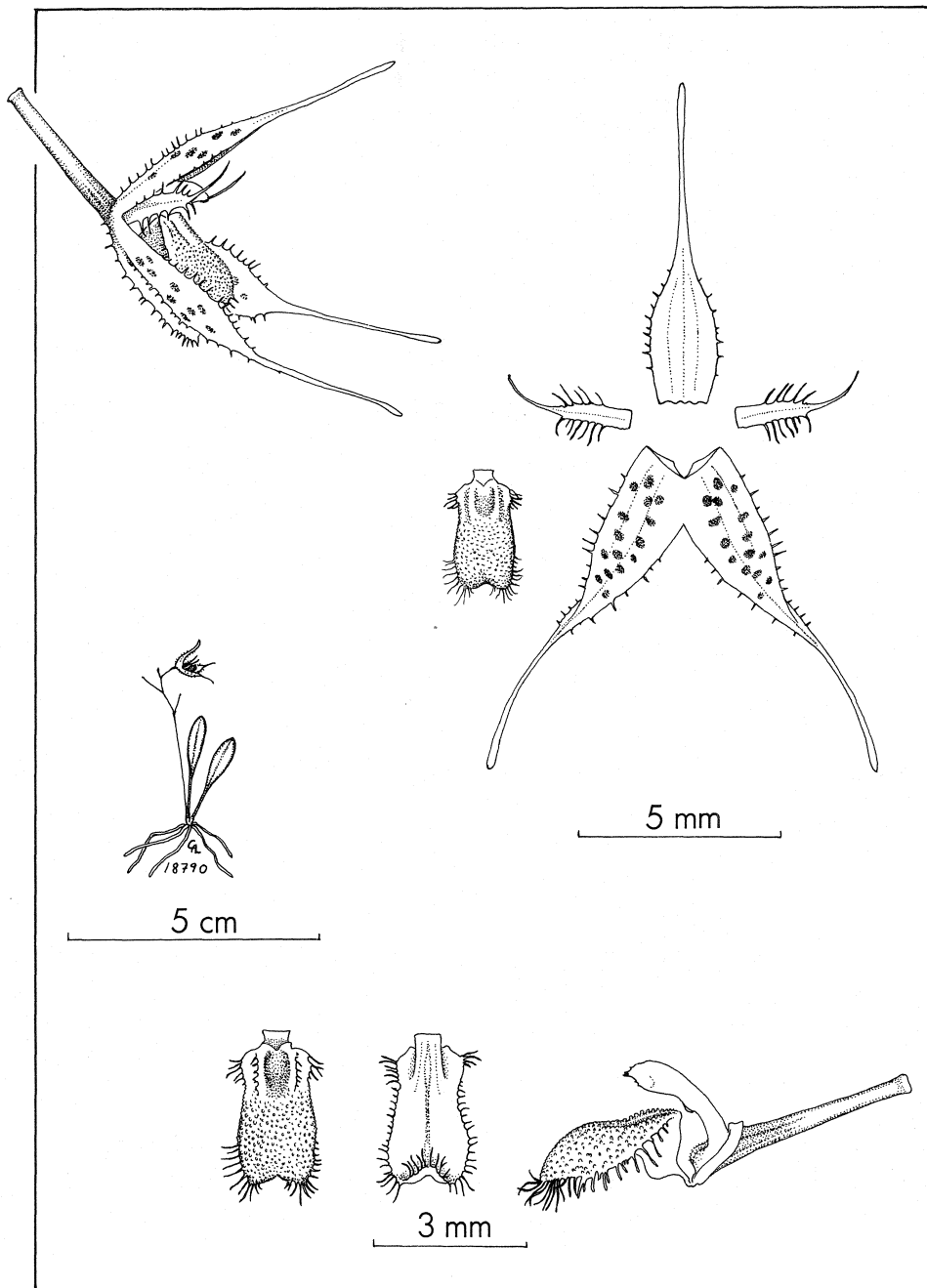


FIGURE 29. *Pleurothallis schudelii*.

***Pleurothallis schudelii*** Luer & Hirtz, sp. nov.  
 TYPE: Ecuador. Zamora-Chinchi: Cordillera del Condor, near Paquisha, alt. ca. 1200 m, cultivated at Ecuagenera, Gualaceo, Apr. 2001, A. Hirtz 7604 (Holotype: MO)

FIGURE 29.

Species haec *Pleurothallis macroblepharis* Rchb.f. affinis, sed habitu floribusque minore, et labello late oblongo differt.

**Plant** small, epiphytic, caespitose; roots slender. **Ramicauls** erect, 3–4 mm long, enclosed by 2 thin, tubular sheaths. **Leaf** erect, coriaceous,



narrowly obovate, subacute to obtuse, 15–20 mm long including a petiole 5–8 mm long, 3–4 mm wide, narrowly cuneate below into the petiole. **Inflorescence** a loose, subflexuous, flexible, successively few-flowered raceme up to 25 mm long including the filiform peduncle ca. 20 mm long; floral bract 1.25 mm long; pedicel 4 mm long; ovary 1.5 mm long; sepals translucent light green, spotted in red-brown, carinate, sparsely ciliate-pubescent, ovate, acute, long-acuminate, slightly clavate at the tips of the tails, the dorsal sepal 7–8 mm long, 1.75 mm wide, the lateral sepals oblique, 7–8.5 mm long, 1.6 mm wide, connate 1 mm; petals translucent with a thin, brown midvein, elliptical and long-ciliate in basal half, 3 mm long, 0.5 mm wide, the apex acute, long-acuminate; lip brown with white, ciliate hairs, oblong, 3.5 mm long, 1.5 mm wide, the apex obtuse to subtruncate, with the tip more or less recurved, microscopically verrucose, the basal corners erect, obtuse, the disc shallowly channeled between calli from the lateral lobes, the base truncate, without auricles, hinged to the column-foot; column slender, semiterete, 2 mm long, the foot thick.

**Etymology.** Named for George Schudel of Middleburg, FL, who first cultivated this species.

**Paratype.** Ecuador: without locality, obtained by G. Schudel from A. Hirtz, flowered in cultivation in Middleburg, FL, 8 June 1997, *C. Luer 18790* (MO).

George Schudel obtained a plant of this species from Alexander Hirtz without collection data in October 1995. When it was in flower in June 1997, he submitted a flower for identification. It appeared to be related to *Pleurothallis macroblepharis*, but no description could be made, because the plant had disappeared. In the meantime, another plant had been collected in the Cordillera del Condor and cultivated at Ecuagenera where a specimen was made in April 2001. A member of subgenus *Specklinia*, it differs from *P. macroblepharis* in the smaller habit and flowers with slightly thickened apices of the tails. The lip is oblong, obtuse, convex, and covered by minute verrucae. The margin is fringed with white hairs.

***Pleurothallis villosilabia*** Luer & Hirtz, sp. nov.

TYPE: Ecuador: Morona-Santiago: west of Macas, along new road toward Guamote, alt. 2300 m, 2 Mar. 2001, *C. Luer, J. Luer & A. Hirtz 19622* (Holotype: MO). FIGURE 30.

Species haec *Pleurothallis zephyrinae* Rehb.f. per-similis, sed habitu minore, sepalis angustioribus longi-attenuatis, petalis longi-fimbriatis, et labelli marginibus longi-villosis differt.

**Plant** very small, epiphytic, caespitose; roots

slender. **Ramicauls** slender, erect, 3 mm long, enclosed by 2 thin, tubular sheaths. **Leaf** erect, coriaceous, elliptical, subacute to acute, 10–14 mm long including the petiole ca. 2 mm long, 3–3.75 mm wide, the base cuneate into the petiolate base. **Inflorescence** a suberect, flexible, loose, successively few-flowered raceme, 2.5–3 cm long including the peduncle ca. 1 cm long, from near the middle of the ramicaul; floral bracts 1 mm long; pedicels 4–5 mm long; ovary 0.5 mm long; flowers purple; sepals glabrous, membranous, narrowly ovate, acute, acuminate-caudate, the tails thrice longer than the blade, the dorsal sepal 6 mm long, 0.8 mm wide, 1-veined, the lateral sepals oblique, 6 mm long, 0.8 mm wide, 1-veined, connate 0.3 mm at the base; petals elliptical-ovate and long-fimbriate in the basal half, 2.5 mm long, 0.8 mm wide, 1-veined, with the apex obtuse, abruptly contracted into a filamentous process; lip purple, oblong, with the margins densely long-villous, obscurely lobed below the middle, 1.6 mm long, 0.8 mm wide, the apex rounded, the disc shallowly channeled between a pair of longitudinal calli from low, marginal, lateral lobes, the base truncate, hinged to the column-foot; column slender, semiterete, 1 mm long, bicallos near the middle, the foot short, thick, the anther, rostellum and stigma ventral.

**Etymology.** From the Latin *villosilabia*, “with villous labellum,” referring to the lip.

This tiny species of subgenus *Specklinia* is similar to the common and variable *Pleurothallis zephyrina*, but it is distinguished from all the variations by a smaller habit; a shorter, fewer-flowered inflorescence; all purple flowers; narrower sepals; long-fimbriate petals; and an oblong lip with densely villous margins.

***Zootrophion williamsii*** Luer, sp. nov. TYPE:

Panama. Cerro Campana, collected by N.H. Williams, 20 Mar. 1976, flowered in cultivation 30 May 1976, *C. Luer 0676* (Holotype: SEL). FIGURE 31.

Species haec *Zootrophion atropurpureo* (Lindl.) Luer affinis, sed folio elliptico ad basim rotundo abrupte petiolato, flore brevipedicellato latiore obtuso differt.

**Plant** medium in size, epiphytic, caespitose; roots slender. **Ramicauls** stout, erect, 3–5.5 cm long, enclosed by 4 large, loose, inflated, tubular sheaths with oblique ostia. **Leaf** erect, coriaceous, suffused with purple beneath, broadly elliptical, obtuse to rounded at the apex, 4–6 cm long, 3–4 cm wide, the base rounded, contracted into a petiole 8–13 mm long. **Inflorescence** single-flowered, 1–3 simultaneous flowers; peduncle 1.5–2 mm long, from near the apex of the ramicaul;

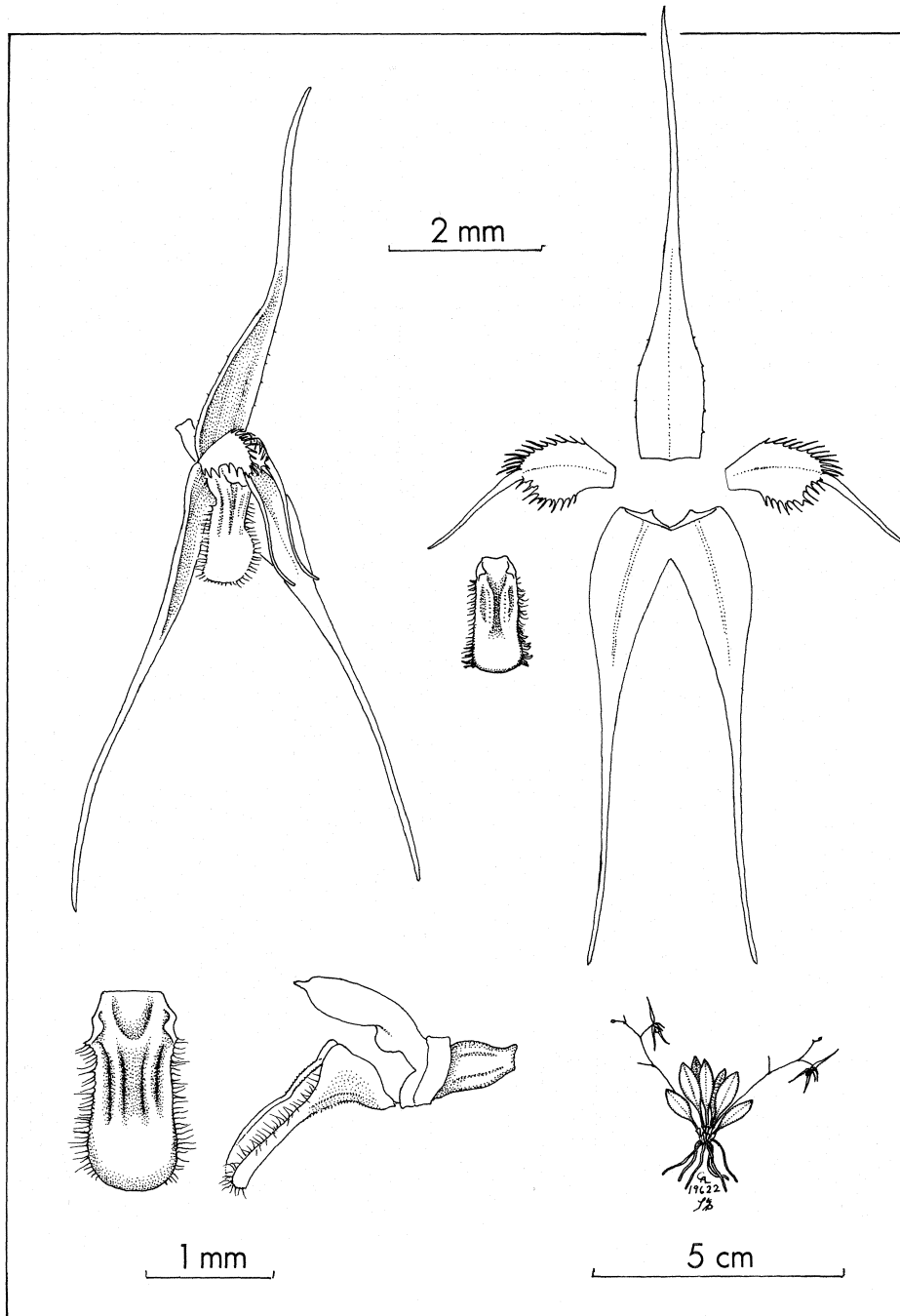


FIGURE 30. *Pleurothallis villosilabia*.

floral bract oblique, inflated, 6–7 mm long; pedicel 3 mm long; ovary carinate-costate, with the ribs erose and irregular, 3–4 mm long, 3 mm wide; sepals dark purple, smooth, thickly fleshy, rigid, connate above and below a lateral aperture

into an ellipsoid-obovoid, slightly arcuate tube, with the apex obtuse, the dorsal sepal elliptical, concave, acute, 20 mm long, 5 mm wide, 5-veined, connate to the synsepal apically for 2–3 mm, and basally for 10 mm, creating narrow, lat-

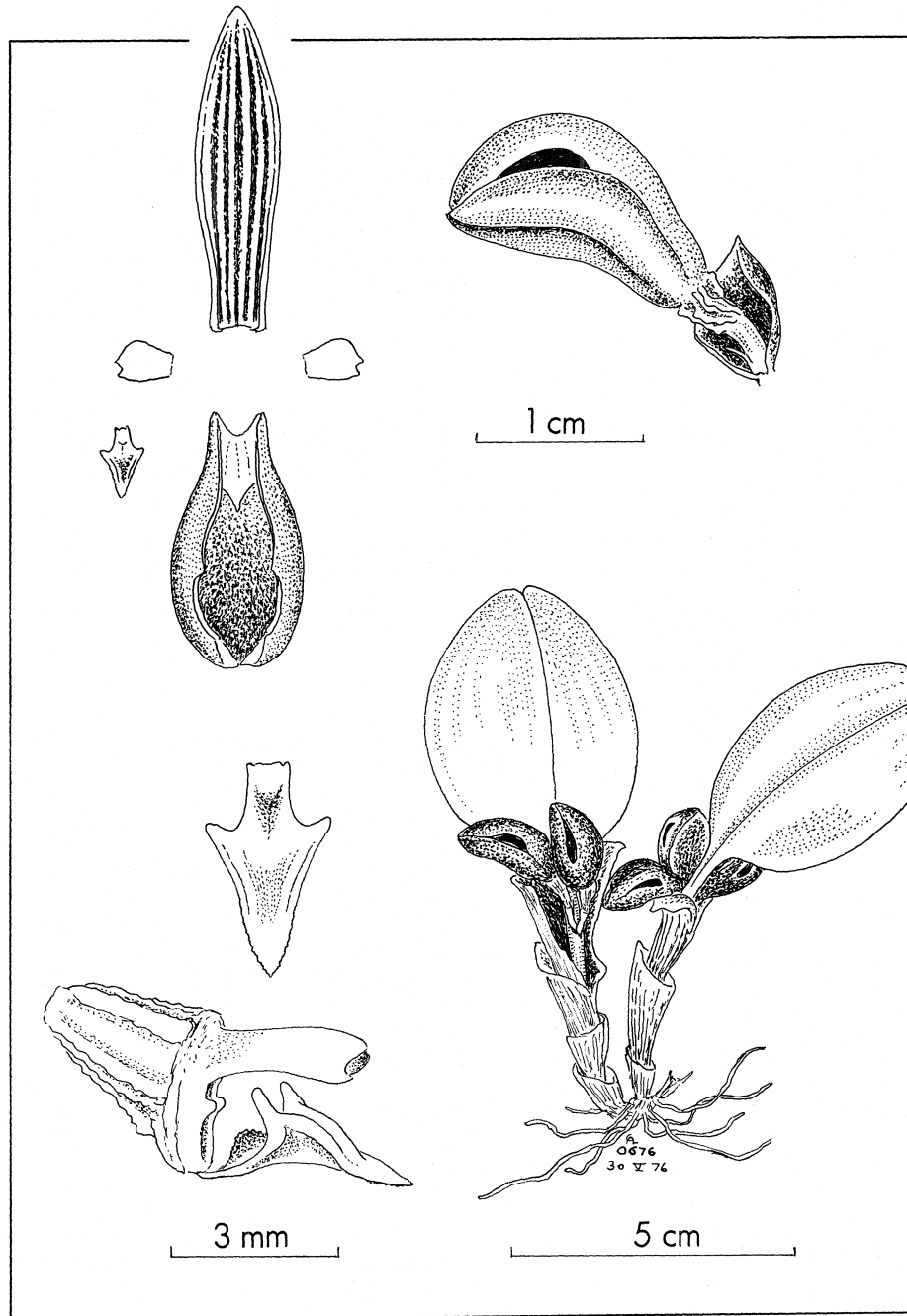


FIGURE 31. *Zootrophion williamsii*.

eral windows above the middle 6–7 mm long, the lateral sepals completely connate into a concave, 3-sided synsepal, 15 mm long, 8 mm wide unexpanded, with a shallow, triangular cavity at the base to accommodate the lip; petals translucent,

suffused with purple, oblong-subquadrate, broadly obtuse, bidentate at the apex, 3.5 mm long, 2.5 mm wide; lip dark red-purple, oblong-sagittate, 3-lobed, 4 mm long, 1.5–2 mm wide, the apex acute, microscopically denticulate-erose, the mar-

gins of the middle third with intramural calli produced into erect, retrorse, narrowly oblong lobes with rounded tips, the disc shallowly concave between the calli on the middle third, the disc below the middle thick, subpyramidal, minutely verrucose, the base truncate with small, obscure lobules at the corners, hinged to the column-foot; column red, stout, semiterete, 2.5 mm long, bidentate at the apex, the anther, rostellum and stigma ventral, the foot thick, channeled between a pair of rounded calli near the middle of the column-foot.

**Etymology.** Named for Norris H. Williams, who collected this species.

This Mesoamerican species is similar to *Zootrophion atropurpureum*, which is known from the Greater Antilles and southern Brazil. It was first collected in Panama by Norris Williams. A painting of this species by Rafael Lucas Rodríguez was identified as *Z. atropurpureum* in *Géneros de Orquídeas de Costa Rica*. In the *Field Guide to the Orchids of Costa Rica and Panama* by Dressler, it was also identified as *Z. atropurpureum*. From the latter *Z. williamsii*, it differs with broadly elliptical, abruptly petiolate leaves and a few shortly petiolate flowers borne simultaneously. In both species the sepals are smooth, and deep purple. The ellipsoid flowers of *Z. williamsii* are somewhat broader and obtuse with larger windows. The flowers of *Z. atropurpureum* are obovoid, more slender, and with the apex acute. The windows are above the middle in both species. The petals, lip and column of the two species do not vary significantly.

#### NEW COMBINATION

***Stelis declivis*** (Lindl.) Luer, comb. nov. Basionym: *Pleurothallis declivis* Lindl., *Folia Orch. Pleurothallis* 36, 1859. TYPE: Ecuador. On trunks of trees on the mountains of Pillahum, *W. Jameson s.n.* (Holotype: K).

FIGURE 32.

**Synonyms.** *Physosiphon inaequisepalus* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 8: 50, 1921; *Humboldtia declivis* (Lindl.) Kuntze, *Rev. Gen. Pl.* 2: 667, 1891.

**Plant** small, epiphytic, repent, 3–10 cm long, the rhizome slender, 3–5 mm long between ramicauls; roots slender. **Ramicauls** slender, ascending, erect, 8–15 mm long, enclosed by 2 thin, tubular sheaths. **Leaf** erect, thickly coriaceous, narrowly elliptical, subacute, 2–5 cm long including a petiole 1–3 cm long, 4–6 mm wide, 2–2.5 mm thick, the base gradually narrowed into the petiole. **Inflorescence** a subcongested, more or less simultaneously several-flowered ra-

came up to 12 cm long, decurved from the slender peduncle, 3–6 cm long, borne from the apex of the ramicaul; floral bracts 1.5–2 mm long; pedicels 1–3 mm long; ovary 1–1.5 mm long; sepals light to dark purple, glabrous, the dorsal sepal ovate to broadly ovate, concave, obtuse, 3–3.5 mm long, 2.5 mm wide, 3-veined, connate to the lateral sepals for 0.3 mm, the lateral sepals free, oblong, obtuse, 3.5–4 mm long, 1.25 mm wide, 3-veined; petals glabrous, translucent, oblong-quadrate, 1.2–1.5 mm long, 0.8–1 mm wide, 1-veined, the apex subtruncate with the margin thickened; lip greenish white to purple, oblong-obovate, 1.5 mm long, 0.8–1 mm wide, the apical half oblong, concave, broadly rounded at the apex with incurved margins, with a low, rounded callus in the center, the basal half oblong-subquadrate, covered with dense mat of long hairs that articulates with a mat of pubescence on the column-foot without a hinge; column wingless, semiterete, 1.5 mm long, the anther subapical and the stigma ventral.

**Specimens examined.** Ecuador. Pichincha: Valley of Lloa, *W. Jameson* 326 (W); “Quito,” *W. Jameson s.n.* (W). Azuay: above Biblian, Oct. 1864, *W. Jameson s.n.* (AMES, W); above Maribinia near Cuenca, alt. 9000–11,000 ft., 3 Sept. 1878, *F.C. Lehmann s.n.* (AMES, W); new road west of Zorrogucho, alt. 3250 m, 16 Mar. 1984, *C. Luer, S. Dalström, T. Höijer & J. Kuijt* 9521 (MO); above Lago Zorrogucho, alt. 3200 m, 15 Feb. 1986, *C. Luer, J. Luer, A. Hirtz, W. Flores & A. Embree* 11785 (MO); above Molleturo, alt. 2800 m, 21 July 1985, *C.H. Dodson, P.M. & T.A. Dodson & A. Embree* 15938 (MO); road to Molleturo, alt. 10,500 ft., collected by C. Head, cultivated by J&L Orchids 1288–304, 10 Dec. 1988, *C. Luer* 13824 (MO); Páramo de Tinajillas, south of Cumbe, road to Oña, alt. 3300 m, 28 Jan. 1988, *V. Molau, B. Eriksen & M. Fredriksen* 2714 (AAU, QCA). Imbabura: páramo between Ibarra and Mariano Acosta, alt. 3500–3600 m, 9 Aug. 1976, *B. Øllegaard & Balslev* 8646 (AAU, MO); Mariano Acosta, alt. 3300 m, Aug. 1997, *A. Hirtz & E. Sanchez* 6585 (MO). Peru. Huánuco: Mito, alt. ca. 2700 m, 8–18 Apr. 1923, *J.F. Macbride* 3370 (holotype of *Physosiphon inaequisepalus* destroyed at B, lectotype: AMES; isolecotypes F, W).

**Etymology.** From the Latin *declivis*, “sloping down,” referring to the decurved raceme.

This little species has been residing in *Pleurothallis*, its true relationship being unrecognized. It is characterized by a loose, arching raceme, about twice as long as the leaves, and with small flowers that superficially resemble *Pleurothallis*. The thick leaves are narrow, only slightly longer than the ramicauls that are pro-

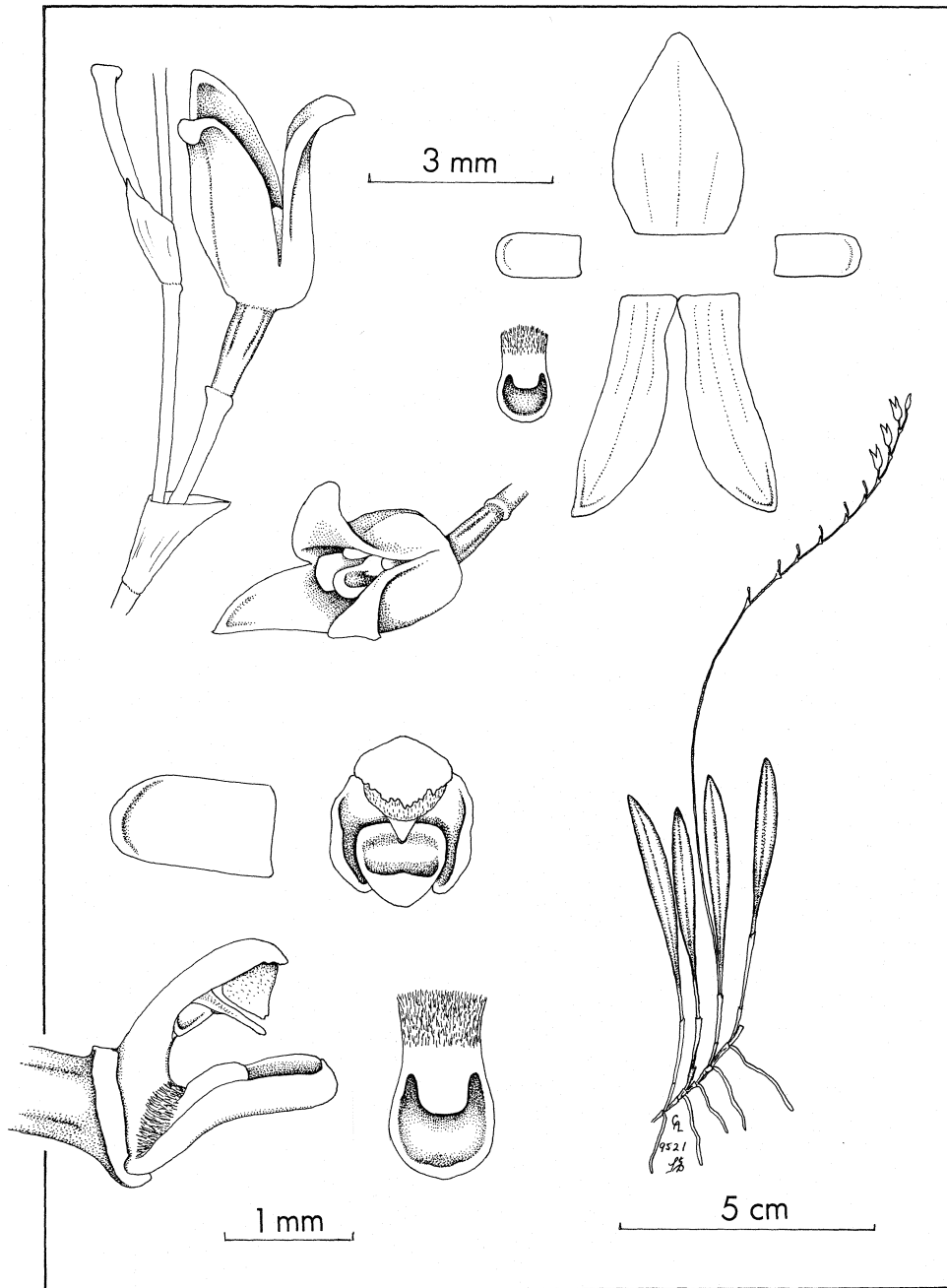


FIGURE 32. *Stelis declivis*.

duced along a creeping rhizome. The obtuse dorsal sepal is concave; the lateral sepals are oblong and free; the petals are subquadrate and truncate with the apical margin thickened; and the lip is concave above a central callus and

with a brush-like callus below the middle, as commonly seen in many species of *Stelis*. The column is short, semiterete, wingless, and unhooded with the anther subapical, and the stigma entire.