

MISCELLANEOUS NEW SPECIES IN THE PLEUROTHALLIDINAE  
(ORCHIDACEAE)

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ABSTRACT. Forty-seven miscellaneous species in twelve pleurothallid genera are illustrated and described as new.

*Key words:* Orchidaceae, Pleurothallidinae, *Acianthera*, *Acronia*, *Lepanthes*, *Myoxanthus*, *Oreophilus*, *Platystele*, *Restrepia*, *Salpistele*, *Sarcinula*, *Scaphosepalum*, *Stelis*, *Trichosalpinx*

NEW SPECIES

*Acianthera mendozae* Luer  
*Acianthera pazii* Luer  
*Acronia baccata* Luer  
*Acronia barbosa* Luer & Thorerle  
*Acronia grobleri* Luer & Hirtz  
*Acronia neossa* Luer & Hirtz  
*Lepanthes aguirrei* Luer  
*Lepanthes aperta* Luer  
*Lepanthes bitriangularis* Luer & R.Escobar  
*Lepanthes concavella* Luer & Hirtz  
*Lepanthes conchylia* Luer  
*Lepanthes conconula* Luer & Hirtz  
*Lepanthes defecta* Luer & Hirtz  
*Lepanthes deuteria* Luer & Thorerle  
*Lepanthes dicyrtopetala* Luer & Hirtz  
*Lepanthes dumbo* Luer  
*Lepanthes ectopa* Luer  
*Lepanthes membranacea* Luer & Hirtz  
*Lepanthes nitida* Luer & Hirtz  
*Lepanthes ostraconopetala* Luer & Hirtz  
*Lepanthes penicillifera* Luer  
*Lepanthes pictilis* Luer & Hirtz  
*Lepanthes racemosa* Luer & Hirtz  
*Lepanthes renzii* Luer  
*Lepanthes salpingosa* Luer & Sijm  
*Lepanthes singularis* Luer & Hirtz  
*Lepanthes tigrina* Luer & Thorerle  
*Lepanthes vaginosa* Luer & Hirtz  
*Lepanthes zelenkoi* Luer & Hirtz  
*Myoxanthus aciculifolius* Luer  
*Oreophilus chelosepalus* Luer & Hirtz  
*Platystele cellulosa* Luer & Hirtz  
*Restrepia driessenii* Luer & Sijm  
*Salpistele adrianae* Luer & Sijm  
*Sarcinula rinkei* Luer  
*Scaphosepalum redderantum* Luer & Sijm  
*Scaphosepalum reptans* Luer & Hirtz  
*Stelis andrei* Luer  
*Stelis cairoënsis* Luer  
*Stelis caliënsis* Luer

*Stelis efsiella* Luer  
*Stelis infundibulosa* Luer  
*Stelis lopezii* Luer  
*Stelis paraguasensis* Luer  
*Stelis speckmaieri* Luer & Sijm  
*Stelis trimera* Luer  
*Trichosalpinx echinata* Luer & Hirtz

TAXONOMIC TREATMENTS

*Acianthera* Scheidw.

*Acianthera mendozae* Luer, sp. nov. TYPE: Bolivia—La Paz: Prov. Franz Tamay, between Apolo and Santa Cruz del Valle Ameno, alt. 1600 m, collected by Luis Mendoza, 2007, flowered in cultivation, Sept. 2008, in Hales Corner, WI, by C. Rojohn s.n. (Holotype: MO), C. Luer illustr. 21317. FIGURE 1.

*Inter species generis Aciantherae planta parva repens, foliis pendentibus anguste linearibus crassissimis quam ramicaulibus longioribus, racemo brevi paucifloro floribus aurantiacis, sepalò dorsali lineari, synsepalo elliptico brevissime bidentato, petalis oblongis acutis microscopice serrulatis, et labello elliptico acuto minutissime serrulato infra medium breviter lobato distinguitur.*

*Plant* small, epiphytic, repent, the rhizome stout, 1–1.5 cm long between ramicauls; roots slender. Ramicauls slender, 1.5–3 cm long, enclosed below the middle by a tubular sheath from the base. *Leaf* pendent, thickly coriaceous, rigid, narrowly linear, acute, slightly curved, shallowly channeled, 4–8 cm long, 0.5–0.6 cm wide, narrowed below to the sessile base. *Inflorescence* a single, 1- to 2-flowered raceme, 1–1.5 cm long lying in the sulcus of the leaf, the peduncle ca. 1 cm long, subtended by a spathe 3–4 mm long from the base of the leaf; pedicels stout, 1 mm long; floral bracts 3 mm long; ovary 1.5 mm long; flowers bright orange, *sepals* glabrous, the dorsal sepal erect, linear-

oblong, acute, 11 mm long, 3 mm wide, 3-veined, the lateral sepals connate into an elliptical synsepal, acute, 11 mm long, 7 mm wide, 6-veined, shortly bifid at the tip; *petals* membranous, oblong, acute, microscopically serrate above the middle, 5 mm long, 2 mm wide, 3-veined; *lip* elliptical, acute, 6 mm long, 2 mm wide, with small, acute, antrorse lateral lobes below the middle, minutely serrulate and spiculate at the apex, the base truncate, channeled between longitudinal calli from the disc, hinged to the base of the column; *column* semiterete, 5 mm long, the anther and stigma ventral, the foot stout, 2 mm long.

**Etymology.** Named for Luis Mendoza of Vilcabamba, Ecuador, who first collected this species.

**Comments.** Although the morphological features of the bright orange flower are not unusual in the genus *Acianthera* Scheidw., the vegetative features of this species are distinctive. From a creeping rhizome, descending ramicauls are produced at intervals of about a centimeter to bear a thick, narrowly linear, pendent leaf. From the narrow base, a bright orange flower is borne singly or in a short, 2-flowered raceme.

**Acianthera pazii** Luer, sp. nov. TYPE: Colombia—Valle del Cauca: Cali, road to Buenaventura, alt. 1830 m, 1 Aug. 2000, P. Silverstone-Sopkin & B. Paz 8522 (Holotype: CUV; Isotype: MO), C. Luer illustr. 21262. FIGURE 2.

*Inter species generis Aciantherae planta mediocris, folio ovato cordato ramicauli leviter compresso, floribus aureis puris, sepalo dorsali lineari, synsepalo elliptico breviter bidentato, petalis ovatis acutis serratis, labello oblongo obtuso serrulato minutissime spiculatis distinguitur.*

**Plant** medium in size, epiphytic, caespitose; roots slender. Ramicauls stout, erect, slightly compressed above, 5–10 cm long, enclosed by tubular sheaths at the base. **Leaf** erect, coriaceous, ovate, acute, cordate at the base, sessile, 5–6 cm long, 2.5–3 cm wide. **Inflorescence** 1–3 single flowers produced successively from a narrow spathe ca. 5 mm long, with peduncles deep within; floral bracts 2–3 mm long; pedicels 6–7 mm long; ovary 2.25 mm long; flowers clear yellow-orange, *sepals* glabrous, the dorsal sepal erect, linear-oblong, obtuse, 11 mm long, 3.5 mm wide, 3-veined, the lateral sepals connate into an elliptical synsepal, 10 mm long, 7 mm wide, 6-veined, shortly bifid at the tip; *petals* membranous, ovate, acute, unguiculate, minutely serrate, 4.5 mm long, 2.5 mm wide, 1-veined; *lip* minutely spiculate, oblong, obtuse, with the sides suberect below the middle, 6 mm long, 2

mm wide, the base truncate, hinged to the base of the column; *column* semiterete, 4 mm long, toothed at the apex, the foot stout, 2 mm long.

**Etymology.** Named for N. Paz, co-collector of this species.

**Comments.** Although vegetatively similar to the majority of the species of the genus *Acianthera* Scheidw., this species is distinct in the production of a few, apparently single flowers, reminiscent of *Acronia* sect. *Macrophyllae-Fasciculatae*. Single, clear yellow-orange flowers are produced from a small spathe at the cordate base of a sessile leaf. The sepals are fleshy and glabrous, the petals are ovate and minutely serrate, and the lip is oblong and minutely spiculate with serrulate margins.

#### *Acronia* C.Presl.

**Acronia baccata** Luer, sp. nov. TYPE: Colombia—Valle del Cauca: El Cairo; Cerro del Inglés, Serranía Paraguas, alt. 2130 m, 24 Mar. 2002, P.A. Silverstone-Sopkin, N. Paz & J. Contreras 8871 (Holotype: CUV; Isotype: MO), C. Luer illustr. 21263.

FIGURE 3.

*Inter species generis Acroniae sectionis Acroniae planta debilis, racemo plurifloro folio anguste ovato attenuato brevior, floribus albis parvis suborbicularibus, sepalo synsepaloque concavis, petalis carnosis proportione grandis, labelli lateribus erectis cum apice late breviter acuminato differt.*

**Plant** small to medium in size, epiphytic, caespitose; roots slender. Ramicauls very slender, erect but weak, 5–13 cm long, enclosed by thin tubular sheaths near middle and at the base. **Leaf** erect, coriaceous, narrowly ovate, attenuate, acute, shallowly cordate at the base, sessile, 3–6 cm long, 0.9–1.2 cm wide. **Inflorescence** a simultaneously several-flowered raceme borne on top of the leaf, 3–3.5 cm long including the peduncle ca. 1 cm long, produced from a narrow spathe 5–6 mm long at the base of the leaf; floral bracts 1.5 mm long; pedicels 2.5 mm long; ovary 1 mm long; *sepals* white, glabrous, the dorsal sepal forward, concave, broadly elliptical, obtuse, 3 mm long, 2.2 mm wide, 3-veined, the lateral sepals connate into an ovoid synsepal, 3 mm long, 2.7 mm wide, 4-veined, suffused with yellow toward the tip; *petals* fleshy, elliptical, obtuse, thickened toward the tip, 2.6 mm long, 1.3 mm wide, 3-veined; *lip* green, fleshy, cellular-spiculate, ovoid with erect, broadly rounded sides, the apex broadly obtuse with a short, acute, acuminate tip, 1.5 mm long, 1.8 mm wide expanded, the base truncate, hinged to the base of the column; *column* semiterete, 0.5 mm long,

0.5 mm wide, the anther apical, the stigma bilobed, apical.

**Etymology.** From the Latin *baccatus*, “set with pearls,” in allusion to the row of tiny, round flowers.

**Comments.** This species seems most closely allied to the old, familiar *Pleurothallis truncata* Lindl., which presently resides in *Acronia*. The raceme of small, suborbicular flowers shorter than the leaf; a deeply concave dorsal sepal and synsepal; large, fleshy petals; and a small, suborbicular lip with erect, rounded sides are common to both.

***Acronia barbosa*** Luer & Thoerle, sp. nov.

TYPE: Peru—without locality; collected by Arcenio Barbosa Castillo, obtained from D. D’Alessandro, flowered in cultivation in Little Compton, RI, by L. Thoerle, s.n. (Holotype: MO), C. Luer illustr. 21321.

FIGURE 4.

*Planta mediocris caespitosa, foliis crassis anguste ovatis plus minusve dependentibus, spatha prostrata, sepalo dorsali ovato obtuso quinquenervato, petalis acutis recurvis trinervatis, labello carnoso ovato obtuso canaliculato microscopicamente pusticulato distinguitur.*

**Plant** medium in size, epiphytic, densely caespitose; roots slender. Ramicauls slender, erect, 8–20 cm long, with a tubular sheath on the lower third and another sheath at the base. **Leaf** horizontal to dependent, coriaceous, oblong-ovate, acute, slightly acuminate at the tip, 9–9.5 cm long, 3–3.5 cm wide, the base sessile, deeply cordate. **Inflorescence** a single, successive, yellow flower, subtended by a prone spathe 15 mm long, 4 mm wide; peduncle rudimentary, concealed within the spathe; floral bracts tubular, 7 mm long; pedicels 8 mm long, also mostly concealed within the spathe; ovary 3–5 mm long; **sepals** glabrous, the dorsal sepal convex, elliptical-ovate, obtuse, 12 mm long, 8 mm wide, 5-veined, the lateral sepals connate into an ovoid, convex, obtuse synsepal, 11 mm long, 10 mm wide expanded, 8-veined; **petals** oblong-ovate, acute, entire, recurved, 9 mm long, 3.8 mm wide, 3-veined; **lip** thickly ovate, obtuse, 4.5 mm long, 3 mm wide, the disc channeled, microscopically verrucose, shallowly concave at the base, hinged to the column-foot; **column** stout, 1 mm long, 2 mm wide, the foot thick, obsolescent, with the anther, rostellum and stigma apical.

**Etymology.** Named for the collector Arcenio Barbosa Castillo, who collected this plant.

**Comments.** This species, known only from the original collection, is characterized by a

more or less pendent, cordate leaf; a reclining spathe; and a relatively large, yellow flower that may or may not rotate into a resupinate position. The sepals are ovate, obtuse and convex, the dorsal sepal being 5-veined. The petals are broad, recurved and 3-veined. The lip is thickly ovate and channeled.

***Acronia grobleri*** Luer & Hirtz, sp. nov. TYPE:

Ecuador—Carchi: Río Blanco, along new road between Carolina and Chical, alt. 1800 m, 10 Apr. 2007, A. Hirtz, L. Grobler et al. 9217 (Holotype: MO), C. Luer illustr. 21311.

FIGURE 5.

*Species haec Acronia bucranonis (Luer & Hirtz) Luer similis, sed pedunculis longioribus, sepalis acuminatis, petalis angustioribus, labello ad medium non deflexo cum lobis rotundatis differt.*

**Plant** small, epiphytic, caespitose; roots slender. Ramicauls slender, ascending to erect, 5–10 cm long, with a close, tubular sheath below the middle and another at the base. **Leaf** coriaceous, sessile, narrowly ovate, acute, 3–4.5 cm long, 1–1.6 cm wide, the base broadly cuneate. **Inflorescence** a fascicle of solitary, successive flowers borne from a prostrate spathe 3–4 mm long, at the base of the leaf; peduncle suberect, 10–15 mm long; floral bract 2 mm long; pedicel 3.5 mm long; ovary 3 mm long; **sepals** tan, glabrous, the dorsal sepal ovate, acuminate, acute, concave below the middle, 9 mm long, 3.5 mm wide, 3-veined, the lateral sepals connate to the tip into a narrowly ovate, acute, concave synsepal, 9 mm long, 3.25 mm wide, 4-veined; **petals** tan, linear, subsigmoid, acute, microscopically erose-denticulate, 8 mm long, 1 mm wide, 3-veined; **lip** tan, glabrous, sagittate-trilobed, obtuse, with erect, rounded, basal lobes 1 mm long embracing the column, 3 mm long excluding the lobes, 1.25 mm wide, oblong above the lobes, obtuse, minutely apiculate, the disc slightly concave, the base shortly deflexed, truncate, hinged to the base of the column; **column** semiterete, 1.5 mm long, the anther and stigma apical, the foot rudimentary.

**Etymology.** Named for Lourens Grobler, orchid grower of South Africa, a co-collector of this species.

**Comments.** This species is closely related to *Acronia bucranon* (Luer & Hirtz) Luer, both species occurring in northwestern Ecuador. Similar in habit with slender ramicauls, the ovate leaves of the latter are not shallowly cordate at the base, and the peduncles are longer and suberect. The sepals are narrowly ovate and concave; the petals are narrowly linear and subsigmoid; and the lobes basal lobes of a non-deflexed lip are rounded instead of uncinat.

**Acronia neossa** Luer & Hirtz, sp. nov. TYPE: Ecuador—Carchi: Rfo Blanco, along new road between Carolina and Chical, alt. 1800 m, 10 Apr. 2007, A. Hirtz, L. Grobler et al. 9215 (Holotype: MO), C. Luer illustr. 21271. FIGURE 6.

*Inter species Acroniae sectionis Amphygiae flores mediocris, pedunculo subnullo, pedicello breve, sepalo dorsali synsepaloque expansis, petalis erectis minutissime denticulatis ovatis supra medium constrictis, labello unguiculato trilobo columnam amplectenti distinguatur.*

**Plant** small, epiphytic, caespitose; roots slender, caespitose. Ramicauls slender, erect, round in cross section, 7–9 cm long, with a close, tubular sheath below the middle and another at the base. **Leaf** suberect to horizontal, thinly coriaceous, ovate, acute, acuminate, 3.5–4 cm long, 1.2 cm wide, the base obtuse, sessile. **Inflorescence** a single flower borne by a suberect pedicel 5 mm long with floral bract 2 mm long, from a peduncle ca. 0.5 mm long within a prostrate spathe 2 mm long, at the base of the leaf; ovary 2 mm long; flower color unknown; **sepals** microscopically cellular on the margins, dorsal sepal erect, curved forward above the middle, ovate, acute, 4.5 mm long, 2.5 mm wide, 3-veined, free from the synsepal, the lateral sepals connate to an ovate synsepal, slightly acuminate and shortly bifid at the tip, 4 mm long, 3.5 mm wide, 4-veined; **petals** obliquely ovate, minutely denticulate, 2 mm long, 1.2 mm wide, 3-veined, contracted above the middle into a narrow, oblique, acute, terminal segment, recurved in the natural position; **lip** transversely trilobed, with microscopically cellular-denticulate margins, unguiculate, 1.5 mm long, 2 mm wide across the broadly rounded, lateral lobes expanded, 3-veined, the apical lobe equally rounded, the claw 0.5 mm long, connate to the base of the column, the lateral lobes erect and flanking the column in the natural position; **column** terete, 2 mm long, the anther and single-lobed stigma apical, the foot obsolescent.

**Etymology.** From the Greek *neossos*, “a nestling,” in allusion to the petals that resemble the wings of a hungry, baby bird.

**Comments.** This little species of *Acronia* section *Amphygia* is characterized by narrowly ovate, acute leaves; slender ramicauls; and a single, resupinate flower borne on top of the leaf by a short, suberect pedicel, which emerges from a much shorter peduncle deep within a small, reclining spathe at the base of the leaf. The ovate dorsal sepal and synsepal are about equal in size and shape; the petals recurve like a pair of little wings above the column; and a

three-lobed lip embraces a protruding, terete column.

#### *Lepanthes* Sw.

**Lepanthes aguirrei** Luer, sp. nov. TYPE: Colombia—Nariño: collected J. Aguirre, flowered in cultivation by J&L Orchids, Easton, CT, June 1998, J&L 1296-536 (Holotype: MO), C. Luer illustr. 18825. FIGURE 7.

*Planta parvula caespitosa, folio elliptico purpureo reticulato racemo congestissimo longiore, sepalis minute denticulatis, sepalo dorsali subcirculari apice abrupte breviter acuminato, sepalis lateralibus caudatis, petalis trilobis lobis angustissimis inter se aequilongis, labelli laminis ellipticis connectivis latissimis, et appendice pubescenti ligulata recurvata distinguatur.*

**Plant** small, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 4–4.5 cm long, enclosed by 9–10 microscopically ciliate, lepanthiform sheaths. **Leaf** erect, purple reticulated, elliptical, subacute, 14–20 mm long, 9–10 mm wide, the base cuneate into a petiole 1–2 mm long. **Inflorescence** a congested, distichous, successively few-flowered raceme, 3–4 mm long, borne on top of the leaf by a filiform peduncle 5–6 mm long; floral bracts oblique, acute, 1 mm long; pedicels 1–1.5 mm long; ovary 1 mm long; **sepals** dull red with purple margins, minutely denticulate, the dorsal sepal subcircular, 5.5 mm long, 3 mm wide, 5-veined, with the rounded apex abruptly acuminate into a relatively stout tail 1.5 mm long, connate to the lateral sepals for 0.5 mm, the lateral sepals connate 1.5 mm, ovate, oblique, acute, 6 mm long including the tails, 1.5 mm wide, 2-veined, contracted into tails 2.5 mm long; **petals** orange, deeply trifid, the lobes narrowly linear, the uppermost lobe long-ciliate, 1.5 mm long, the lower 2 lobes microscopically pubescent, 1 mm long; **lip** orange-brown, bilaminar, the blades elliptical, convex, pubescent, 1.5 mm long, embracing the column, with connectives very broad, more than half the length of the blade, to form a broad body, connate to the column above the base, the appendix external, narrowly oblong, recurved, pubescent; **column** semiterete, 2 mm long, with the anther dorsal and the stigma ventral.

**Etymology.** Named for J. Aguirre, who collected this species in southern Colombia.

**Comments.** This small species is characterized by an ovate, purple-reticulated leaf with a much shorter, few-flowered inflorescence. The sepals are minutely denticulate and contracted into relatively stout tails. The petals are deeply trifid, with the lobes narrowly linear and diverging, the upper lobe being slightly broader and

Ecuagenera, Gualaceo, flowered 4 Mar. 2001, *C. Luer 19638* (Holotype: MO).

FIGURE 12.

*Species haec Lepanthidis ictaluri Luer affinis, sed sepalis lateralibus ad apicem in synsepalum acutum connatis et labelli laminis non caudatis differt.*

**Plant** small, epiphytic, caespitose; roots slender. Ramicauls stout, erect, 2–2.5 cm long, enclosed by 8–9 long-ciliate, lepanthiform sheaths. **Leaf** erect, coriaceous, broadly elliptical, 15 mm long, 10 mm wide, distinctly margined, the apex obtuse, minutely retuse, the base cuneate into an obscure petiole 1–2 mm long. **Inflorescence** a loose, successively few-flowered raceme up to 3.5 cm or more long including the filiform peduncle ca. 2 cm long; floral bracts 1.5 mm long, echinate; pedicels 2–2.5 mm long; ovary 1 mm long, with serrulate crests; **sepals** dark purple, erose-denticulate, shallowly concave, the dorsal sepal narrowly elliptical, acute, 7.5 mm long, 2.5 mm wide, connate to the lateral sepals for 0.5 mm, the lateral sepals connate to the tip into an ovate, acute lamina 7 mm long, 3.5 mm wide; **petals** dark purple, long-pubescent externally, markedly unequally transversely bilobed, 0.75 mm long, 5 mm wide, the upper lobe short, 0.5 mm long and wide, rounded, concave over the column, the lower lobes attenuate, linear triangular; **lip** dark purple, bilaminar, the blades oblong with rounded ends, glabrous, 2.25 mm long, the connectives 1.5 mm wide, forming a broadly rectangular body, connate to the column above the middle, the sinus incurved with the appendix reduced to a minute, triangular apiculum; **column** slender, cylindrical, 3 mm long, the anther dorsal, the stigma ventral.

**Etymology.** From the Greek *konkonli*, “a coo-coon,” referring to the column within the labelum.

**Comments.** This weird species, closely allied to the widely distributed, relatively frequent *Lepanthes ictalurus* Luer, occurs within its range in southeastern Ecuador. It is distinguished by stout ramicauls with close, dilated, long-ciliate sheaths, and an elongating, loosely flowered raceme. The sepals are not as deeply concave as those of *L. ictalurus*, the lateral sepals being completely connate. The petals with long-attenuate lower lobes are similar in both species. Instead of similarly long-attenuate blades of the lip, the apices of the blades of the lip of *L. conconula* are merely rounded. The blades form the lateral margins of a broad body, so that when the blades are erect they surround the column like a hot dog in a bun.

**Lepanthes detecta** Luer & Hirtz, sp. nov. TYPE: Ecuador—Morona-Santiago: below Chi-

guinda, altitude not known, collected by and cultivated by Ecuagenera, Gualaceo, flowered in cultivation 7 Mar. 2001, *C. Luer 19812* (Holotype: MO).

FIGURE 13.

*Planta mediocris caespitosa, racemo congesto folio ovato brevior, sepalis glabris late ovatis acutis, petalorum lobo superiore grandi ad apicem rotundo lobo inferiore minore, triangulaculo acutissimo, labelli laminis parvis expansis columna detecta distinguitur.*

**Plant** medium in size, epiphytic, caespitose; roots slender. Ramicauls relatively stout, erect, 7–9 cm long, enclosed by 7–8 close, minutely scabrous, lepanthiform sheaths with oblique, slightly dilated ostia. **Leaf** erect, coriaceous, ovate, obtuse, slightly acuminate, 5.5–6.5 cm long, 2.5 cm wide, the base cuneate into a petiole 4–5 mm long. **Inflorescence** an erect, congested, successively many-flowered raceme, to 3 cm long, including the peduncle ca. 2 cm long, borne behind the leaf; floral bracts 2 mm long; pedicels 1.25 mm long; ovary 2 mm long; **sepals** glabrous, the dorsal sepal translucent light green, broadly ovate, acute, 4 mm long, 3 mm wide, 3-veined, connate basally to the lateral sepals for 1 mm, the lateral sepals yellow, broadly ovate, oblique, obtuse, with the tips shortly acuminate, 4 mm long, 2.25 mm wide, 2-veined, connate 1 mm; **petals** yellow with purple margin, microscopically pubescent, transversely bilobed, 3.5 mm long, 1.5 mm wide, 1-veined, the upper lobe elliptical with rounded apex, 2.25 mm long, 1.5 mm wide, the lower lobe triangular, acute, 1.25 mm long, 0.8 mm wide at the base; **lip** yellow, glabrous, bilaminar, the blades expanded, oblong, the apices acute, the bases rounded, the body narrow, connate to the column above the base, the sinus gaping without an obvious appendix; **column** clavate, 1.25 mm long, the anther and stigma apical.

**Etymology.** From the Latin *detectus*, “uncovered,” referring to the exposed column.

**Comments.** This species is known only from a plant collected in southeastern Ecuador, and cultivated by Ecuagenera. Vegetatively not remarkable, it is distinguished by a proportionately large, elliptical, upper lobe of the petals and a smaller, acutely triangular lower lobe. Most unusual is the minute lip with the blades expanded to expose completely the comparatively large column.

**Lepanthes deuthera** Luer & Thoele, sp. nov.

TYPE: Colombia—Chocó: Carmen de Atrato, alt. 2400 m, flowered in cultivation at Colomborquídeas, 3 June 1995, *R. Escobar 5347* (Holotype: MO), *C. Luer* illustr. 17722.

FIGURE 14.

*Planta grandis Lepanthidis cingenti Luer &*

*R. Escobar similis*, sed *sepalis gracilibus acuminatis*, et *labelli lamina ovatis non connatis columnam cingentibus differt*.

**Plant** large, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 25–27 cm long, enclosed by 18–19 minutely ciliate, lepanthiform sheaths. **Leaf** erect, coriaceous, oblong-ovate, subacute, acuminate into an acute tip, 9.5–11 cm long, 3–3.8 cm wide, the rounded base contracted into a petiole 3–6 mm long. **Inflorescence** a congested, distichous, successively many-flowered raceme, up to 25 mm long, borne behind the leaf by a filiform peduncle 35–50 mm long; floral bracts 1 mm long; pedicels 1 mm long; ovary 2 mm long; **sepals** yellow, glabrous, low-carinate, narrowly triangular, acute, slightly acuminate, the dorsal sepal 8 mm long, 3 mm wide, 3-veined, connate to the lateral sepals for 0.5 mm, the lateral sepals oblique, 7.5 mm long, 2.6 mm wide, 2-veined, connate 2.5 mm; **petals** transversely bilobed, 1.5 mm long, 4.5 mm wide, microscopically pubescent, the upper lobe orange, suffused with orange-brown on the margins, oblong, obtuse, 3 mm long, 1 mm wide, the lower lobe yellow, oblong, 1 mm wide at the junction with the upper lobe, contracted below into a narrowly oblong lobe, 0.5 mm wide; **lip** orange, suffused with orange-brown, bilaminar, cellular pubescent, the blades ovoid, convex, rounded at the extremes, 2 mm long, flanking the column, the connectives broadly cuneate, the body broad, connate to the base of the column, the sinus obtuse, filled with a broad, triangular, membranous appendix in apposition with the column; **column** 1.5 mm long, with the anther dorsal and the stigma ventral.

**Etymology.** From the Greek *deuteros*, “a second, of lesser quality,” implying a lip of less appeal.

**Comments.** This large species, known only from one collection in the Western Cordillera of Colombia, is vegetatively similar to *Lepanthes cingens* Luer & R. Escobar. It is distinguished from the latter by narrowly triangular, acute, slightly acuminate sepals. The lateral sepals of *L. cingens* are ovate and terminate in a broad, subacute tip. The petals are similar. The blades of the lip of *L. cingens* are deeply concave from beneath, the two convex blades resembling a bivalved mollusk surrounding the column. The blades of the lip of *L. deuteria* are merely ovate and slightly concave centrally, and the appendix is reduced to a triangular membrane resting beneath the column.

**Lepanthes dicyrtopetala** Luer & Hirtz, sp. nov.

TYPE: Colombia—without collection data: flowered in cultivation by Ecuagenera,

Gualaceo, Ecuador, 11 Jan. 2004, A. Hirtz 8670 (Holotype: MO), C. Luer illustr. 21312. FIGURE 15.

*Planta mediocris caespitosa, racemis congestissimis folio elliptico concavo brevioribus, sepalo dorsali ovato acuto, synsepalo ovoideo abrupte acuminato, petalorum lobo superiore elongato biflexo, labelli laminae convexis obtusis appendice oblongo membranaceo pubescenti distinguitur.*

**Plant** medium in size, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 11–17 cm long, enclosed by 15–17 nearly glabrous, lepanthiform sheaths. **Leaf** erect, thinly coriaceous, elliptical, concave beneath, longitudinally ribbed, carinate beneath, 5–6.5 cm long, 1.5–1.8 mm wide, the apex obtuse, acute, shortly acuminate, the base cuneate into a petiole 3 mm long. **Inflorescence** a congested, successively many-flowered raceme to 12 mm long excluding the peduncle 1–3 cm long; floral bracts 1.5 mm long; pedicels 1.5 mm long; ovary 3 mm long; **sepals** light yellow, the dorsal sepal glabrous, ovate, acute, 7 mm long, 3 mm wide, 3-veined, connate to the lateral sepals for 1 mm, the lateral sepals with microscopically cellular-denticular margins, completely connate into a subcircular, concave synsepal, with a small, central convexity, contracted into a shortly acuminate apex, 6 mm long including the tip 1 mm long, 4.5 mm wide, 4-veined; **petals** orange, red at the base, glabrous, transversely bilobed, 1.5 mm long, 7 mm wide, 3-veined, the upper lobe erect, narrowly oblong, acute, 5 mm long, 1.5 mm wide, bent doubly in the distal third, with a 0.2 mm long marginal lobe between the upper and lower lobes, the lower lobe triangular, 2 mm long, 1 mm wide at the base, acute; **lip** orange, glabrous, bilaminar, the blades ovate with rounded ends, convex, 2.5 mm long, the connectives oblong, from the middle of the lamina, forming an equally broad body, connate to the base of the column, the sinus obtuse with a membranous, oblong, pubescent appendix 1 mm long; **column** stout, 2 mm long, the anther dorsal, the stigma ventral.

**Etymology.** From the Greek *dikyrtopetalus*, “with double-bent petals,” referring to the upper lobes.

**Comments.** This Colombian species was found in cultivation at Ecuagenera without collection data. The leaf is thinly coriaceous and longer than the congested raceme borne by a longer peduncle. The dorsal sepal is ovate and acute while the round synsepal is acuminate into an acute tip. The elongated upper lobe of the petals is doubly bent, which at first appeared to be an artifact (and it may be). A very small,

marginal middle lobe protrudes between the upper and lower lobes of the petals. The lobes of the lip are obtuse and the appendix is membranous, oblong and pubescent.

**Lepanthes dumbo** Luer, sp. nov. TYPE: Colombia—Nariño: collected by J. Aguirre, flowered in cultivation by J&L Orchids, Easton, CT, May 2001, *J&L s.n.* (Holotype: MO), C. Luer illustr. 19918. FIGURE 16.

*Planta parva caespitosa, folio ovato racemis paucis longiore, sepalis late ovatis breviter acuminatis minutissime ciliatis, petalis transverse bilobis, lobo superiore oblongo apice obliquo, lobo inferiore oblique anguste triangulari, labelli lamina infra medium expansis rotundis connectivis corporeque latissimis, et appendice minutissima distinguitur.*

**Plant** small, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 5.5 cm long, enclosed by ca. 8 microscopically ciliate, close, lepanthiform sheaths. **Leaf** erect, ovate, acute, rounded at the base, 3.5 cm long, 1.5 cm wide. **Inflorescence** 1–2 congested, successively few-flowered racemes, to 8 mm long, borne on the dorsum of the leaf by capillary peduncles 8–18 mm long; floral bracts oblique, acute, 1.5 mm long; pedicels 1.5 mm long; ovary 1 mm long; **sepals** white, minutely ciliate, broadly ovate, obtuse, shortly acuminate, subcarinate along the veins, the dorsal sepal 4.25 mm long, 3.5 mm wide, 3-veined, connate to the lateral sepals for 1.5 mm, the lateral sepals oblique, 4 mm long, each 2.5 mm wide, 2-veined, connate 2.5 mm into a bifid lamina 5 mm wide; **petals** bright purple, transversely bilobed, 1 mm long, 4.5 mm wide, 3-veined, the upper lobe oblong, obliquely incurved at the apex, 2 mm long, 1 mm wide, the lower lobe narrowly triangular, acute, 2.5 mm long, 1 mm wide at the base; **lip** bright purple, microscopically pubescent, bilaminate, the blades 2 mm long, broadly elliptical below the middle, 1.5 mm wide, contracted above the middle and oblong, 0.5 mm wide, overlying the column, with connectives 1.5 mm broad, forming an equally broad body, connate to the column at the base, the appendix minute, in contact with the stigma; **column** semiterete, slender, 2 mm long, with the anther dorsal and the stigma ventral.

**Etymology.** Named for Dumbo, for the elephant-eared blades of the lip.

**Comments.** This small species from southernmost Colombia is distinguished best by the shape of the blades of the lip. The flowers are produced successively by two simultaneous peduncles of unequal length on the dorsum of the leaf. The broad sepals are white and the petals and lip are bright purple. The blades of the lip

overlying the column are transversely elliptical below the middle and contracted into narrow, apical portions above the middle about a quarter the size. Viewed laterally, the shape is not obvious. The connectives and body are unusually broad with a minute appendix in contact with the stigma.

**Lepanthes ectopa** Luer, sp. nov. TYPE: Colombia—Valle del Cauca: El Cairo, Cerro del Inglés, Serranía Paraguas, alt. 2200 m, 8 Nov. 1997, P.A. Silverstone-Sopkin et al. 7967 (Holotype: CUVIC; Isotype: MO), C. Luer illustr. 21258. FIGURE 17.

*Planta pusilla debilis, racemo congesto folio longiacuminato brevior, sepalo dorsali inflato sub-orbiculari, sepalis lateralibus semiconnatis minoribus, petalorum lobo superiore anguste oblongo ciliato, lobo inferiore longiattenuato, labelli lamina acutis carinatis corpore triangulari protuberanti.*

**Plant** small, weak, epiphytic, caespitose; roots slender. Ramicauls very slender, erect, 3–4.5 cm long, enclosed by 9–10 minutely ciliate, lepanthiform sheaths with oblique ostia. **Leaf** erect, thinly coriaceous, suffused with purple beneath, elliptical, acute, long acuminate, 27–32 mm long, 7–8 mm wide dry, the base cuneate into a petiole 1–1.5 mm long. **Inflorescence** a congested, distichous, successively flowered raceme, borne behind the leaf by a filiform peduncle 9 mm long; floral bracts 2 mm long; pedicels 2 mm long; ovary curved, 2 mm long; **sepals** membranous, the dorsal sepal translucent, suborbicular, inflated, deeply concave, 6 mm long, 5 mm wide unexpanded, 5-veined, minutely ciliate, connate to the lateral sepals for ca. 1 mm, the lateral sepals connate to near the middle into a bifid lamina with acute apices, 6 mm long, 3.5 mm wide, each 2-veined; **petals** red-violet, transversely bilobed, 1 mm long, 5 mm wide, the upper lobe narrowly oblong, 1.5 mm long, 0.3 mm wide, minutely pubescent, with a short-acuminate, marginal process opposite the midvein, the lower lobe acute, long-attenuate, 3.5 mm long; **lip** red-violet, pubescent, bilaminate, the blades narrowly oblong, acute, carinate, 2.5 mm long, the connectives broadly oblique, the body thick, triangular, protruding downward, connate to the column about the middle, the appendix a few hairs at the tip of the protruding body; **column** terete, 1.5 mm long, the anther dorsal, the stigma ventral.

**Etymology.** From the Greek *ectopos*, “strange,” referring to the unusual floral parts.

**Comments.** This little species, apparently endemic in the Western Cordillera of southern Colombia, is characterized by very slender ramicauls that bear long-acuminate leaves. A pro-

portionately large flower is borne in a raceme shorter than the leaf. The dorsal sepal is deeply inflated while the smaller lateral sepals are semiconnate. The petals with long-attenuated lower lobes, and the lip with a large, protruding, triangular body are similar to those of *Lepanthes skeleton* Luer & R.E.Escobar.

**Lepanthes membranacea** Luer & Hirtz, sp. nov. TYPE: Ecuador—Morona-Santiago: new road between Macas and Guamote, at junction of Río Colimbo and Río Upano, alt. 1600 m, 1 Mar. 2001, C. Luer, J. Luer & A. Hirtz 19586 (Holotype: MO).

FIGURE 18.

*Planta grandis mediocrisve caespitosa, racemo congestissimo folio ovato acuminato brevior, sepalo dorsali triangulari acuto, synsepalo bifurcato, petalorum lobo superiore triangulari acuto lobo inferiore stricto anguste oblongo, labelli lamina elliptica convexa appendice cymbiformi differt, et rostello grandi membranaceo distinguitur.*

**Plant** medium to large in size, epiphytic, caespitose; roots slender. Ramicauls erect, slender, 11–19 cm long, enclosed by 10–13 close, minimally dilated, microscopically ciliate, lepanthiform sheaths. **Leaf** erect, thinly coriaceous, ovate, acute, acuminate, 6–7 cm long, 2–2.8 cm wide, the base rounded, contracted into a petiole 4 mm long. **Inflorescence** a congested, successively many-flowered raceme to 10 mm long, excluding the peduncle 2.5–3 cm long, borne beneath the leaf; floral bracts 1 mm long; pedicels 0.8 mm long; ovary 1 mm long; **sepals** yellow, glabrous, the dorsal sepal triangular, acute, 6 mm long, 3 mm wide, 3-veined, connate to the lateral sepals for 1 mm, the lateral sepals ovate, acute, oblique, 5.5 mm long, each 2-veined, connate 3 mm into a bifurcated lamina 4.5 mm wide; **petals** red, glabrous, transversely bilobed, 1.25 mm long, 5 mm wide, the upper lobe obliquely triangular, acute, 2.3 mm long, 1.25 mm wide at the base, the lower lobe narrowly oblong, straight, obtuse, 2.5 mm long, 0.4 mm wide; **lip** red, microscopically cellular-verrucose, bilaminate, the blades elliptical, convex, with ends rounded, 1.3 mm long, the connectives short, cuneate, from near the middle of the blade, the body connate to the base of the column, the sinus obtuse, the appendix cymbiform, with a tuft of long hairs at the tip; **column** stout, clavate, 1.5 mm long, the anther apical, the stigma ventral, below a broad, membranous rostellum.

**Etymology.** From the Latin *membranaceus*, “membranaceous,” referring to the protruding rostellum.

**Comments.** This species from southeastern Ecuador is known from only the original collection. The habit is similar to many others with a straight ramicaul and a shorter, ovate, acuminate leaf with a short, densely flowered raceme borne beneath. The sepals are glabrous and acute; the upper lobe of the petals is triangular and the lower lobe is narrowly oblong; and the blades of the lip are elliptical and convex. The apex of the column is large with an apical anther which has been shed in the only flower available, leaving a large, membranous, apron-like rostellum forward from the ventral stigma.

**Lepanthes nitida** Luer & Hirtz, sp. nov. TYPE: Ecuador—Zamora-Chinchipe: Parqué Podocarpus, south of Nambija, San Luis, alt. 2500 m, collected and cultivated by Ecuagenera, Gualaceo, flowered 3 Mar. 2001, C. Luer 19643 (Holotype: MO).

FIGURE 19.

*Planta mediocris gracilis, racemo congestissimo foliis oblongis obtusis abrupte acuminatis brevior, sepalis glabris brunneo nitentibus acutis, petalorum lobis inferioribus acuminatis, labelli lamina oblongis lacinis cum appendice ovoidea pubescenti distinguitur.*

**Plant** small to medium in size, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 6–13 cm long, enclosed by 8–13 microscopically scabrous, lepanthiform sheaths. **Leaf** erect, thinly coriaceous, elliptical-oblong, obtuse, abruptly acuminate, 4–5 cm long, including an acumen 1–1.2 cm long, 1.3–1.6 cm wide, the base round, abruptly contracted into a petiole 2 mm long. **Inflorescence** a congested, distichous, successively many-flowered raceme, up to 8 mm long, borne on top of the leaf by a filiform peduncle 15–25 mm long; floral bracts 1 mm long; pedicels 2 mm long; ovary 1.5–2 mm long; **sepals** shiny brown, glabrous, dorsal sepal ovate, acute, 6.5 mm long, 4 mm wide, 3-veined, connate to the lateral sepals for less than 1 mm, the lateral sepals ovate, oblique, acute, 5.5 mm long, 2.5 mm wide, 2-veined, connate 2 mm; **petals** orange, microscopically pubescent, transversely bilobed, 0.9 mm long, 4.5 mm wide, the upper lobe oblong, turned outward 45°, 2.25 mm long, the lower lobe narrowly triangular, acuminate, 1.75 mm long; **lip** rose, bilaminate, the blades microscopically pubescent, oblong, with the ends rounded, 2 mm long, the connectives narrowly oblong, the body and connectives about one-third as broad as the length of a blade, connate to the base of the column, the sinus obtuse with the appendix oblong, pubescent; **column** semiterete, 1.5 mm long, with the anther dorsal and the stigma ventral.

**Etymology.** From the Latin *nitidus*, “shiny,” referring to the brown sepals.

**Comments.** This species, known only from a plant from southeastern Ecuador, possesses a combination of floral features that are found in other species of the genus. It is characterized by straight, slender ramicauls, and a very congested raceme borne on top of an oblong, abruptly acuminate leaf. The sepals are shiny brown, glabrous and acute. The upper lobes of the petals are oblong and turned outward 45°; the lower lobes are narrowly acuminate; the blades of the lip are oblong and slope upward; and the oblong appendix is pubescent.

**Lepanthes ostraconopetala** Luer & Hirtz, sp. nov. TYPE: Colombia—Nariño: forest between Ipiales and La Victoria, alt. 3200 m, 4 Nov. 1979, C. Luer, J. Luer & A. Hirtz 4630 (Holotype: SEL). FIGURE 20.

*Species haec Lepanthes illici Luer affinis, sed petalis bilobis convexis marginibus recurvis, labelli laminis corporeque angustioribus, et appendice minutissima oblonga apice microscopice bilobata differt.*

**Plant** large, epiphytic, caespitose; roots coarse. Ramicauls stout, erect, 16–42 cm long, enclosed by 11–18 microscopically scabrous, tubular, lepanthiform sheaths, not dilated at the orifice. **Leaf** coriaceous, erect, narrowly elliptical-ovate, acute, acuminate, 11–14 cm long, 3–3.5 cm wide, the base cuneate into the petiole 5 mm long. **Inflorescence** a subraceme, successively many-flowered raceme up to 14 cm long including the slender peduncle 2–3 cm long behind the leaf; floral bracts 2.5 mm long; pedicels 1 mm long; ovary 2.5 mm long, irregularly carinate-lacerate; **sepals** yellow, suffused with rose, carinate-fimbriate externally, the margins microscopically cellular-ciliate, glabrous within, the dorsal sepal triangular, acute, 10 mm long, 4.25 mm wide, 3-veined, connate 1 mm to the lateral sepals, the lateral sepals connate 5 mm into an ovate, bifid lamina 10 mm long, 4.75 mm wide, the apices attenuate, acute, in apposition; **petals** yellow, edged in purple, cellular-glandular, transversely bilobed, 0.6 mm long, 1.6 mm wide, 1-veined, the lobes obliquely ovoid, convex with margins recurved with a minute apiculum between the lobes, the upper lobe subacute, 1 mm long, 0.6 mm wide, the lower lobe uncinately acute, 0.6 mm long and wide; **lip** yellow, edged in purple, bilaminately, glabrous, but ciliate at the apices, the blades narrowly oblong, rounded at the ends, convex, 1.5 mm long, the connectives narrowly cuneate, the body narrow, connate to the column at the base, the appendix minute, oblong, pedunculate, microscopically bilobulate at the tip; **column** 1.5 mm long, the anther dorsal, the stigma ventral.

**Etymology.** From the Greek *ostrakon*, “a kind of low, rounded shell,” referring to the convex petals.

**Comments.** This large species, apparently endemic at a high altitude in southernmost Colombia, is vegetatively indistinguishable from *Lepanthes illex* Luer, which is widely distributed in northern Ecuador. Both species are characterized by ramicauls usually longer than twenty centimeters, and a usually large, acuminate leaf surpassed by a successively many-flowered raceme of flowers with narrowly acute sepals. *Lepanthes ostraconopetala* is distinguished by convex petals with recurved margins with an apiculum between the lobes. The blades and body of the lip are narrower, and the tip of the minute appendix is microscopically bilobed.

**Lepanthes penicillifera** Luer, nom. nov., replaced name for *Lepanthes scopulifera* Luer, Rev. Soc. Bol. Bot. 4: 9, 2003, not Luer & R. Escobar, Orquideología 20: 310, 1997. TYPE: Colombia—Valle del Cauca: without specific locality; cultivated at Orquídeas del Valle, A. Niessen & J.C. Uribe 036A (Holotype: MO), C. Luer illustr. 19902. FIGURE 21.

**Plant** small, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 3 cm long, enclosed by 4–5 microscopically scabrous, lepanthiform sheaths. **Leaf** erect, coriaceous, elliptical-ovate, acute, 2.5 cm long, 1.1 cm wide, the base cuneate into a petiole 1.5 mm long. **Inflorescence** a very congested, distichous, successively several-flowered raceme up to 3 mm long, borne behind the leaf by a slender peduncle 6–11 mm long; floral bracts oblique, echinate, 1 mm long; pedicels 1–1.5 mm long; ovary 2 mm long; **sepals** carinate, glabrous, the dorsal sepal narrowly ovate, subacute, 2.5 mm long, 2.3 mm wide, 3-veined, connate to the lateral sepals for 0.5 mm, the laterals broadly ovate, oblique, subacute, 2.3 mm long, 1.5 mm wide, connate 0.6 mm, 2-veined; **petals** microscopically pubescent, transversely bilobed, 1 mm long at the single midvein, 3.5 mm wide, the upper lobe broadly elliptical, rounded at the tip, 2 mm long, 1.3 mm wide, the lower lobe oblong-triangular, obtuse, 1.5 mm long, 0.75 mm wide; **lip** bilaminately, the blades elliptical with rounded ends, 0.75 mm long, shallowly concave, long-ciliate, narrowly elliptical-ovate, 1.6 mm long, with rounded ends, the connectives cuneate, forming a broad body, connate to the base of the column, the sinus obtuse, with a small, pedunculate appendix with a tuft of long cilia; **column** stout, protruding beyond the blades, 1 mm long, the anther dorsal and the stigma subapical.

**Etymology.** From the Latin *penicillifer*, “bearing a little painter’s brush,” referring to the appendix.

**Comments.** This distinctive, small species is apparently endemic in the Western Cordillera of Colombia. Due to an oversight, it was published with an epithet that had been published for another species six years before. Both species are characterized by a brush-like appendix, that of *Lepanthes scopulifera* Luer & R. Escobar resembling a scrub brush, and that of *Lepanthes penicillifera* resembling a delicate, artist’s paint brush. In addition, the petals of *L. penicillifera* are proportionately large, longer than either of the sepals, and the blades of the lip are subcircular and long-ciliate.

**Lepanthes pictilis** Luer & Hirtz, sp. nov. TYPE: Ecuador—Carchi: Río Blanco, along new road between Carolina (Guallupe) and Chical, alt. 1800 m, 10 Apr. 2007, A. Hirtz et al. 9209 (Holotype: MO), C. Luer illustr. 21270. FIGURE 22.

*Species haec Lepanthidius jamesonii* Lindl. affinis, sed sepalis lateralibus ciliatis, labelli lamina anguste oblongis longioribus differt.

**Plant** medium in size, epiphytic, caespitose; roots slender. Ramicauls relatively stout, erect, 6–7 cm long, enclosed by 8–10 close, minutely scabrous, lepanthiform sheaths with oblique, dilated ostia. **Leaf** erect, coriaceous, elliptical-oblong, acute, slightly acuminate, 3–3.5 cm long, 1–1.5 cm wide, the base cuneate into a petiole 3 mm long. **Inflorescence** an erect, loose, successively few-flowered raceme, to 3.5 cm long, including the peduncle, ca. 1.5 cm long, borne behind the leaf; floral bracts 2 mm long; pedicels 2 mm long; ovary 1 mm long; **sepals** striped in purple-brown, carinate-denticulate externally, the dorsal sepal cream colored, broadly ovate, the apex round to obtuse, shortly apiculate, microscopically denticulate, 4 mm long, 3.5 mm wide, 3-veined, connate basally to the lateral sepals for 0.75 mm, the lateral sepals yellow, broadly ovate, oblique, obtuse, with the tips shortly acuminate, diverging, ciliate, 4 mm long, 2.75 mm wide, 1-veined, connate 1.5 mm into a broad lamina 5.5 mm wide; **petals** orange with purple margin, microscopically pubescent, transversely oblong, 1.5 mm long, 3.75 mm wide, the upper lobe ovate with rounded apex, 2 mm long, 1.5 mm wide, the lower lobe oblong, curved, round at the apex, 1.5 mm long, 0.5 mm wide; **lip** yellow, microscopically pubescent, bilaminate, the blades narrowly oblong, the apices uncinat, incurved, the bases rounded, the body broad, cuneate, connate to the column above the base, the sinus protruding, with a minute, bifid

appendix; **column** clavate, 2 mm long, the anther and stigma apical.

**Etymology.** From the Latin *pictilis*, “painted,” referring to colorful flowers.

**Comments.** This species, apparently endemic on the eastern slopes of central Ecuador, is allied to *Lepanthes jamesonii* Lindl. that occurs on both sides of the Andes of northern Ecuador. Their habits are similar with a loose raceme about as long as the leaf and borne behind it. The sepals are broader in *L. pictilis* and the single-veined lateral sepals are ciliate. The petals are also broader, but the blades of the lip are narrowly oblong with uncinat tips. The connectives are cuneate into a broad body with a protruding sinus and a minute, bifid appendix.

**Lepanthes racemosa** Luer & Hirtz, sp. nov. TYPE: Ecuador—Azuay: Molleturo range, Soldado, altitude unknown, collected and cultivated by Ecuagenera, Gualaceo, flowered 7 Mar. 2001, C. Luer 19836 (Holotype: MO). FIGURE 23.

*Planta mediocris caespitosa, racemis paucis laxe multifloris foliis ellipticis multilongioribus, sepalis acutis minutissime denticatis lateralibus uninervis, petalorum lobis parvis apicibus obtusis, et labelli lamina late cuneatis obtusis appendice ovoidea pubescenti distinguitur.*

**Plant** medium in size, epiphytic, caespitose; roots slender. Ramicauls relatively stout, erect, 5–9 cm long, enclosed by 7–10 microscopically ciliate, lepanthiform sheaths with dilated ostia. **Leaf** erect, coriaceous, elliptical, acute, 2.5–3.5 cm long, 1.4–1.7 cm wide, the base cuneate into a petiole 3 mm long. **Inflorescence** 1–3 loose, successively many-flowered racemes to 13 cm or more long with the peduncle ca. 1 cm long; floral bracts 1.5–2 mm long; pedicels 1.5–2 mm long; ovary 0.8 mm long; **sepals** yellow-green, minutely denticulate, the dorsal sepal ovate, acute, 5 mm long, 2 mm wide, 3-veined, connate to the lateral sepals for 0.5 mm, the lateral sepals narrowly triangular, oblique, acute, 5 mm long, 1.3 mm wide, 1-veined; **petals** yellow, suffused with red-brown on margins, microscopically pubescent, transversely bilobed, 0.6 mm long, 1.5 mm wide, the lobes suboblong, obtuse, overlapping above the column, the upper lobe 1 mm long, 0.6 mm wide, the lower lobe 0.6 mm long, 0.5 mm wide; **lip** purple, obscurely bilaminate, the blades cuneate with rounded ends, minutely pubescent, 1.5 mm long, the connectives broad and forming a broad lamina 1.5 mm wide expanded, connate to the column above the base, the sinus shallow, filled with an external, pubescent, ovoid appendix; **column** stout, 1.5 mm long, the anther and stigma apical.

**Etymology.** From the Latin *racemosus*, "with racemes," referring to the inflorescence.

**Comments.** This species from southwestern Ecuador is distinguished by one to three loose, successively many flowered racemes with one or two maturing buds. The sepals are acute, the lateral sepals being narrowly triangular and single-veined. The petals are small and broad, but overlap above the column. The lip consists of two cuneate blades including connectives that create a lamina as long as it is broad when expanded. The sinus is short and filled with an ovoid, pubescent appendix.

**Lepanthes renzii** Luer, sp. nov. TYPE: Colombia—Cundinamarca: without specific locality, alt. 3400 m, 24 Aug. 1941, *O. Renz* 3527 (Holotype: BAS; Isotype: MO), C. Luer illustr. 21367. FIGURE 24.

*Planta parva caespitosa, racemis paucis multifloris foliis ellipticis plus minusve aequilongis, sepalis acutis lateralibus uninervis, petalorum lobis filamentosis, et labelli laminae anguste ovatis obtusis, appendice capillari recurva distinguitur.*

**Plant** small, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 2–7 cm long, enclosed by 3–5 pubescent and ciliate, lepanthiform sheaths with dilated ostia. **Leaf** erect, coriaceous, elliptical to elliptical ovate, acute, 2.5–3.5 cm long, 0.5–0.9 cm wide, the base cuneate into a petiole 1 mm long. **Inflorescence** 1–3 densely and successively many-flowered racemes to 3.5 cm long, flowering from the base; floral bracts 1 mm long, muricate; pedicels 1 mm long; ovary 1 mm long; **sepals** color unknown, membranous, sparsely microscopically denticulate, the dorsal sepal narrowly ovate, acute, 4 mm long, 1.5 mm wide, 3-veined, connate to the lateral sepals for 0.5 mm, the lateral sepals narrowly ovate, oblique, acute, 4 mm long, 1.5 mm wide, 1-veined; **petals** glabrous, transversely bilobed, 0.3 mm long, 4 mm wide, the lobes about equal, narrowly linear-triangular, acute, 2 mm long, 0.3 mm wide; **lip** bilaminate, the blades more or less ovate on either side of the column with rounded ends, glabrous, 1.3 mm long, the connectives broad, forming a broad body, connate to the column near the middle, the sinus acute, with a minute, external, filamentous, recurved appendix; **column** stout, 1.3 mm long, decurved, the anther and stigma apical.

**Etymology.** Named for Dr. Otto Renz, brother of Dr. Jany Renz, of Basel, Switzerland, who collected this species.

**Comments.** This small species was collected by Otto Renz at a high altitude in the Eastern Cordillera of Colombia. It is distinguished by

minute, successively multiflowered racemes about as long as the leaf. The sepals are acute, the laterals being single-veined. The lobes of the petals are filamentous, about equal in length, and about as long as a sepal. The blades of the lip flank a decurved column, and form a broad body beneath that is connate to the column near the middle, and with a closed or very acute sinus, with an external, recurved, capillary appendix.

**Lepanthes salpingosa** Luer & Sijm, sp. nov. TYPE: Peru—Huánuco: near Tingo Maria, 1998, flowered in cultivation in Venhuizen, The Netherlands, by A.P. Sijm 991903 (Holotype: MO), C. Luer illustr. 19302. FIGURE 25.

*Inter species generis Lepanthis ramicaulorum vaginis ad ostium valde dilatatis, racemis congestis foliis anguste ovatis brevioribus, sepalis acuminatis sepalo dorsali reflexo, labelli laminae oblongis connectivis supra medium et appendice argute triangulari differt.*

**Plant** small to medium in size, epiphytic, caespitose; roots slender. Ramicauls erect, slender, 9–10 cm long, enclosed by ca. 12 minutely ciliate, lepanthiform sheaths, with the ostia markedly dilated. **Leaf** erect, coriaceous, purple beneath, narrowly ovate, acute, 4 cm long, 1 cm wide, the base cuneate into a petiole 1–2 mm long. **Inflorescence** a congested, successively several-flowered raceme up to 2 cm long or longer, including the peduncle 0.7–1.5 cm long, borne on top of the leaf; floral bracts 1.5 mm long; pedicels 1.5 mm long; ovary 3 mm long; **sepals** color unknown, sparsely minutely ciliate, the dorsal sepal oblong-ovate, acute, acuminate, 4.5 mm long, 2.5 mm wide, 3-veined, reflexed against the ovary, connate to the lateral sepals for 1 mm, the lateral sepals triangular, acute, acuminate, 4.5 mm long, 1.4 mm wide, 2-veined, connate 1.5 mm; **petals** cellular at most, transversely bilobed, 0.6 mm long, 2.8 mm wide, the upper lobe oblong, obliquely and irregularly rounded at the apex, 1.5 mm long, 0.8 mm wide, the lower lobe triangular, obtuse, 1 mm long, 0.4 mm wide; **lip** bilaminate, glabrous, the blades oblong with the ends rounded, shallowly concave, 1.8 mm long, the connectives short, narrow, from above the middle of the blade, the body narrow, connate to the column above the base, the sinus with a small, sharply acuminate appendix in contact with the stigma; **column** terete, 1.5 mm long, the anther apical, the stigma ventral.

**Etymology.** From the Latin *salpingosus*, "with large trumpets," referring to the dilated sheaths of the ramicaul.

**Comments.** This species is known from only the orchid rich area around Tingo Maria in eastcentral Peru. Vegetatively, it is remarkable in the sheaths of the ramicaul that are markedly dilated at the ostia. The flowers are borne on the dorsum of a narrowly ovate leaf; the sepals are acute with the dorsal reclining on the ovary. The blades of the lip are oblong, held above the column by short connectives above the middle, and the appendix is minute and sharply acute.

**Lepanthes singularis** Luer & Hirtz, sp. nov.

TYPE: Ecuador—Morona-Santiago: new road between Macas and Guamoto, alt. 2300 m, 2 Mar. 2001, C. Luer, J. Luer & A. Hirtz 19611 (Holotype: MO).

FIGURE 26.

*Species haec Lepanthis stupendae Luer similis, sed sepalis ad basim callosis, petalis trans medium callosis, labelli laminae oblongis connectivis de apicibus brevissimis cum appendice naviculari infra stigma protrudenti differt.*

**Plant** large, epiphytic, caespitose; roots coarse. Ramicauls stout, erect, 20 cm long, enclosed by 14 minutely ciliate, lepanthiform sheaths. **Leaf** erect, thinly coriaceous, ovate, acute, acuminate, 13 cm long, 5 cm wide, the base rounded, contracted into a petiole 3–4 mm long. **Inflorescence** a congested, distichous, successively many-flowered raceme up to 10 mm long, borne by a filiform peduncle to 50 mm long behind the leaf; floral bracts 1.5 mm long; pedicels 1 mm long; ovary 2 mm long, narrowly winged; **sepals** glabrous externally, the dorsal sepal white, glabrous, narrowly triangular, acute, attenuate, 14 mm long, 4.5 mm wide, 3-veined, connate basally to the lateral sepals for 1.5 mm, the lateral sepals yellow, cellular-papillose below the middle, ovate, oblique, obtuse, abruptly acuminate into slender tails, 15 mm long including the tails ca. 5 mm long, connate 3 mm into a broad lamina 10 mm wide, each sepal 2-veined, turned outward ca. 45°, with a rounded, 1 mm callus above the base medially; **petals** yellow, edged in purple, transversely bilobed, 2 mm long, 4.5 mm wide, the upper lobe oblong, obtuse, 4 mm long, 1.5 mm wide, 3-veined, with an oblong callus along the midvein, the lower lobe transversely uncinately, incurved, obtuse, 1.5 mm long, 2 mm wide; **lip** white, bilaminar, the blades oblong, rounded at the ends, 2 mm long, microscopically cellular, the connectives short, less than 1 mm long from the apical millimeter of the blade, forming a body 2 mm wide, connate to the base of the column, the sinus filled with a scaphoid appendix protruding beneath the column and overlying the stigma; **column** purple, 2 mm long, the anther apical, the stigma ventral.

**Etymology.** From the Latin *singularis*, “unique, or extraordinary,” referring to the lip and appendix.

**Comments.** This large species superficially resembles *Lepanthes stupenda* Luer, but differs markedly in the morphology of the lip. Both species are large with a congested raceme borne behind the leaf. The dorsal sepal of both species is triangular, acute, and about a centimeter and a half long. The lateral sepals of both species are broad and abruptly acuminate into slender tails about four millimeters long. Here similarities cease. A rounded callus is present on each lateral sepal of *L. singularis* near the base medially. An oblong callus overlies the midvein of the petals with an oblong upper lobe and a short, uncinately lower lobe. The blades of lip are supported by one-millimeter-long connectives at the apex with a protruding boat-shaped appendix that lies beneath and against the stigma of the column.

**Lepanthes tigrina** Luer & Thoerle, sp. nov.

TYPE: Peru—San Martín: on road between Pedro Ruiz and Moyobamba, alt. 1600 m, Oct. 2006, collected by Arcenio Barbosa Castillo, obtained from D. D’Alessandro, flowered in cultivation in Little Compton, RI, June 2007, Lisa Thoerle s.n. (Holotype: MO), C. Luer illustr. 21234. FIGURE 27.

*Planta parva, racemo perlatxa folio elliptico multilongiore, sepalis valde rubro striatis, sepalo dorsali anguste triangulari acuminato, sepalis lateralibus profunde connatis marginibus revolutis, petalis oblongis ad apicibus superpositis, et labelli lobis truncatis columnam amplectentibus distinguitur.*

**Plant** small, epiphytic, caespitose; roots coarse, bright purple. Ramicauls erect to suberect, slender, 2.5–4 cm long, enclosed by 4–6 ribbed, lepanthiform sheaths with ostia minutely ciliate. **Leaf** erect to suberect, coriaceous, elliptical-obovate, acute to obtuse, 2–3 cm long, 0.8–1.3 mm wide, the base cuneate into a petiole 2–4 mm long. **Inflorescence** a loose, erect to arching, successively up to 8-flowered raceme, up to 8 cm long including the peduncle 4 cm long; floral bracts 2–3 mm long, pedicels 3–4 mm long; ovary 2 mm long; **sepals** membranous, carinate, translucent yellow, prominently striped with brown, glabrous, with minutely irregular margins, the dorsal sepal narrowly triangular, acute, concave below the middle, 20 mm long, 5.5 mm wide, 7-veined, connate to the lateral sepals for 2 mm, the lateral sepals connate ca. 15 mm to form a narrowly ovate, forked synsepal 22 mm long, 6.5 mm wide at the base, 8-veined, with the margins revolute 5 mm above the base, the tips narrowly acute, free ca. 5 mm;

**petals** translucent yellow, brown at the base and apex, microscopically cellular-glandular, transversely oblong, 4 mm long, 1 mm wide, the lobes subequal with narrowly obtuse ends, with the upper lobes overlapping above the base of the column; **lip** yellow, microscopically pubescent, the lobes subquadrate-broadly cuneate, 1 mm long, 1 mm wide, embracing the column, the body equally broad, the apex shortly retuse with a minute lobule (appendix), attached to the base of the column with a short claw; **column** terete, 1.5 mm long, the anther dorsal, the stigma ventral.

**Etymology.** From the Latin *tigrinus*, "like a tiger," referring to the boldly striped sepals.

**Comments.** This species, known only from the original collection in Amazonian Peru, bears up to eight large, showy flowers in slow succession. It is related to *Lepanthes nycteris* Luer & R. Vásquez, with large, colorful flowers; a concave, multiveined dorsal sepal; and connate lateral sepals that form a synsepal concave at the base and convex above with revolute sides.

**Lepanthes vaginosa** Luer & Hirtz, sp. nov.

TYPE: Ecuador—Morona-Santiago: near Chiguinda, altitude unknown, collected and cultivated by Ecuagenera, flowered in cultivation at Ecuagenera, Gualaceo, 7 Mar. 2001, C. Luer 19805 (Holotype: MO).

FIGURE 28.

*Species haec Lepanthidis capitaneae* Rchb.f. similis, sed ramicaulibus multivaginatibus, sepalis lateralibus infra medium connatis, labelli laminis cuneatis et appendice vermiformi differt.

**Plant** small, epiphytic, caespitose; roots slender. Ramicauls erect, relatively stout, 6 cm long, enclosed by 12–13 short, minutely scabrous, lepanthiform sheaths. **Leaf** erect, coriaceous, elliptical, acute, 3 cm long, 1.2 cm wide, the base cuneate into a petiole 2 mm long. **Inflorescence** a loose, flexuous, successively many-flowered raceme up to 10 cm long or longer, including the peduncle 2 cm long; floral bracts 2 mm long; pedicels 3.5 mm long; ovary 1.5 mm long; **sepals** yellow, microscopically ciliate, the dorsal sepal ovate, acute, 8 mm long, 4.5 mm wide, 3-veined, connate to the lateral sepals for 1 mm, the lateral sepals oblong-ovate, acute, 8 mm long, 3 mm wide, 2-veined, connate 2.5 mm below the middle; **petals** orange, purple toward the base, glabrous, transversely bilobed, 1 mm long, 5.5 mm wide, the upper lobe oblong, obliquely rounded at the apex, 3.25 mm long, 1.5 mm wide, the lower lobe oblong, obtuse, 2.25 mm long, 0.8 mm wide; **lip** orange, purple at the base, bilaminar, glabrous, the blades cuneate with the basal ends obtuse, recurved, acute at

the tip, 2.5 mm long, the connectives short, broadly cuneate, from below the middle of the blade, the body broad, connate to the base of the column, the sinus acute with a small, curled, ciliate appendix; **column** terete, 2 mm long, the anther apical, the stigma ventral.

**Etymology.** From the Latin *vaginosus*, "lots of sheaths," referring to the sheaths of the ramicaul.

**Comments.** This species from southeastern Ecuador is known from only the original collection. Vegetatively, it is remarkable in the number of short lepanthiform sheaths, a dozen squeezed onto a ramicaul six centimeters long. Similar to *Lepanthes capitanea* Rchb.f., a loose, flexuous raceme far surpasses the leaf. The comparatively large flowers are produced successively with a flower, a faded flower, and an advanced bud present simultaneously. The sepals are acute and microscopically ciliate; the lobes of the petals are obtuse; the blades of the lip are cuneiform, and the appendix resembles a tiny worm.

**Lepanthes zelenkoi** Luer & Hirtz, sp. nov.

TYPE: Ecuador—Cañar: El Tambo, alt. 3000 m, 16 Apr. 2001, A. Hirtz, X. Hirtz, H. Zelenko & R. Zloch 7344 (Holotype: MO), C. Luer illustr. 21326. FIGURE 29.

*Species haec Lepanthidis monopterae* Lindl. affinis, sed petalorum lobo superiore cuneato subtruncato, labelli laminis glabris appendice minuto lineari apice bilobo differt.

**Plant** medium in size, epiphytic, densely caespitose; roots slender. Ramicauls slender, erect, 6–11 cm long, enclosed by 6–11 lepanthiform sheaths with dilated, ciliated ostia. **Leaf** erect, coriaceous, narrowly elliptical, acute, 4–6 cm long, 0.8–1.1 cm wide, the base cuneate into a petiole 2 mm long. **Inflorescence** a loose, successively few-flowered raceme to 2.5 cm long, borne behind the leaf by a filiform peduncle 0.5 cm long; floral bracts 1–1.5 mm long; pedicels 2 mm long; ovary 2 mm long; **sepals** light yellow, carinate, ovate, acute, slightly acuminate, the dorsal sepal concave, 4 mm long, 2.5 mm wide, 3-veined, connate to the lateral sepals for 0.5 mm, the lateral sepals oblique, 4.5 mm long, 2 mm wide, connate 0.5 mm, each 1-veined; **petals** yellow with red inner margin, microscopically pubescent, transversely bilobed, 0.5 mm long, 2.5 mm wide, the upper lobes overlapping, obtuse, subtruncate, 1.5 mm long, 0.6 mm wide, the lower lobe triangular, obtuse, 0.6 mm long, 0.3 mm wide; **lip** yellow, suffused with red at the base, bilaminar, the laminae glabrous, oblong, 2 mm long, the bases rounded, the apices narrowly obtuse, the connectives cuneate from near the middle of the blades, the body broad,

connate to the base of the column, the sinus acute, with a minute, narrowly linear appendix with the tip microscopically bilobulate; **column** slender, clavate, 2 mm long, the anther dorsal, the stigma apical.

**Etymology.** Named for Harry Zelenko, co-collector of this species.

**Comments.** This species from central Ecuador is related to the frequent and variable *Lepanthes monoptera* Lindl. The habit is similar with dilated, ciliated margins of the ostia of the lepanthiform sheaths; narrow leaves; and short racemes. The upper lobes of the petals are similarly overlapping, except that the upper lobes of *L. zelenkoi* are cuneate, subtruncate, and larger than the lower lobes. The blades of the lip are glabrous, instead of ciliate. The appendix is minute and narrowly linear with the tip microscopically bilobulate.

#### *Myoxanthus* Poepp. & Endl.

**Myoxanthus aciculifolius** Luer, sp. nov. TYPE: Ecuador—Guayas: El Oro, Hda. Daucay, alt. 500 m, collected 23 April 1944 by X. Cornejo & A. Bonifaz 2531 (Holotype: K), C. Luer illustr. 21236. FIGURE 30.

*Inter species generis Myoxanthi foliis acicularibus, labello trilobato lobis lateralibus erectis uncinatis et lobo mediano rotundato longiciliato differt.*

**Plant** small, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 2–3 cm long, enclosed by 2–3 loose, acute, tubular sheaths, with brown pubescence toward the base. **Leaf** suberect, coriaceous, narrowly linear, acute, 5–7.5 cm long, 1.5–2 mm wide in the dry state, the base 1 mm wide. **Inflorescence** a solitary flower produced near the apex of the ramicaul, the peduncles ca. 1–2 mm long; floral bracts 1.5–2 mm long; pedicels 2–2.5 mm long; ovary 1.5 mm long; **sepals** glabrous, elliptical, obtuse, the dorsal sepal 5 mm long, 2 mm wide, 5-veined, the lateral sepals oblique, connate at the base, 4.5 mm long, 2 mm wide, each 4-veined; **petals** narrowly ovate, acute, glabrous, 5 mm long, 2 mm wide; **lip** oblong-trilobed, the middle lobe rounded, bicarinate, with the margins long-ciliate, 2 mm long, 1 mm wide unexpanded, the base subtruncate, bilobulate, hinged on the end; **column** stout, semiterete, 2 mm long, with a pair of teeth, the anther and stigma ventral, the foot stout, concave.

**Etymology.** From the Latin *acicularifolius*, “with needle-like leaves,” referring to the foliage.

**Comments.** This small species is known from

a single collection at a low altitude of coastal Ecuador. The very narrow, needle-like leaves are unique in the genus. The free sepals and narrowly ovate petals are not remarkable, but the lip is distinctive. The apex is broadly rounded with long cilia around the margin; and below the middle, a proportionately large, antrorse, uncinuate lobe is present on both margins.

#### *Oreophilus* W.E.Higgins & Archila

**Oreophilus chelosepalus** Luer & Hirtz, sp. nov.

TYPE: Ecuador—Pichincha: “Mindó,” alt. 1500 m, collected and cultivated by Ecuagenera, Gualaceo, flowered in cultivation, 2 Feb. 2002, A. Hirtz 8039 (Holotype: MO), C. Luer illustr. 21292. FIGURE 31.

*Inter species generis Oreophili W.E.Higgins & Archila sepalis carinatis ad apicem uncinatis lateralibus reflexis, petalis transverse plicatis, labello ad basim bilobo ad apicem integro distinguitur.*

**Plant** small, epiphytic, repent, branching rhizome ca. 3 mm long between ramicauls; roots slender. Ramicauls suberect, 1 mm long, enclosed by 1–2 thin, long-ciliate, lepanthiform sheaths. **Leaf** prone, coriaceous, circular, 6–7 mm long, 6–7 mm wide, the rounded base abruptly contracted into the ramicaul. **Inflorescence** a congested, successively 2–3 flowered raceme, borne by an erect peduncle 5–6 mm long from the junction of the ramicaul and the rhizome; floral bracts 1–1.5 mm long; pedicels 2–3 mm long; ovary 1 mm long; **sepals** dark purple, yellow toward the base, carinate, the carinae terminating at the tips with a claw-like apiculum, dorsal sepal broadly ovate, convex, densely pubescent, 3.5 mm long, 3 mm wide, 3-veined, connate 0.5 mm to the lateral sepals, the lateral sepals yellow on margins, acutely reflexed, ovate, oblique, 3.5 mm long, 2.25 mm wide, connate ca. 1 mm, 3-veined; **petals** yellow, glabrous, transversely bilobed, with the upper lobe triangular, acute, 0.75 mm long, folded over the lower lobe, the lower lobe triangular, acuminate, 1 mm long; **lip** yellow, glabrous, bilobed with rounded lobes encircling the column, 2 mm long, 2 mm wide expanded, the apex obtuse, entire, connate to the base of the column; **column** subclavate, 1.5 mm long, the anther dorsal, the stigma apical.

**Etymology.** From the Greek *chelosepalon*, “sepals with a claw,” referring to the tips of the sepals.

**Comments.** With little round, prostrate leaves produced along a creeping rhizome, this little species is similar to other species of the genus *Oreophilus*. Two or three unusual flowers are

pubescent. The blades of the lip are convex and pubescent, and the connectives are exceptionally broad and form an exceptionally broad and long body. The appendix is oblong, pubescent and recurved.

**Lepanthes aperta** Luer, sp. nov. TYPE: Colombia—without collection data: flowered in cultivation at Ecuagenera, Gualaceo, Ecuador, 5 Mar. 2001, *C. Luer 19668* (Holotype: MO). FIGURE 8.

*Planta parva caespitosa, inflorescentia folio leviter longiore, pedunculo racemo multilongiore, sepalis glabris ovatis acuminatis, petalorum lobis similis triangularibus, labelli lamina anguste ovatis distantibus columna exposita, appendicis segmento terminali circulari anguste bipapilloso distinguitur.*

**Plant** small, epiphytic, caespitose. Ramicauls slender, erect, 15–20 mm long, enclosed by 4–5 minutely ciliate, lepanthiform sheaths. **Leaf** coriaceous, erect, elliptical, acute, 15–20 mm long, 7–9 mm wide, cuneate below into a petiole 2 mm long. **Inflorescence** a congested, successively several-flowered raceme up to 7 or more centimeters long, terminating a capillary peduncle 18–25 mm long; floral bracts 1 mm long; pedicels 2 mm long; ovary 0.6 mm long; **sepals** glabrous except for cells along the margins, dull yellow, suffused with purple, the dorsal sepal lightly suffused, the lateral sepals heavily suffused, the dorsal sepal ovate-triangular, acute, acuminate, 5 mm long, 3.5 mm wide, 3-veined, connate 1 mm to the lateral sepals, the lateral sepals ovate, acute, acuminate, 5 mm long, 2.25 mm wide, connate 2 mm into a broad, bifid lamina 4.5 mm wide; **petals** orange, glabrous, transversely bilobed, 1 mm long, 3 mm wide, 1-veined, the lobes similar, triangular, narrowly obtuse, with a minute, marginal angle between the lobes; **lip** orange, glabrous, bilaminar, the blades narrowly ovate with the apices acute and bases rounded, 1.25 mm long, the connectives cuneate from near the middle of the blade into a narrow body, connate to the column above the base, the sinus acute, the appendix segmented, with the terminal segment rounded, pubescent and with a pair of slender, microscopic papillae; **column** terete, 1 mm long, the anther dorsal, the stigma ventral.

**Etymology.** From the Latin *apertus*, “open,” referring to the exposed column between the expanded labellar blades.

**Comments.** This small Colombian species without collection data is characterized by an elliptical leaf slightly surpassed by a short, congested raceme borne by a thrice longer peduncle. The sepals are acuminate; the triangular lobes of transverse petals are similar; and the blades of

the lip are far apart exposing the column. The distal segment of the appendix is round with a pair of slender, microscopic papillae.

**Lepanthes bitriangularis** Luer & R. Escobar, sp. nov. TYPE: Colombia—Nariño: forest near La Cocha, collected by Rodrigo Escobar, Feb. 1979, flowered in cultivation at Colomborquídeas, Medellín, May 1993, *R. Escobar 5220* (Holotype: MO), *C. Luer* illustr. 16566. FIGURE 9.

*Species haec Lepanthis caudatisepalae C. Schweinf. affinis, sed petalorum lobis minoribus triangularibus acutis differt.*

**Plant** large, epiphytic, caespitose. Ramicauls stout, erect, 15–16 cm long, enclosed by 10–11 glabrous, tubular, lepanthiform sheaths, obliquely dilated at the orifice. **Leaf** coriaceous, erect, elliptical-ovate, acute, acuminate, 10 cm long, 3.5 cm wide, the base rounded, contracted into a petiole 3 mm long. **Inflorescence** a subaxillary, successively many-flowered raceme 10 or more centimeters long including the slender peduncle 3.5 cm long behind the leaf; floral bracts 2 mm long; pedicels 2 mm long; ovary 2 mm long, ribbed; color of flowers not recorded, **sepals** glabrous, the dorsal sepal triangular, acute, shortly acuminate, 6 mm long, 5.5 mm wide, 3-veined, connate 2 mm to the lateral sepals into a flat flower, the lateral sepals connate 2.5 mm into a broadly ovate, bifid lamina 6 mm long, each sepal 3 mm wide, the apices obtuse, shortly acuminate, diverging; **petals** microscopically pubescent, transversely bilobed, 1.5 mm long, 3 mm wide, 1-veined, the lobes subequal, obliquely triangular, acute, ca. 1.5 mm long, 1.5 mm wide; **lip** bilaminar, microscopically pubescent, the blades ovate, narrowly obtuse at the apex, rounded at the base, convex, 2.25 mm long, the connectives cuneate, the body nearly 1 mm broad, connate to the column at the base, the appendix minute, pedunculate, microscopically bilobulate at the tip; **column** 1.5 mm long, the anther dorsal, the stigma ventral.

**Etymology.** From the Greek *bitriangularis*, “with two triangles,” referring to the lobes of the petals.

**Comments.** This large species, apparently endemic in southern Colombia, is similar in habit to *Lepanthes caudatisepala* C. Schweinf., but differs primarily in having smaller petals with the two lobes similar and triangular with acute apices. In addition, the sheaths of the ramicauls are glabrous, and the raceme is subdensely flowered, instead of congested.

**Lepanthes concavella** Luer & Hirtz, sp. nov. TYPE: Ecuador—Zamora-Chinchipec: Parque

Podocarpus, south of Nambija, San Luis, alt. 2500 m, collected and cultivated by Ecuagenera, Gualaceo, flowered 4 Mar. 2001, *C. Luer 19641* (Holotype: MO).

FIGURE 10.

*Planta parva caespitosa, racemis paucifloris folio elliptico concavo brevioribus, sepalis minute denticulatis caudis setaceis, petalorum lobis triangularibus, et labelli laminis suboblongis convexis minute pubescentibus apicibus rotundis appendice setiformi distinguitur.*

**Plant** small, epiphytic, caespitose; roots slender. Ramicauls relatively stout, erect, 3–4 cm long, enclosed by 7–8 microscopically ciliate, lepanthiform sheaths. **Leaf** suberect, thickly coriaceous, broadly elliptical, concave beneath, 15–17 mm long, 11–13 mm wide, the apex obtuse, shortly acuminate, the base cuneate into a petiole 1–2 mm long. **Inflorescence** a congested, successively few-flowered raceme 2–3 mm long including the peduncle 5–6 mm long; floral bracts 1.2 mm long; pedicels 1.25 mm long; ovary 0.8 mm long; **sepals** light yellow-green, minutely denticulate, the dorsal sepal ovate, acute, acuminate, 4.5 mm long, 3 mm wide, 3-veined, connate to the lateral sepals for 1 mm, the lateral sepals ovate, oblique, acute, long-acuminate, 5 mm long including the setaceous tips 1 mm long, 2.25 mm wide; **petals** yellow-green, microscopically pubescent, transversely bilobed, 0.9 mm long, 2.5 mm wide, the lobes triangular, obtuse, upper lobe 2 mm long, 0.9 mm wide, the lower lobe 1.2 mm long, 0.5 mm wide; **lip** yellow-green, suffused with rose, bilaminate, the blades oblong with rounded ends, convex, minutely pubescent, 1.2 mm long, the connectives cuneate, forming a narrow body, connate to the base of the column, the sinus narrow with a minute, pubescent, setiform appendix; **column** stout, 1 mm long, the anther dorsal, the stigma ventral.

**Etymology.** From the Latin *concevillus*, “a little concave one,” referring to the small, concave leaf.

**Comments.** This little species from southeastern Ecuador is distinguished by a very short, successively few-flowered raceme that is protected within the undersurface of a suberect, concave, elliptical leaf. The sepals are minutely denticulate and acuminate into setiform tails; the lobes of the petals are triangular; and the blades of the lip are convex with rounded ends. The tip of the delicately ciliated appendix is like a single hair.

**Lepanthes conchylia** Luer, sp. nov. TYPE: Colombia—without collection data: flowered in cultivation by Ecuagenera, Gualaceo, Ec-

uador, 5 Mar. 2001, *C. Luer 19658* (Holotype: MO).

FIGURE 11.

*Planta parva caespitosa, racemo laxifloro folio anguste elliptico leviter brevior, floribus purpureis, sepalis glabris ovatis breviter acuminatis, petalis grandis lobis triangularibus apicibus rotundatis imbricatis, lobo superiore leviter longiore, labelli laminis ellipticis convexis columnam cingentibus appendice oblonga longiciliata distinguitur.*

**Plant** small, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 4 cm long, enclosed by 6–7 glabrous, long-acuminate lepanthiform sheaths. **Leaf** erect, coriaceous, narrowly elliptical, acute, 4 cm long, 0.9 cm wide, the base cuneate into a petiole 1–2 mm long. **Inflorescence** a lax, successively several-flowered raceme, 2–3 cm long including the peduncle ca. 0.8 cm long, borne in the sulcus of the leaf; floral bracts oblique, acute, 1–1.5 mm long; pedicels 1–1.5 mm long; ovary 2 mm long; **sepals** purple, glabrous, but with microscopically cellular margins, ovate, shortly acuminate, the dorsal sepal 4.5 mm long, 3 mm wide, 3-veined, connate to the lateral sepals for 0.5 mm, the lateral sepals oblique, 4 mm long, 2.25 mm wide, 2-veined, connate 2 mm; **petals** purple, transversely bilobed, 1.5 mm long, 4.5 mm wide, 1-veined, the lobes triangular, slightly oblique, convex, cellular, the tips of the upper lobes overlapping, the upper lobe 2.5 mm long, the lower lobe 2 mm long; **lip** purple, bilaminate, the blades cellular or microscopically pubescent, elliptical, convex, 2 mm long, surrounding the column, with cuneate connectives and a thick body connate to the base of the column, the sinus narrow with an oblong, long-ciliate appendix; **column** semiterete, 2 mm long, with the anther apical and the stigma ventral.

**Etymology.** From the Latin *conchiliatus*, “of a purple color,” referring to the color of the flower.

**Comments.** This species is known from only the original collection made somewhere in Colombia, but probably in the southernmost departments. It is characterized by a small, elliptical leaf and a lax, somewhat shorter raceme of about a dozen, successive, purple flowers. The sepals are shortly acuminate, and the petals are proportionately large with the round tips of the upper lobes overlapping. The blades of the lip are convex and surround the column; the appendix is oblong and long-ciliate.

**Lepanthes conconula** Luer & Hirtz, sp. nov. TYPE: Ecuador—Zamora-Chinchipec: Parqué Podocarpus, south of Nambija, San Luis, alt. 2500 m, collected and cultivated by

produced successively by an erect peduncle about as long as the leaf. The dorsal sepal is erect while the laterals are acutely reflexed; all are carinate dorsally with the carinae ending in a little hook. While the dorsal sepal is densely pubescent, the lateral sepals are only cellular. The petals are transversely bilobed with the triangular upper lobe acutely folded over the acuminate triangular lower lobe. The lip is bilobed basally with rounded lobes embracing the column; the apex is obtuse and entire.

#### *Platystele* Schltr.

***Platystele cellulosa*** Luer & Hirtz, sp. nov. TYPE: Ecuador—Pichincha: near Pacto, alt. 1300 m, collected by Hirtz, flowered in cultivation in Quito, Oct. 2007, A. Hirtz 9173 (Holotype: MO), C. Luer illustr. 21280.

FIGURE 32.

*Inter species generis Platystelis Schltr., flores illis Platystelis minimiflorae (Schltr.) Garay similis, sed habitu caespitose et racemo laxo successivifloro longiore differt.*

**Plant** minute, epiphytic, densely caespitose; roots as thick as the ramicaul. Ramicauls erect, 1.5–2 mm long, enclosed by 2–3 thin, ribbed sheaths. **Leaf** erect, coriaceous, elliptical, obtuse, 5–6 mm long, 3–3.5 mm wide, cuneate below into the petiole. **Inflorescence** an erect, loose, successively several-flowered raceme to 6 mm long, borne by a filiform peduncle ca. 7 mm long, from the ramicaul below the apex; floral bracts oblique, acute, 0.5 mm long; pedicels 0.75 mm long; ovary 0.3 mm long; **sepals** light yellow with cells visible, glabrous, ovate, subacute, 1 mm long, 1-veined, the dorsal sepal 0.5 mm wide, the lateral sepals 0.6 mm wide, free to near the base; **petals** yellow, glabrous, oblong, acute, 1 mm long, 0.6 mm wide, 1-veined; **lip** purple, glabrous with cells visible, ovate, acute and acuminate from near the middle, round at the base, flat to very slightly concave, 1 mm long, 0.6 mm wide, hinged beneath at the apex; **column** dilated, 0.5 mm long and wide, the foot rudimentary.

**Etymology.** From the Latin *cellulosus*, “of cells,” referring to the visible cells of the floral parts, commonly seen in most flowers of *Platystele*.

**Comments.** Except for being only half the size, the flower of this tiny species is similar to that of Central American *Platystele minimiflora* (Schltr.) Garay. The latter is repent with a short, congested raceme. This present species is caespitose with elliptical leaves, and a loose, successively flowered raceme producing up to eight

or more flowers. The glabrous floral parts appear to be only one cell thick.

#### *Restrepia* Kunth

***Restrepia driessenii*** Luer & Sijm, sp. nov. TYPE: Venezuela—Mérida: purchased by W. Driessen, a division cultivated in Venhiuzen, the Netherlands, Jan. 2009, by A.P. Sijm WD. 281213 (Holotype: MO), C. Luer illustr. 21370. FIGURE 33.

*Inter species generis Restrepiae Kunth, planta mediocris floribus grandibus sepalis roseopunctatis et labelli epicheilio oblongo dense spiculato distinguitur.*

**Plant** medium in size for the genus, epiphytic, caespitose; roots slender. Ramicauls erect, 7–8 cm long, enclosed by 4–5 thin, whitish, compressed, more or less imbricating sheaths, the lowermost spotted or marked transversely with black. **Leaf** erect, coriaceous, ovate, acute, 4–6 cm long, 2–3.5 cm wide, the base broadly rounded, contracted into a twisted petiole 5 mm long. **Inflorescence** a solitary flower, produced successively up the back side of the leaf by a slender peduncle 6–7 cm long; floral bract thin, tubular, 5 mm long; pedicel stout, 2.5 mm long, with a shorter filament; ovary 2 mm long; **sepals** membranous, the dorsal sepal free, erect, translucent white with the midvein red-purple, narrowly ovate below the middle, attenuated above the middle with the apex clavate-thickened, 30 mm long, 4 mm wide above the base, 5-veined, the lateral sepals connate to near the apex into a shallowly concave, elliptical lamina, white at the base, pale rose above, diffusely spotted with rose, 30 mm long, 16–17 mm wide expanded, multiple-veined, the apex shortly bifid with tips obtuse; **petals** translucent white with the midvein and marginal veins purple, narrowly linear-triangular, the margins with a capillary process near the base, attenuated above the middle with the apex clavate-thickened, 14 mm long, 1.8 mm wide at the base; **lip** rose, spotted with rose-purple, oblong, 12 mm long, 5.5 mm wide, the epichile indistinct from the hypochile, oblong, denticulate, diffusely and densely spiculate, bifid at the tip, the hypochile subquadrate, concave with erect margins, each side with a thin, uncinat process, the disc with a pair of low carinae extending forward from the base of each process onto the epichile, the base subtruncate, connected to the column-foot by a broad, rigid, cylindrical neck; **column** greenish white, slender, clavate, 6 mm long, the base pedestal-like with a pair of obtuse calli.

**Etymology.** Named for Wiel Driessen, of the Netherlands, from whom Ton Sijm received the plant.

**Comments.** Vegetatively similar to the majority of the other large-flowered species of the genus, this species from Venezuela is distinguished by the broad, pale rose synsepal that is diffusely spotted with darker rose. The lip is broadly oblong with a proportionately small hypochile with a pair of small, uncinuate, marginal lobes. The epichile is minutely spotted with purple, denticulate and densely echinate.

### *Salpistele* Dressler

**Salpistele adrianae** Luer & Sijm, sp. nov. TYPE: Panama—Chiriquí: near San Felix, alt. 1700 m, collected by T. & A. Sijm, 16 Oct. 2001, flowered in cultivation in Vanhuizen, the Netherlands, Oct. 2008, *A.P. Sijm 220411* (Holotype: MO), C. Luer illustr. 20231. FIGURE 34.

*Species haec Salpistelis brunneae Dressler affinis, sed habitu diplomajore, petalis latioribus trinervisque, labelli lobo mediano tantum leviter reflexo, et columnae apice late dilatato lobulato differt.*

**Plant** large for the genus, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 1–3 cm long, enclosed by 2 ribbed, tubular sheaths. **Leaf** erect, coriaceous, elliptical, petiolate, subacute to obtuse, 4–5 cm long including a petiole 1.5 cm long, 1.3–1.6 cm wide, the base cuneate into the petiole. **Inflorescence** a flexible, subflexuous, successively and distantly several-flowered raceme up to 10 cm long including the peduncle ca. 3 cm long, from high on the ramicaul; floral bracts oblique, acute, 2 mm long; pedicels 2–3 mm long; ovary 1 mm long; **sepals** red-brown with yellow margins, the dorsal sepal ovate, acute, shortly acuminate, concave, 4 mm long, 2.5 mm wide unexpanded, 3-veined, the lateral sepals connate into an ovate, acute, bicarinate synsepal, 4.5 mm long, 2.5 mm wide expanded; **petals** brown, minutely ciliate, narrowly subfalcate, acute, 4 mm long, 1 mm wide, 3-veined; **lip** brown, long-pubescent, 3-lobed, “U-shaped,” the lateral lobes narrowly ovate, acute, erect, surrounding the column, 1 mm long, the body of the lip 0.5 mm long and wide, the middle lobe triangular, recurved, 0.5 mm long, the base unguiculate, attached to the base of the column; **column** red, stout, terete, 1.5 mm long, dilated at the apex to form a flat, lobed, surface, the upper lobe erect, subcircular, 1 mm long, 0.75 mm wide, the lower lobe descending, 0.5 mm long, 0.75 mm wide, shortly 4-lobulate, surrounding the apical anther with protruding rostellum, and stigma.

**Etymology.** Named for Adriana, wife of Ton Sijm, and co-collector of this species.

**Comments.** This species, known only from

the original collection in western Panama, is related to the sympatric *Salpistele brunnea* Dressler. It differs from the latter by a twice larger habit, but with superficially similar flowers. The petals of *S. adrianae* are one millimeter wide and 3-veined, instead of a half millimeter wide and single-veined, and the mid-lobe of the lip is triangular, not narrow and abruptly recurved. Most distinctive is the broad, flat surface of the column, the erect, upper part one millimeter long and nearly as wide, while the lower portion is broad and four-lobulate.

### *Sarcinula* Luer

**Sarcinula rinkei** Luer, sp. nov. TYPE: Ecuador—without collection data: purchased from Ecuagenera, flowered in cultivation 23 Aug. 2007, by Bryon Rinke 575 (Holotype: MO), C. Luer illustr. 21244. FIGURE 35.

*Inter species generis Sarcinulae, species haec parva foliis longipetiolatis, sepalis carnosius obtusius marginibus recurvis, lateralium marginibus callosis, petalis late spatulatis, labello minutissime verrucopubescenti trilobo obtuso differt.*

**Plant** very small, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 5–6 mm long, enclosed by 2–3 thin, tubular sheaths. **Leaf** erect, coriaceous, elliptical, subacute, long-petiolate, 18–25 mm long including the petiole 8–12 mm long, 5–6 mm wide, cuneate below into the petiole. **Inflorescence** a successively several-flowered fascicle, borne by a slender peduncle up to 30 mm long; pedicels 4 mm long; floral bracts imbricating, 3–4 mm long; ovary 1.25 mm long; **sepals** purple, glabrous externally, with the apical margins recurved, minutely verrucose-pubescent, the dorsal sepal oblong-obovate, obtuse, concave, thickened at the reflexed apex, 3 mm long, 2 mm wide, 3-veined, the lateral sepals connate above the middle into an oblong-obovate, concave lamina with obtuse apices with apical margins recurved, 3 mm long, 2.25 mm wide, 4-veined; **petals** translucent, obovate-spathulate, broadly obtuse, 1.6 mm long, 1.3 mm wide, 1-veined; **lip** purple, fleshy, oblong, subtrilobed, 1.8 mm long, 1 mm wide expanded, cellular-glandular to minutely verrucose, with erect, obtuse, marginal lobes below the middle, the apex round, the disc shallowly channeled centrally, the base truncate, hinged beneath to the column-foot; **column** semiterete, winged above the middle, denticulate at the apex, 2 mm long, the foot 1 mm long, the anther and stigma ventral.

**Etymology.** Named for Bryon Rinke of Winfield, Kansas, who cultivates this species.

**Comments.** This species of genus *Sarcinula*

from Ecuador is without collection data. It is distinguished from other members of the genus by very small, long-petiolate leaves; an erect peduncle slightly longer than the leaves; purple sepals with thick, recurved, minutely verrucose-ciliate apical margins; broadly spatulate, single-veined petals; and a minutely verrucose, trilobed lip.

*Scaphosepalum* Pfitzer

**Scaphosepalum redderanum** Luer & Sijm, sp. nov. TYPE: Ecuador—without collection data: purchased from J. Portilla, Ecuage-nera, by J. Pap of St. Jahnsklooster, the Netherlands, submitted Jan. 2009, by *Ton Sijm JP281223* (Holotype: MO), C. Luer illustr. 21366. FIGURE 36.

*Planta mediocris grandisve caespitosa, inflorescentia foliis longipetiolatis longiore, pedunculo verrucoso, racemo flexuoso, sepalorum calli anguste triangularibus cum caudis gracilibus divergentibus distinguitur.*

**Plant** medium to large, epiphytic, caespitose; roots slender. Ramicauls erect, slender, 2–3 cm long, enclosed by 2–3 tubular sheaths. **Leaf** erect, coriaceous, 12 cm long including a slender petiole 4 cm long, the blade elliptical, acute, 1.8 cm wide, cuneate below into the petiole. **Inflorescence** a loose, flexuous, successively flowered raceme up to 5 or more cm long, borne by a slender, verrucose, ascending peduncle to 18 cm long, from high on the ramicaul; floral bracts oblong, conduplicate, acute, 7 mm long; pedicels 6–7 mm long; ovary verrucose, 4 mm long; **sepals** glabrous, dull white, diffusely marked (more or less reticulate) with purple, the middle sepal ovate in the lower quarter, concave, carinate, ca. 5 mm long, 4 mm wide, contracted into a thick tail ca. 9 mm long with revolute margins, the entire length 14 mm long, the lateral sepals connate 10 mm into a concave, pandurate synsepal ca. 12 mm long, 8 mm wide and concave below, 4 mm wide at the isthmus, the apical half of each lateral sepal occupied by a slender, boomerang-shaped cushion 6–7 mm long, 1 mm wide below, to 3 mm wide at the apex, each with a slender, diverging tail ca. 10 mm long; **petals** irregularly elliptical, obtuse with the tip acuminate, incurved, 4 mm long, 1.5 mm wide, 2-veined; **lip** pandurate, the hypochile more or less obovate, 3.5 mm long, 2 mm wide, the isthmus 0.75 mm wide, the epichile round, 2 mm wide, minutely fimbriate, the disc cleft between a central pair of minutely fimbriate carinae, the base truncate, minutely bilobulate; **column** arcuate, semiterete, with broad below wings above the middle, 3 mm long, the foot thick, 3 mm long.

**Etymology.** Named for Jennie Pap née Redder, co-collector of this species.

**Comments.** This species with a slender, verrucose peduncle and a flexuous raceme is most similar to the Colombian *Scaphosepalum lima* (Lehm. & Kraenzl.) Schltr. It differs from the latter by a shorter, thicker tail of the middle sepal, and a pandurate synsepal with longer, diverging tails. The cushions of the lateral sepals are boomerang-shaped, or triangular, with the innermost corner slender with indistinct margins, and with the forward portion broader with well-defined, obtuse corners.

**Scaphosepalum reptans** Luer & Hirtz, sp. nov. TYPE: Ecuador—Carchi: Río Blanco, along new road between Carolina and Chical, alt. 1800 m, 10 Apr. 2007, A. Hirtz, L. Grobler *et al.* 9224 (Holotype: MO), C. Luer illustr. 21303. FIGURE 37.

*Planta mediocris grandisve reptans, inflorescentia foliis longipetiolatis subaequant, racemo flexuoso longipedicellato, floribus illis Scaphosepali brevis (Rehb.f.) Rolfe similis, sed pulvinis multangulis ad basim acuminatis differt.*

**Plant** medium to large in size, epiphytic, repent; rhizome stout, 1–2.5 cm long between ramicauls, roots slender. Ramicauls erect, stout, 2–3 cm long, enclosed by 2–3 tubular sheaths. **Leaf** erect, thinly coriaceous, 12–16 cm long including a slender petiole 5–7 cm long, the blade elliptical, acute, 2–2.5 cm wide, cuneate below into the petiole. **Inflorescence** a loose to subcongested, flexuous, long-pedicellate, successively flowered raceme up to 5 or more cm long, borne by a smooth, slender, ascending to erect peduncle 5–10 cm long, from high on the ramicaul; floral bracts thin, narrowly ovate, oblique, acute, 4–7 mm long; pedicels 12 mm long below to 3–4 mm long above; ovary 2–2.5 mm long; **sepals** color unknown, the middle sepal ovate in the lower quarter, concave, carinate, 10 mm long, 3 mm wide, contracted into a terete tail 6 mm long with revolute margins, the lateral sepals minutely ciliate, connate 5 mm into a concave synsepal ca. 6 mm long, 6 mm wide, with a distinct mentum above the base, the apical portion of each lateral sepal occupied by a multangular cushion 4.5 mm long, 3 mm wide, acuminate at both the tip and base, prolonged to slender, curved, subverrucose, diverging tails 6 mm long; **petals** irregularly elliptical, obtuse with the tip acuminate, curved, 3 mm long, 1.5 mm wide, 2-veined; **lip** subpandurate, 3 mm long, 1.3 mm wide, the epichile deflexed, narrowly obovate, fimbriate, 1 mm long, the hypochile more or less obovate, shallowly concave medially, the base truncate, minutely bilobulate;

**column** arcuate, semiterete, slender below wings above the middle, 3.5 mm long, the foot thick, 2 mm long.

**Etymology:** From the Latin *reptans*, "creeping," referring to the repent habit.

**Comments.** Except for the repent rhizome, the long-petiolate leaves, and flexuous racemes, this species resembles *Scaphosepalum swertii-folium* (Rchb.f.) Rolfe, but the flowers resemble more closely those of *S. breve* (Rchb.f.) Rolfe, being smaller with shorter tails. The synsepal has a distinct mentum above the base, and the cushions are acute and acuminate at their tips. The lip is most similar to that of *S. breve*.

#### *Stelis* Sw.

**Stelis andrei** Luer, sp. nov. TYPE: Colombia—Nariño: San Pablo, 22 May 1876, E. André 3366 (Holotype: K), C. Luer illustr. 18693. FIGURE 38.

*Planta mediocris racemo multifloro folio ovato acuto petiolato longiore, sepalis ovatis acutis multinervis lateralibus parallelis semiconnatis, petalis transversis crassis, labello crassiovoideo ecalloso distinguitur.*

**Plant** medium in size, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 7–16 cm long, enclosed by a tubular sheath above the middle, and another sheath below the middle and at the base. **Leaf** erect, coriaceous, ovate, acute, acuminate, petiolate, the blade 6–7.5 cm long, 3–3.5 cm wide, abruptly contracted below into a petiole 1.5 cm long. **Inflorescence** a single, erect, subdensely many-flowered raceme, to 16 cm long, with a peduncle 2–3 cm long, subtended by a broad spathe 6–7 mm long, from an annulus below the apex of the ramicaul; floral bracts loose, obtuse, 2.5 mm long; pedicels 1 mm long; ovary ca. 7 mm long when fertile; **sepals** color unknown, glabrous, ovate, acute, expanded, slightly concave, the dorsal sepal 7 mm long, 4 mm wide, 7-veined, connate basally 1 mm, the lateral sepals 7 mm long, 3 mm wide, 5-veined, oblique, parallel, antrorse, connate 2.5 mm; **petals** thick, transversely oblong, 0.76 mm long, 1.25 mm wide, 3-veined, broadly obtuse, with a transverse callus; **lip** ovoid, round at the apex, very shallowly concave, 0.5 mm long, 0.8 mm wide, 0.6 mm deep, the bar with a small, shallow glenion, the dorsum flat without a callus; **column** broad, ca. 0.8 mm long and wide, the foot obsolescent, the anther and the slender, transverse stigma apical.

**Etymology.** Named for Edouard-François André, French botanist, collector of this species.

**Comments.** This species is known from a single, nineteenth-century collection by André. All ovaries are swollen, but the remaining flowers are in remarkably good condition. The plant is medium in size with slender ramicauls considerably longer than the ovate, acuminate-tipped leaf with an abrupt petiole. The inflorescence of relatively large flowers surpasses the leaf. The sepals are multiveined with the lateral sepals more or less parallel and connate in the basal third; the petals are thick and 3-veined; and the lip is type-A with a nearly flat front and dorsal surfaces.

**Stelis cairoënsis** Luer, sp. nov. TYPE: Colombia—Valle del Cauca: El Cairo; Cerro del Inglés, Serranía Paraguas, alt. 2080 m, 9 Nov. 1997, P.A. Silverstone-Sopkin et al. 8000 (Holotype: CUVC; Isotype: MO), C. Luer illustr. 21264. FIGURE 39.

*Planta grandis racemi paucis folio elliptico acuto petiolato plus minusve aequilongis, sepalis ovatis obtusis, petalis transversis proportione magnis, labello subquadrato cum callo ad dorsum distinguitur.*

**Plant** large, epiphytic, caespitose; roots slender. Ramicauls erect, 18–29 cm long, enclosed by a tubular sheath from above the middle, and 2–3 tubular sheaths at the base. **Leaf** erect, coriaceous, elliptical, acute, petiolate, the blade 10–13 cm long, the petiole 2–3 cm long, 3–5 cm wide, contracted below into the distinct petiole. **Inflorescence** 1–3 erect, many-flowered racemes, loosely flowered below, congested above, with at least several flowers open simultaneously, to 10–13 cm long including the peduncle 1–3 cm long, subtended by a spathe ca. 1.5 cm long, from an annulus below the apex of the ramicaul; floral bracts acute, 1.5 mm long; pedicels 1 mm long; ovary 1.5 mm long; **sepals** expanded, greenish white, cellular-pubescent, ovate, obtuse, the dorsal sepal 3–3.5 mm long, 3–3.5 mm wide, 5-veined, connate basally 1 mm, the lateral sepals oblique, 2.5–3 mm long, 2.5–3 mm wide, 4-veined; **petals** white, transversely ovate, 0.6 mm long, 1.5 mm wide, 3-veined, the apex rounded with a broadly thickened margin, concave above and below a transverse callus; **lip** subquadrate, shallowly concave anteriorly within the broad margin of the rounded apex, 0.8 mm long, 0.8 mm wide, 0.6 mm deep, the bar with a protuberant glenion with a shallow, central notch, the dorsum sloping downward with a rounded callus, the base truncate, hinged to the base of the column; **column** semiterete, 0.8 mm long, 0.8 mm wide, the foot obsolescent, the anther and the bilobed stigma apical.

**Etymology.** Named for the community of El

Cairo, Valle del Cauca, where this species was collected.

**Paratype.** Colombia—Valle del Cauca: El Cairo; Cerro del Inglés, Serranía Paraguas, alt. 2430 m, 1 Apr. 1988, P.A. Silverstone-Sopkin *et al.* 3887 (CUVC), C. Luer illustr. 21254.

**Comments.** This vegetatively large species, apparently endemic in the Western Cordillera of southern Colombia, produces small flowers in one to three racemes about as long as, or exceeding, the acute, petiolate leaf. The sepals are expanded and obtuse; the petals are widely transverse with a thickened margin and a transverse callus; and the lip is type-A with a rounded callus on the dorsum.

**Stelis caliensis** Luer, sp. nov. TYPE: Colombia—Cauca: Alto San Antonio near Cali, alt. 1970 m, 2 Apr. 1876, E. André 2642 (Holotype: K), C. Luer illustr. 17285.

FIGURE 40.

*Planta mediocris grandisve racemo multifloro folio oblongo-ovato subacuto petiolato longiore, sepalis atroviolaceis multinervosis lateralibus in synsepalum connatis, petalis transversis crassis, labello ovoideo antice profunde concavo distinguitur.*

**Plant** medium to large in size, epiphytic, presumably caespitose; roots unknown. Ramicaul erect, greater than 5 cm long, full length, sheaths and roots unknown (broken off in only known specimen). **Leaf** erect, coriaceous, oblong-ovate, subacute, petiolate, the blade 10 cm long, 3 cm wide, abruptly contracted below into a petiole 2 cm long. **Inflorescence** a single, erect, densely many-flowered raceme, to 18 cm long, with a peduncle 2–4 cm long, subtended by a broad spathe ca. 1.5 cm long, from an annulus below the apex of the ramicaul; floral bracts loose, obtuse, 2–4 mm long; pedicels 2 mm long; ovary 3 mm long; flowers dark red-purple; **sepals** glabrous, the dorsal sepal ovate, convex, obtuse, 8 mm long, 5 mm wide, 5- to faintly 7-veined, connate to the synsepal 1 mm, the lateral sepals connate to above the middle into a concave synsepal, 7.5 mm long, 7.5 mm wide, 10-veined, with sides recurved; **petals** transversely oblong, 1 mm long, 1.75 mm wide, 3-veined, broadly obtuse, with the margin broadly thickened, with a transverse callus; **lip** ovoid, obtuse at the apex, deeply concave within a thickened margin, 1 mm long, 1 mm wide, 1 mm deep, the bar cleft into the cavity, the dorsum thickened with a broad callus; **column** 1 mm broad and long, the foot obsolescent, the anther and broad stigma with confluent lobes apical.

**Etymology.** Named for the community of Cali, near where the species was collected.

**Comments.** This species is known from a single, incomplete, nineteenth-century collection by André. The ramicaul is broken off five centimeters below the abscission layer, so the full length, sheaths, roots and habit are unknown. The leaf is abruptly petiolate and surpassed by a multiflowered raceme of relatively large, dark red-violet flowers. The dorsal sepal is free above the basal one millimeter, and the lateral sepals are connate into a concave synsepal. The petals are thickly margined, and the type-A lip is deeply concave anteriorly and broadly callous on the dorsum.

**Stelis efsiella** Luer, sp. nov. TYPE: Colombia—Cauca: humid forest along Río Risaralda above the Arrayanal, alt. 1000 m, 20 Oct. 1883, F.C. Lehmann 3300 (Holotype: K), C. Luer illustr. 17287. FIGURE 41.

*Planta parva mediocrisve racemis pluribus folio oblongo obtuso multibrevioribus, sepalo dorsali ovato quam lateralibus minore, petalis circularibus, labello ovato acuto ecalloso distinguitur.*

**Plant** small to medium in size, epiphytic, caespitose; roots slender. Ramicauls slender, erect, 4–5 cm long, enclosed by a tubular sheath below the middle, and another sheath about the base. **Leaf** erect, coriaceous, dark green, narrowly oblong, obtuse, 7–8 cm long, 1–1.2 cm wide, gradually narrowed below into a petiole ca. 1 cm long. **Inflorescence** a fascicle of 5–10 erect, densely flowered racemes 2–3 cm long, flowering to the base, subtended by a spathe 7–10 mm long, from an annulus below the apex of the ramicaul; floral bracts infundibular, obtuse, 2 mm long; pedicels 1 mm long; ovary 1 mm long; **sepals** “half yellow,” glabrous, the dorsal sepal ovate, acute, 2 mm long, 1.3 mm wide, 3-veined, connate basally 0.3 mm, the lateral sepals antrorse, connate 0.5 mm, ovate, oblique, acute, 2.5 mm long, 1.3 mm wide, each 2-veined; **petals** membranous, circular, 1 mm long, 1 mm wide, 1-veined, the apex broadly rounded, without a callus; **lip** ovate, acute, slightly dilated and incurved below the middle, 1.8 mm long, 1.2 mm wide, without a callus; **column** broad, 0.6 mm long, 1 mm wide, the foot obsolescent, the anther and the bilobed stigma apical.

**Etymology.** Named for the renowned F.C. Lehmann, only known collector of this species, the name *lehmannii* having been used to replace a later homonym [*Stelis petiolaris* (Luer) Pridgeon & M.W. Chase] for *Pleurothallis petiolaris* Luer [= *Effusiella petiolaris* (Luer) Luer].

**Comments.** In habit, this species with blunt, oblong leaves and a fascicle of much shorter racemes resembles *Stelis polybotrya* Lindl. It is

known from a single, nineteenth century collection by the intrepid collector F.C. Lehmann. The dorsal sepal is smaller than the antrorse lateral sepals. The petals are round, membranous and single-veined. The ovate, acute, callus-free, unclassified lip points forward with the base shallowly concave beneath the column.

**Stelis infundibulosa** Luer, sp. nov. TYPE: Colombia—Chocó: San José del Palmar, Cerro Torrá, mesa below the summit, alt. 2500 m, 25 Aug. 1988, P.A. Silverstone-Sopkin et al. 4793 (Holotype: CUVC), C. Luer illustr. 21259. FIGURE 42.

*Species haec Stelidis powellii* Schltr., similis, sed habitu floribus minoribus et labello sine callis prominentibus differt.

**Plant** medium in size, epiphytic, caespitose; roots slender. Ramicauls erect, 3–4 cm long, enclosed by a tubular sheath from below the middle and 2–3 other sheaths at the base. **Leaf** erect, coriaceous, narrowly elliptical, subacute to acute, petiolate, 3–5 cm long including a petiole less than 1 cm long, ca. 0.7 cm wide dry, contracted below into an indistinct petiole less than 1 cm long. **Inflorescence** a subax, erect, many-flowered raceme with most flowers open simultaneously, to 9 cm long including the peduncle 2–3 cm long, subtended by a slender spathe 4–5 cm long, from an annulus below the apex of the ramicaul; floral bracts conspicuous, dark red-violet, broadly infundibular, oblique, acute, 5 mm long and wide; pedicels 2–2.5 mm long; ovary 1–1.5 mm long; floral parts red-violet, **sepals** similar, widely spread, shortly pubescent, ovate, obtuse, 3 mm long, 2.5 mm wide, 3-veined, connate basally, the lateral sepals slightly oblique; **petals** transversely oblong, 0.75 mm long, 1 mm wide, 3-veined, the apex rounded with a broadly thickened margin, shallowly concave, no transverse callus seen; **lip** subquadrate, shallowly concave within the broad margin of the rounded apex, 0.6 mm long, 1 mm wide, 0.8 mm deep, the bar with a shallow, central notch and a distinct, circular glenion, the dorsum flat, with a small callus, the base truncate, hinged to the base of the column; **column** semiterete, 0.5 mm long, nearly 1 mm wide, the foot obsolescent, the anther and the stigma apical, the stigma bilobed with a long, broad rostellar flap.

**Etymology.** From the Latin *infundibulosa*, “bearing funnels,” referring to the floral bracts.

**Paratype.** Colombia—Valle del Cauca: El Cairo, Serranía de los Paraguas, alt. 2040 m, 2 Apr. 1988, P.A. Silverstone-Sopkin et al. 3989 (CUVC, MO).

**Comments.** This species, confined to south-

western Colombia, is similar to *Stelis powellii* Schltr. of Central America. Both species are characterized by an erect, distichous raceme with conspicuous, dark purple, funnel-shaped floral bracts, from which the purple flower protrudes. *Stelis infundibulosa* differs from the latter by a smaller habit, smaller flowers with pubescent sepals, and a rounded lip without the protruding calli of *S. powellii*.

**Stelis lopezii** Luer, sp. nov. TYPE: Colombia—Valle del Cauca: Cuenca del Río Cali, near Palmira, alt. unknown, 23 Jan. 1963, Lopez Figueiras 8391 (Holotype: COL), C. Luer illustr. 15522. FIGURE 43.

*Planta grandis racemo folio late ovato acuto longipetiolato plus minusve aequanti, sepalo dorsali acuto, synsepalo concavo, petalis transversis proportione magnis, labello suborbiculari cum callo ad dorsum distinguitur.*

**Plant** large, epiphytic, caespitose; roots slender. Ramicauls stout, erect, 16–18 cm long, enclosed by a loose, tubular sheath near the middle, and a longer, loose, tubular sheath about the base. **Leaf** erect, coriaceous, broadly ovate, acute, petiolate, 9–12 cm long excluding the petiole, 7–8 cm wide, abruptly contracted below into the petiole 3 cm long. **Inflorescence** 1–2 erect, loosely many-flowered racemes, with at least several flowers open simultaneously, to 12–14 cm long including the peduncle ca. 3 cm long, subtended by a broad spathe 1.5–2 cm long, from an annulus below the apex of the ramicaul; floral bracts acute, 5–6 mm long; pedicels 3–4 mm long; ovary 2 mm long; **sepals** color unknown, glabrous, the dorsal sepal ovate, 7 mm long, 4 mm wide, 7-veined, connate basally 1 mm, the lateral sepals connate to near the apex into a concave synsepal, 7 mm long, 7 mm wide expanded, 10-veined; **petals** transversely ovate, 1 mm long, 1.5 mm wide, 3-veined, the apex broadly rounded with a broadly thickened margin, concave above and below a transverse callus; **lip** type-A, slightly convex, the margin broadly rounded, 0.5 mm long, 1 mm wide, 1 mm deep, the bar with a shallow, central notch and an indistinct glenion, the dorsum sloping downward with a rounded callus, the base truncate, hinged to the base of the column; **column** semiterete, 0.5 mm long, 1 mm wide, the foot obsolescent, the anther and the bilobed stigma apical.

**Etymology.** Named for the collector López Figueiras.

**Comments.** This unusually large species of section *Humboldtia*, apparently endemic in the Western Cordillera of southern Colombia, produces relatively large flowers in one or two ra-

comes about as long as the broadly ovate, distinctly petiolate leaf. The sepals are multiveined, and the relatively large, transverse petals are 3-veined. The lip is type-A, subcircular and slightly convex up to the broadly rounded margin, the bar is slightly elevated with an ill-defined glenion, and with a rounded callus on the dorsum.

**Stelis paraguasensis** Luer, sp. nov. TYPE: Colombia—Valle del Cauca: El Cairo; Cerro del Inglés, Serranía Paraguas, alt. 2200 m, 6 Nov. 1997, P.A. Silverstone-Sopkin et al. 7955 (Holotype: CUV), C. Luer illustr. 21255. FIGURE 44.

*Planta mediocris grandisve racemis paucis folio ovato acuto plus minusve aequantibus, sepalis latissime ovatis obtusis minutissime sparsim ciliatis, petalis transversis obtusis, labello subquadrato cum callo ad dorsum distinguitur.*

**Plant** medium to large in size, epiphytic, densely caespitose; roots slender. Ramicauls erect, slender, 13–18 cm long, enclosed by a tubular sheath about the middle, and another 2–3 sheaths at the base. **Leaf** erect, coriaceous, ovate, acute, petiolate, 4.5–6.5 cm long including a petiole 1–1.5 cm long, 2 cm wide, contracted below into the distinct petiole. **Inflorescence** 3–4 congested, erect, many-flowered racemes, with many flowers open simultaneously, to 5–6 cm long including the peduncle 1.5–2 cm long, subtended by a spathe ca. 1 cm long, from an annulus below the apex of the ramicaul; floral bracts acute, 1.5 mm long; pedicels 1 mm long; ovary 1 mm long; **sepals** expanded, “egg yolk yellow” according to the collector, cellular-papillose, sparsely short-ciliate, broadly ovate, obtuse, the dorsal sepal 2.25 mm long, 2.75 mm wide, 3-veined, connate basally 1 mm, the lateral sepals ovate, obtuse, slightly oblique, 2 mm long, 2.5 mm wide, 3-veined; **petals** yellow, transversely ovate, obtuse, 0.3 mm long, 0.6 mm wide, 3-veined, concave within a broadly thickened margin, concave above and below a transverse callus; **lip** type-A, shallowly concave within the broad margin of the rounded apex, 0.5 mm long, 0.6 mm wide, 0.5 mm deep, the bar with a shallow, central notch exposing in a glenion the continuation of the round, dorsal callus, the base truncate, hinged to the base of the column; **column** semiterete, 0.5 mm long, 0.8 mm wide, the foot obsolescent, the anther and the bilobed stigma apical.

**Etymology.** Named for the Serranía de los Paraguas where the species was collected.

**Comments.** This species, apparently endemic in the Western Cordillera of southern Colombia, produces long, slender ramicauls in a tight clus-

ter. The ovate leaves are much shorter than the ramicauls. A few, simultaneous, many-flowered racemes reach the length of the leaves. The flowers are small and yellow with the sepals sparsely ciliated on their margin; the petals are transverse with a thickened margin and a transverse callus; and the lip is type-A with a rounded callus on the dorsum.

**Stelis speckmaieri** Luer & Sijm, sp. nov. TYPE: Venezuela—Falcón: Sierra de San Luis, alt. 1500 m, 15 Jan. 2007, collected by M. Speckmaier, flowered in cultivation at El-baweg, Venhuizen, the Netherlands, A.P. Sijm 271019 (Holotype: MO), C. Luer illustr. 21260. FIGURE 45.

*Planta grandis racemo multifloro folio elliptico petiolato multilongiore, sepalis convexis revolutisque, petalis late rhombeis obtusis unguiculatis, labello subquadrato apice rotundo concavo distinguitur.*

**Plant** large, epiphytic, caespitose; roots slender. Ramicauls erect, stout, 8–9 cm long, enclosed by a tubular sheath below the middle and 1–2 other sheaths at the base. **Leaf** erect, coriaceous, elliptical, obtuse to rounded at the apex, petiolate, 10–11 cm long including a petiole 1.5 cm long, 4 cm wide, contracted below into the petiole. **Inflorescence** a subcongested, erect, many-flowered raceme with many flowers open simultaneously, to 23–26 cm long including the peduncle 5–6 cm long, subtended by a slender spathe 2 cm long from an annulus below the apex of the ramicaul; floral bracts inconspicuous, obtuse, 2 mm long; pedicels 1–1.5 mm long; ovary 2–3 mm long; floral parts red to green, **sepals** convex with margins recurved, concave at the base, glabrous (microscopically cellular), ovate, obtuse, the dorsal sepal 5 mm long, 4.5 mm wide, 5-veined, concave and connate basally for 1 mm, the lateral sepals ovate, obtuse, slightly oblique, 3.5 mm long, 3.5 mm wide; **petals** broadly rhombic with acute lateral angles, obtuse at the apex, narrowly unguiculate, 1.5 mm long, 2.5 mm wide, 3-veined, the apical margin narrowly thickened, shallowly concave, without a transverse callus; **lip** subquadrate, deeply concave within the broadly rounded apex, 1 mm long, 1.5 mm wide, 1 mm deep, the bar with a shallow, central notch and a small, circular glenion, the dorsum without a callus, the base truncate, hinged to the base of the column; **column** semiterete, 1 mm long, 2 mm wide, the foot obsolescent, the anther and the broadly expanded, bilobed stigma apical.

**Etymology.** Named for Manfred Speckmaier of Freising, Germany, collector of this species.

**Comments.** This species, apparently endemic in the Sierra San Luis of coastal Venezuela, is

characterized by a large, elliptical, obtuse, petiolate leaf, far exceeded by an erect raceme of many flowers with convex sepals with revolute margins. The petals are rhombic with narrowly thickened margins, and narrowly unguiculate below. The lip is type-A and deeply concave within the rounded apical margin, and the bar is thin and shallowly notched with a small glenion.

**Stelis trimera** Luer, sp. nov. TYPE: Colombia—Boyacá: northeast of Arcabuco, border between Boyacá and Santander del Sur, alt. 2600 m, 7 May 1972, H. Garcia-Barriga & J.H. Jarramillo s.n. (Holotype: US; Isotype: COL), C. Luer illustr. 15521. FIGURE 46.

*Species haec Stelidis pusillae Kunth similis, sed sepalis ellipticis duplo longiore divergentibus differt.*

**Plant** small, presumably epiphytic. Ramicauls erect, slender, 4–5 cm long, enclosed by a tubular sheath from below the middle, and another sheath at the base. **Leaf** erect, coriaceous, elliptical, acute, 5–7 cm long, 1 cm wide, narrowly cuneate below into a subpetiolate base. **Inflorescence** an erect, strict, congested, many-flowered raceme, with many flowers open simultaneously, to 8 cm long including the peduncle 3 cm long, from near the apex of the ramicaul; floral bracts acute, 1 mm long; pedicels 1 mm long; ovary 1 mm long; **sepals** color unknown, similar, expanded, glabrous, elliptical, obtuse, 3 mm long, 1.5 mm wide, 3-veined, shortly connate basally; **petals** membranous, oblong, truncate, 0.5 mm long, 0.5 mm wide, 1-veined, shallowly concave, the apical margin narrowly thickened; **lip** type-A, subquadrate-ovoid, 0.5 mm long, 0.5 mm wide, 0.3 mm deep, the apex truncate with a short, acute apiculum, shallowly concave within the thin margin, before the shallowly cleft, bilobed bar, the dorsum smooth, the base truncate, hinged to the base of the column; **column** semiterete, 0.5 mm long, 0.6 mm wide, the foot obsolescent, the anther and the bilobed stigma apical.

**Etymology.** From the Greek *trimerus*, “in three parts,” referring to the three similar sepals.

**Comments.** This little species from the Eastern Cordillera of Colombia is similar to the widely distributed, frequent, and variable *Stelis pusilla* Kunth, but it differs from the latter with twice larger flowers. The three sepals are similar and elliptical, but with the lateral sepals diverging 180°. The petals are similarly single-veined; and except for size, the lip is similar, type-B.

#### *Trichosalpinx* Luer

**Trichosalpinx echinata** Luer & Hirtz, sp. nov.  
TYPE: Ecuador—Zamora-Chinchipe: Cor-

dillera del Condor, Chinapinza, alt. 1200 m, collected and cultivated by Ecuagenera, Gualaceo, flowered in cultivation 1 Nov. 2004, A. Hirtz 8609 (Holotype: MO), C. Luer illustr. 21320. FIGURE 47.

*Species haec Trichosalpingicis berlineri (Luer) Luer similis, sed sepalo dorsali proportione grandissime oblongo-lineari quinque-nervato, et labello supra medium intense echinato differt.*

**Plant** medium in size, epiphytic, caespitose, more or less pendent to suberect; roots slender. Ramicauls ascending to descending, slender, more or less flexuous, 5–15 cm long, enclosed by 5–12 lepanthiform sheaths with long, oblique, dilated, ciliate ostia. **Leaf** suberect or pendent, coriaceous, elliptical to narrowly elliptical, acute, 4–10 cm long, 1–2 cm wide, cuneate below into a petiole 1–3 mm long. **Inflorescence** a pendent, loose, distichous, simultaneously few- to several-flowered raceme, 2–4 cm long, including the filiform peduncle 1–2 cm long, from near the apex of the ramicaul; floral bracts 2 mm long; pedicels 1 mm long; ovary 2 mm long; **sepals** olive-purple fide Hirtz, glabrous, the dorsal sepal linear-oblong, round at the apex, 10–11 mm long, 3 mm wide, 5-veined, the lateral sepals elliptical, connate to the tips into a round apex but readily separable to near the middle, recurved, 6 mm long, 4 mm wide expanded, each 3-veined, forming a small mentum with the column-foot; **petals** translucent, cream-colored, entire, narrowly linear-triangular, acute, 2.75 mm long, 1 mm wide at the base, 1-veined; **lip** purple, oblong, 2.3 mm long, 1 mm wide, with the apex rounded, the sides thin, erect and ciliate below the middle, the disc with a low, longitudinal callus on the lower half, the distal half densely echinate, the base with a pair of diverging lobules, delicately hinged between to the column-foot; **column** white, stout, 2 mm long, with broad, angled wings above the middle, bidentate at the apex, the anther and the stigma ventral, the foot thick, 1 mm long.

**Etymology.** From the Latin *echinatus*, “bristly like a hedgehog,” referring to the lip.

**Comments.** This species, apparently confined to the Cordillera del Condor of lowland, southeastern Ecuador, is similar to the widely distributed *Trichosalpinx berlineri* (Luer) Luer. The flowers are equally large, but the narrowly oblong, dorsal sepal is proportionately large, elongated, and 5-veined. The petals are narrowly triangular and acute. The basally bilobed lip is similar, but the forward half is densely echinate.

An unusually elongated dorsal sepal is sometimes seen in species of other pleurothallid genera, such as *Acianthera gracilisejala* (Brade) Luer and *Scaphosepalum clavellatum* Luer.

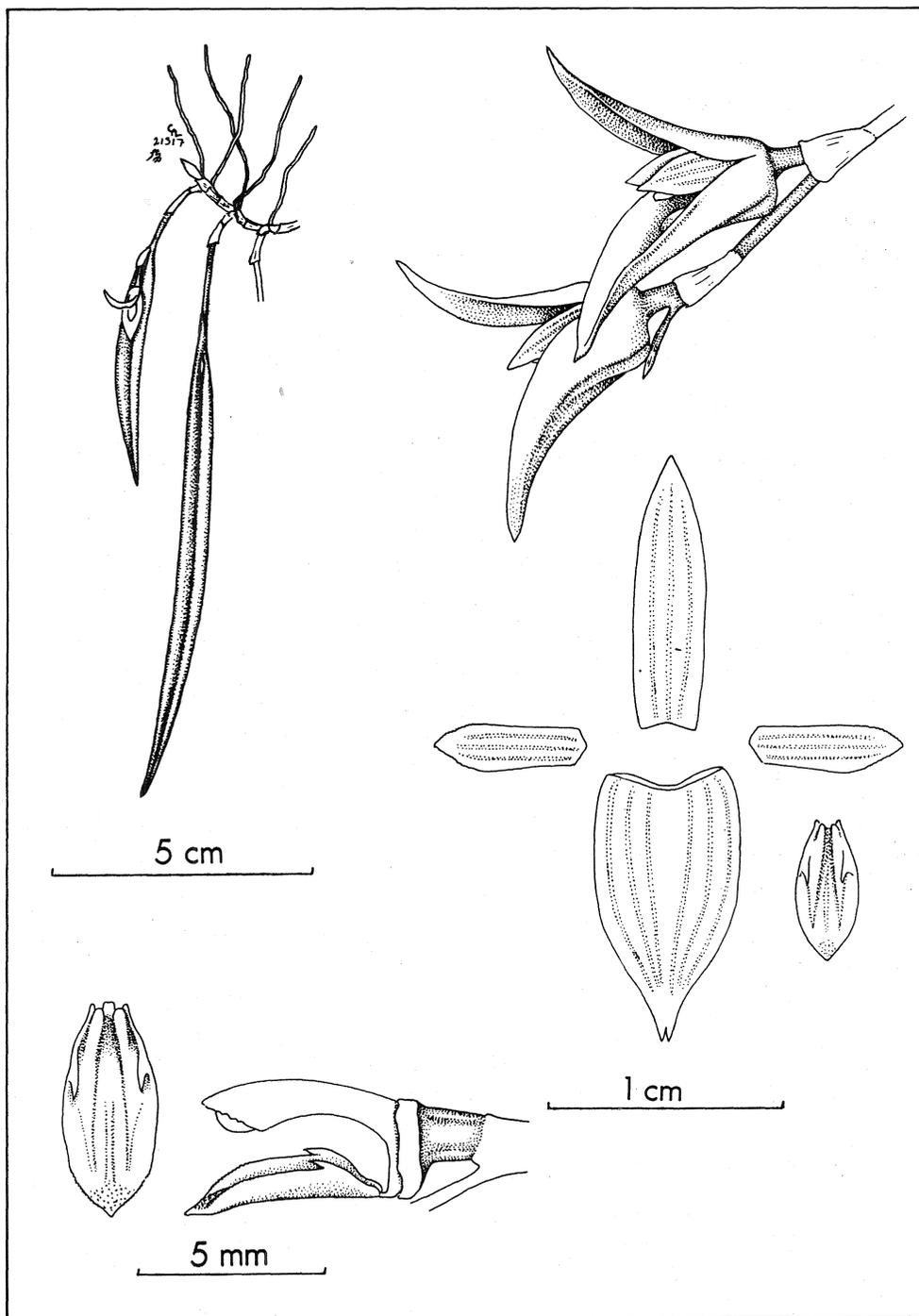


FIGURE 1. *Acianthera mendozae* Luer, C. Luer illustr. 21317.

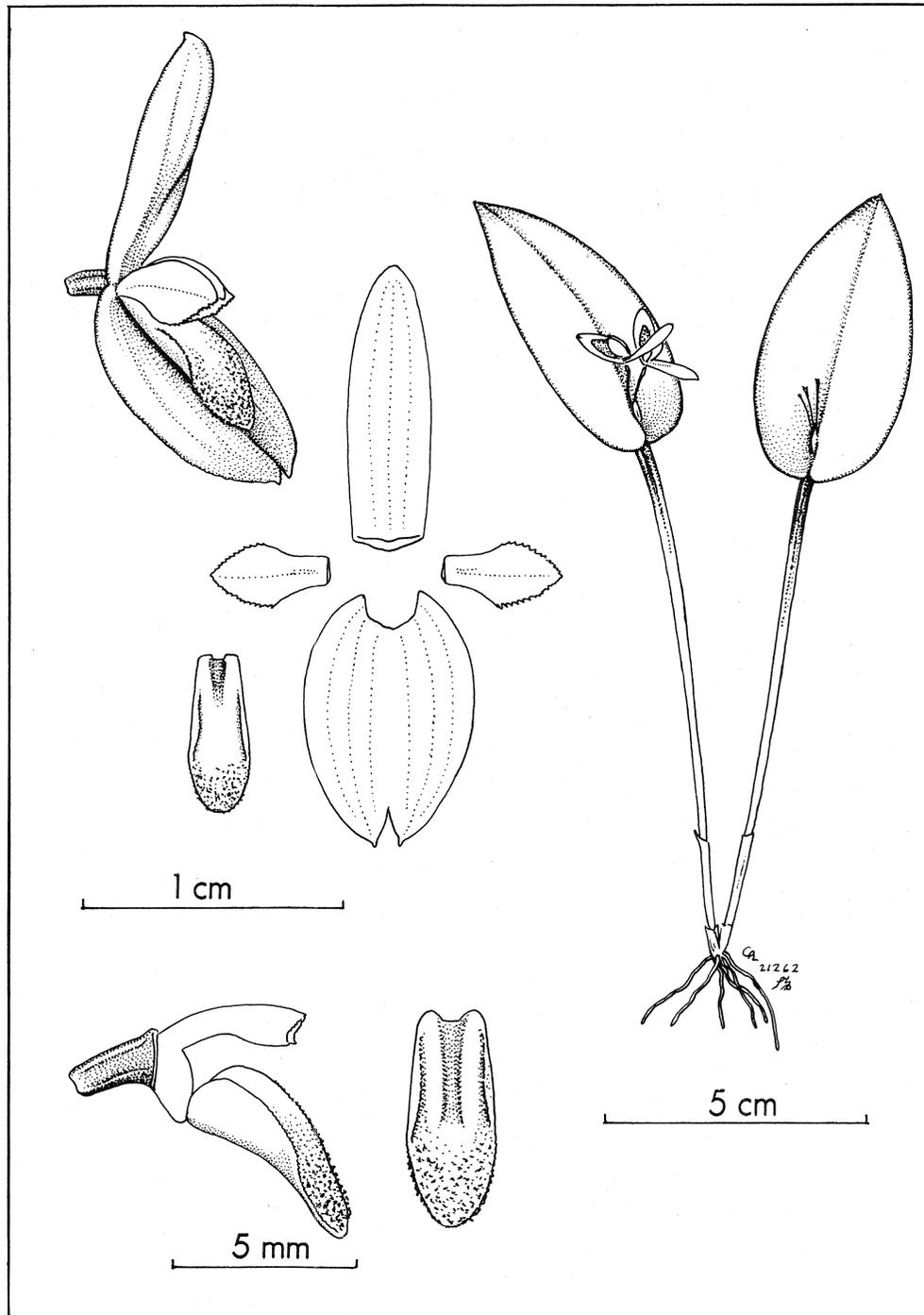


FIGURE 2. *Acianthera pazii* Luer, C. Luer illustr. 21262.

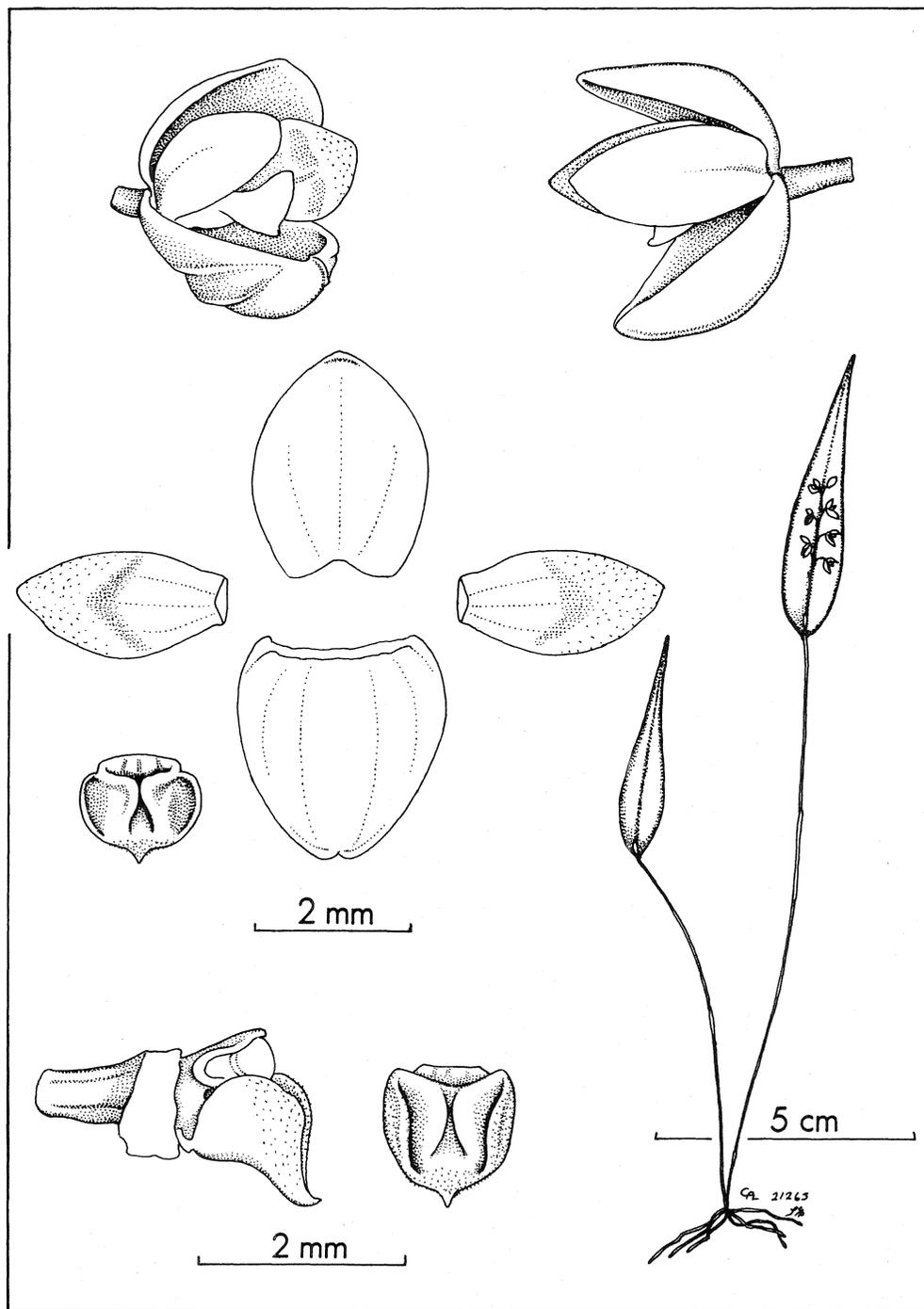


FIGURE 3. *Aconia baccata* Luer, C. Luer illustr. 21263.

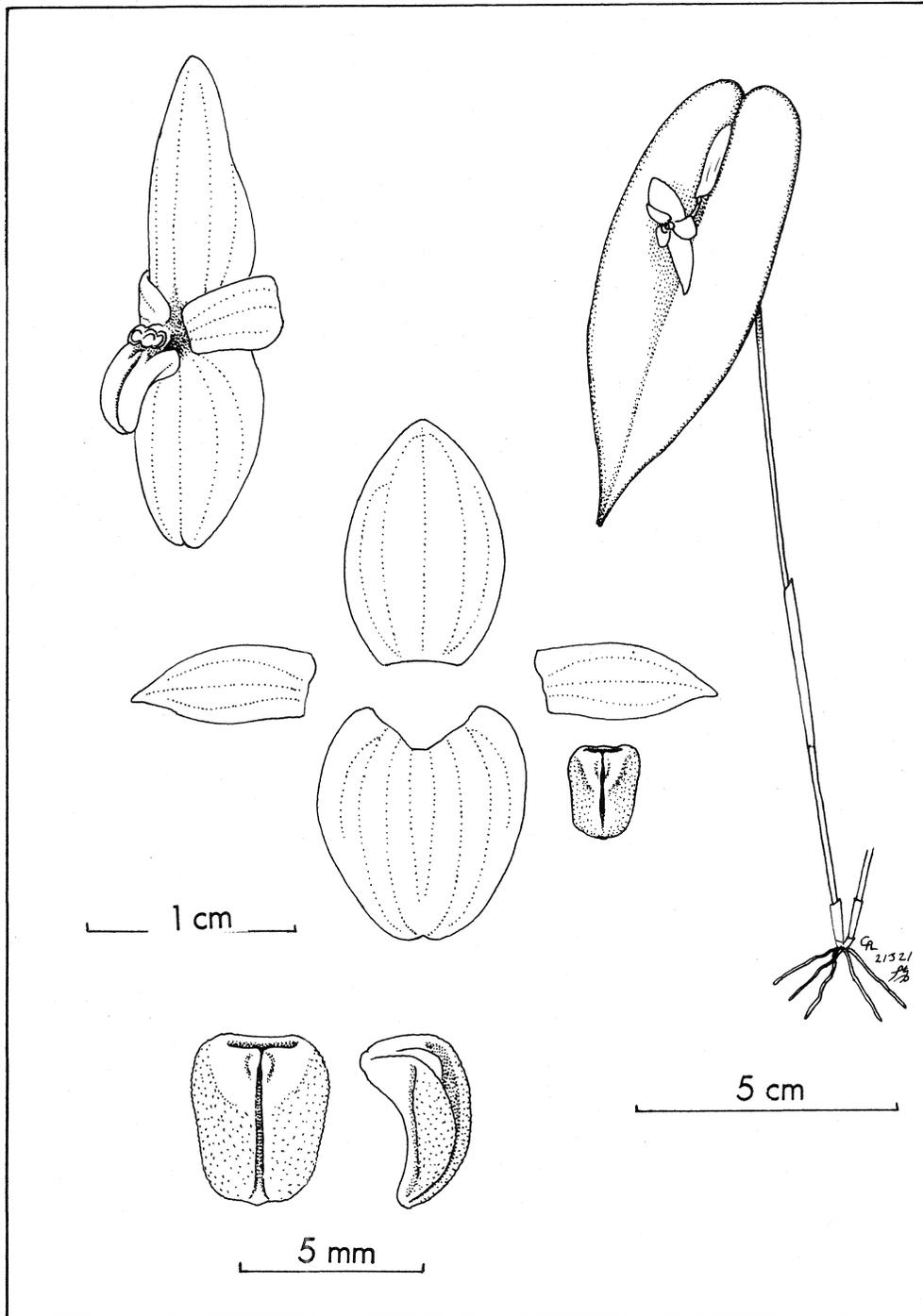


FIGURE 4. *Aconia barbosae* Luer & Thoele, C. Luer illustr. 21321.

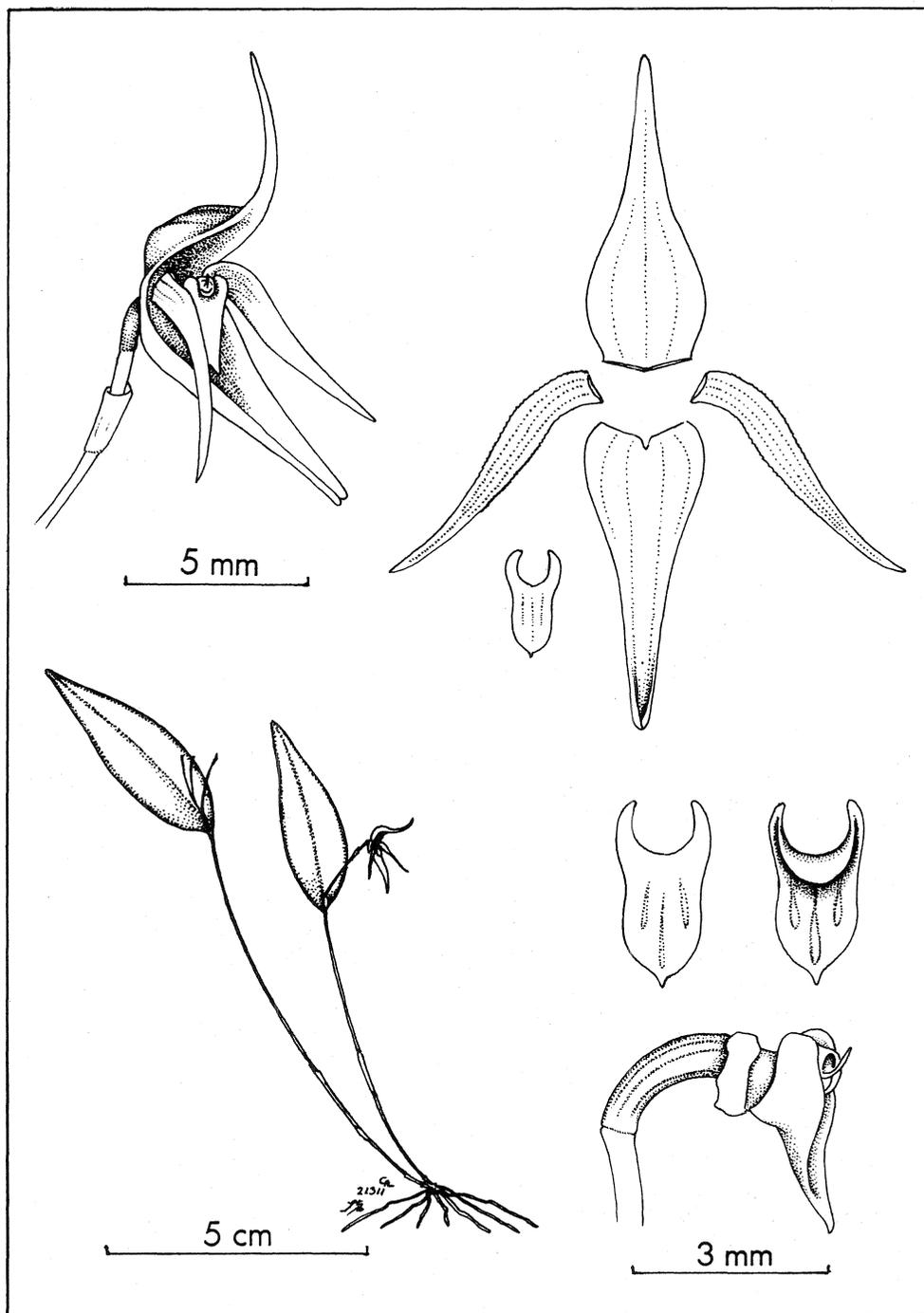


FIGURE 5. *Acronia grobleri* Luer & Hirtz, C. Luer illustr. 21311.

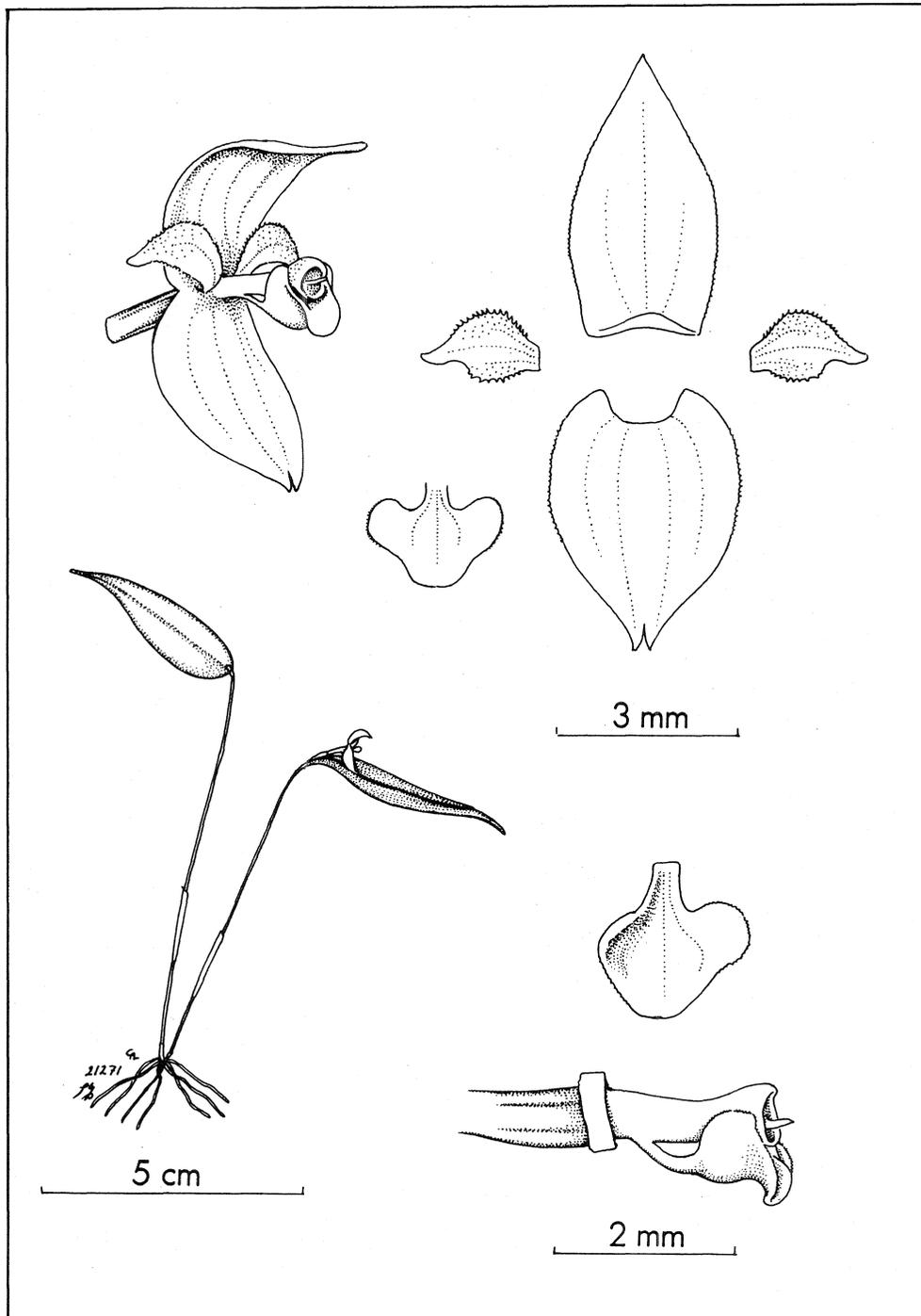


FIGURE 6. *Aconia neossa* Luer & Hirtz, C. Luer illustr. 21271.

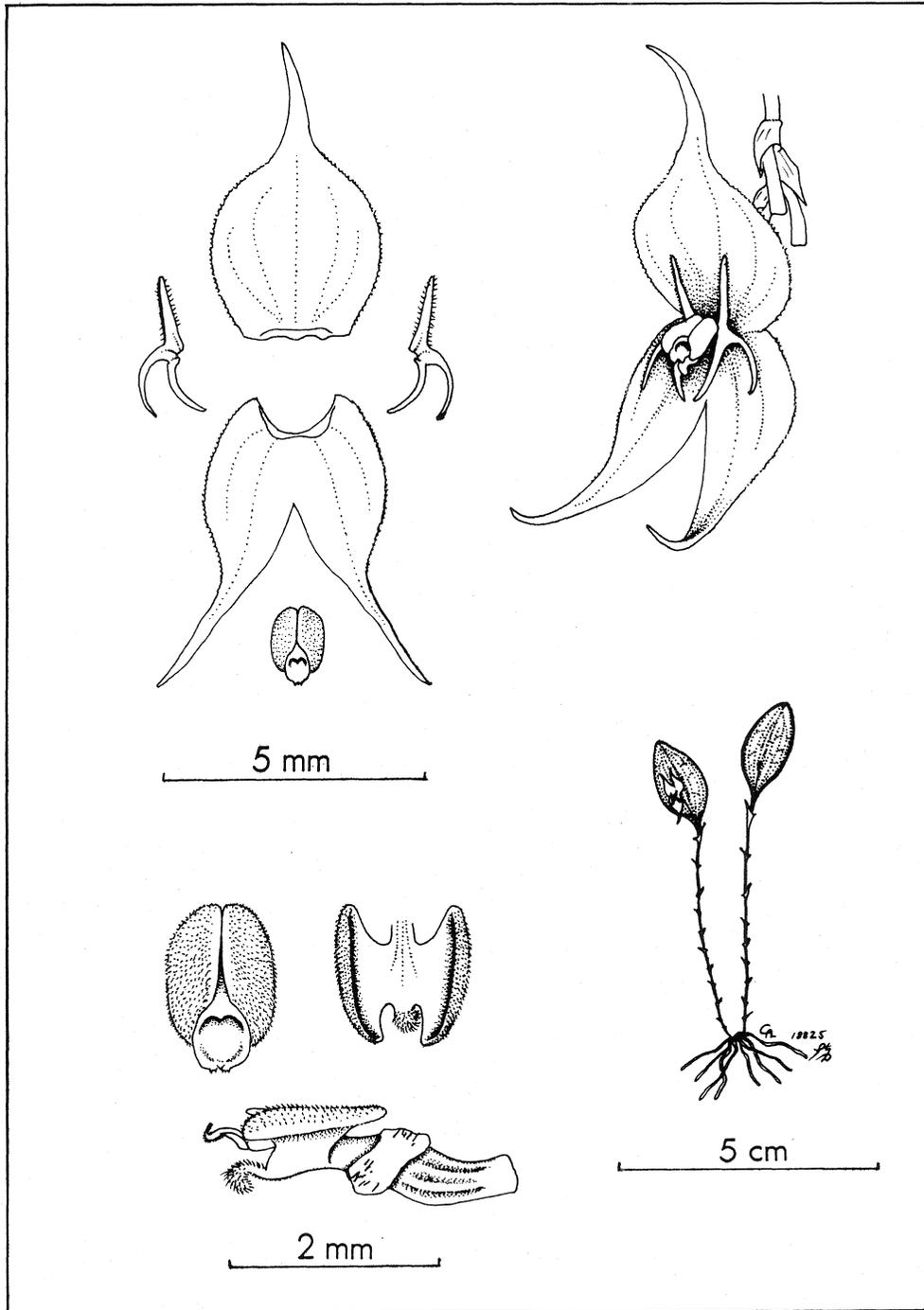


FIGURE 7. *Lepanthes aguirrei* Luer, C. Luer illustr. 18825.

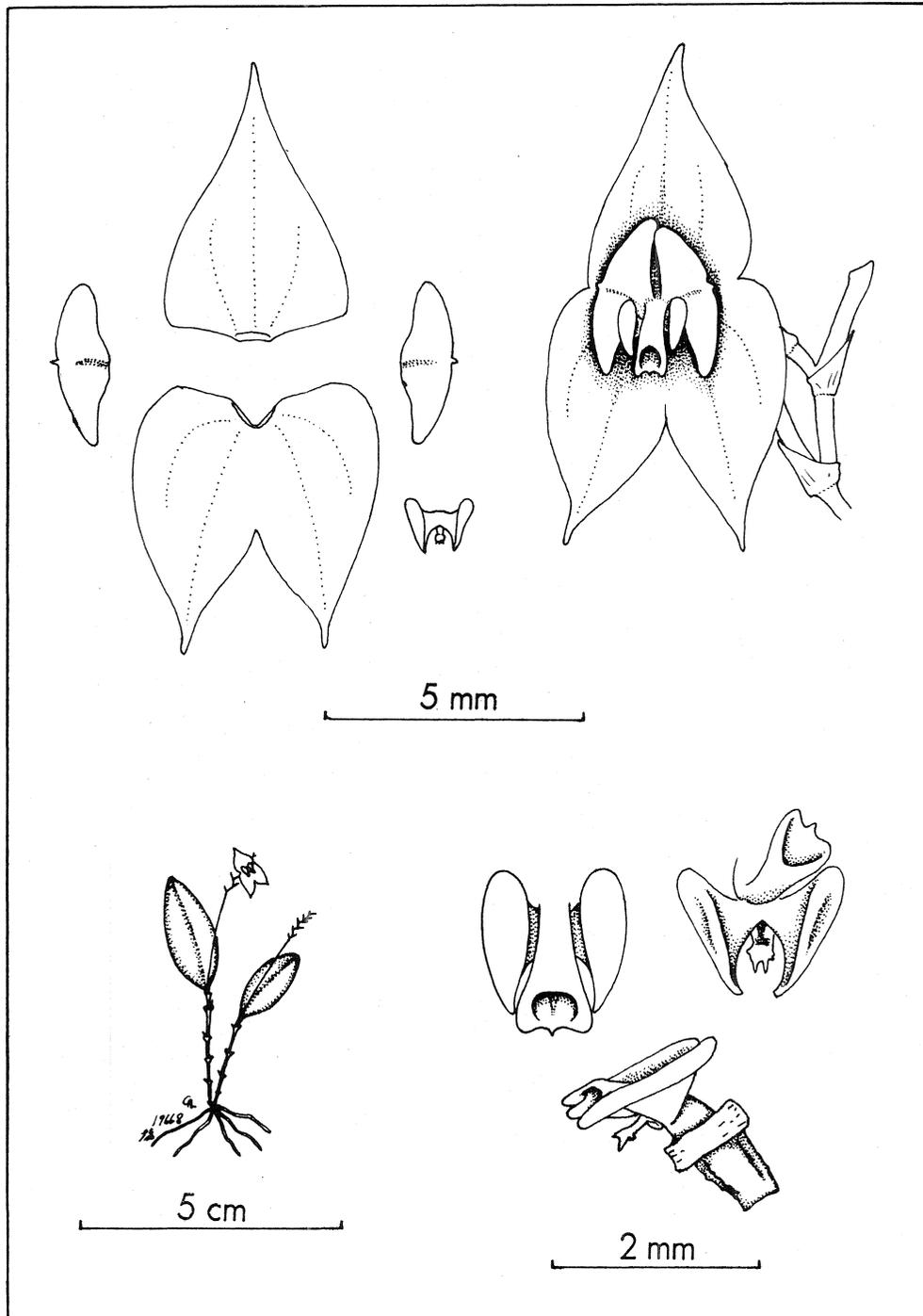


FIGURE 8. *Lepanthes aperta* Luer, C. Luer illustr 19668.

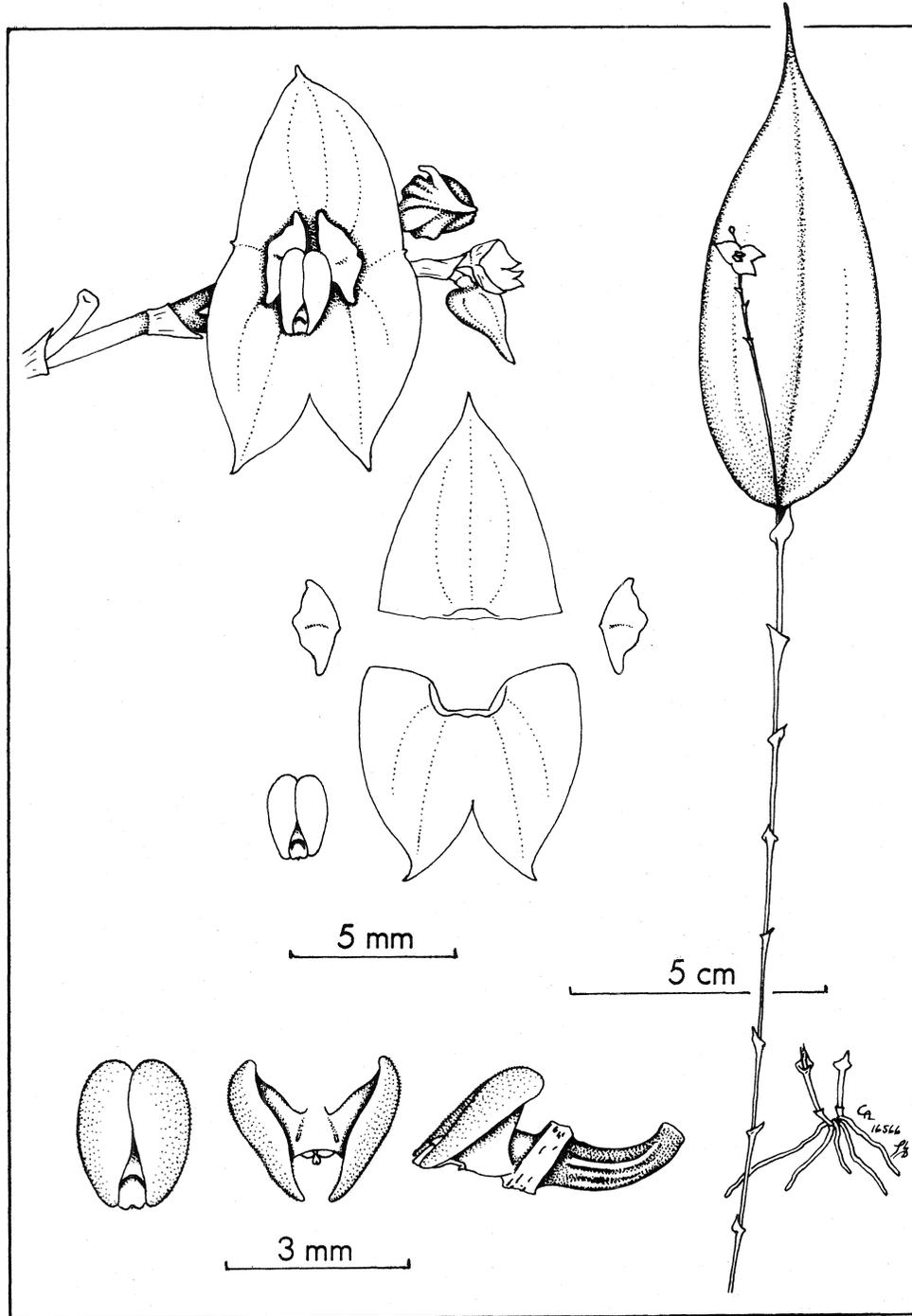


FIGURE 9. *Lepanthes bitriangularis* Luer & R.Escobar, C. Luer illustr. 16566.

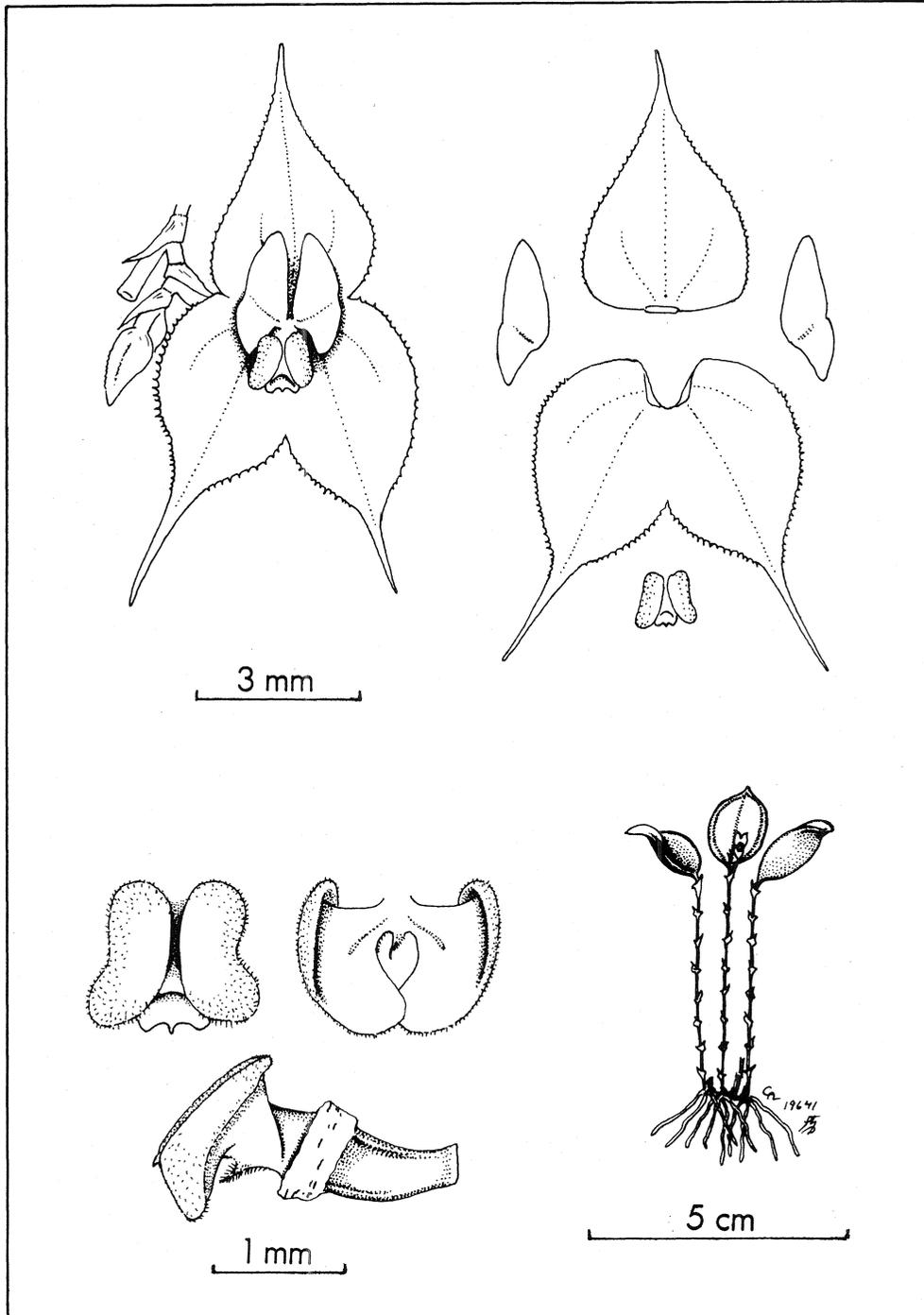


FIGURE 10. *Lepanthes concavella* Luer & Hirtz, C. Luer illustr. 19641.

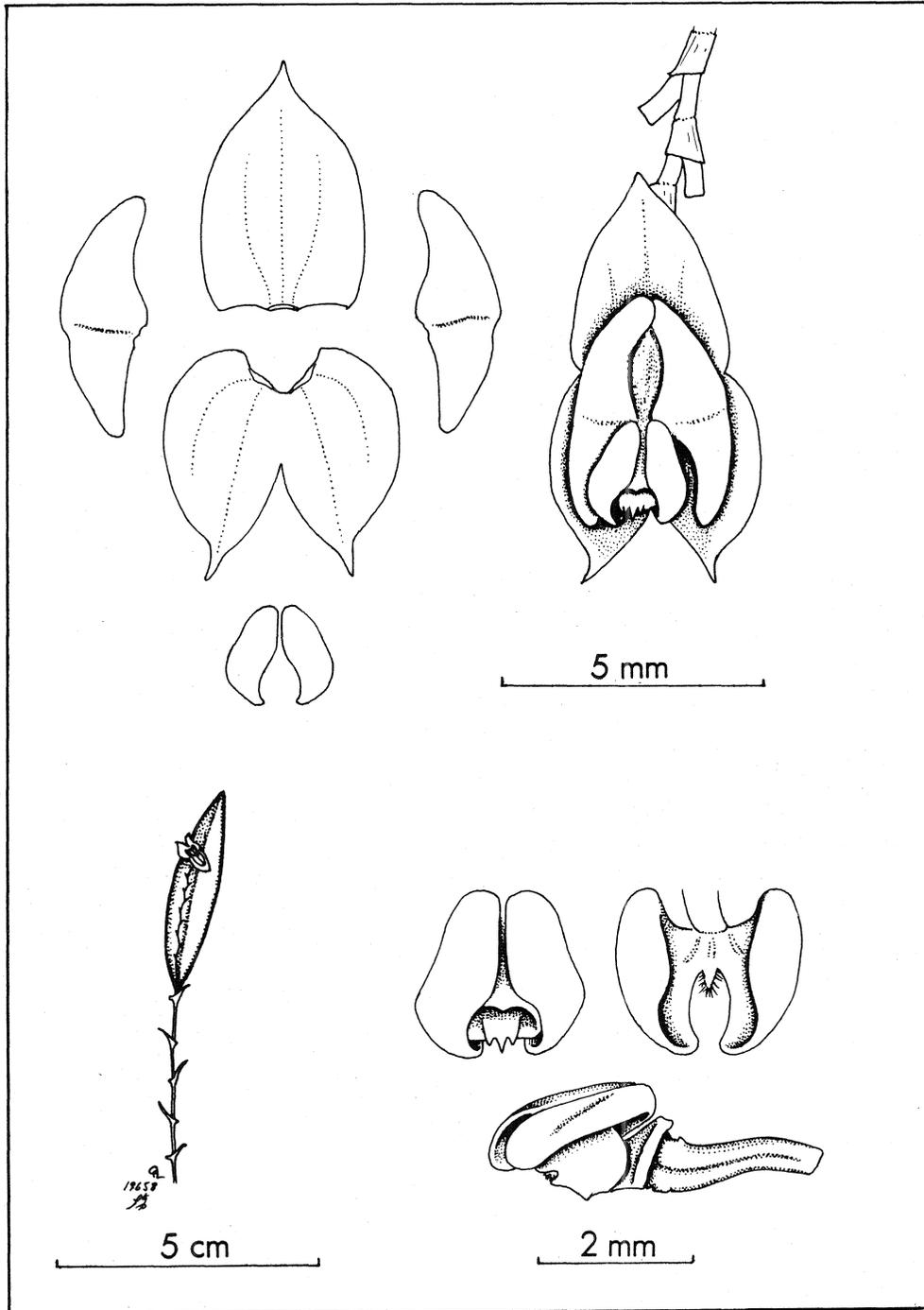


FIGURE 11. *Lepanthes conchylata* Luer, C. Luer illustr. 19658.

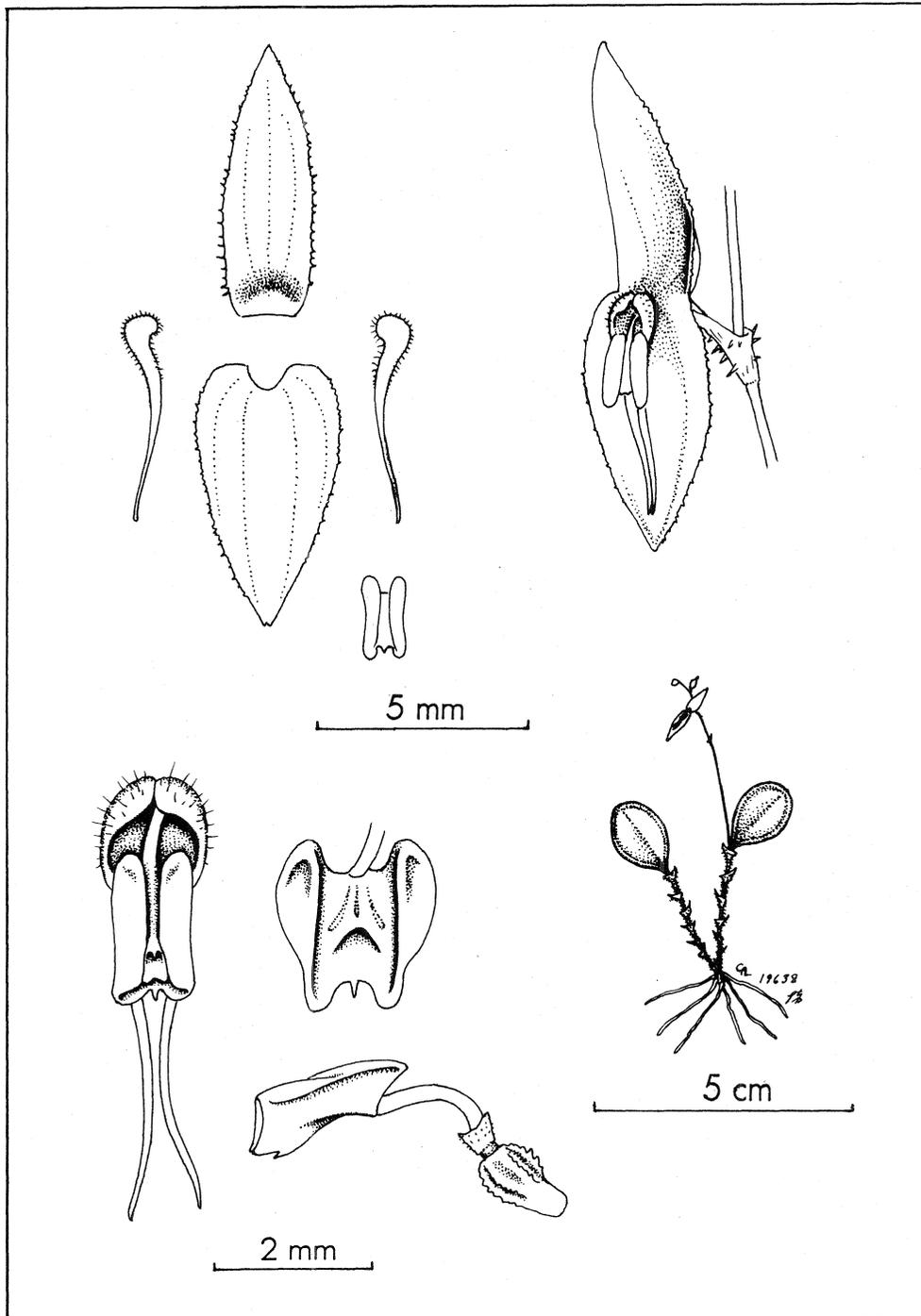


FIGURE 12. *Lepanthes conconula* Luer & Hirtz, C. Luer illustr. 19638.

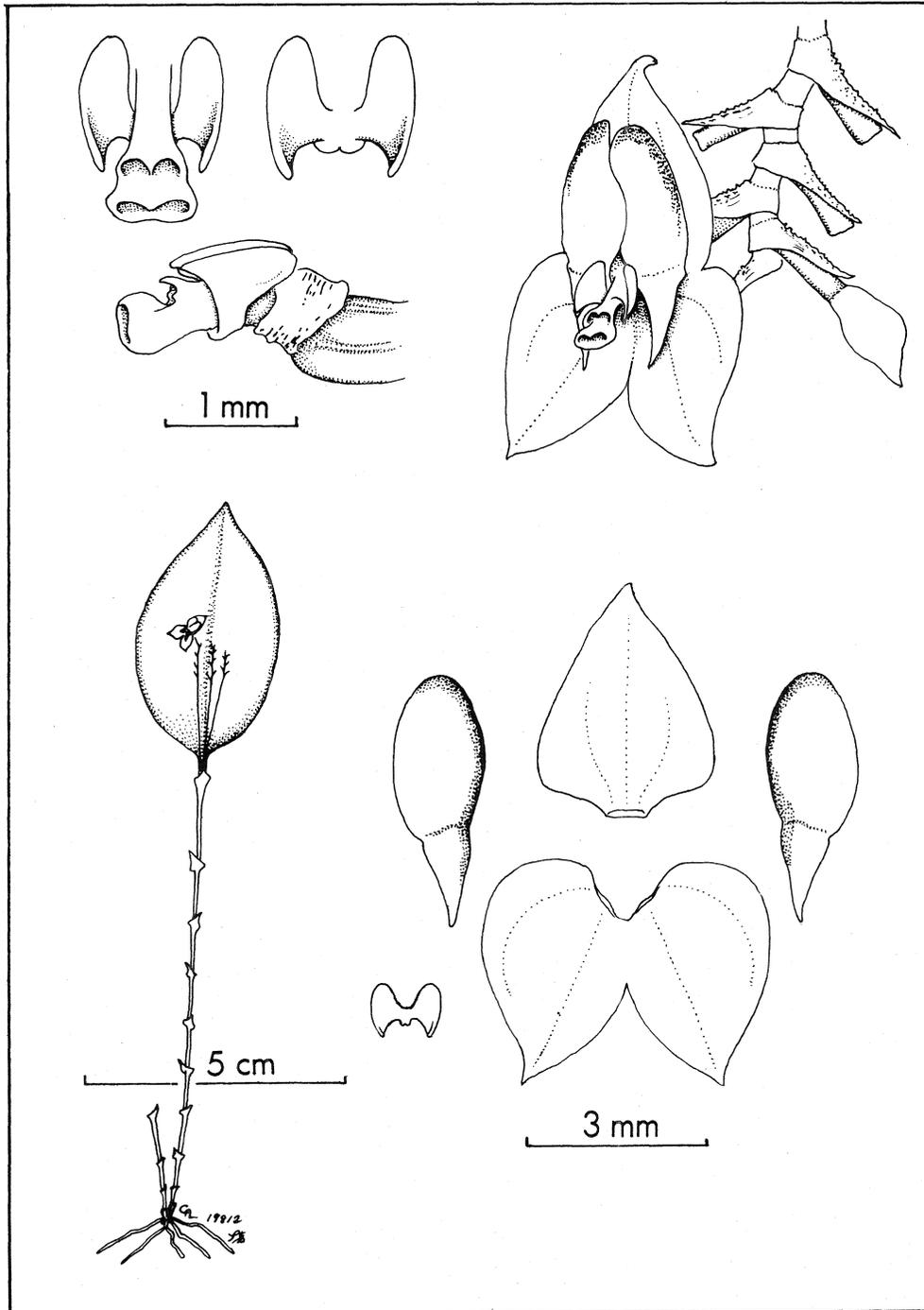


FIGURE 13. *Lepanthes detecta* Luer & Hirtz, C. Luer illustr. 1981/2.

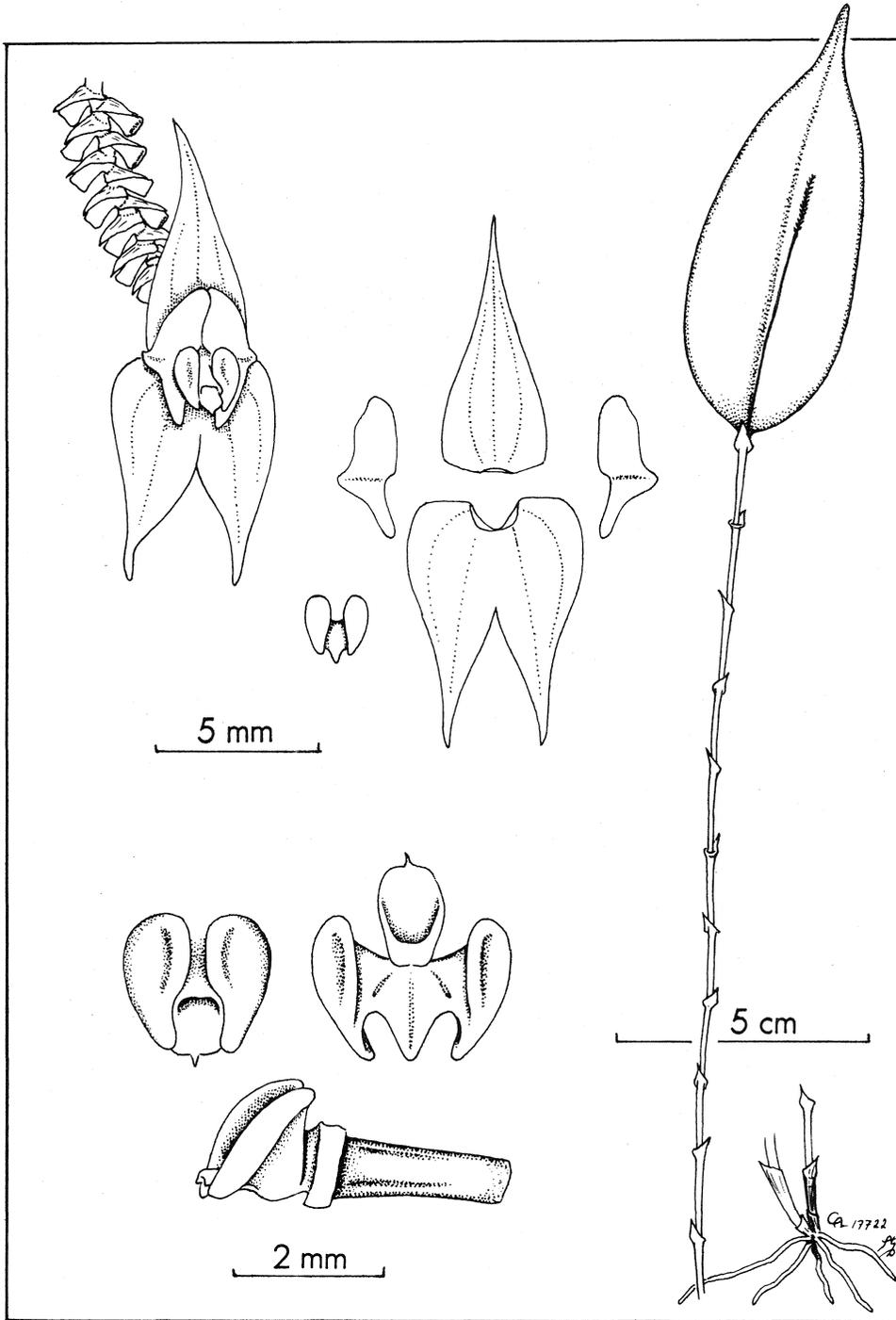


FIGURE 14. *Lepanthes deutera* Luer & Thoele, C. Luer illustr. 17722.

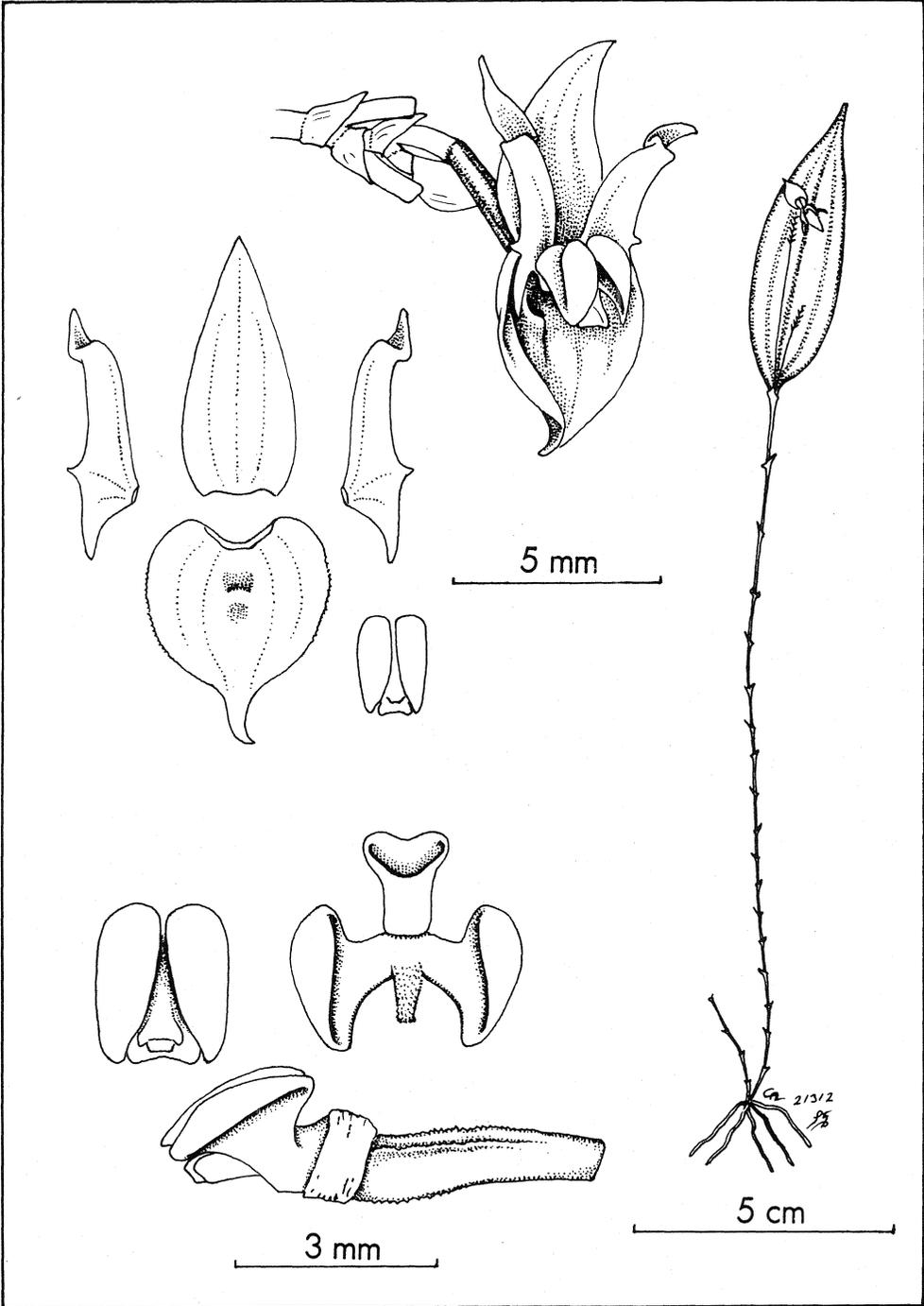


FIGURE 15. *Lepanthes dicyrtopetala* Luer & Hirtz, C. Luer illustr. 21312.

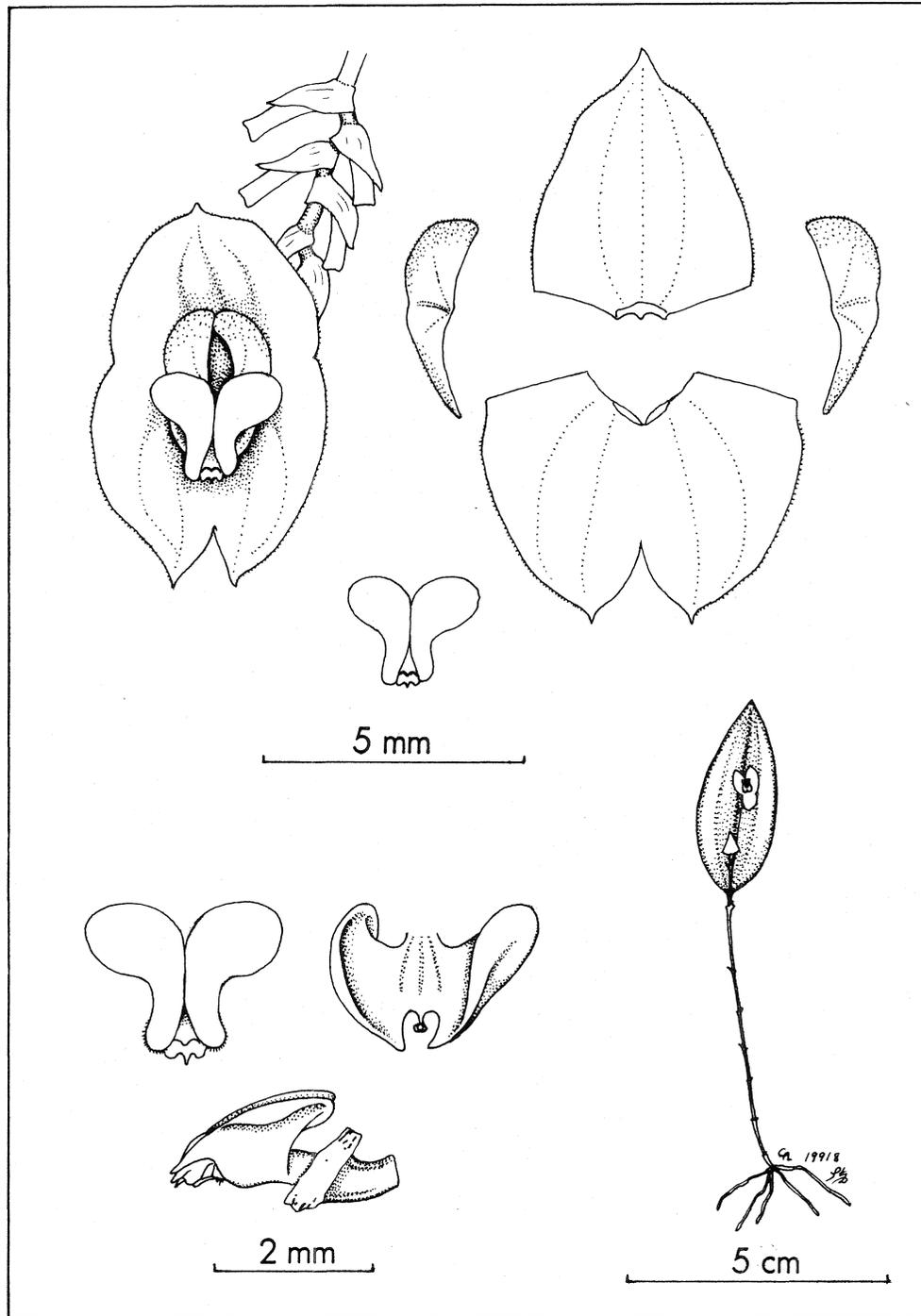


FIGURE 16. *Lepanthes dumbo* Luer, C. Luer illustr. 19918.

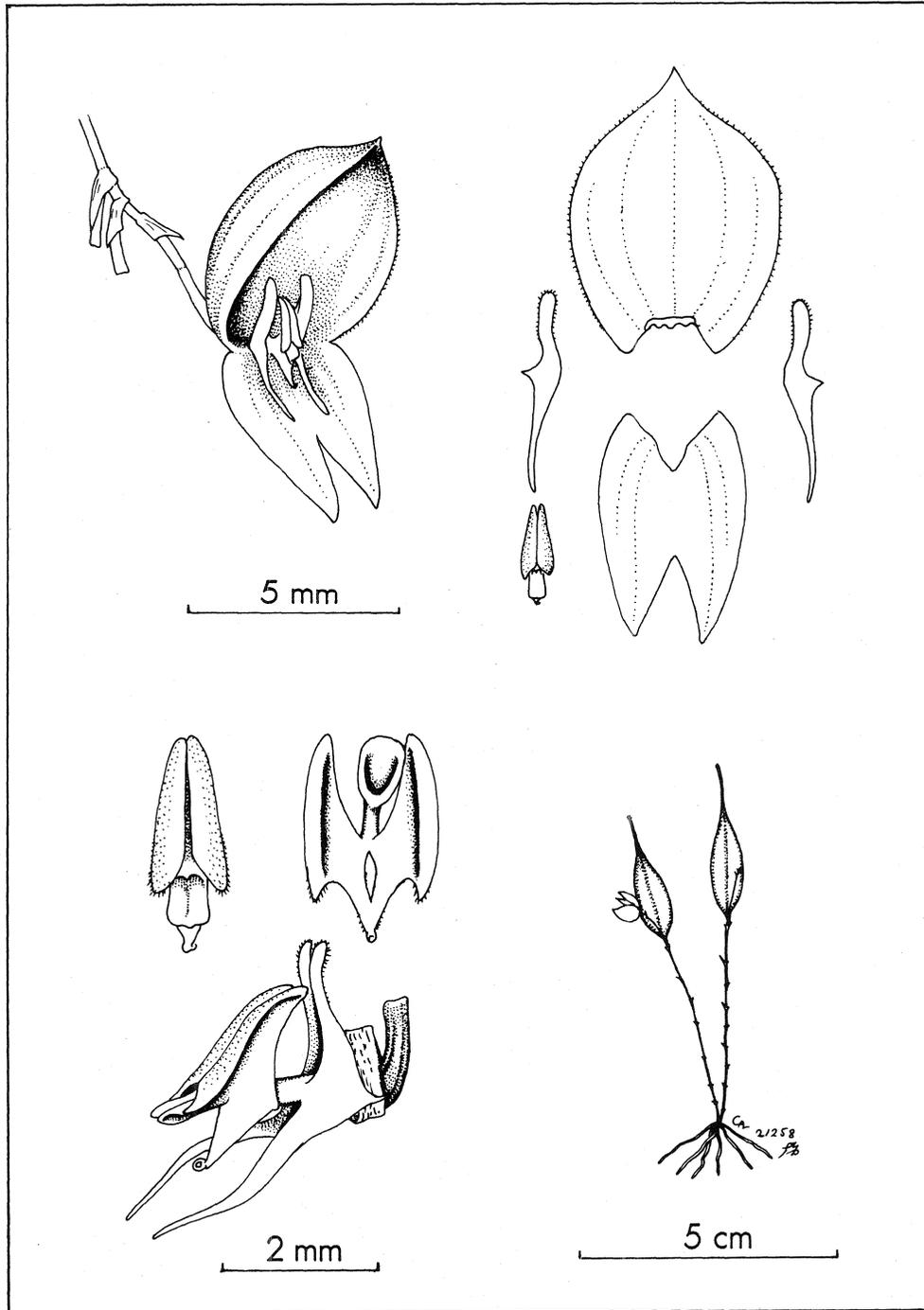


FIGURE 17. *Lepanthes ectopa* Luer, C. Luer illustr. 21258.

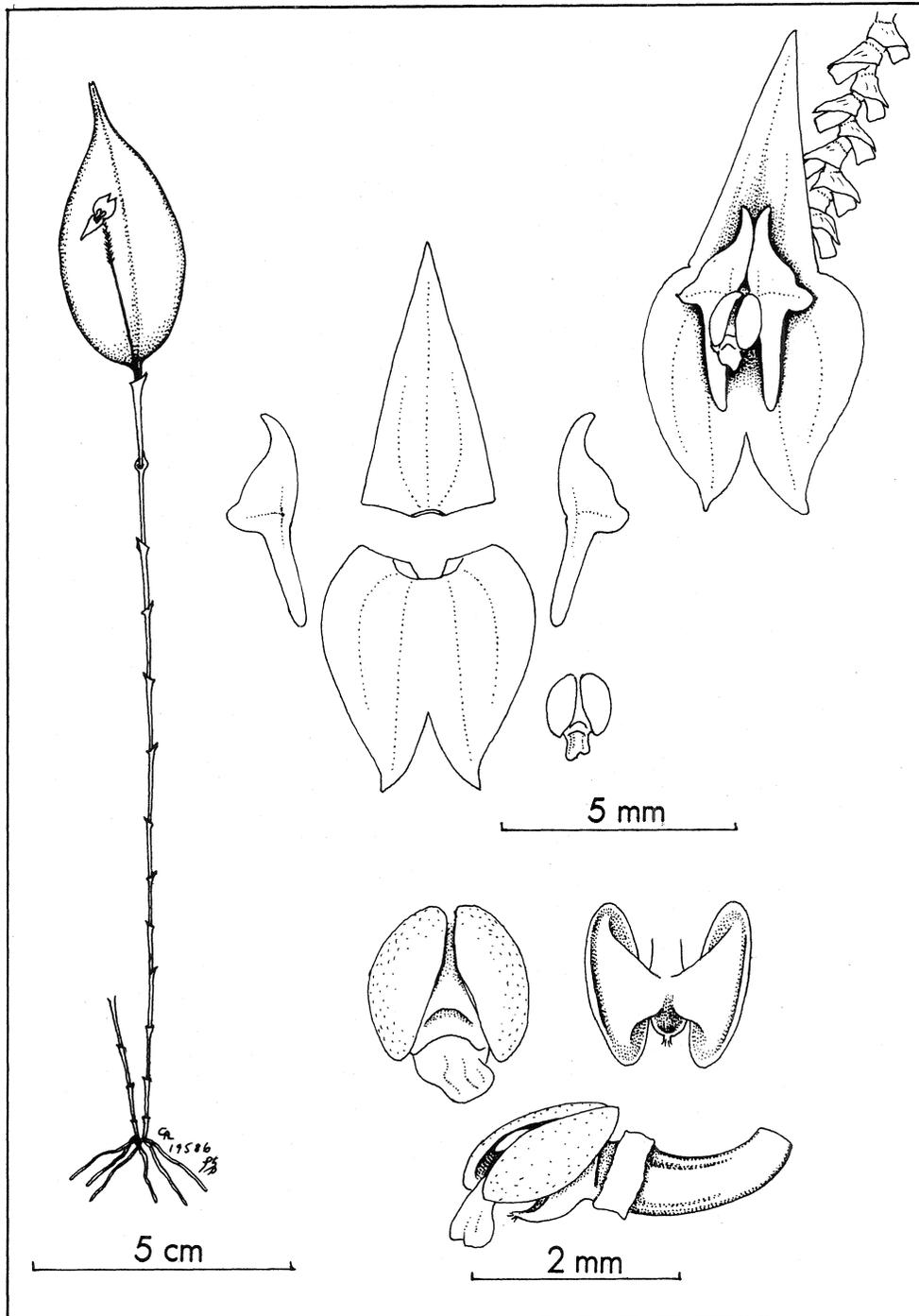


FIGURE 18. *Lepanthes membranacea* Luer & Hirtz, C. Luer illustr. 19586.

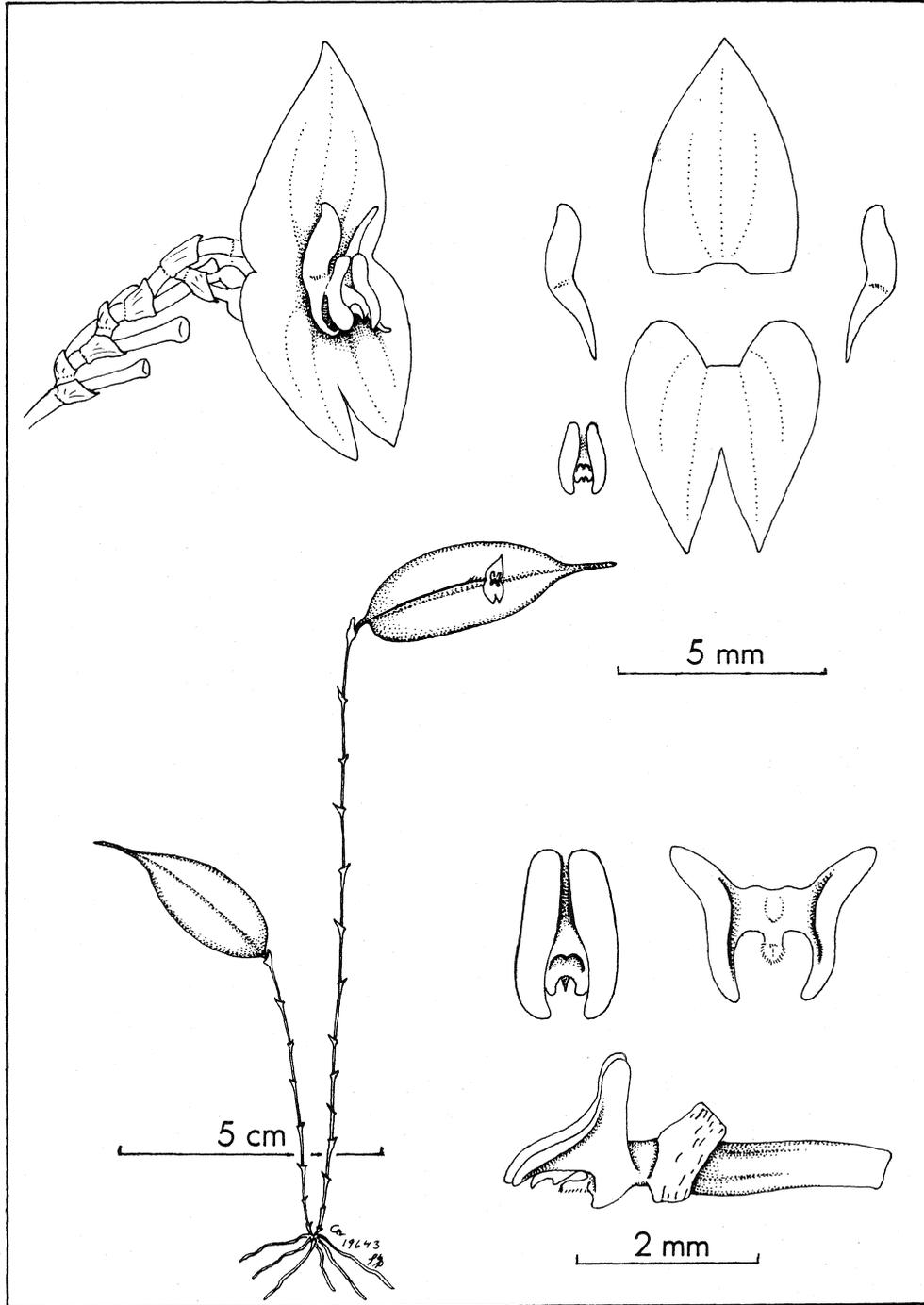


FIGURE 19. *Lepanthes nitida* Luer & Hirtz, C. Luer illustr. 19643.

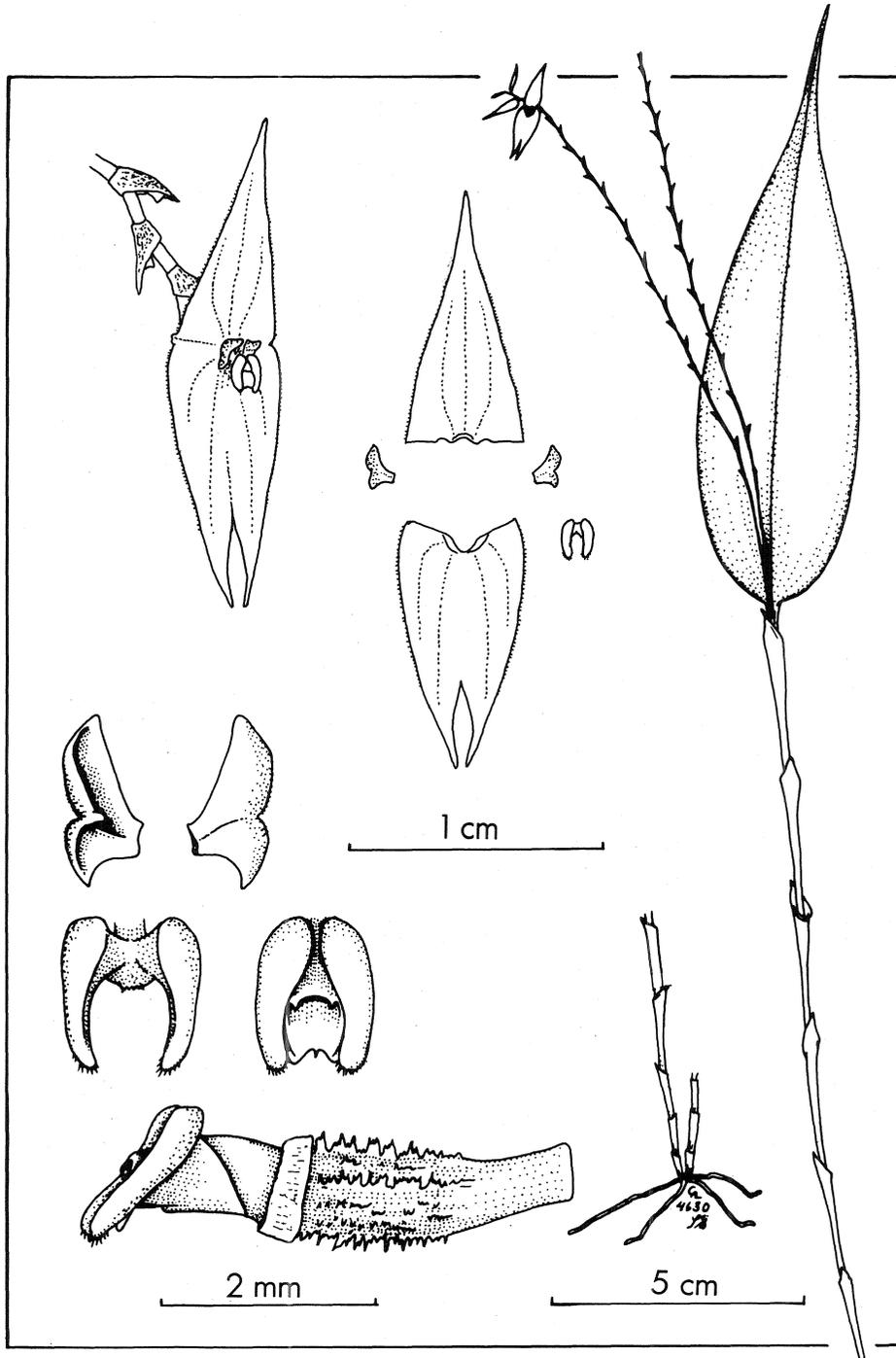


FIGURE 20. *Lepanthes ostraconopetala* Luer & Hirtz, C. Luer illustr. 4630.

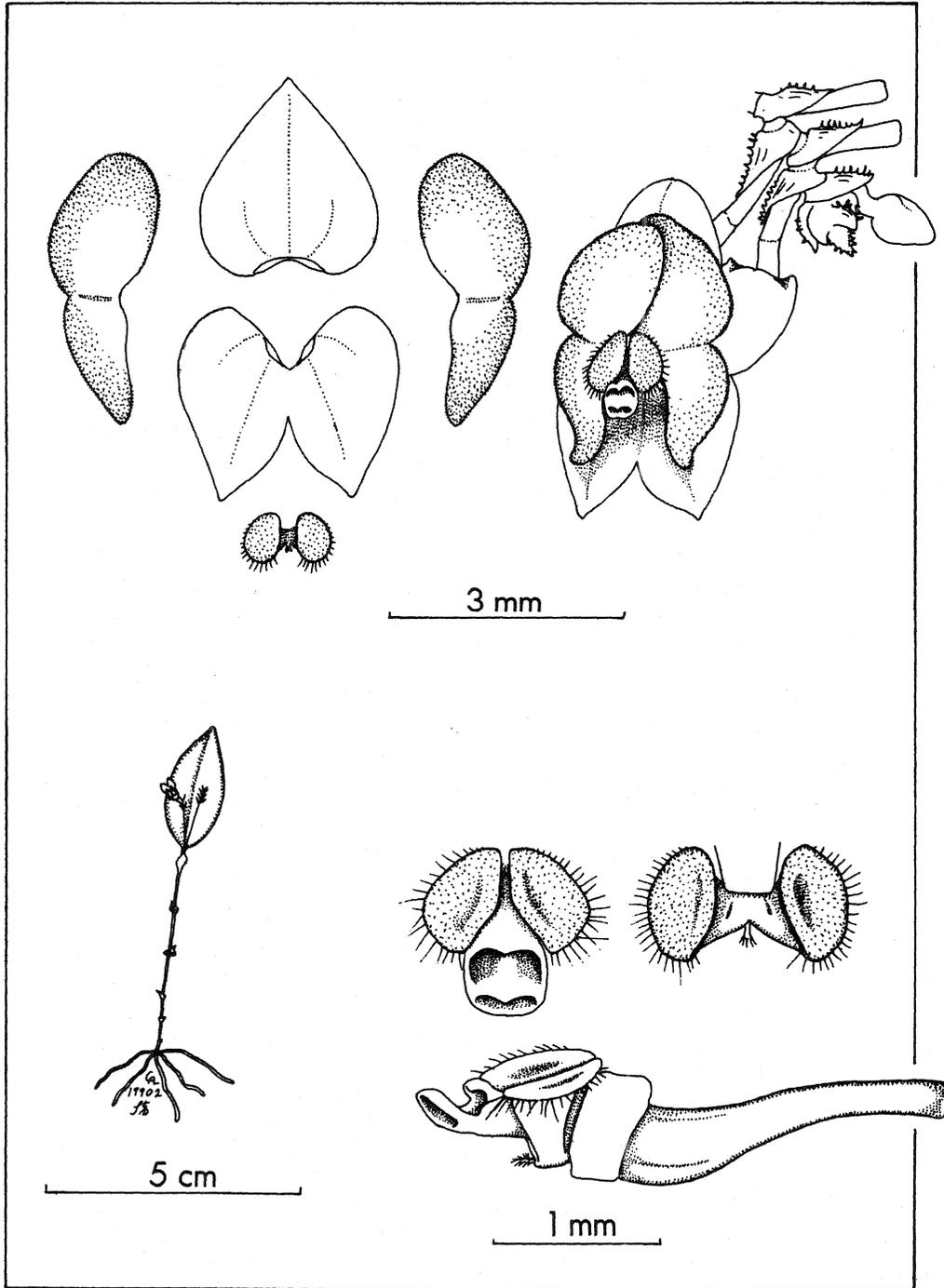


FIGURE 21. *Lepanthes penicillifera* Luer, C Luer illustr. 19902.

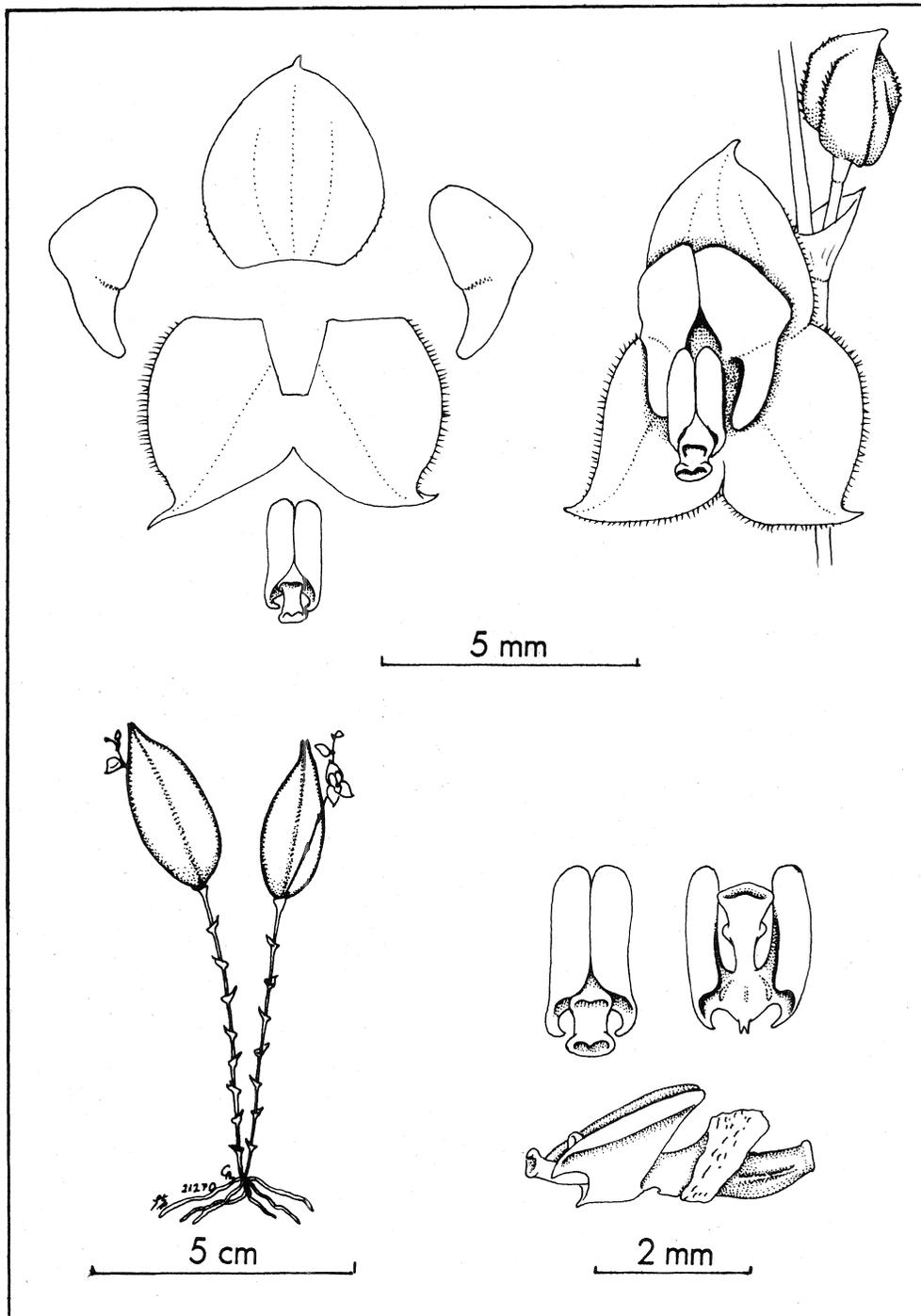


FIGURE 22. *Lepanthes pictilis* Luer & Hirtz, C. Luer illustr. 21270.

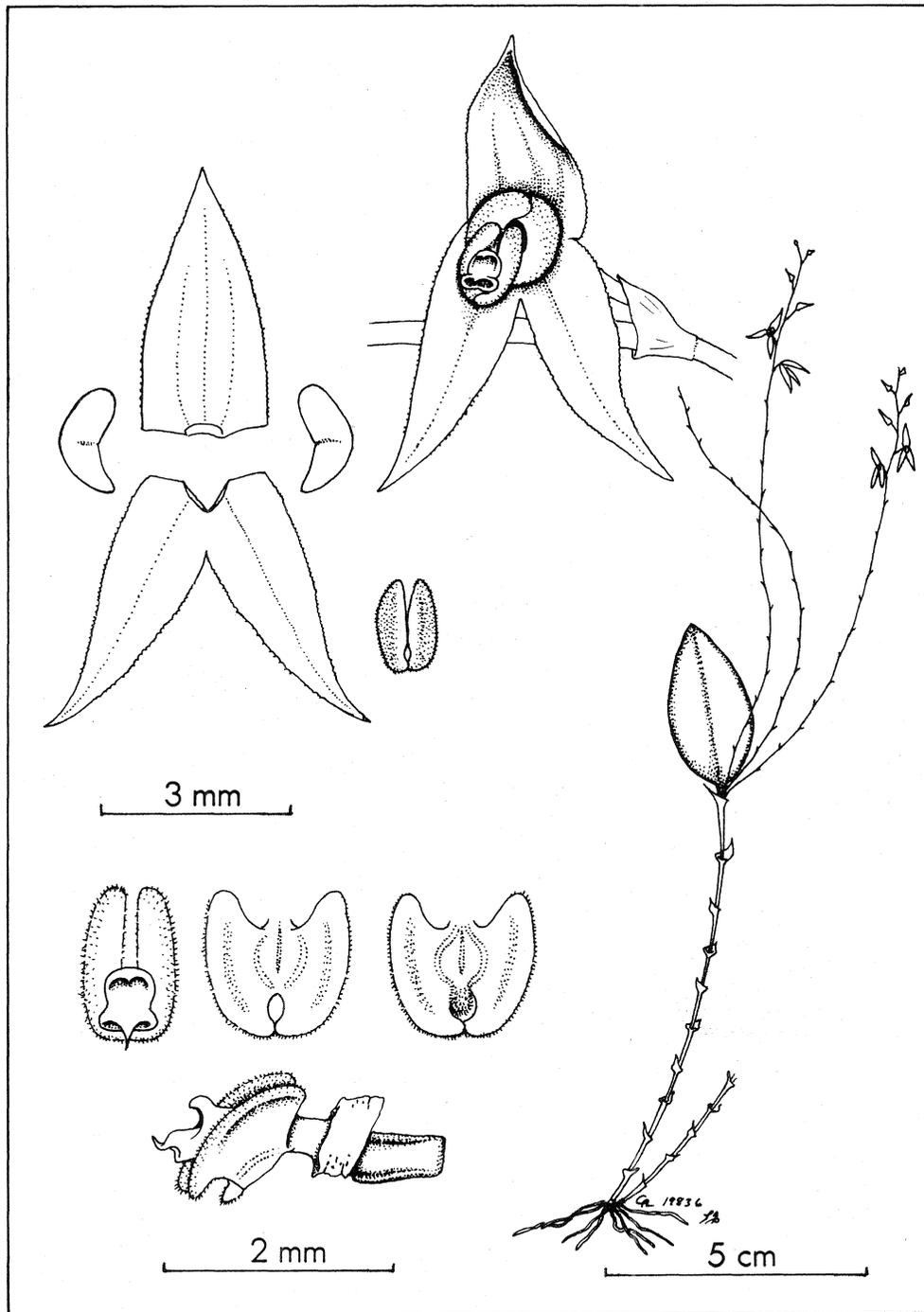


FIGURE 23. *Lepanthes racemosa* Luer & Hirtz, C. Luer illustr. 19836.

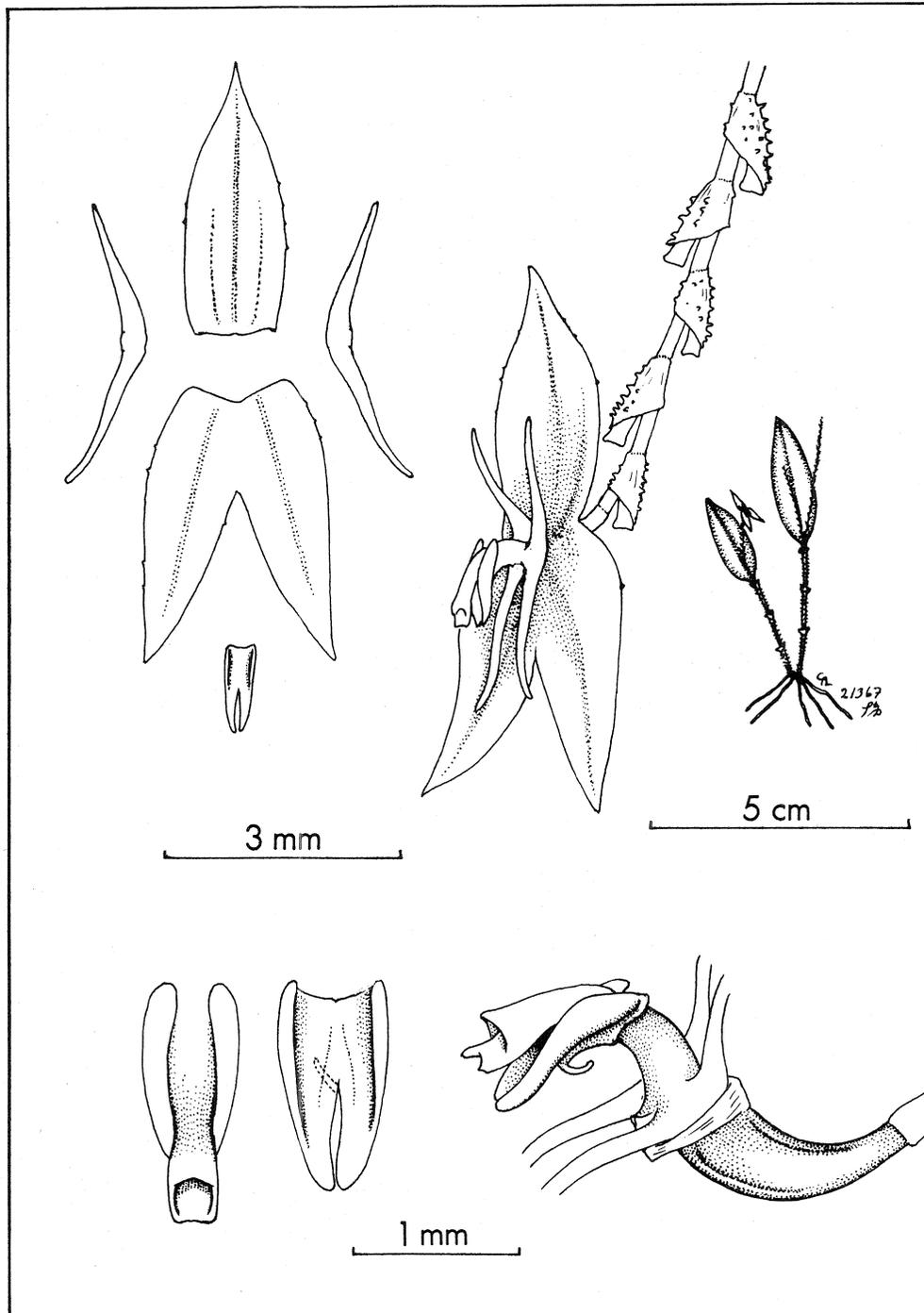


FIGURE 24. *Lepanthes renzii* Luer, C. Luer illustr. 21367.

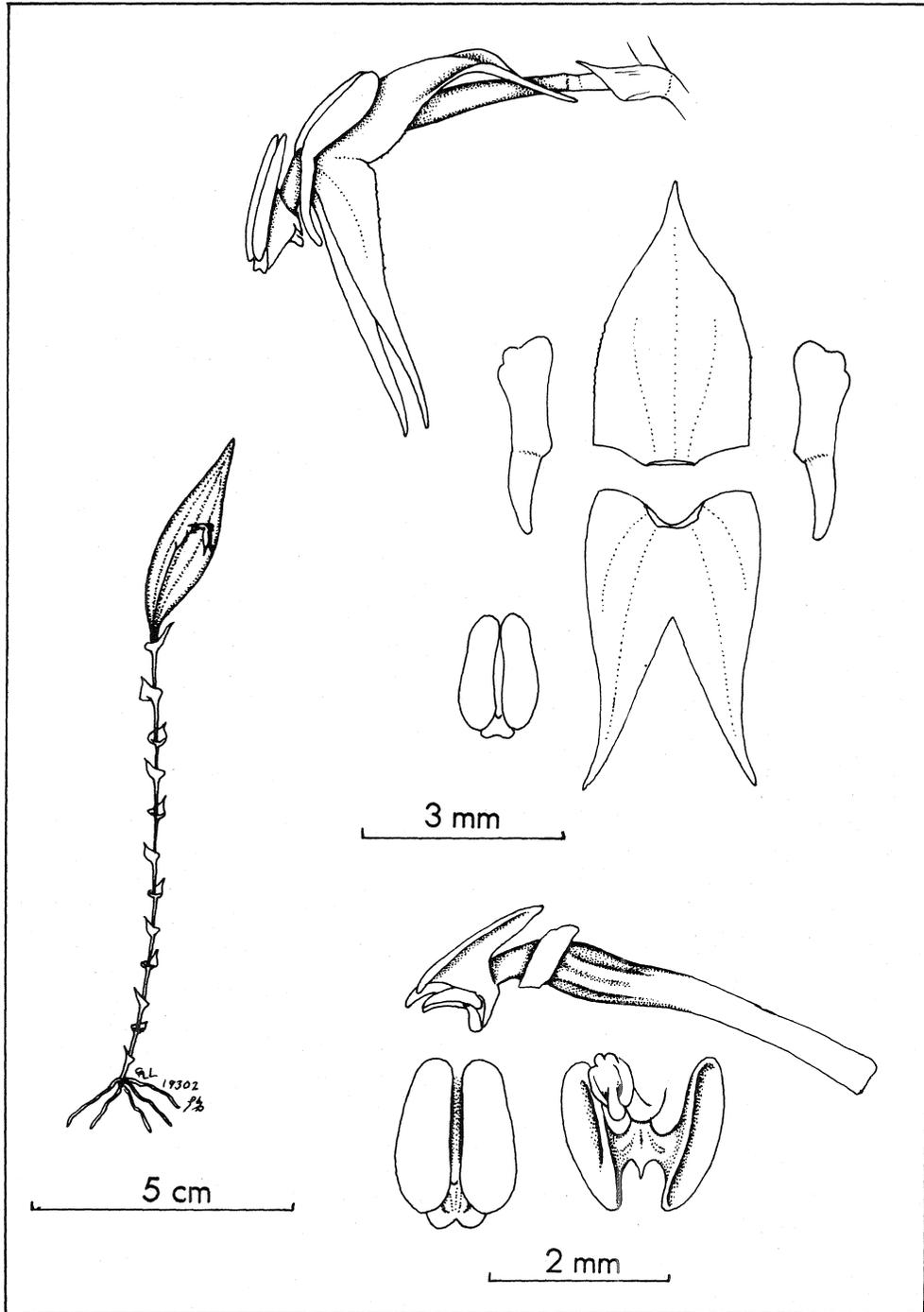


FIGURE 25. *Lepanthes salpingosa* Luer & Sijm, C. Luer illustr. 19302.

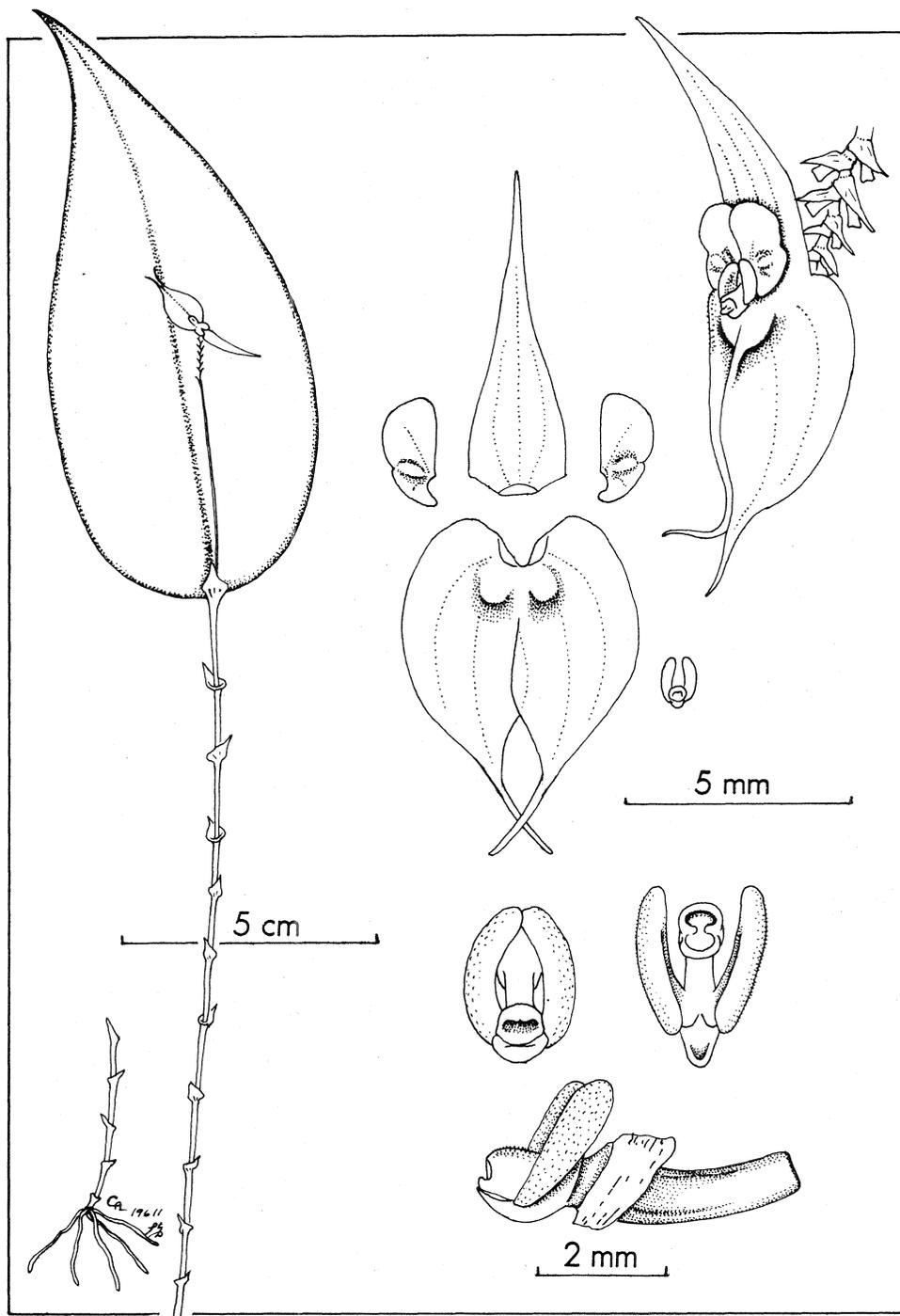


FIGURE 26. *Lepanthes singularis* Luer & Hirtz, C. Luer illustr. 19611.

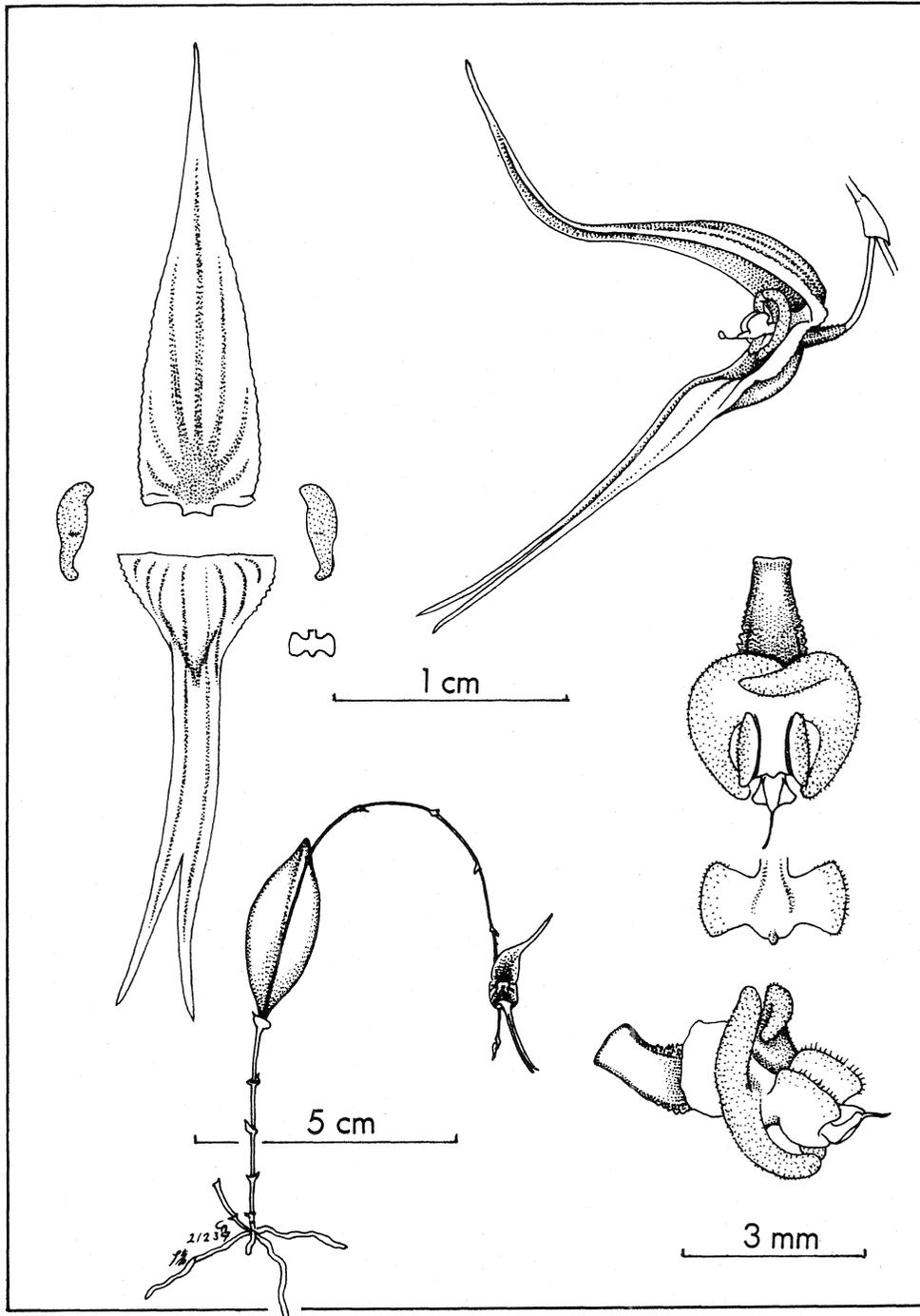


FIGURE 27. *Lepanthes tigrina* Luer & Thoele, C. Luer illustr. 21234.

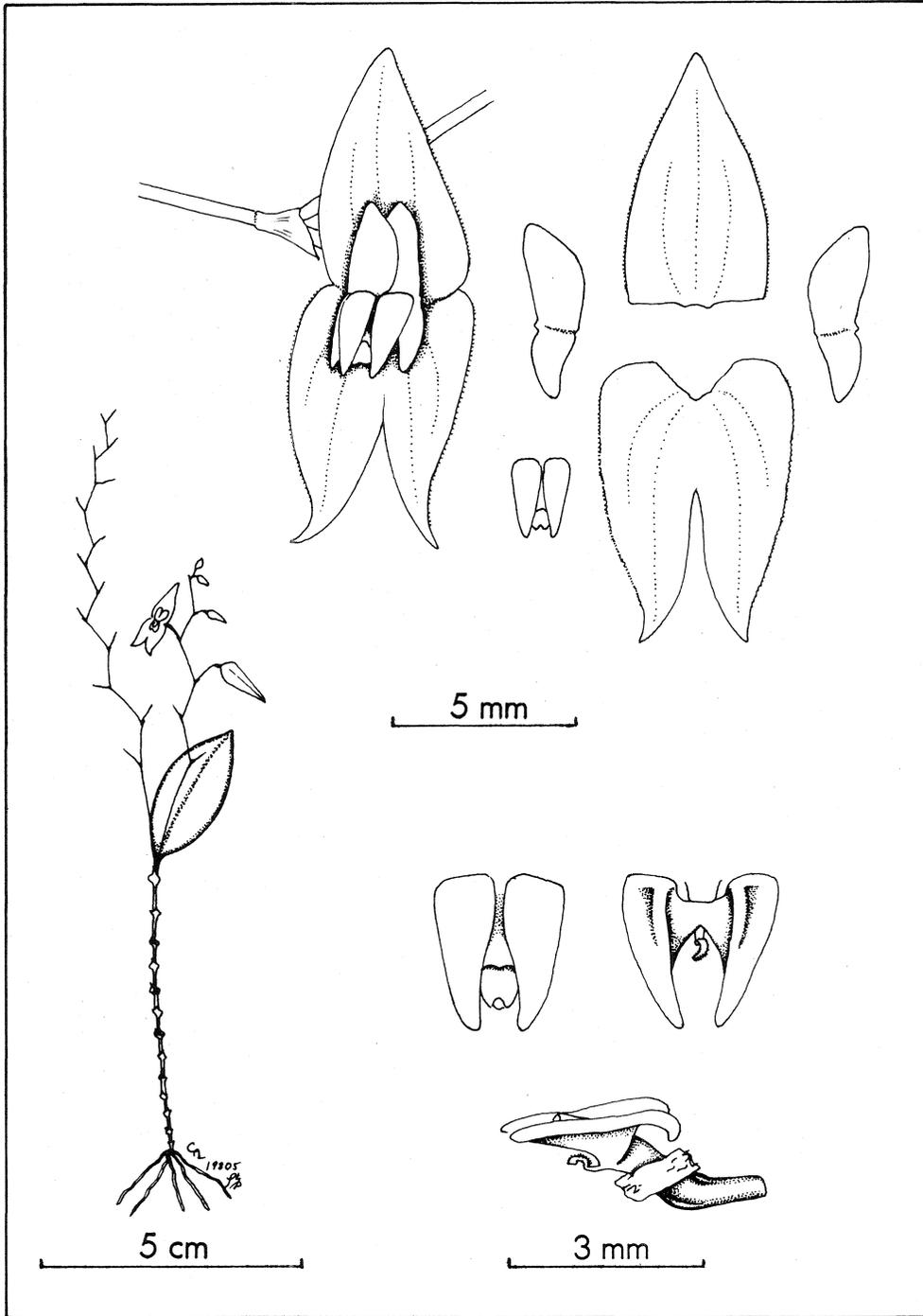


FIGURE 28. *Lepanthes vaginosa* Luer & Hirtz, C. Luer illustr. 19805.

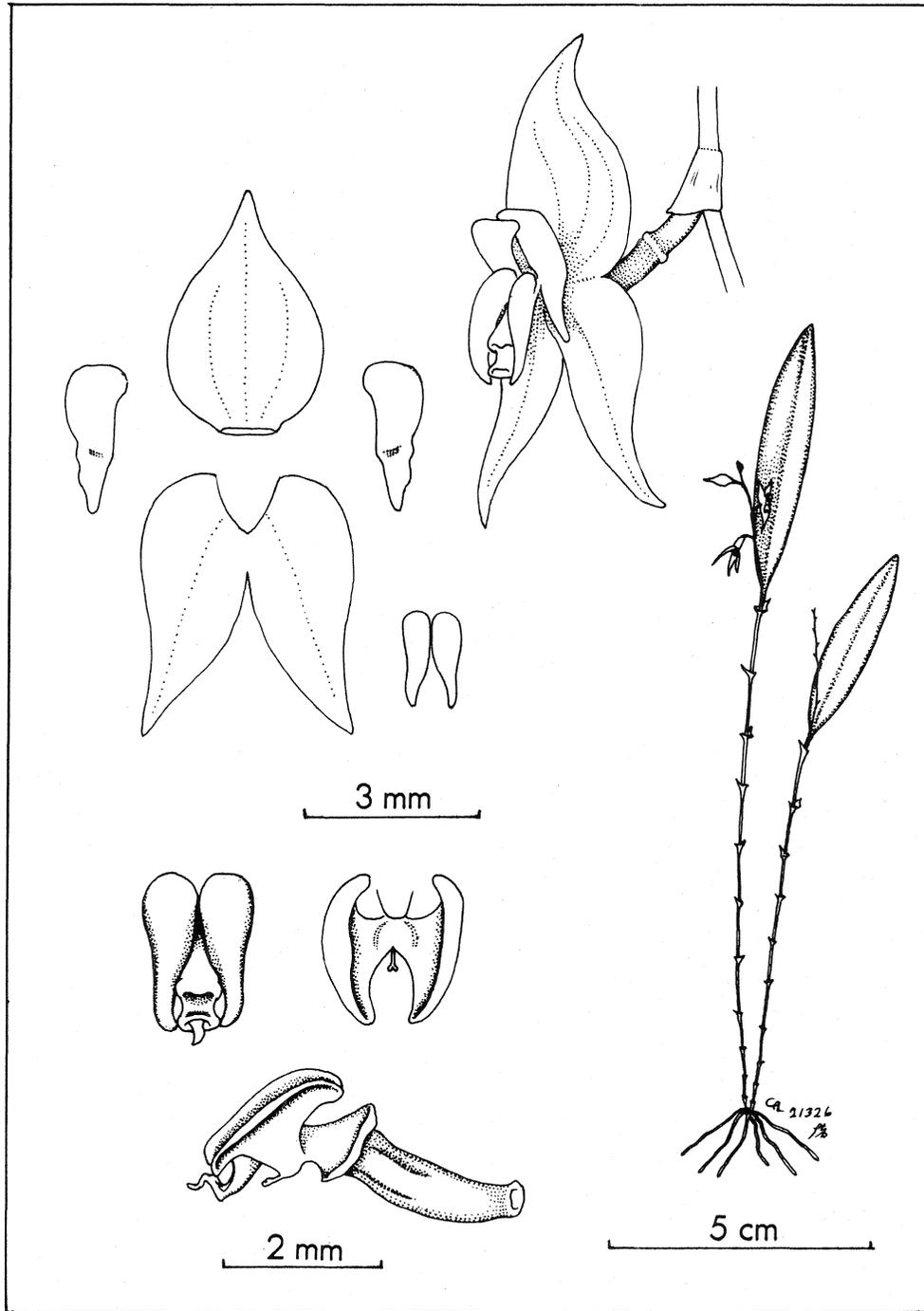


FIGURE 29. *Lepanthes zelenkoi* Luer & Hirtz, C. Luer illustr. 21326.

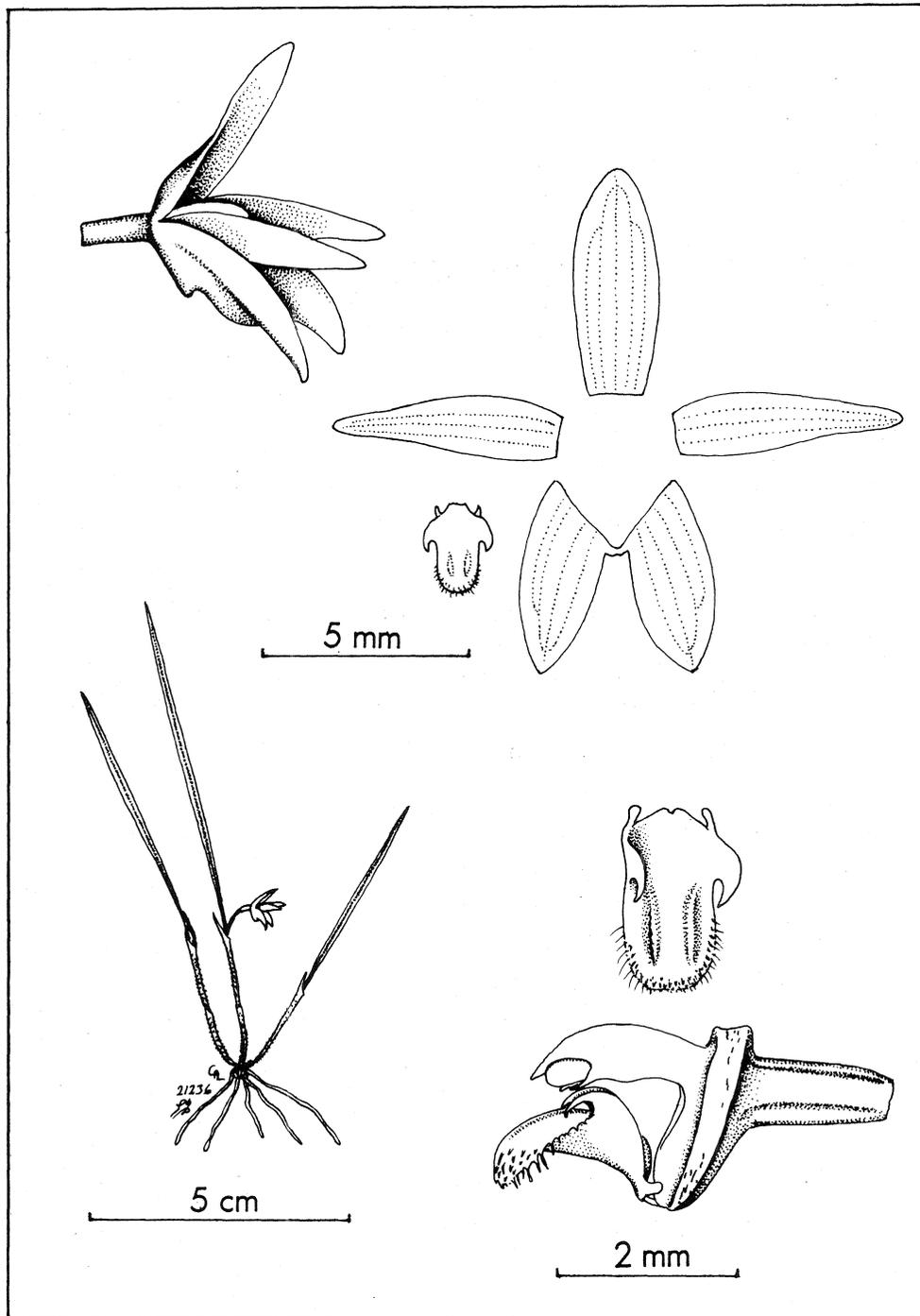


FIGURE 30. *Myoxanthus aciculifolius* Luer, C. Luer illustr. 21236.

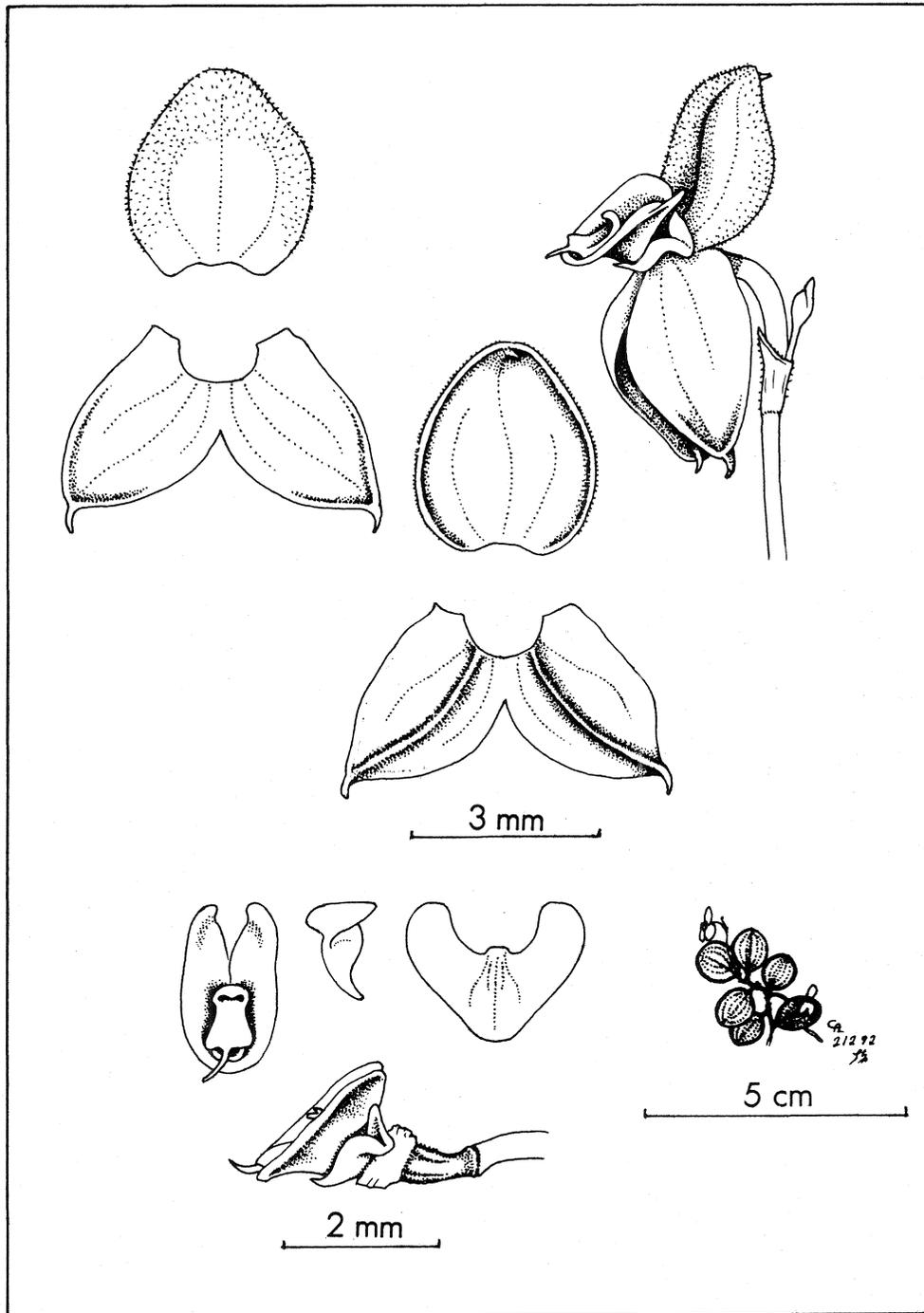


FIGURE 31. *Oreophilus chelosepalus* Luer & Hirtz, C. Luer illustr. 21292.

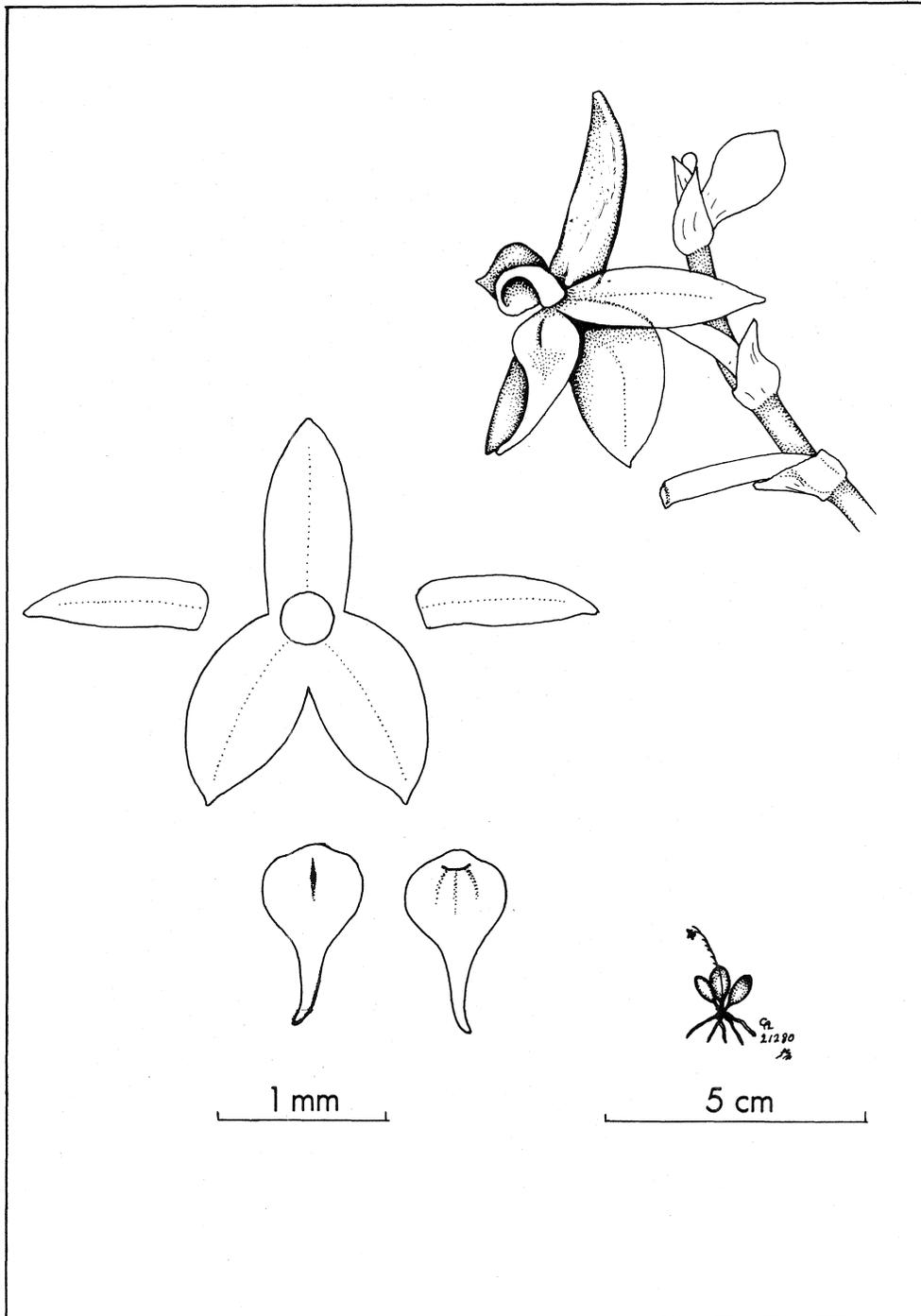


FIGURE 32. *Platystele cellulosa* Luer & Hirtz, C. Luer illustr. 21280.

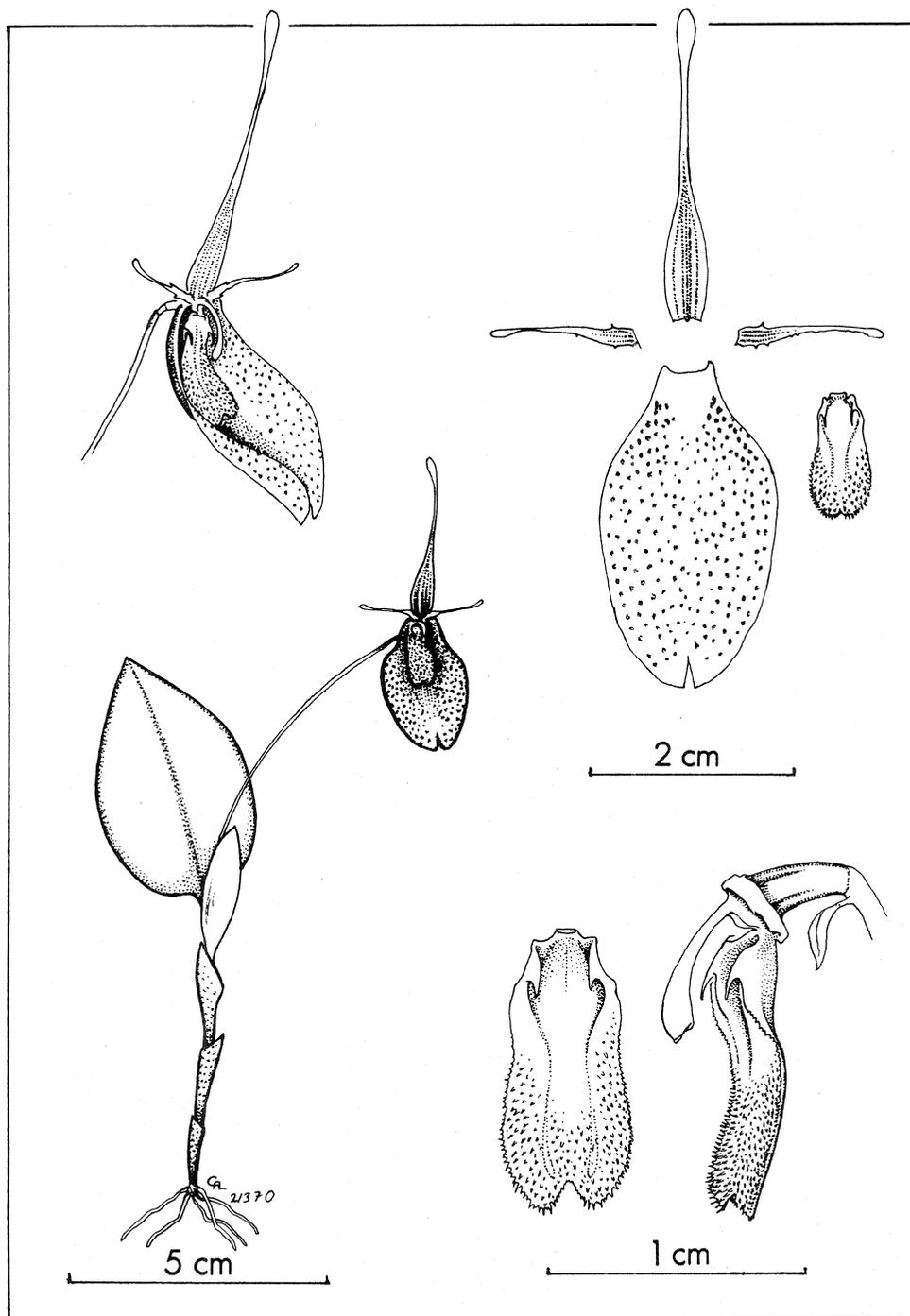


FIGURE 33. *Restrepia driessenii* Luer & Sijm, C. Luer illustr. 21370.

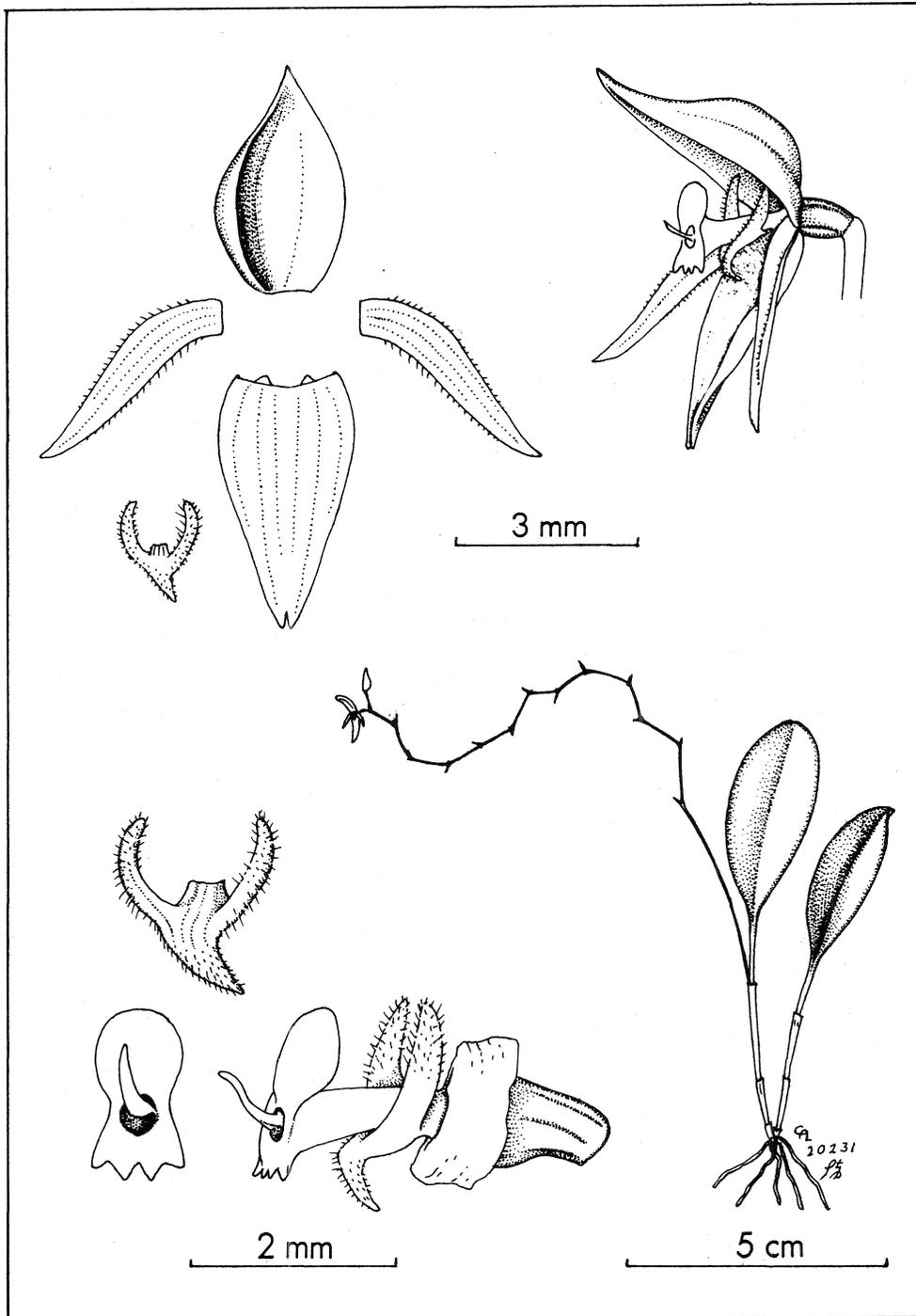


FIGURE 34. *Salpistele adrianae* Luer & Sijm, C. Luer illustr. 20231.

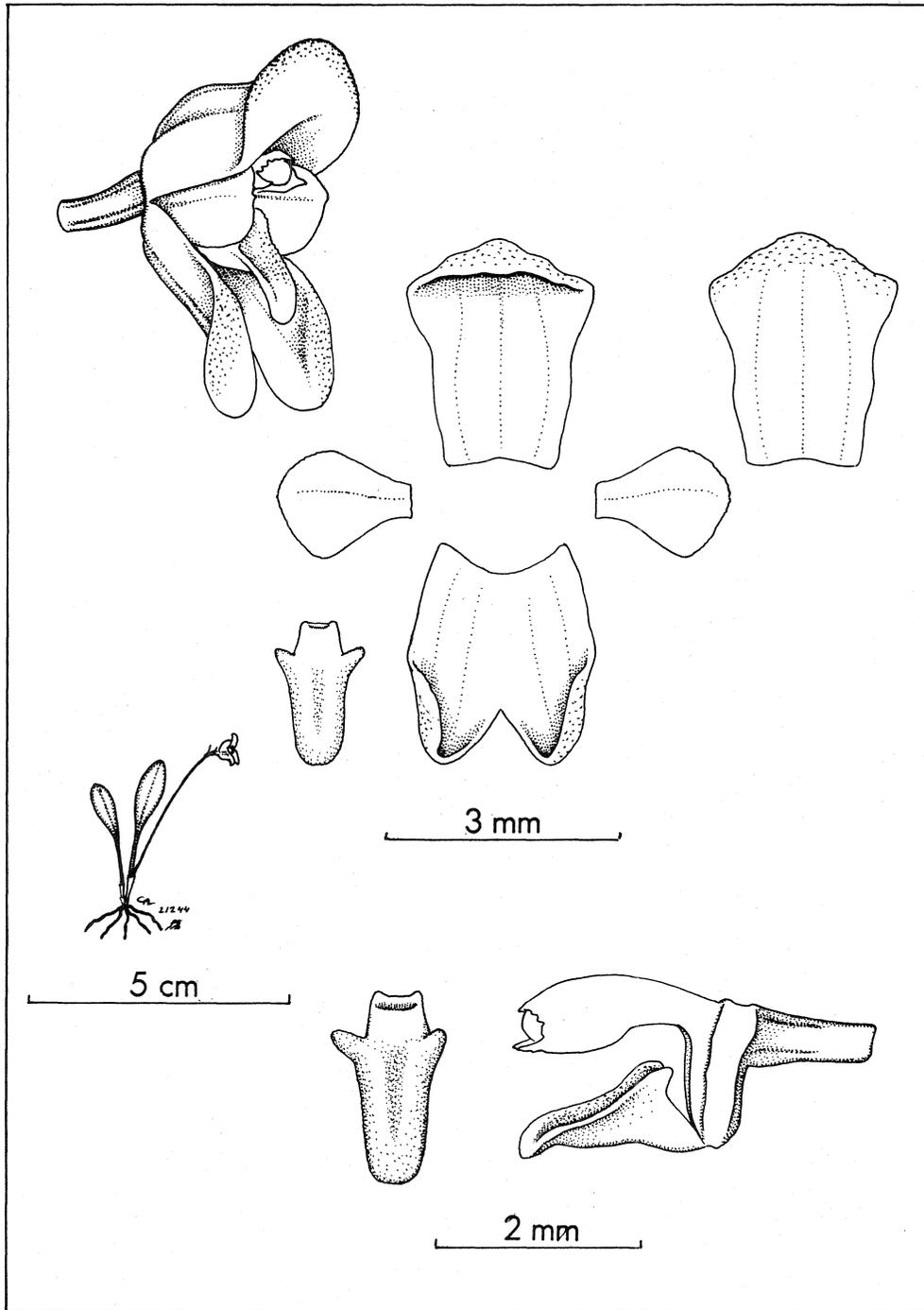


FIGURE 35. *Sarcinula rinkei* Luer, C. Luer illustr. 21244.

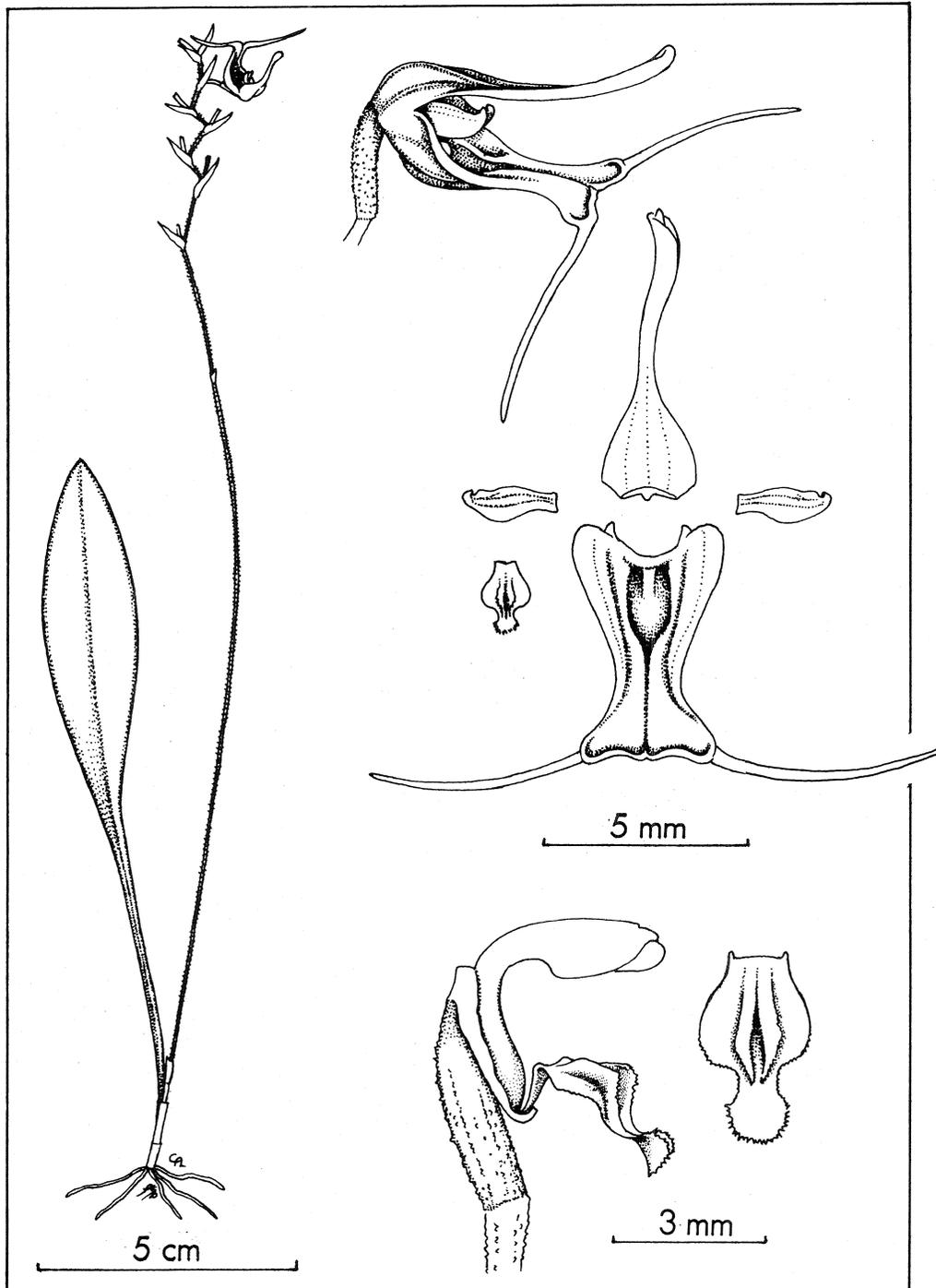


FIGURE 36. *Scaphosepalum redderatum* Luer & Sijm, C. Luer illustr. 21366.

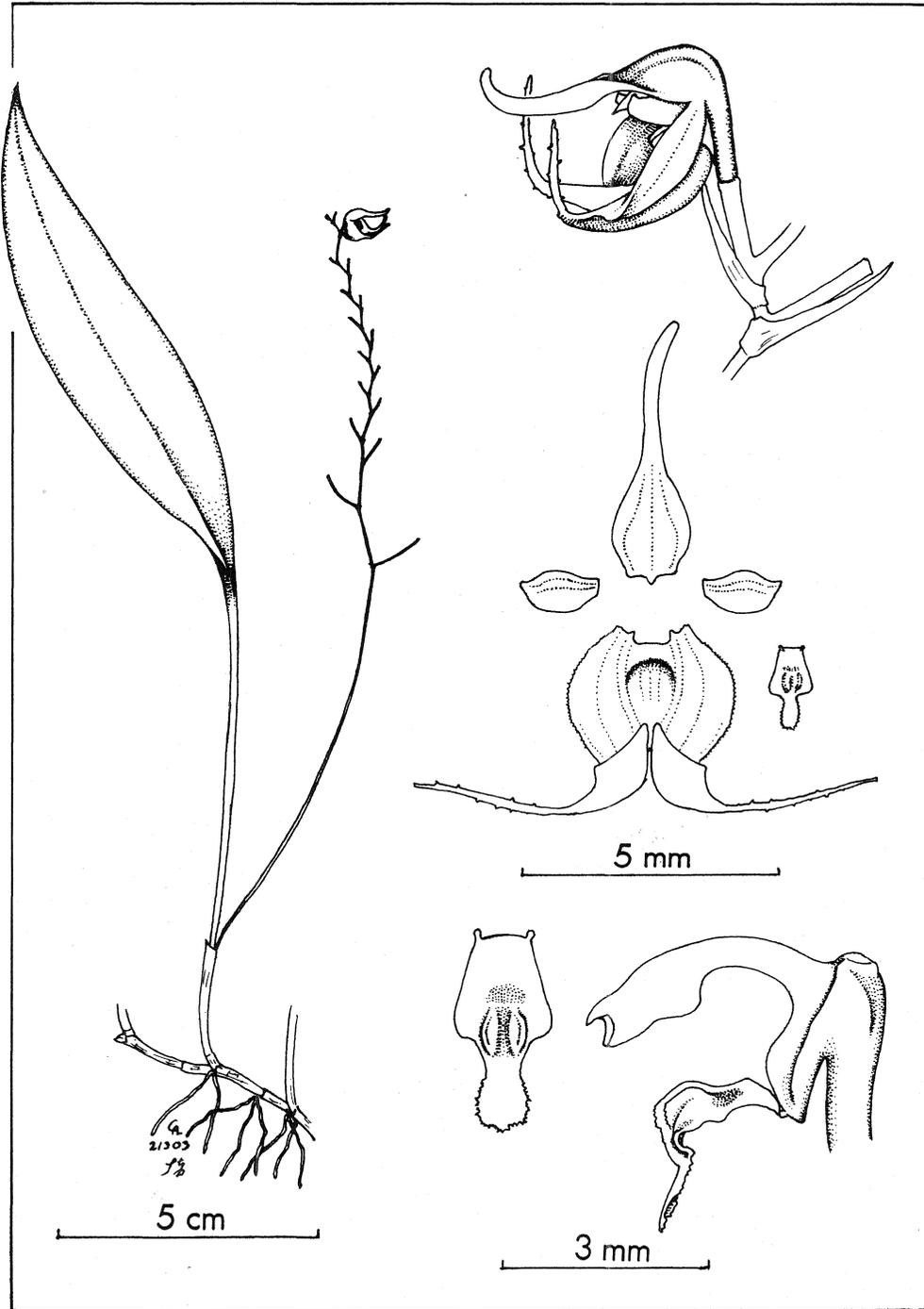


FIGURE 37. *Scaphosepalum reptans* Luer & Hirtz, C. Luer illustr. 21303.

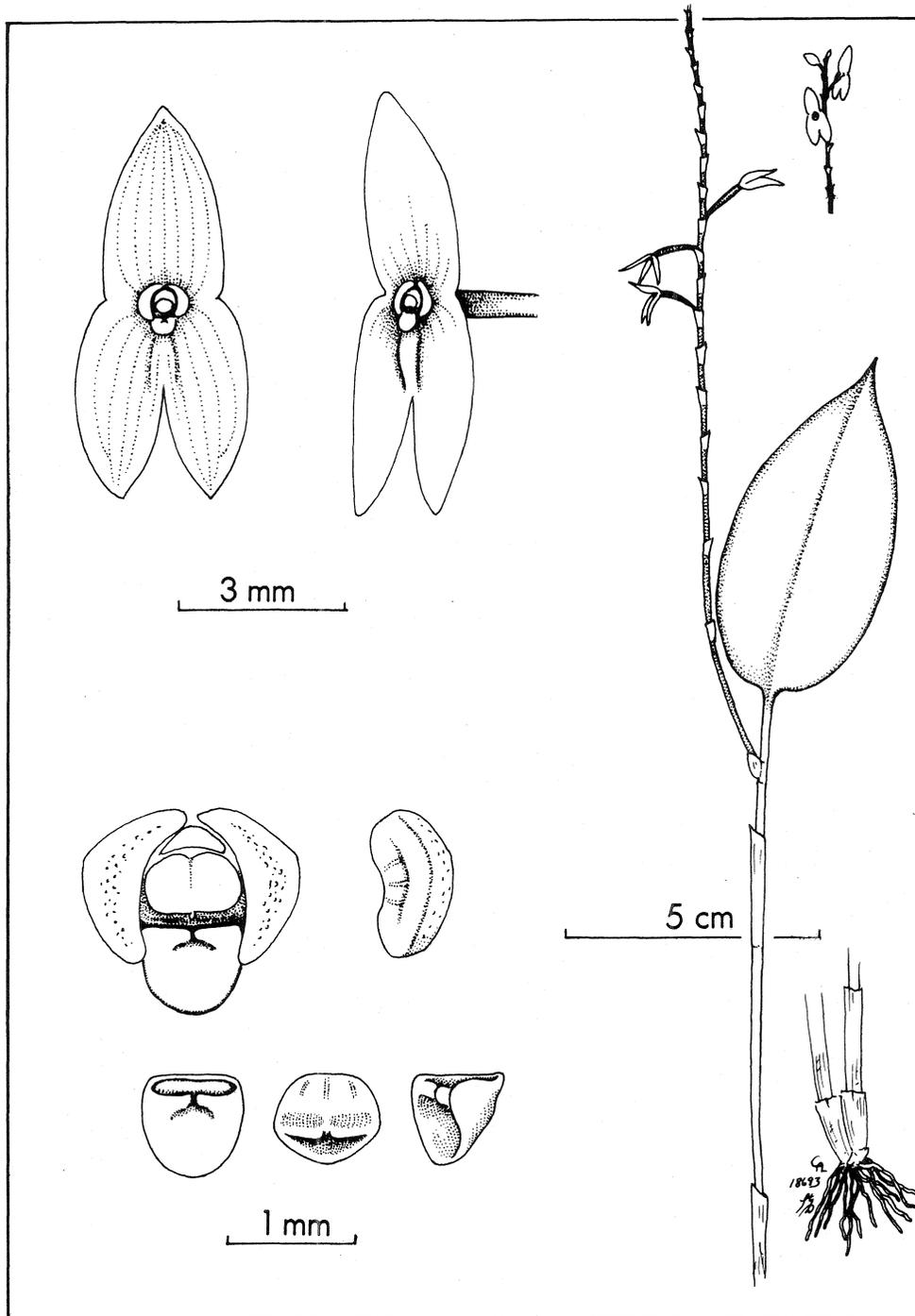


FIGURE 38. *Stelis andrei* Luer, C. Luer illustr. 18693.

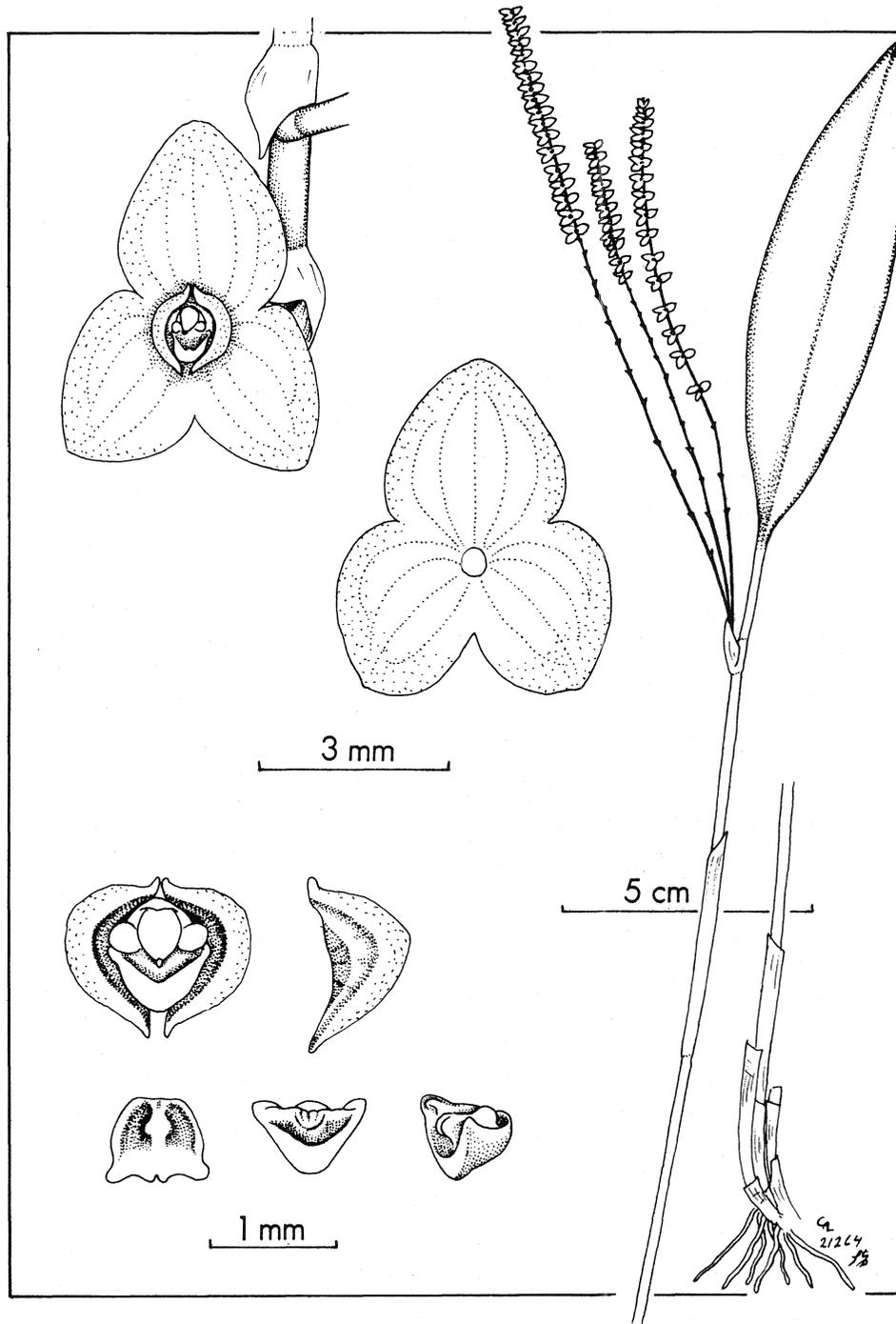


FIGURE 39. *Stelis cairoënsis* Luer, C. Luer illustr. 21264.

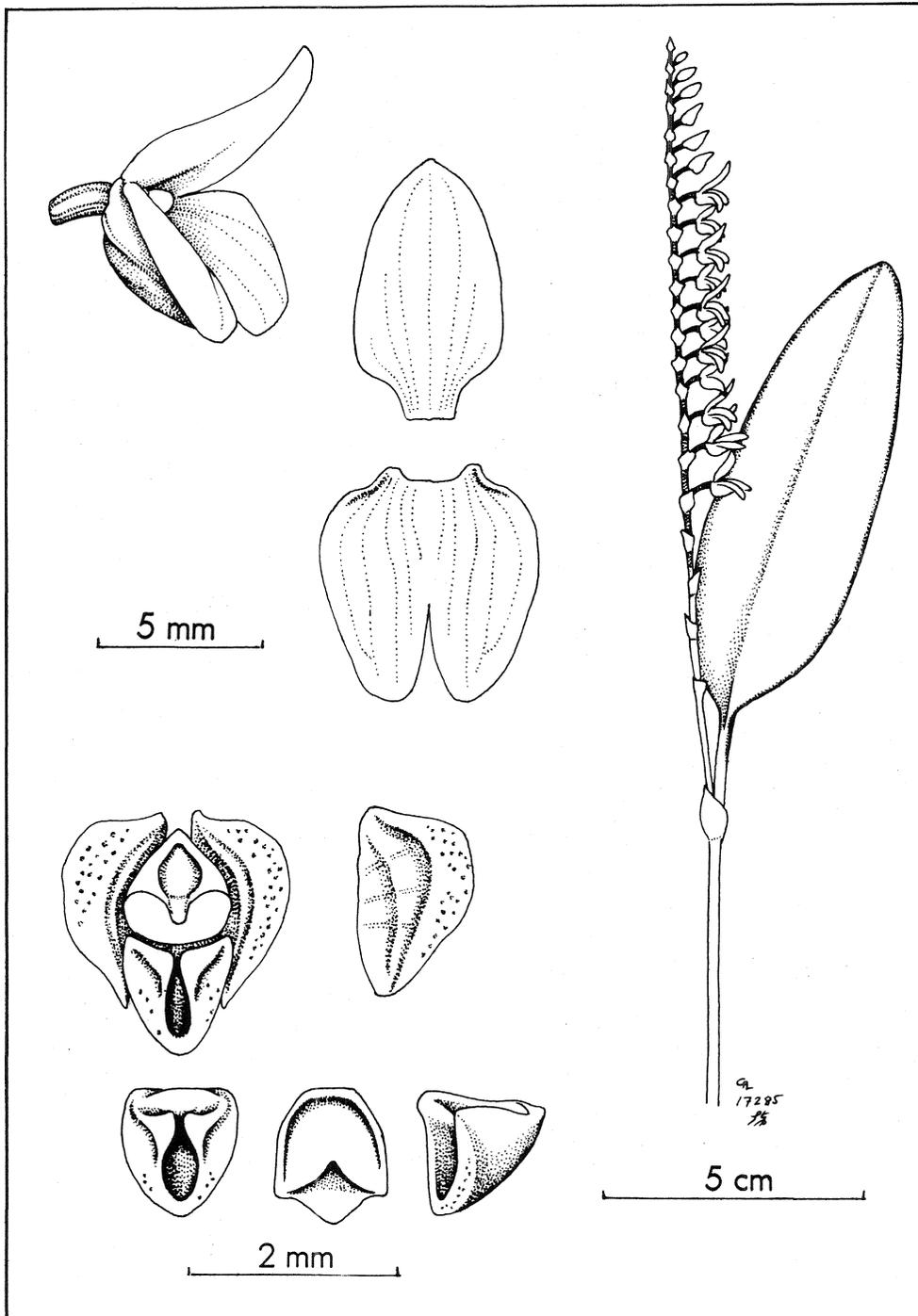


FIGURE 40. *Stelis caliensis* Luer, C. Luer illustr. 17285.

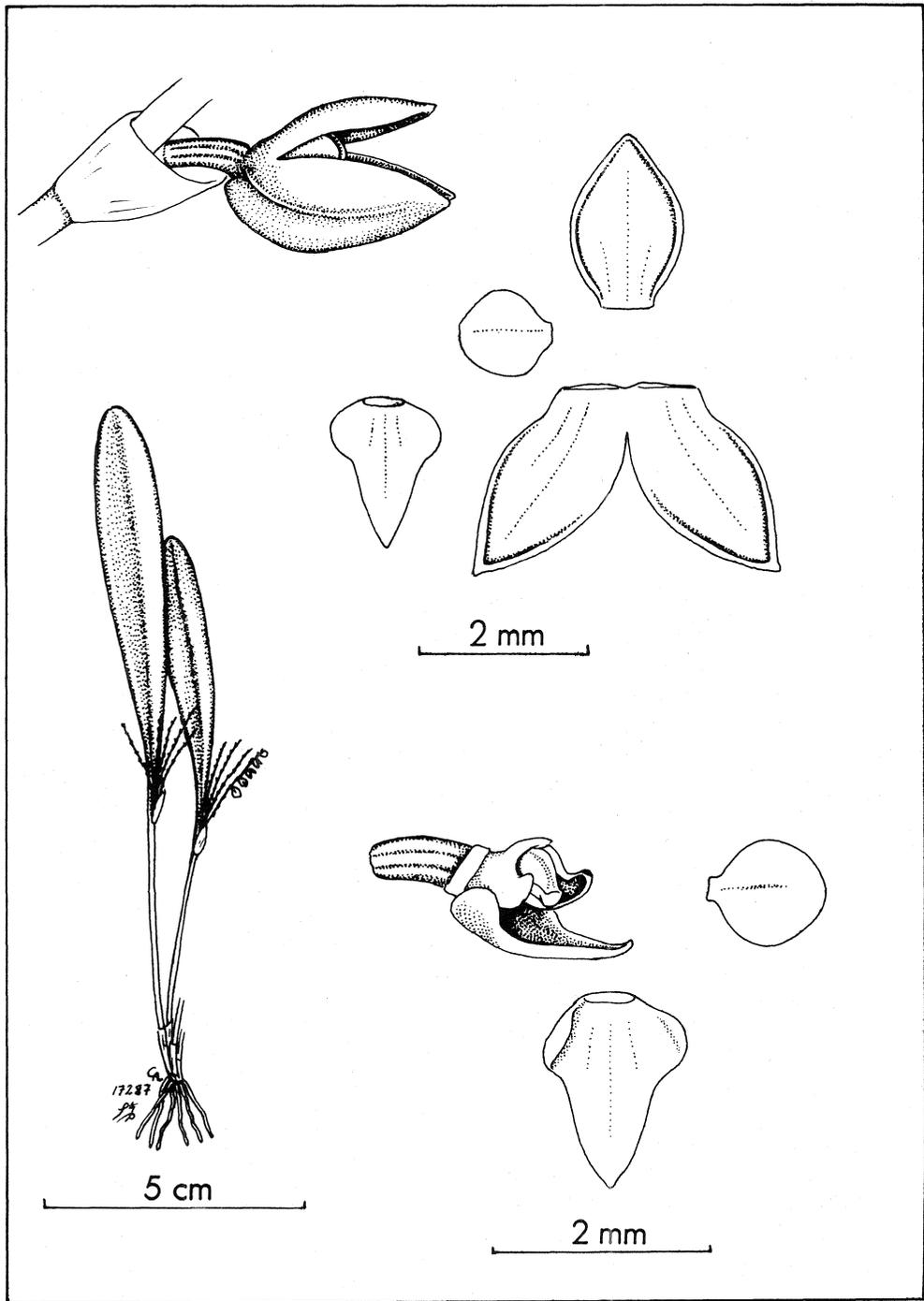


FIGURE 41. *Stelis efsiella* Luer, C. Luer illustr. 17287.

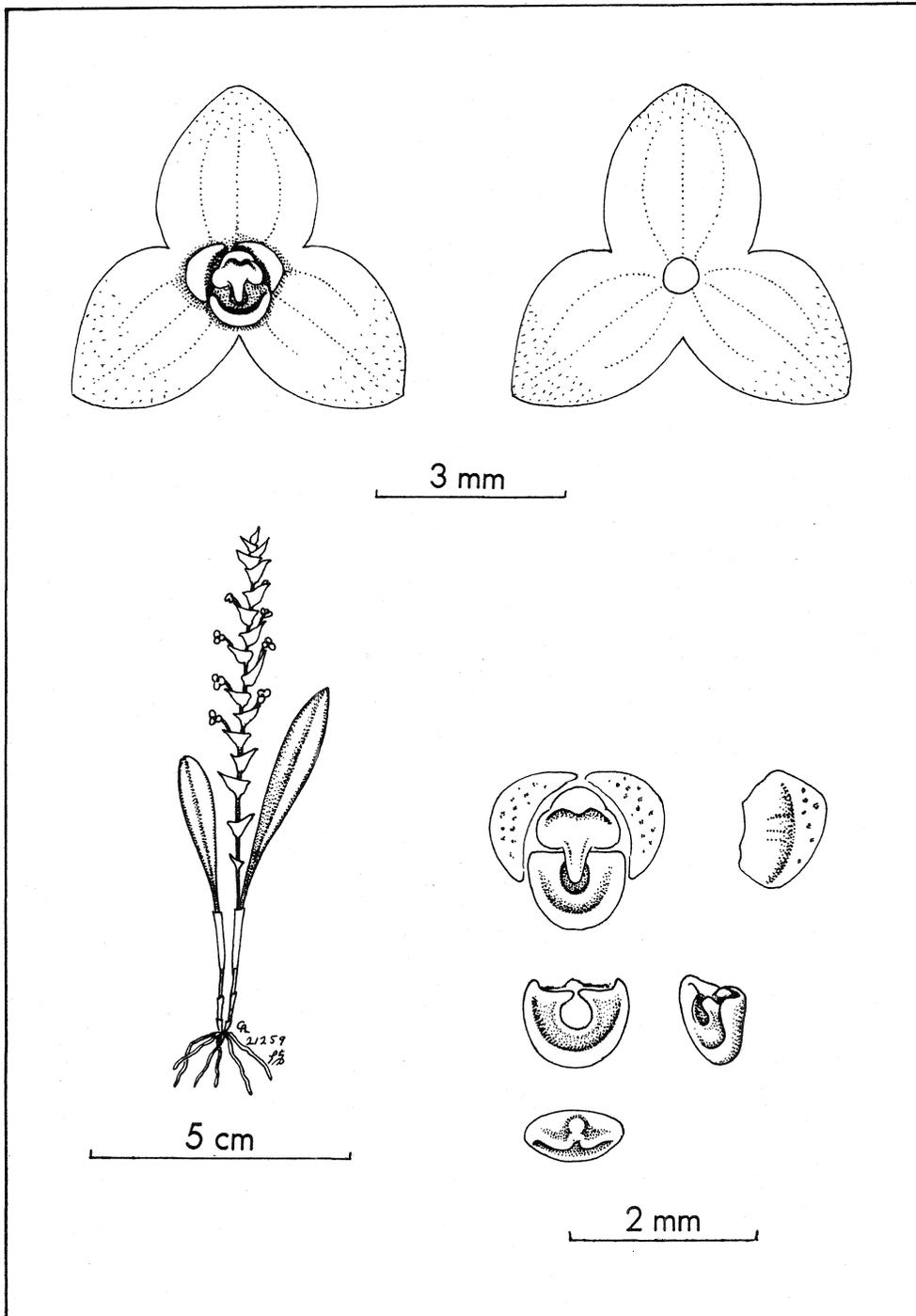


FIGURE 42. *Stelis infundibulosa* Luer, C. Luer illustr. 21259.

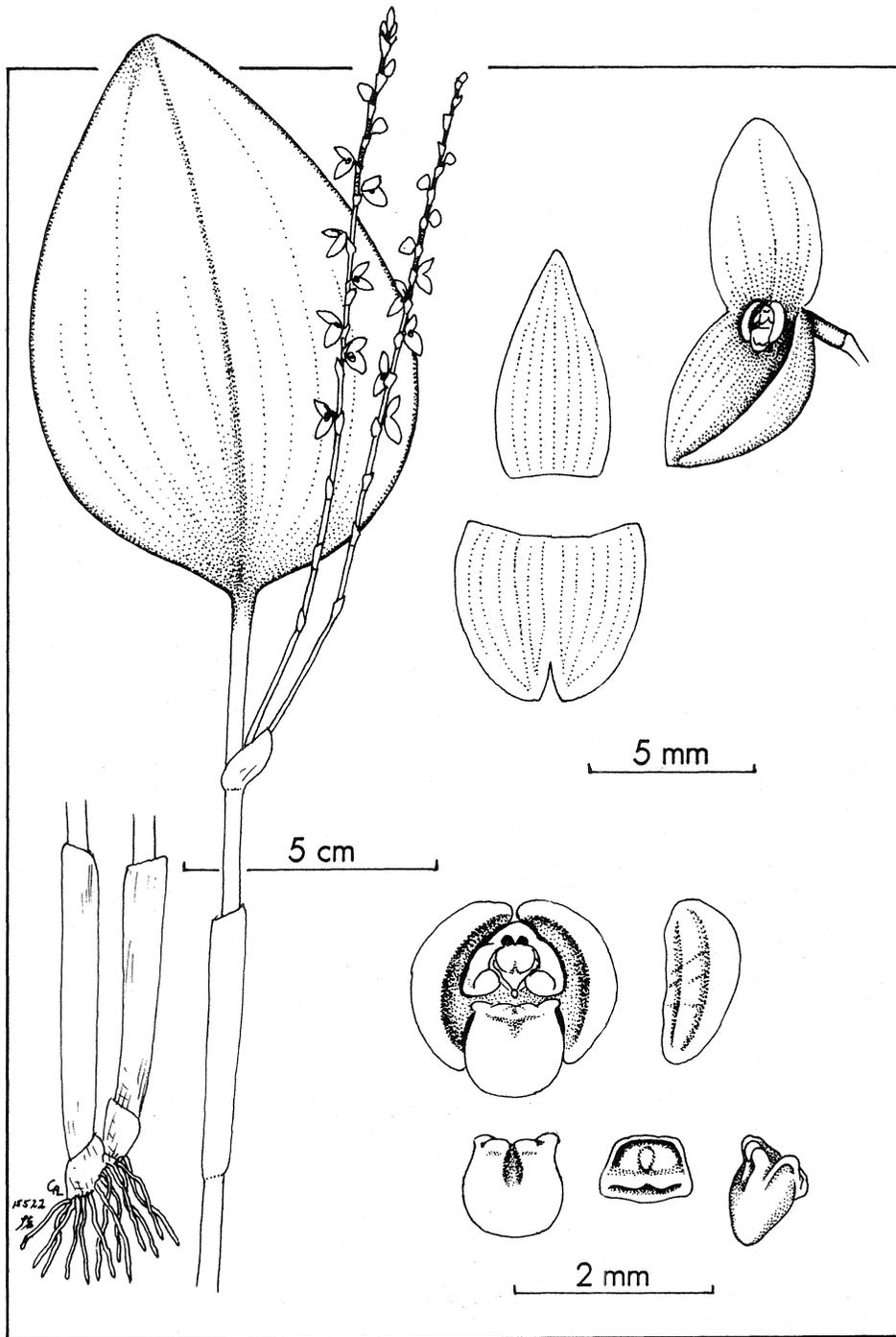


FIGURE 43. *Stelis lopezii* Luer, C. Luer illustr. 15522.

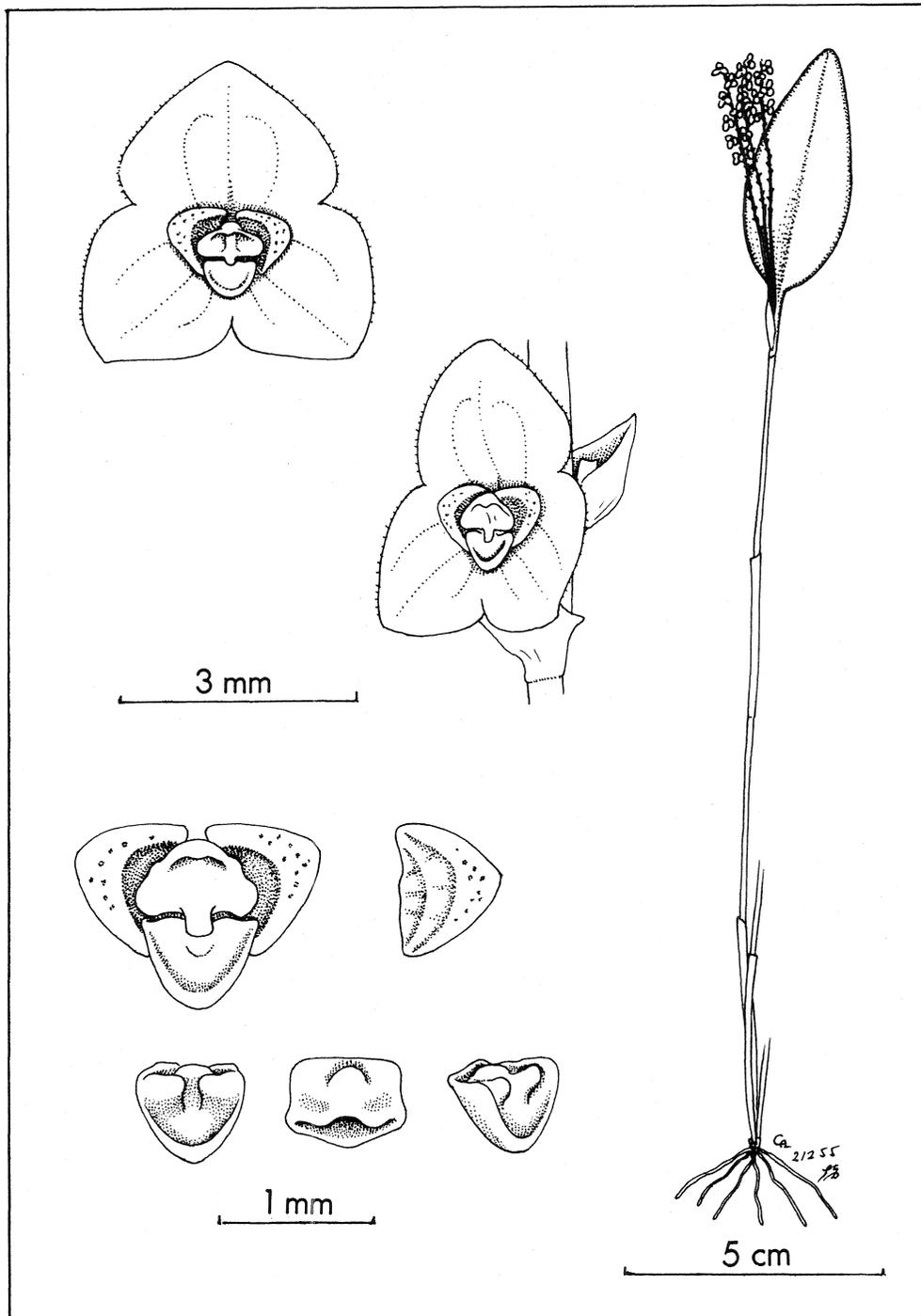


FIGURE 44. *Stelis paraguasensis* Luer, C. Luer illustr. 21255.

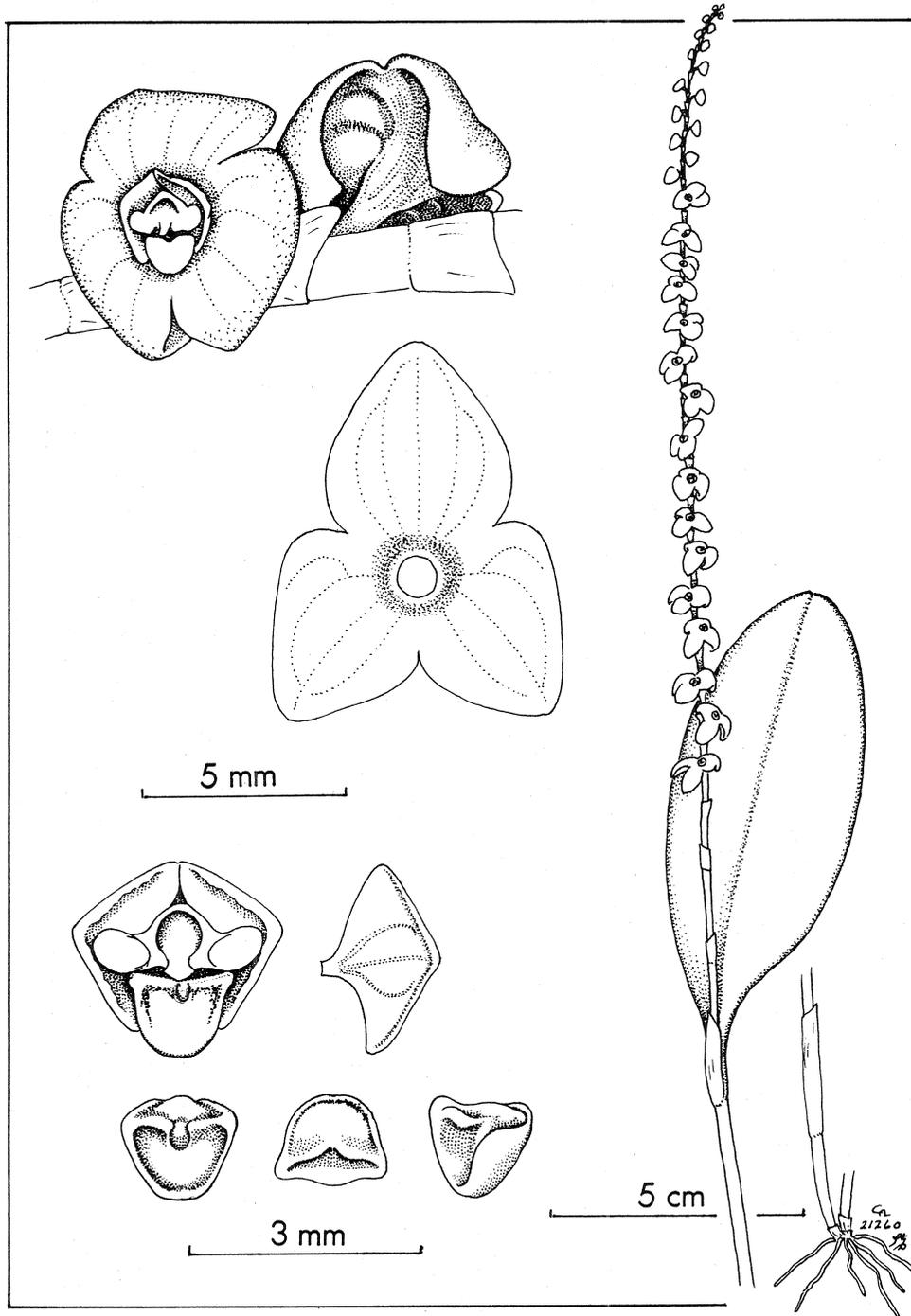


FIGURE 45. *Stelis speckmaeri* Luer & Sijm, C. Luer illustr. 21260.

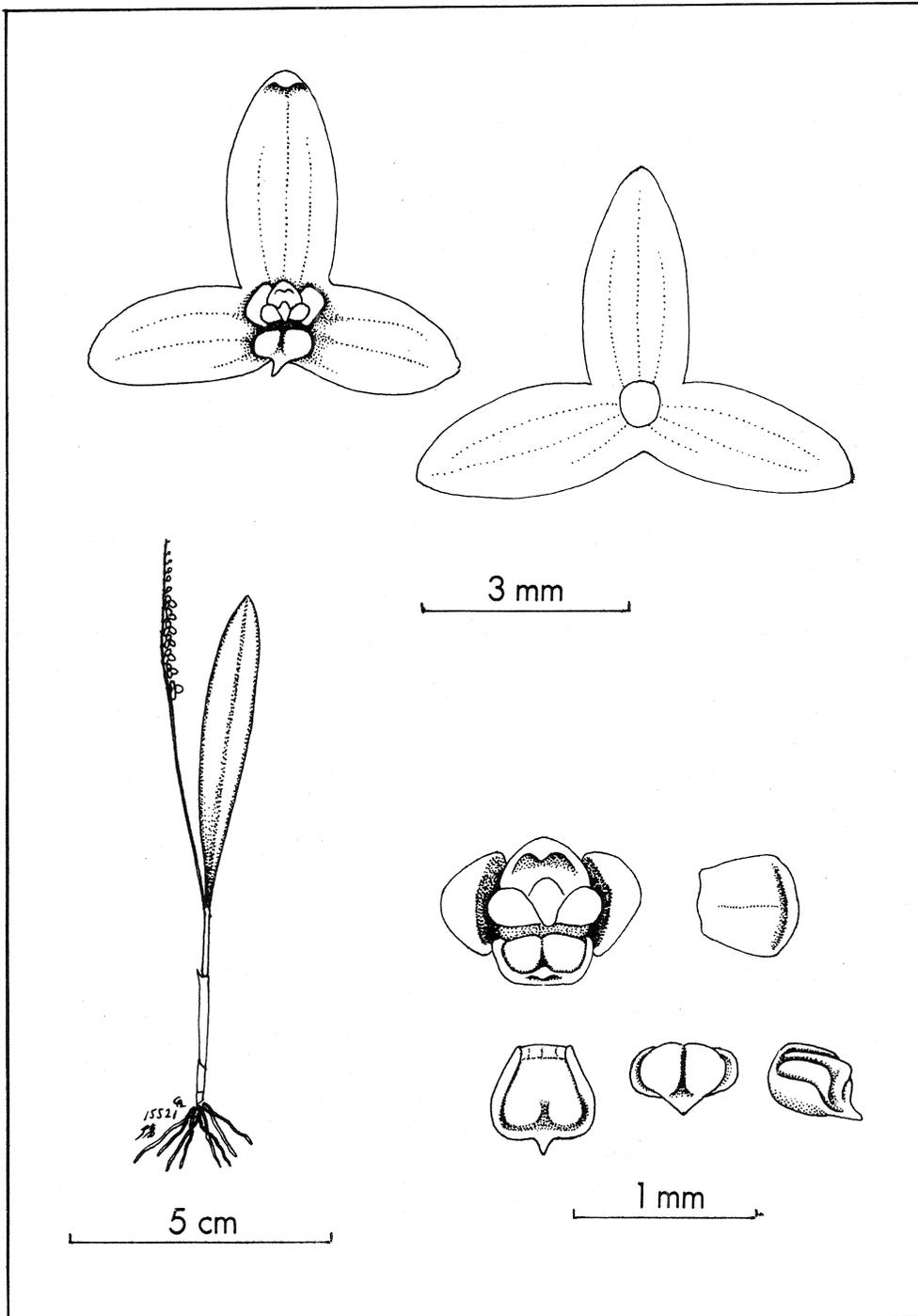


FIGURE 46. *Stelis trimera* Luer, C. Luer illustr. 15521.

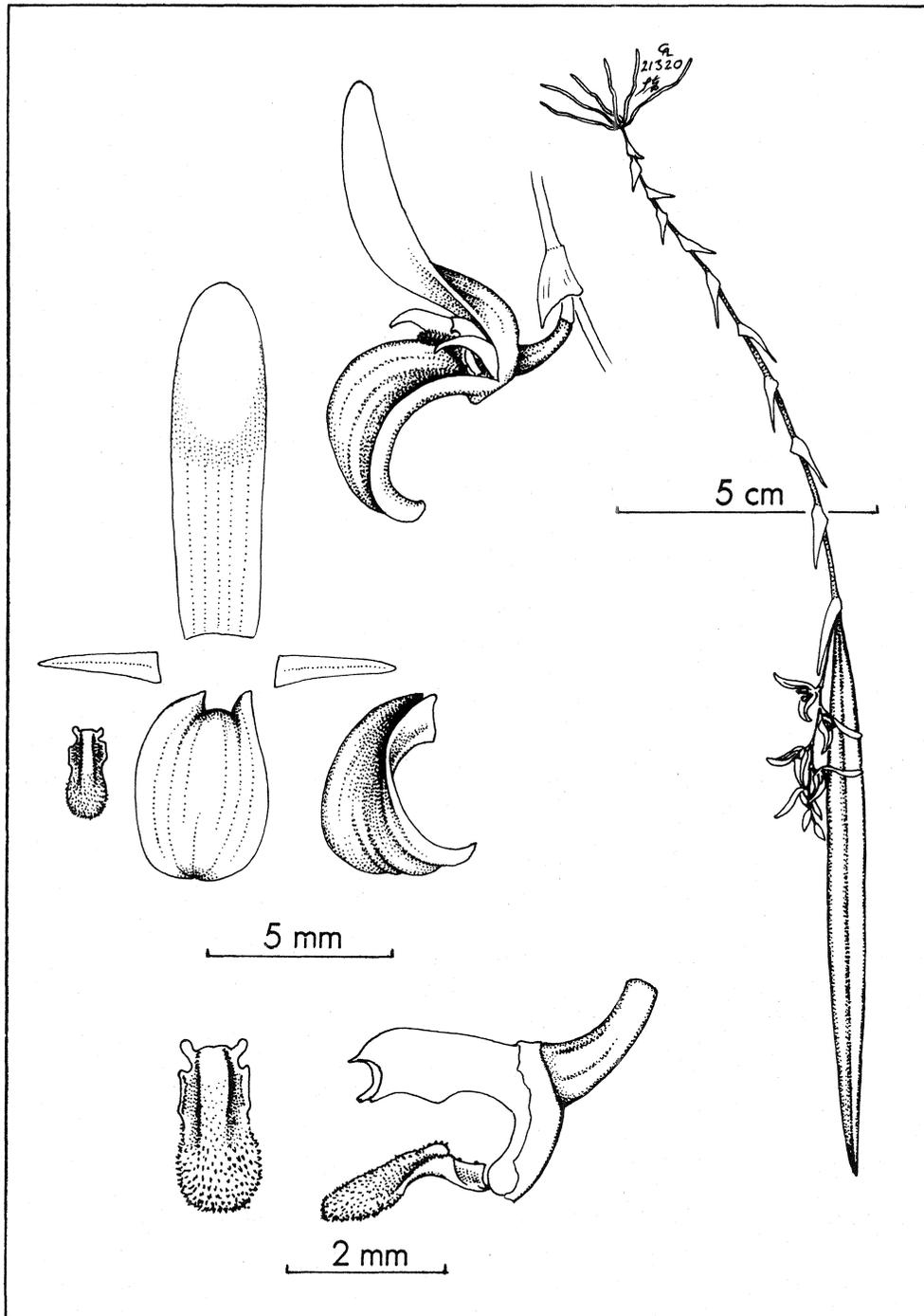


FIGURE 47. *Trichosalpinx echinata* Luer & Hirtz, C. Luer illustr. 21320.