

MISCELLANEOUS NEW SPECIES IN *Barbosella*, *Lepanthes*,
Masdevallia, *Platystele* AND *Scaphosepalum*

***Barbosella orbicularis* C. Luer, sp. nov.**

Planta minutissima epiphytica repens, caulibus secundariis obsolescentibus unifoliatis, foliis orbicularibus crassis sessilibus succubis, flore solitario grandi pro planta ringenti ex purpureo flavovirenti pallido, pedunculo brevi folio aequilongo, sepalo dorsali lineari-ovato obtuso supra medium incrassato convexo, sepalis lateralibus fere omnino connatis, synsepalo late ovato obtuso emarginato base mentum formanti, petalis linearibus obtusis supra medium incrassatis infra medium marginibus minute ciliatis, labello trilobato, lobo antico rotundato apiculato, lobis lateralibus ovatis obliquis erectis, base breviter concavo.

Plant very small, epiphytic, repent, the primary stem stout, shortly segmented, producing a secondary stem every 1-3 mm; roots comparatively stout, appearing at intervals. Secondary stems obsolescent, less than 1 mm long, concealed by a loose sheath, unifoliate. Leaf coriaceous, thick, orbicular, 3 X 3 to 7 X 7 mm, the apex and the base rounded, overlapping, sessile, frequently suffused with purple. Inflorescence a single, comparatively large flower, produced on a peduncle about 5 mm long, from the side of the secondary stem; floral bract infundibular, acute, 1.5 mm long; pedicel and ovary each about 1 mm long; sepals glabrous, pale yellow or yellow-green, rose-red toward the base; dorsal sepal linear-ovate, obtuse, 6.5-7 X 1.5 mm, thick and convex above the middle, the surface microscopically short-pubescent; lateral sepals connate into a broadly ovate, obtuse to rounded, shallowly emarginate synsepal, forming a mentum with the column-foot, 6 X 5 mm; petals yellow, linear, obtuse, 5.5 X 0.75-0.5 mm, thick, convex, or semi-terete above the middle, the surface microscopically "beaded," the margins below the middle minutely ciliate; lip dull yellow, suffused with pink centrally, oblong, 3-lobed, the mid-lobe rounded, bluntly apiculate, the lateral lobes near the middle, erect, ovate, oblique, obtuse, the lip narrowed toward the shortly concave base with a pair of incurved lobules, 3.25 X 2 mm across the lobes spread apart; column stout, 2 mm long, foot 2 mm long with a small central callus.

ETYMOLOGY: From the Latin *orbicularis*, "orbicular" (form *orbis*, "a ring or circle"), in reference to the shape of the leaves.

TYPE: PANAMA: PANAMA: epiphytic, La Eneida, region of Cerro Jefe, alt. 1000 m, 25 Dec. 1967, *R. L. Dressler 3285* (HOLOTYPE: SEL); epiphytic along the El Llano-Carti road, alt. 350 m, 3 March 1976, *C. Luer, J. Luer, P. Taylor & R. L. Dressler 1059* (SEL).

DISTRIBUTION: Panama.

Vegetatively this minute, creeping species resembles a *Peperomia*, or *Pleurothallis peperomioides* Ames, or one of its relatives. The short rhizome and roots hug the bark of the host tree and produce braching chains of alternating, overlapping, thick, smooth, little, round, dark green leaves which lie appressed against the substrate. The solitary, over-sized flower is lifted by a short peduncle barely above the mat of leaves. The narrow dorsal sepal and petals spread widely above the broad synsepal and three-lobed lip. Four pollinia with caudicles are contained in the two-celled anther cap.

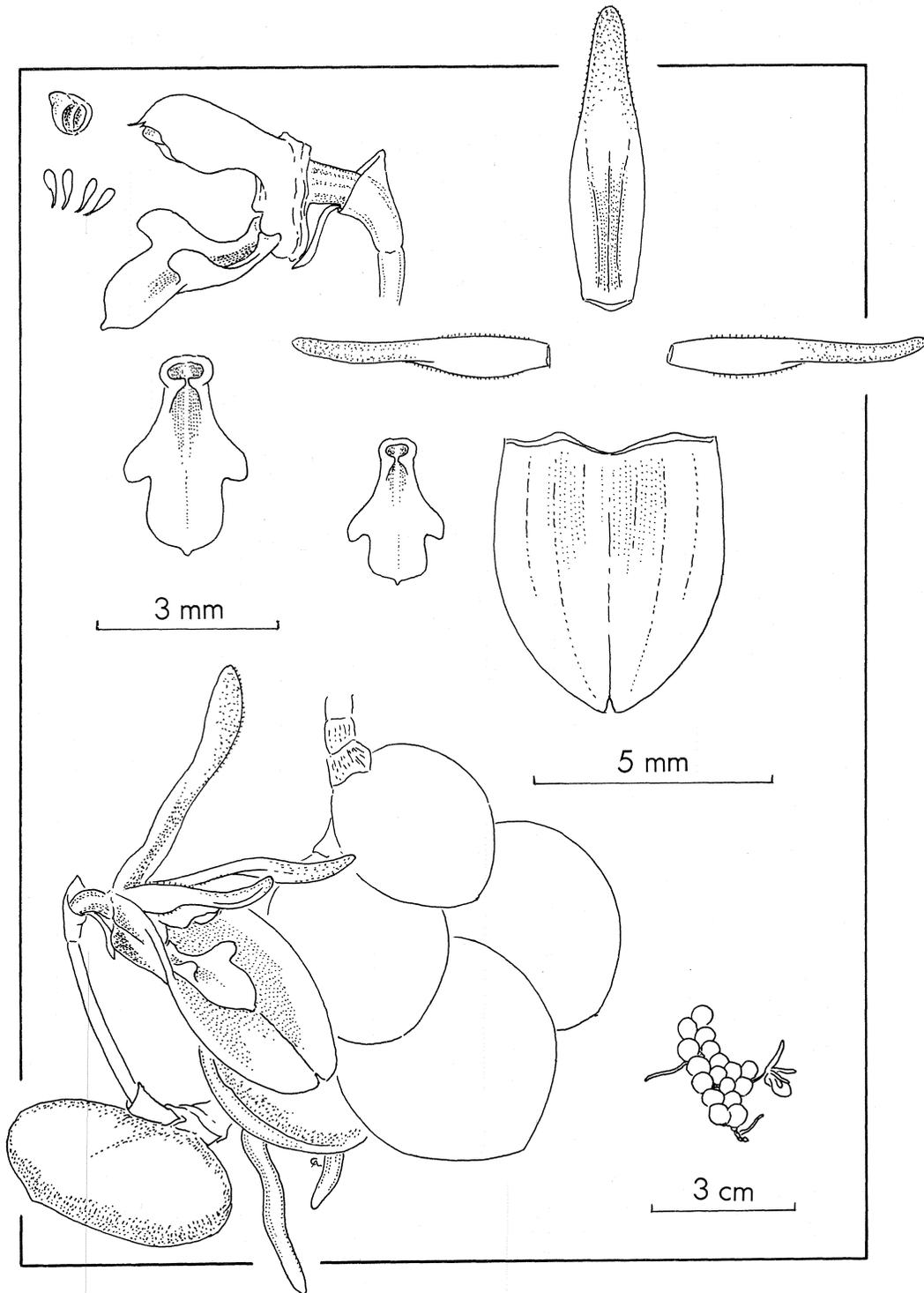


Figure 108. BARBOSELLA ORBICULARIS C. A. Luer

***Lepanthes caprimulgus* Luer, sp. nov.**

Planta parva caespitosa, caulibus secundariis erectis gracilibus unifoliatis, vaginis lepanthiformibus vestitis, foliis coriaceis ellipticis, racemo paucifloro, pedunculo longissimo filiformi, floribus solitariis successivis nutantibus saccatis, sepalis semiconnatis vesicariis vittatis, petalis minimis transverse ovatis obtusis convexis, labello minimo carnosio cordato obtuso apice deflexo.

Plant small, caespitose, epiphytic; roots filiform, flexuous. Secondary stems erect, slender, 3-5 cm long, unifoliate, invested by 6-7 imbricating, ribbed sheaths, dilated and acute at the apices, scabrous along the ribs and margins. Leaf coriaceous, elliptical, subacute, tridenticulate, base cuneate, very shortly petiolate, 20-30 × 10-14 mm (excluding the 1-2 mm petiole). Inflorescence a loose, few-flowered (1-4), arching raceme, up to 15 cm long; peduncle filiform, from the apex of the stem; flowers large for the plant, white, striped with red-purple, pendent, saccate; floral bract infundibular, 2 mm long; pedicel stout, 1.5 mm long; ovary curved, verrucose, ribbed, 3 mm long; sepals ventricose, united into a membranous, inflated, sac-like pouch, 15 mm long, 9 mm deep, and 10 mm broad, the lateral sepals united to their apices, the apex acuminate, acute, reflexed, red, each lateral sepal about 12 × 6 mm, 3-veined, the middle sepal uppermost, deeply concave, acute, apiculate, about 15 × 10 mm, 7-veined, united to the lateral sepals for about $\frac{2}{3}$ of its length; petals yellow, minute, transversely ovate, apex obtuse to rounded, recurved, basal angles rounded, 0.5 mm long, 1 mm broad; lip yellow-green, minute, 0.5 × 0.5 mm, fleshy, broadly ovate, apex acuminate, obtuse, deflexed, sides slightly incurved, basal angles rounded, broadly attached to the base of the column with its upper surface against the under surface of the column behind the stigma; column green, terete, 1.5 mm long, foot obsolescent, anther dorsal, white, pollinia with a long viscidium.

ETYMOLOGY: Named for the resemblance of the opening of the flower to the wide mouth of a whip-poor-will or chuck-will's-widow, birds in the night-hawk genus *Caprimulgus*. From the Latin *caprimulgus*, "goat sucker" (from *caper*, *capri*, "goat," and *mulgus*, "milker"), in allusion to an ancient belief that the birds robbed goats of their milk.

TYPE: PERU: HUANUCO: epiphytic between Tingo Maria and Pucalpa, alt. 1700 m, March 1975, Janet Kuhn s.n. (HOLOTYPE: SEL), flowering intermittently in cultivation since June 1975.

DISTRIBUTION: Peru.

Janet Kuhn with Fred Fuchs discovered a colony of this species growing in the high branches of a tree which had been felled beside the roadway. The plants were in flower at the time, and since then they have produced a saccate flower at intervals in cultivation. Vegetatively the plant is indistinguishable from other species of *Lepanthes*. The flowers are large for the genus, and they are produced in slow succession on a hair-like, drooping peduncle. By the time the weighty flower matures, it is pendent, but the ovary arches to position the middle sepal uppermost. The sepals are united into a pinkish white sac-like structure which is striped with red-purple. With everted apical margins the sepals part transversely to impart the appearance of a wide-mouthed whip-poor-will. Within the saccate cavity the column predominates, the petals and lip being reduced to minute, seemingly inconsequential structures.

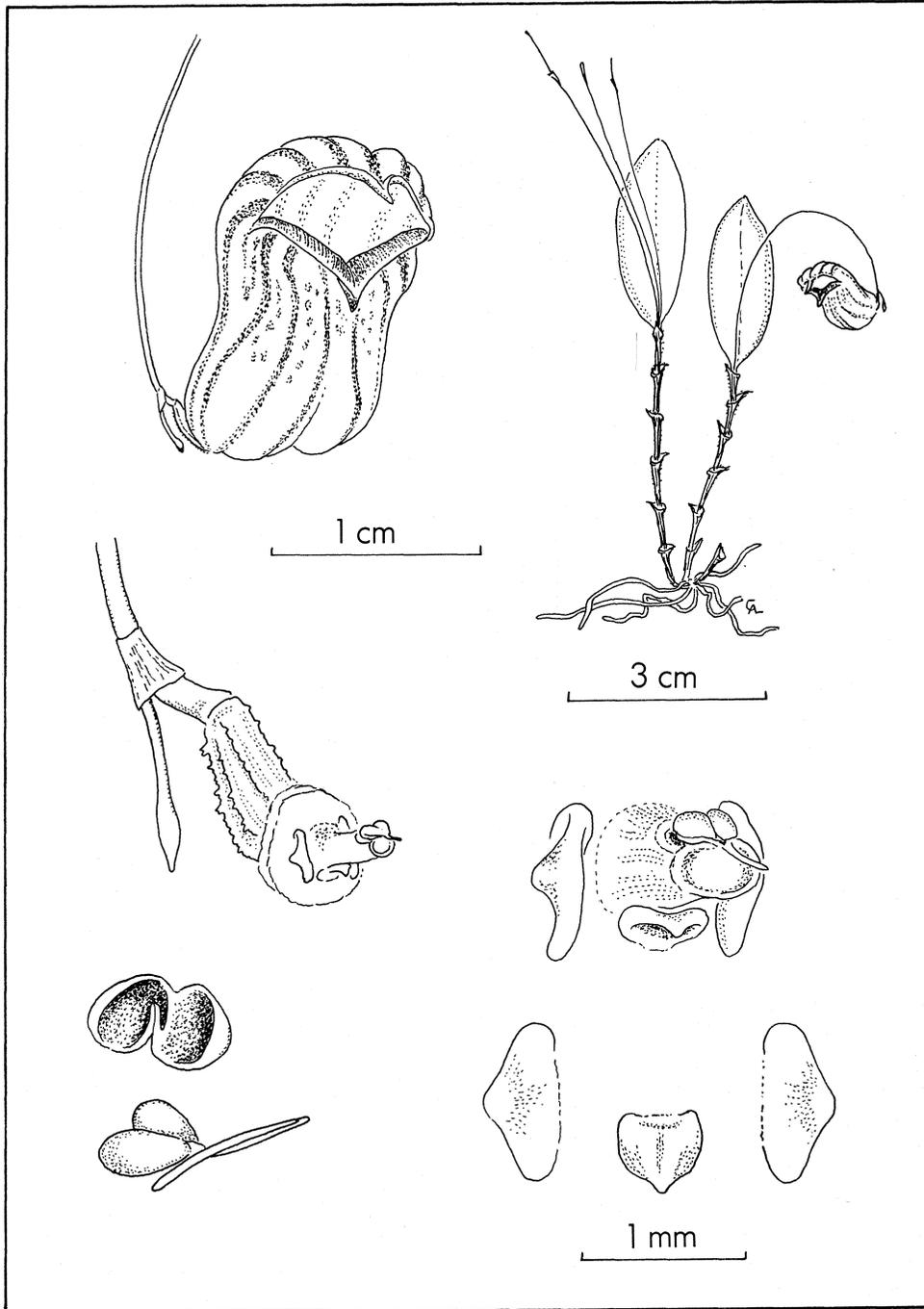


Figure 109. *LEPANTHES CAPRIMULGUS* C. A. Luer

Lepanthes ribes Luer, sp. nov.

Planta parva caespitosa, caulibus secundariis erectis gracilibus unifoliatis, vaginis lepanthiformibus vestitis, foliis coriaceis ellipticis, racemo paucifloro, pedunculo filiformi, floribus singularibus successivis nutantibus saccatis, sepalis semiconnatis vesicariis vittatis, petalis linearibus teretibus obtusis, labello bilobato apice nano acuminato, lobis anguste ellipticis obtusis conduplicatis.

Plant small, caespitose, epiphytic to terrestrial; roots filiform, flexuous. Secondary stems erect, slender, 4-5.5 cm long, monophyllous, concealed by 8-9 imbricating, costate sheaths, dilated and acute at the apices, scabrous along the margins and ribs. Leaf coriaceous, elliptical, shortly acuminate, acute, tridenticulate, base cuneate, with a short petiole, 20-25 × 8-13 mm (excluding the petiole), the petiole channeled, more or less twisted, 3-4 mm long. Inflorescence a few-flowered (1-4), arching raceme, exceeding the leaf in length, producing flowers singly and successively; peduncle filiform, from the apex of the stem; flower pendent, large for the plant, white, striped with red-purple, saccate; floral bract close-fitting, about 1 mm long; pedicel 2 mm long; ovary unciform, pubescent, 6 mm long; sepals united to beyond the middle into an inflated, membranous, sac-like structure, 15 mm long, 10 mm deep, and 10 mm broad; middle sepal lowermost, deeply concave, acute, about 15 × 10 mm, 7-veined; lateral sepals united and dilated below the middle and forming a shallow mentum, above the middle free, attenuated and acutely reflexed, each sepal about 12 × 5 mm, 3-veined; petals green, fleshy, semiterete, linear, obtuse, 6 × 0.75 mm; lip light green, bilobed, each lobe elliptical, obtuse, 1.5 mm long, conduplicate with the folded edge toward the column, the common central apex acuminate, acute, attached shortly to the base of the column; column green, terete, 1.5 mm long, foot obsolescent.

ETYMOLOGY: Named for the genus of gooseberries, *Ribes*, because of the resemblance of the flower to a ripe gooseberry. From the Latin *ribes*, "a currant, or gooseberry."

TYPE: *ECUADOR*: PICHINCHA: terrestrial on a road-cut near km 64 between Quito and Santo Domingo, alt. 2100 m, 10 March 1975, C. Luer & R. Kent 233 (HOLOTYPE: SEL).

DISTRIBUTION: Ecuador.

A single plant with but one flower was found growing in the soil of a vertical road-cut in the mountains, where the rainfall is great, between Quito and Santo Domingo de los Colorados. Very likely this solitary plant was growing terrestrially as a waif while all the other members of the species were growing epiphytically nearby, but none was found.

Vegetatively, the plant resembles all the other species of *Lepanthes*. The over-sized flower is borne in a short raceme on a hair like peduncle which is longer than the leaf. While other buds are very immature, only one flower, dangling from the tip of the rachis develops at a time. The large, subglobose, striped flower resembles a ripe gooseberry. The inflated sac created by the sepals apparently opens facing downwards; the apices of the lateral sepals reflex upward to either side of a shallow mentum. Within the sac the pair of long, narrow, thickened petals reaches out into the cavity. The forked lip is attached to the base of the column, with its two narrow lobes extending upwards to either side.

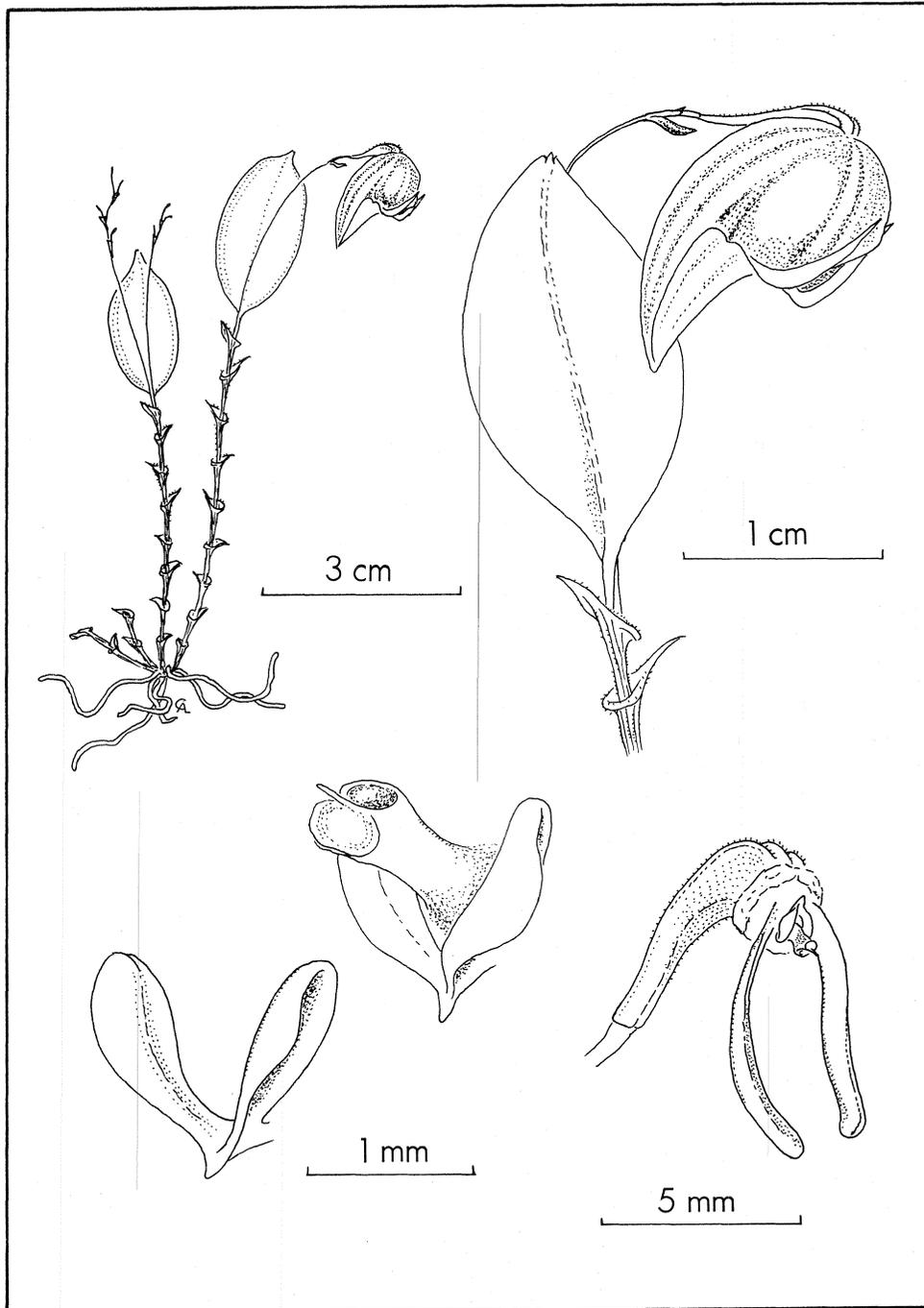


Figure 110. *LEPANTHES RIBES* C. A. Luer

Masdevallia butcheri C. Luer, sp. nov.

Planta minutissima epiphytica caespitosa, caulibus secundariis brevissimis unifoliatis, foliis carnosis anguste ellipticis, racemo subfasciculato pedunculo glabro filiformi folio longiore, flore solitario successivo luteolo purpureo vittato cum caudis sepalorum aureis brevibus, sepalis lateralibus anguste oblongis supra medium connatis caudis ex apicibus oriundis, petalis anguste ovatis apiculatis pellucidis, labello rubro anguste ovato obtuso base subsagittato disco bicalloso.

Plant minute, epiphytic, caespitose; roots filiform, flexuous. Secondary stems very short, 1-2 mm long, enclosed by 1-2 short, tubular sheaths, unifoliate. Leaves fleshy, narrowly elliptical, subacute, retuse, tridenticulate, the base cuneate, subpetiolate, 10-15 × 2-3 mm. Inflorescence a contracted, subfasciculate raceme at the apex of a filiform peduncle, about 2 cm long, glabrous, from a node on the secondary stem; flowers produced singly and successively, pale yellow, striped with red-purple, with short, yellow tails; floral bract 2 mm long; pedicel 3 mm long; ovary verruculose, 1 mm long; dorsal sepal united to the lateral sepals for 1 mm at the base, the lamina suborbicular, concave, 2.5 × 2.5 mm, 3-veined, the tail clavate, 3.5 mm long, the entire sepal 6 × 3.5 mm; lateral sepals connate to above the middle into an oblong synsepal, the apices gradually terminating into tails 2.5 mm long, the entire synsepal 7.5 × 2.25 mm; petals narrowly ovate, the apex apiculate, indistinctly toothed, 1.8 × 0.5 mm, translucent yellow marked with purple; lip red, narrowly ovate-elliptical, the apex obtuse, convex, the base subsagittate-bilobed, the basal lobes projecting behind the articulation with the column-foot, the disc with a low pair of irregular, longitudinal calli extending forward from the basal lobes; column red with yellow apex, 1.75 mm long, with a pointed foot.

ETYMOLOGY: Named in honor of its discoverer, Henry Butcher, of Volcán, Chiriqui.

TYPE: PANAMA: COCLÉ: epiphytic in old orange trees above El Valle, alt. ca. 1000 m, 2 September 1976, C. Luer & H. Butcher 1119 (HOLOTYPE: SEL).

ADDITIONAL MATERIAL EXAMINED: PANAMA: PANAMA: epiphytic on Cerro Jefe, alt. 1000 m, 11 Sept. 1976, R. L. Dressler s.n. (SEL), flowered in cult. 8 Oct. 1976.

DISTRIBUTION: Panama.

This species is the smallest of the section *Triaristellae*. It is most similar to the larger *Masdevallia dressleri* C. Luer. The hair-like peduncle bears a tiny yellow flower prominently striped with maroon. Together the flat, narrow lateral sepals are narrower than the dorsal sepal. The short tails terminating the sepals point straight forward together. The petals and lip are very similar to those of *M. dressleri*.

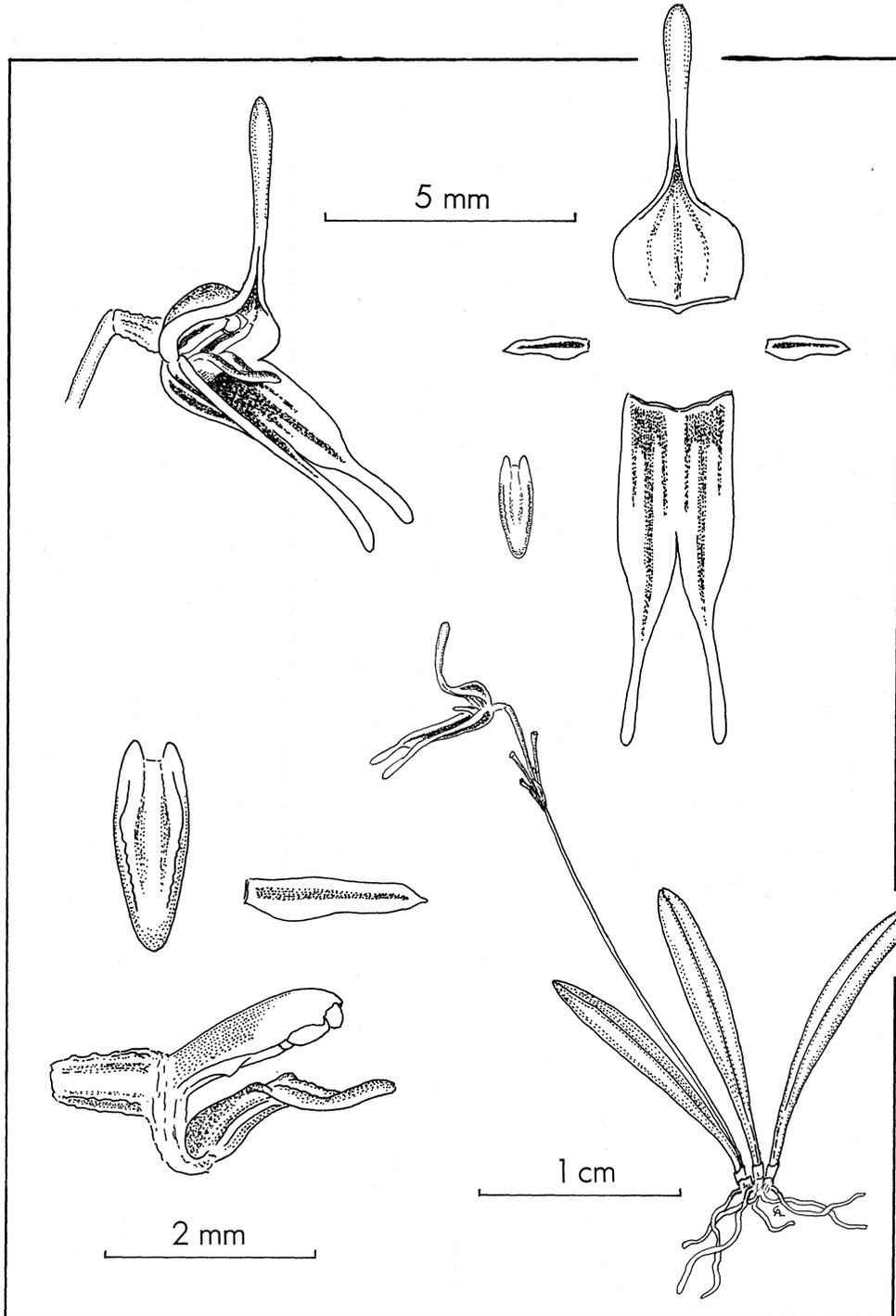


Figure 111. MASDEVALLIA BUTCHERI C. A. Luer

Masdevallia dodsonii C. Luer, sp. nov.

Planta mediocris grandisve terrestrial breviter repens, caulibus secundariis brevibus vaginis longis tubulosis absconditis unifoliatis, folio coriaceo angustissime obovato subacuto base angusto sulcato, pedunculo erecto folio longiore, racemo paucifloro flore solitario successivo ringenti flavovirenti ex purpureo vittato, cupula sepalorum brevi, sepalis ovatis longicaudatis, petalis parvis oblongis apice rotundatis bivalvis papillosis, labello albo crasso obovato apice late rotundato convexo infra medium canaliculato angulis marginium obtusis erectis.

Plant medium to large, terrestrial to epiphytic, shortly creeping to caespitose; roots velamentous, flexuous. Secondary stems short, stout, 2-3.5 cm long, channeled above the origin of the peduncle, concealed by 2 loose, tubular imbricating sheaths, the upper one 3-6 cm long, enclosing the lower portion of the leaf, unifoliate. Leaf coriaceous, very narrowly elliptical-obovate, subacute, tridentate, gradually tapering into the narrowly cuneate, sulcate base, 7-22 × 1.2-2.8 cm. Inflorescence an erect, few-flowered (2-3) raceme, the peduncle slender, 15-30 cm long, from a lateral node on the secondary stem; flower showy, single, successive, widely spread with a shallow sepaline cup, yellow-green, striped and suffused with red-purple to brown, minutely short-pubescent within; floral bract infundibular, loose, 1-2 cm long; pedicel 1.5-2.5 cm long; ovary minutely verrucose, 6-7 mm long; dorsal sepal ovate, 2-2.5 × 1 cm, united to the lateral sepals for about 3 mm, the free margins minutely erose, the apex produced into a filiform, cream-colored tail, 2.5-4 cm long; lateral sepals ovate, united to above the middle, 1.5-2.5 × 1.5 cm, the apices tapered into similar tails, 2.5-4 cm long; petals oblong, 3 × 1 mm, the apex rounded, bivalved, papillose between the plates; lip white, thick, obovate, 7.5 × 3.5 mm, deflexed near the middle, the apex broadly rounded and convex, with erect, obtuse angles below the middle, with a central depression, the base broadly hinged to the column-foot; column stout, 3 mm long.

ETYMOLOGY: Named in honor of Calaway H. Dodson, investigator of the flora of Ecuador, who has known of this species for many years.

TYPE: *ECUADOR*: PICHINCHA: terrestrial on the road embankment about 10 km west of Chiriboga, alt. 2000 m, 26 Oct. 1961, *C. H. Dodson & L. B. Thien 1122* (HOLOTYPE: SEL).

ADDITIONAL MATERIAL EXAMINED: *ECUADOR*: PICHINCHA: terrestrial on the road embankment near km 65 between Quito and Santo Domingo, alt. 1600 m, 25 July 1967, *C. H. Dodson, N. H. Williams & R. Adams 3820* (SEL); near the same area, Aug. 1975, *C. Luer, G. Luer & S. Wilhelm 669* (SEL), cultivated at SEL, greenhouse acc. no. 44-75-365, flowered in cult. 30 Apr. 1976.

DISTRIBUTION: Western Ecuador.

This showy species occurs rather frequently at moderate elevations on the western slopes of Mt. Pichincha. Although the only plants found were growing terrestrially, other plants undoubtedly were growing epiphytically in the surrounding rain forest. The short sepaline cup flares widely to expose the velvety interior. The yellowish flowers are tinged and striped with red-purple to brown.

Although a member of the saccilabiate section, *Masdevallia dodsonii* is unusual in its tall, erect inflorescence and non-concave epichile of the lip.

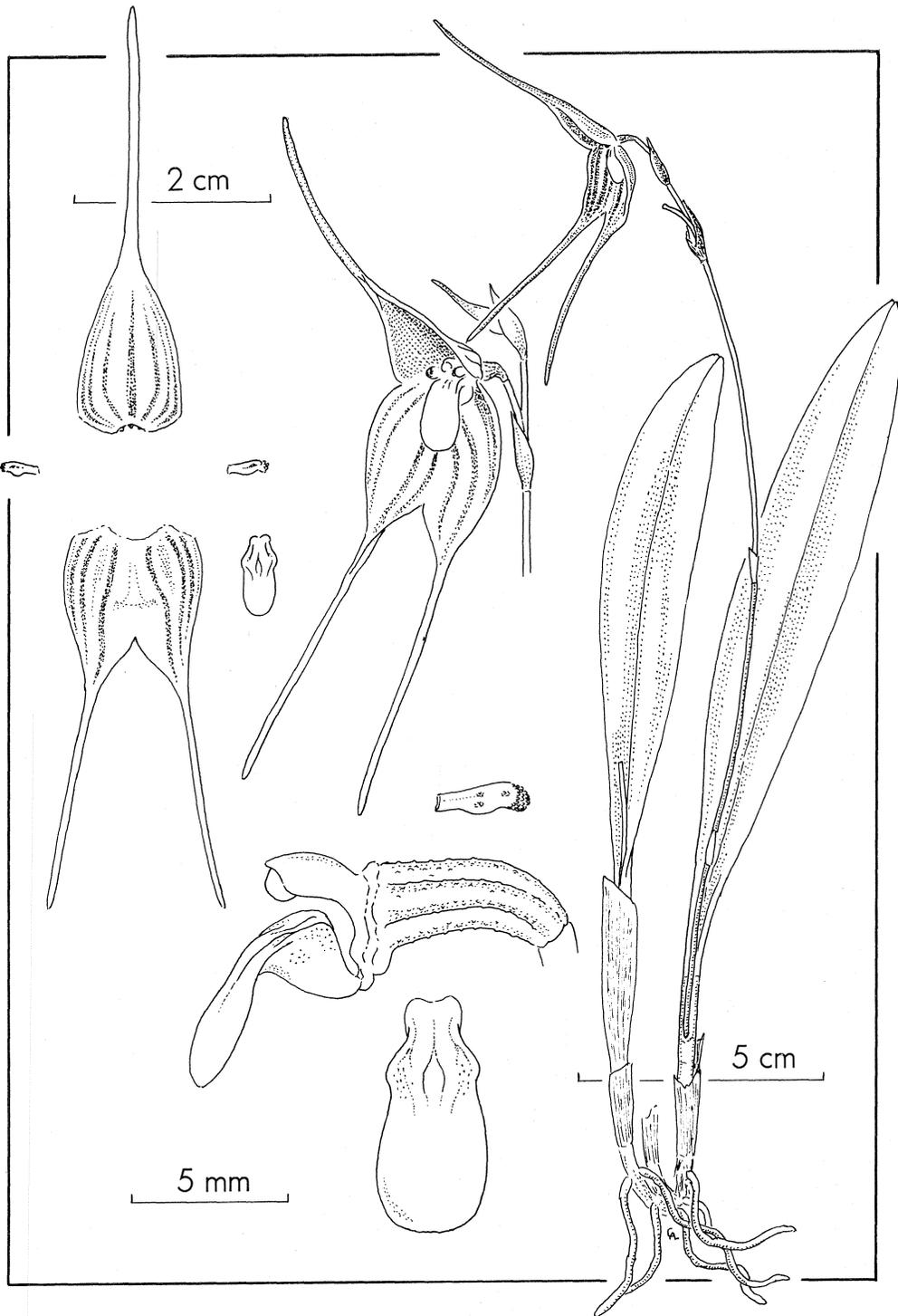


Figure 112. MASDEVALLIA DODSONII C. A. Luer

The thick, white lip, deflexed near the middle, is indistinctly divided into a superficially sulcate hypochile and a broadly rounded, smooth, convex epichile. The small, oblong petals with bivalved, papillose apices are typical of the section.

Masdevallia dressleri C. Luer, sp. nov.

Planta minuta epiphytica caespitosa, caulibus secundariis brevissimis unifoliatis, foliis carnosis anguste ellipticis, racemo subfasciculato pedunculo glabro filiformi folio longiore, flore solitario successivo marronino cum caudis sepalorum aureis brevibus, synsepalo late ovato cymbiformi caudis ex apicibus oriundis, petalis oblongis pellucidis apice obtusis denticulatis, labello rubro anguste ovato obtuso base subsagittato disco bicalloso.

Plant very small, epiphytic, caespitose; roots filiform, flexuous. Secondary stems inconspicuous, 2-4 mm long, concealed by 1-2 short, tubular sheaths, unifoliolate. Leaves fleshy, narrowly elliptical, subacute, retuse, tridentate, the base cuneate, subpetiolate, 10-18 × 3-4 mm. Inflorescence a contracted, subfasciculate raceme at the apex of a filiform peduncle, about 4 cm long, glabrous, from a node on the secondary stem; flowers produced singly and successively, maroon or red-brown with short, thick, yellow tails; floral bract tubular, 2.5 mm long; pedicel 3.5 mm long; ovary lightly verrucose, 1 mm long; dorsal sepal united to the lateral sepals for 1.5 mm at the base, the lamina broadly obovate, concave, 3 × 3 mm, 3-veined and subcarinate along the veins, the margins minutely ciliate, the tail 4 mm long, the entire sepal 7 × 3 mm; lateral sepals connate to above the middle into a broadly ovate, deeply navicular, cleft synsepal, the apices produced abruptly into tails 2 mm long, 6-8 mm long including the caudae, 5-6 mm wide; petals linear-oblong, the apex truncate, apiculate to minutely denticulate, 2.5 × 0.5 mm, translucent yellow marked with purple; lip red, narrowly ovate-elliptical, the apex obtuse, convex, the base subsagittate-bilobed, the basal lobes protruding behind the articulation with the column-foot, disc with a low pair of longitudinal calli extending forward from the basal lobes; column terete, 2.5 mm long, with a pointed foot.

ETYMOLOGY: Named in honor of Robert L. Dressler, investigator of the flora of Panama, who has been long familiar with this species.

TYPE: PANAMA: PANAMA: epiphytic along the Altos de Pacora road, alt. 650 m, 4 March 1976, C. Luer, J. Luer, P. Taylor & R. L. Dressler 730 (HOLOTYPE: SEL).

ADDITIONAL MATERIAL EXAMINED: PANAMA: PANAMA: Cerro Jefe, alt. 1000 m, F. L. Stevenson 9575-1 (SEL), flowered in cult. 5 Sept. 1975; COCLÉ: cloud forest above El Valle, alt. 1000 m, 15 Aug. 1971, H. Wiehler 71273a (SEL).

DISTRIBUTION: Panama.

This minute species, probably identified in the past as *Masdevallia allenii* L. O. Wms., is locally abundant in eastern Panama. *Masdevallia dressleri* is easily distinguished by its shorter, thicker leaves, smaller flowers, the broad, deep, boat-shaped synsepal, and short sepaline tails, the tails of the lateral sepals originating from the sides of the apices, not below the apices.

The lip is very similar to those of the other members of the section *Triaristellae*.

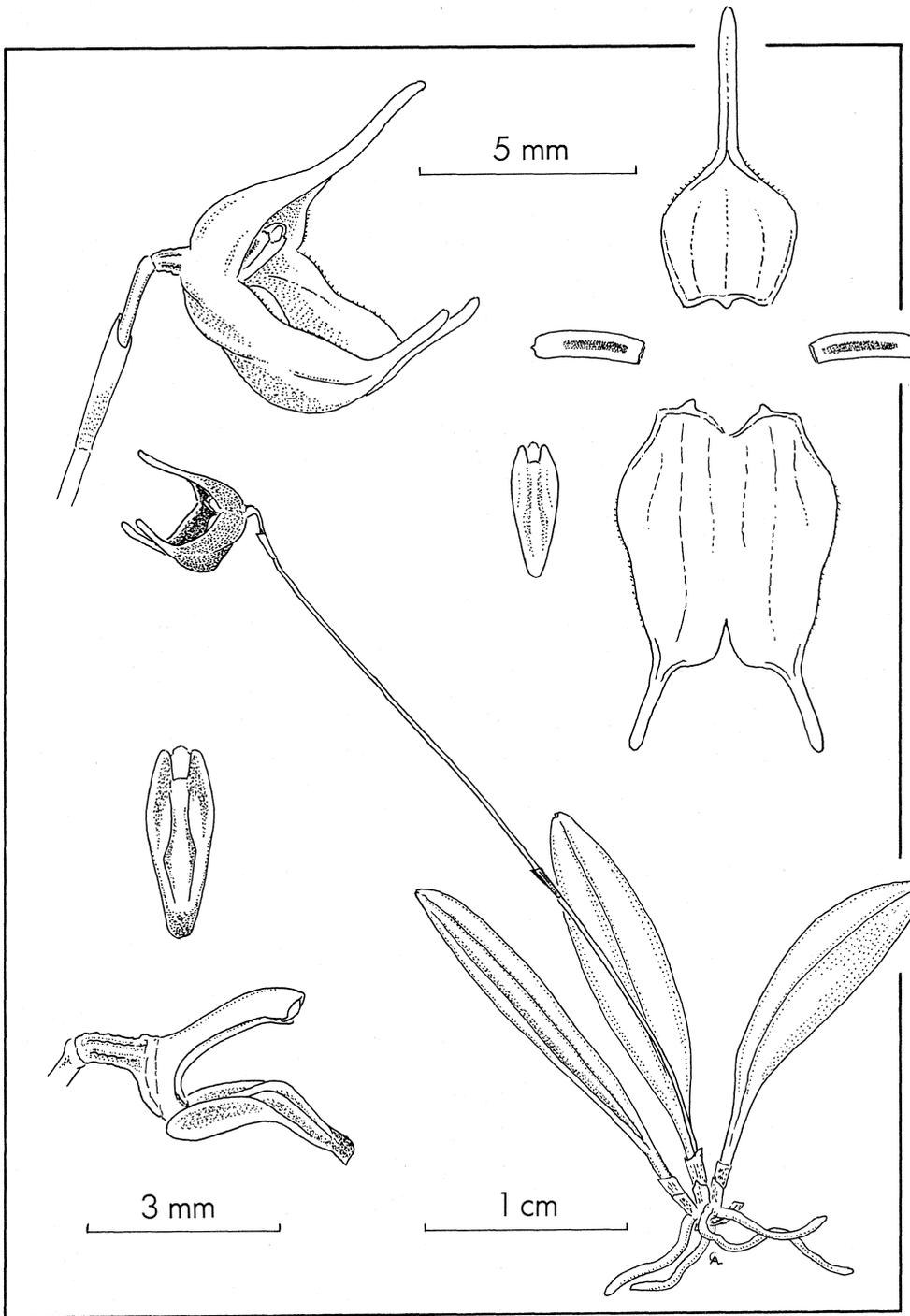


Figure 113. *MASDEVALLIA DRESSLERI* C. A. Luer

Masdevallia pelecanceps C. Luer, sp. nov.

Planta mediocris epiphytica caespitosa, caulibus secundariis foliis brevioribus teretibus gracilibus vagina laxe tubulosa obtectis unifoliatis, foliis coriaceis ellipticis subacutis base anguste cuneatis indistincte petiolatis, flore solitario erecto longipedicellato carnosio rigido rubro, sepalis ovatis acuminatis sepalis lateralibus supra medium connatis sepalo dorsali prope basim connato intus flavis purpureo guttatis multicristatis, petalis crassis oblongis obtusis extus bicarinatis, labello carnosio elliptico obtuso infra medium lobis uncinatis purpureo punctato.

Plant medium-sized, epiphytic, caespitose; roots slender, flexuous. Secondary stem slender, terete, 2-7 cm long, mostly covered by a loose, inflated sheath, with 1-2 smaller ones at the base, unifoliate. Leaf coriaceous, elliptical, subacute to obtuse, tridenticulate, the base narrowly cuneate, gradually and indistinctly petiolate, 7-13 mm long, including the petiole (1-2 cm), 1.75-3.5 cm wide. Inflorescence a solitary flower produced by an erect peduncle, 6-10.5 cm long, from a spathe about 5 mm long at a node on the secondary stem; flower large, red, rigid, box-like; floral bract tubular, 5 mm long; pedicel 7 mm long; ovary curved, 6 mm long; dorsal sepal thick, fleshy, red externally, yellow with purple spots and 7 irregular elevated ribs internally, the blade ovate, shortly acuminate, acute, the basal fourth united to the synsepal, 20 X 8 mm; lateral sepals united to above the middle into a deeply concave, bivalved synsepal, the texture and color similar to the dorsal sepal, each with 6-7 irregular, longitudinal crests, 20 X 18 mm together and spread; petals oblong, obtuse to rounded, thick, glistening, with 2 low, parallel calli externally, orange with a few purple spots, 4 X 2 mm; lip fleshy, cream with purple flecks, elliptical, with a pair of small, erect, forward pointing, uncinat lobes just below the middle, ovate, acuminate and obtuse above the middle, with low, thick, intramarginal keels, the base cuneate with incurved margins, 5 X 2 mm; column yellow, curved, 4 mm long, with a curved foot 1.5 mm long; pollinia 2, free, compressed, with short caudicles.

ETYMOLOGY: From the Latin *pelecanus*, "a pelican," and *-ceps*, "-headed" (comb. form of *caput*), in allusion to the fancied appearance of the flower.

TYPE: PANAMA: PANAMA: epiphytic in the cloud forest of Cerro Jefe, alt. 1000 m, 19 Aug. 1967, R. L. Dressler 3028 (HOLOTYPE: SEL).

ADDITIONAL MATERIAL EXAMINED: PANAMA: PANAMA: same area, 2 March 1976, C. Luer, J. Luer & P. Taylor 700 (SEL).

DISTRIBUTION: Panama.

The genus to which this species should be assigned is not clear, nor are the vague boundaries between *Masdevallia* and *Pleurothallis*. The species has characters which suggest its placement in either genus. Although in habit it "looks like" a *Masdevallia*, the hard, rigid sepals are not at all attenuate. The deep corrugations of the inner surfaces of the sepals are distinctive, but perhaps not sufficient to warrant the creation of a monotypic genus. The lower margins of the dorsal sepal are connate to the synsepal as they are in *Masdevallia* and in many good species of *Pleurothallis*. The fleshy petals have a pair of low carinae on the external surface, not internally as in many species of *Masdevallia*.

This species, possibly endemic in the region of Cerro Jefe, has well developed secondary stems, although they are shorter than the leaves. The long-pedicellate flower emerges from a node 1-2 centimeters below the junc-

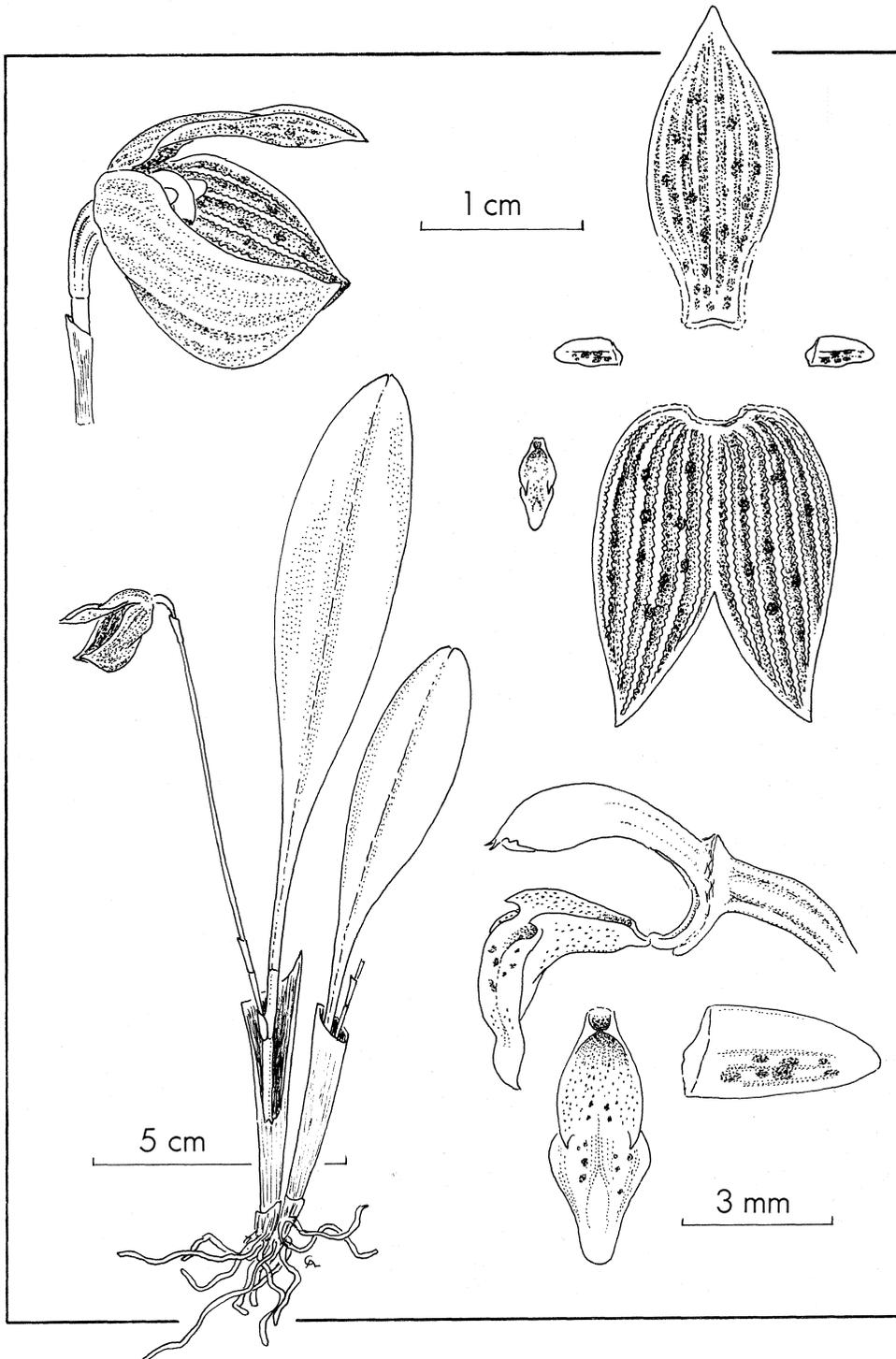


Figure 114. MASDEVALLIA PELECANICEPS C. A. Luer

tion of the leaf with the stem. The large, red flower has a prominent, deeply concave, rigid synsepal from which the dorsal sepal lifts like the lid from a box. It vaguely resembles the head of a pelican with its over-sized bill.

Platystele brenneri C. Luer, sp. nov.

Planta perpusilla caespitosa epiphytica, caulibus secundariis brevissimis vaginis costatis obtectis unifoliatis, foliis minutis coriaceis obovatis obtusis tridenticulatis apicula elongata base cuneatis petiolatis, racemo abbreviato paucifloro, flore singulari successivo glabro aureo rubrovittato, pedunculo filiformi foliis longiore, sepalis anguste ovatis acuminatis attenuatis, sepalis lateralibus libris obliquis, petalis anguste triangularibus attenuatis, labello rubro ovato acuminato acuto.

Plant very small, caespitose, epiphytic; roots white, relatively thick, flexuous. Secondary stems very short, 1-3 mm long, concealed by 1-2 thin, papery, ribbed sheaths, unifoliate. Leaf coriaceous, obovate, obtuse, tridenticulate, the apicule elongate, the base cuneate, gradually petiolate, 6-8 mm long including the petiole, 3 mm wide. Inflorescence a contracted, few-flowered (1-3), raceme, the flowers produced singly and successively, glabrous, wide-spreading, yellow with red stripes; peduncle capillary, 4-10 mm long, from a node on the secondary stem; floral bract translucent, acute, up to 1 mm long; pedicel 2 mm long; ovary 0.5 mm long; dorsal sepal ovate in the lower third, the apex long-attenuate, caudate, acute, 6 × 0.75 mm, translucent yellow, the mid-vein red; lateral sepals free, similar to the dorsal sepal, oblique, 4 × 1 mm; petals narrowly triangular, attenuate, acute, 3 × 0.5 mm; lip bright red, ovate, the apex acuminate, acute, the base rounded, shallowly concave, 1.75 × 1 mm; column short, broad, cucullate, 0.5 × 1 mm.

ETYMOLOGY: Named in honor of Joe Brenner who discovered the plant and naturalized it in Puyo.

TYPE: *ECUADOR*: PASTAZA: epiphytic on logs behind the Hotel Turingia in Puyo, alt. 750 m, 30 July 1975, C. Luer, G. Luer & S. Wilhelm 471 (HOLOTYPE: SEL).

DISTRIBUTION: Eastern Ecuador.

OTHER MATERIAL EXAMINED: *ECUADOR*: PASTAZA: epiphytic, environs of Puyo, alt. 750 m, 22 March 1976, J. Brenner 21 (SEL); epiphytic in felled trees 20 km east of Puyo, alt. 600 m, collected 19 March 1976, C. Luer, J. Luer & P. Taylor (SEL).

This minute species is characterized by its tiny clump of obovate leaves and a hair-like peduncle bearing a few successive, comparatively large flowers. The long-caudate sepals are yellow with a red mid-vein. The dorsal sepal is considerably longer than the other floral parts. The red lip also has an attenuated apex.

Platystele brenneri is similar to *P. johnstonii* (Ames) Garay, characterized by an exceedingly long dorsal sepal, but the latter is repent instead of caespitose, and the lip is acuminate-obtuse instead of attenuate-acute.

It is most similar to the larger *P. caudatisepala* (C. Schweinf.) Garay from which it may also be distinguished by the sharply acuminate lip.

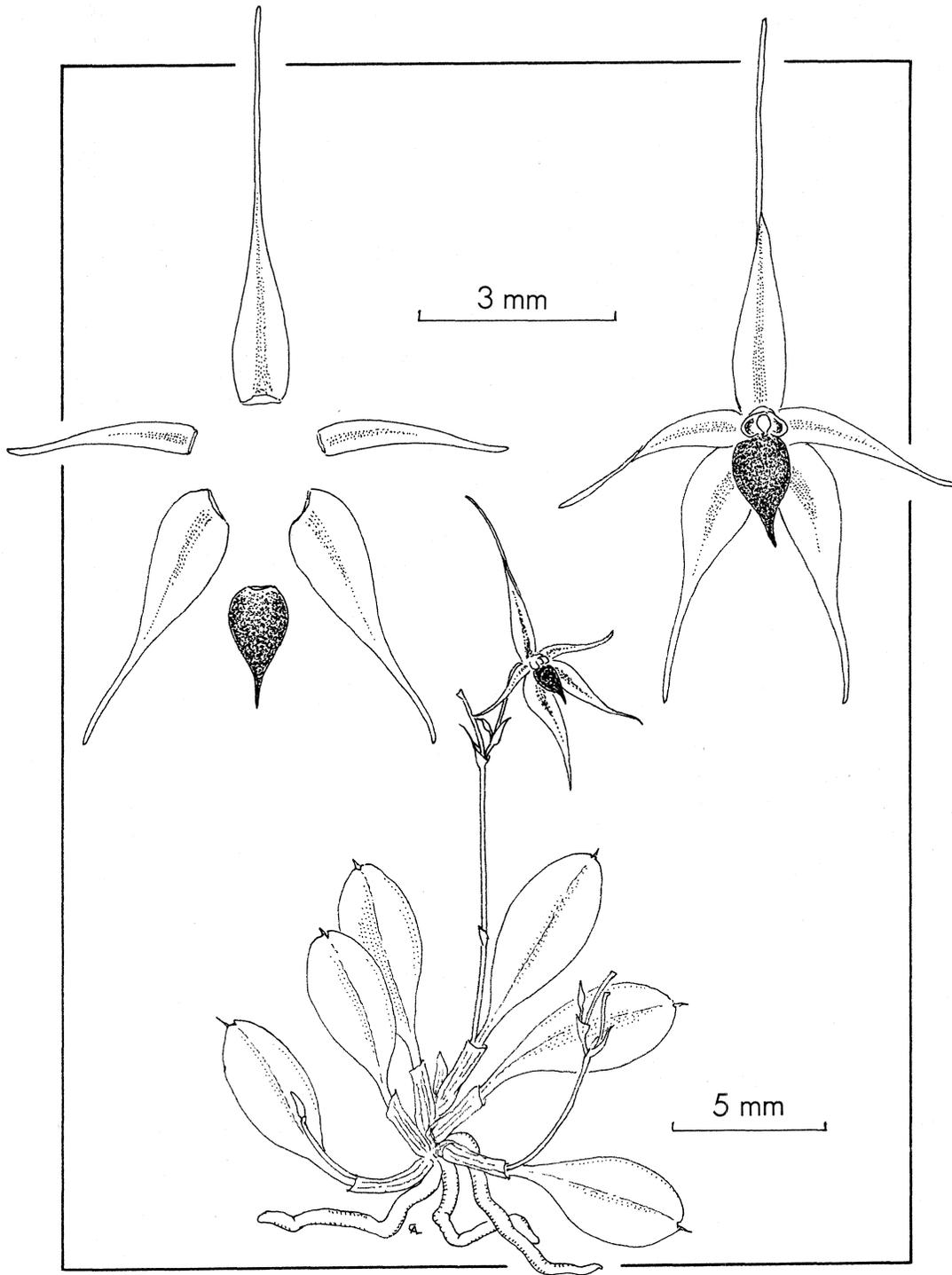


Figure 115. PLATYSTELE BRENNERI C. A. Luer

Platystele dressleri C. Luer, sp. nov.

Planta perparva epiphytica caespitosa, caulibus secundariis brevissimis vaginis costatis obtectis unifoliatis, foliis parvis coriaceis obovatis obtusis tridenticulatis base cuneatis petiolatis canaliculatis, racemo multifloro compacto folio brevior, floribus successivis, sepalis flavis ovatis obtusis, petalis flavis oblongis acutis marginibus breviter ciliolatis, labello nigro purpureo ovato obtuso minute ciliolato.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems abbreviated, 2-4 mm long, mostly concealed by 2 thin, ribbed sheaths, unifoliate. Leaf light green, thick, coriaceous, obovate, obtuse tridenticulate, the base cuneate, conduplicate, channeled, indistinctly petiolate, 13-23 × 4-6 mm. Inflorescence a contracted, many-flowered raceme, 10-13 mm long, the flowers produced singly and successively, wide-spreading, light yellow with a purple-black lip; peduncle capillary, from a node on the secondary stem; floral bract translucent, tubular, 0.5 mm long; pedicel about 2 mm long; ovary 0.75 mm long; sepals ovate, obtuse to very shortly acuminate, the single vein prominent externally, 1.25-1.75 × 1 mm, the lateral sepals free, slightly oblique; petals narrowly ovate to oblong, acute, the margins minutely ciliate, 1-1.25 × 0.3-0.4 mm; lip fleshy, ovate, obtuse to rounded, minutely ciliate; column short, cucullate.

ETYMOLOGY: Named in honor of Robert L. Dressler of the Smithsonian Tropical Research Institute, who first discovered this species.

TYPE: PANAMA: PANAMA: epiphytic along the Altos de Pacora road, alt. ca. 650 m, collected 4 March 1976, C. Luer, J. Luer, P. Taylor & R. L. Dressler 963 (HOLOTYPE: SEL), flowered in cult. 22 July 1976.

ADDITIONAL MATERIAL EXAMINED: PANAMA: R. L. Dressler 4684 (SEL).

DISTRIBUTION: Panama.

Vegetatively this species is similar to that of *Platystele stenostachya* (Rchb. f.) Garay, to which it is closely related. The flowers of both species are borne in short, compact racemes. The color of the densely papillose lip of *P. stenostachya* varies from yellow, orange, and red to deep purple or maroon. The purple-black lip of this species is not papillose, although the margin is finely ciliate. The petals of *P. stenostachya* are glabrous, while those of *P. dressleri* are finely short-ciliate. The margins of the sepals are sparsely ciliate in one of the collections examined. Most plants of *P. stenostachya* are much larger.

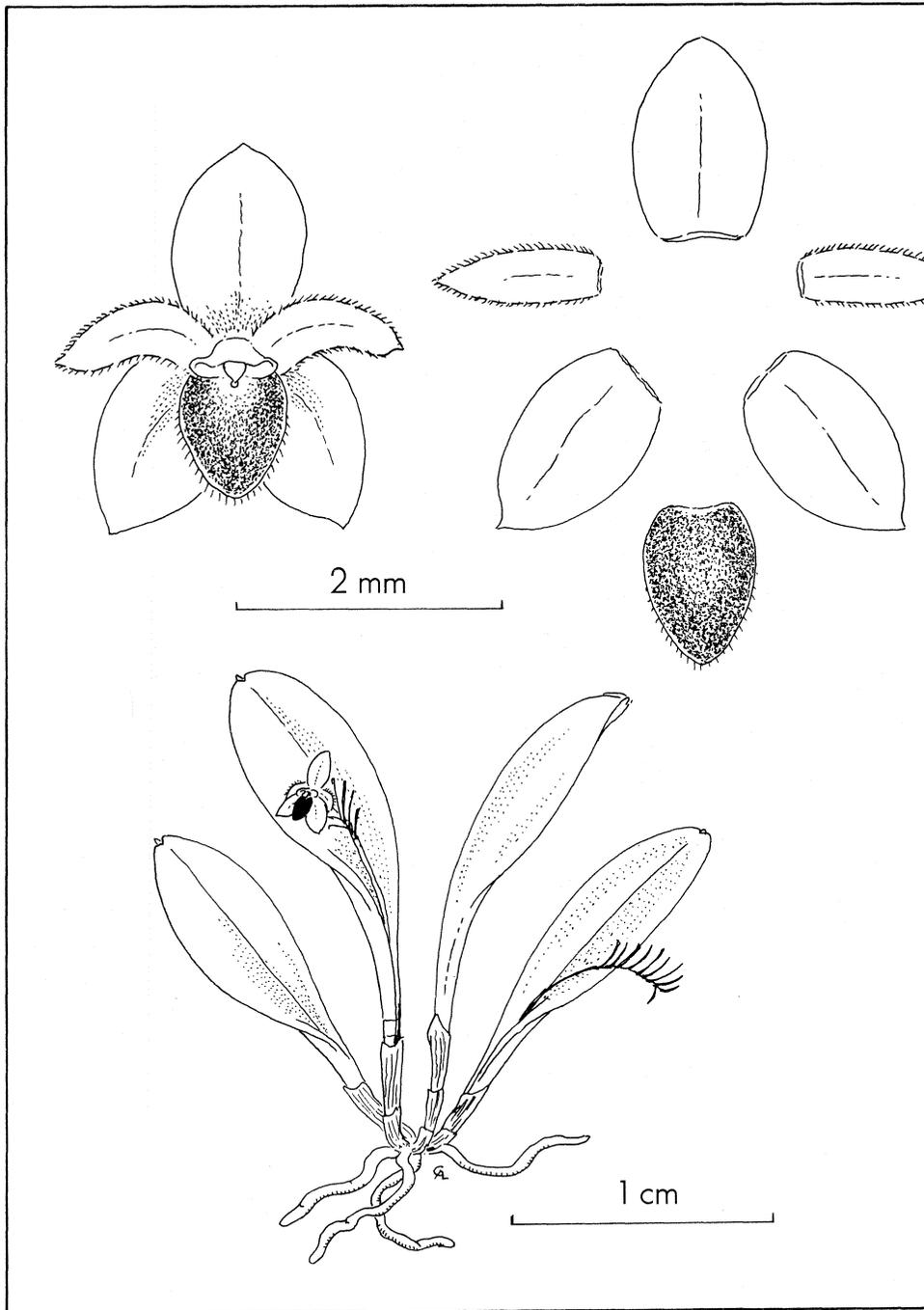


Figure 116. *PLATYSTELE DRESSLERI* C. A. Luer

Platystele examen-culicum C. Luer, sp. nov.

Planta perparva breviter repens caespitosa, caulibus secundariis brevibus teretibus vaginis costatis obtectis unifoliatis, foliis crassis anguste obovatis obtusis petiolatis, racemo multifloro flexuoso foliis longiore, floribus brunneo maculatis, sepalis effusis ovatis apicibus acuminatis attenuatis, petalis anguste linearibus acutis, labello crasso ovato apice acuminato attenuato.

Plant small, epiphytic to lithophytic or terrestrial, shortly creeping to caespitose; roots slender, white, flexuous. Secondary stems terete, short, 3-10 mm long, mostly concealed by 2-3 brown, ribbed sheaths, unifoliate. Leaf coriaceous, thick, narrowly obovate, obtuse, tridenticulate, the base narrowed into a channeled petiole, 2-4 cm long including the petiole, 5-8 mm wide. Inflorescence a many-flowered (up to 24) raceme, 8-9 cm long, flexuous, the flowers produced successively, 1-3 simultaneously, light brown, speckled with dark brown, glabrous; peduncle capillary, from a node on the secondary stem; floral bract triangular, 1.5 mm long; pedicel slender, 3 mm long; ovary 0.75 mm long; dorsal sepal ovate, concave, the apex acuminate, long-attenuate, 4-4.5 × 0.75 mm; lateral sepals free, slightly oblique, similar to the dorsal sepal; petals narrowly linear, acute, 3 × 0.25 mm; lip brown, fleshy-thickened, ovate, the apex acuminate, long-attenuate, the base truncate, minimally concave, 3 × 0.5 mm; column stout, hooded, 0.5 × 0.5 mm.

ETYMOLOGY: From the Latin *examen culicum*, "a swarm of mosquitoes," in allusion to the appearance of the flowering plant.

TYPE: *ECUADOR*: PICHINCHA: lithophytic about 22 km below the pass on the new road between Quito and Santo Domingo, alt. ca. 1800 m, 19 Aug. 1975, C. Luer, G. Luer & S. Wilhelm 574 (HOLOTYPE: SEL).

DISTRIBUTION: Western Ecuador.

Several full-flowering plants of this species were discovered by George Luer in a dark, wet habitat on vertical rock beneath overhanging vegetation. Sticking out from the rocky embankment they resembled several swarms of small mosquitoes. Dense tufts of little leaves were bearing numerous, zig-zag, nearly invisible, hair-like flowering stems, each bearing several spindly, minute, brown flowers.

All floral parts are wide-spreading and long-attenuate. The minute brown speckling adds to their camouflage. The lip is ovate and thickened in its lower third, and truncate at the attachment to the base of the short, broad column.

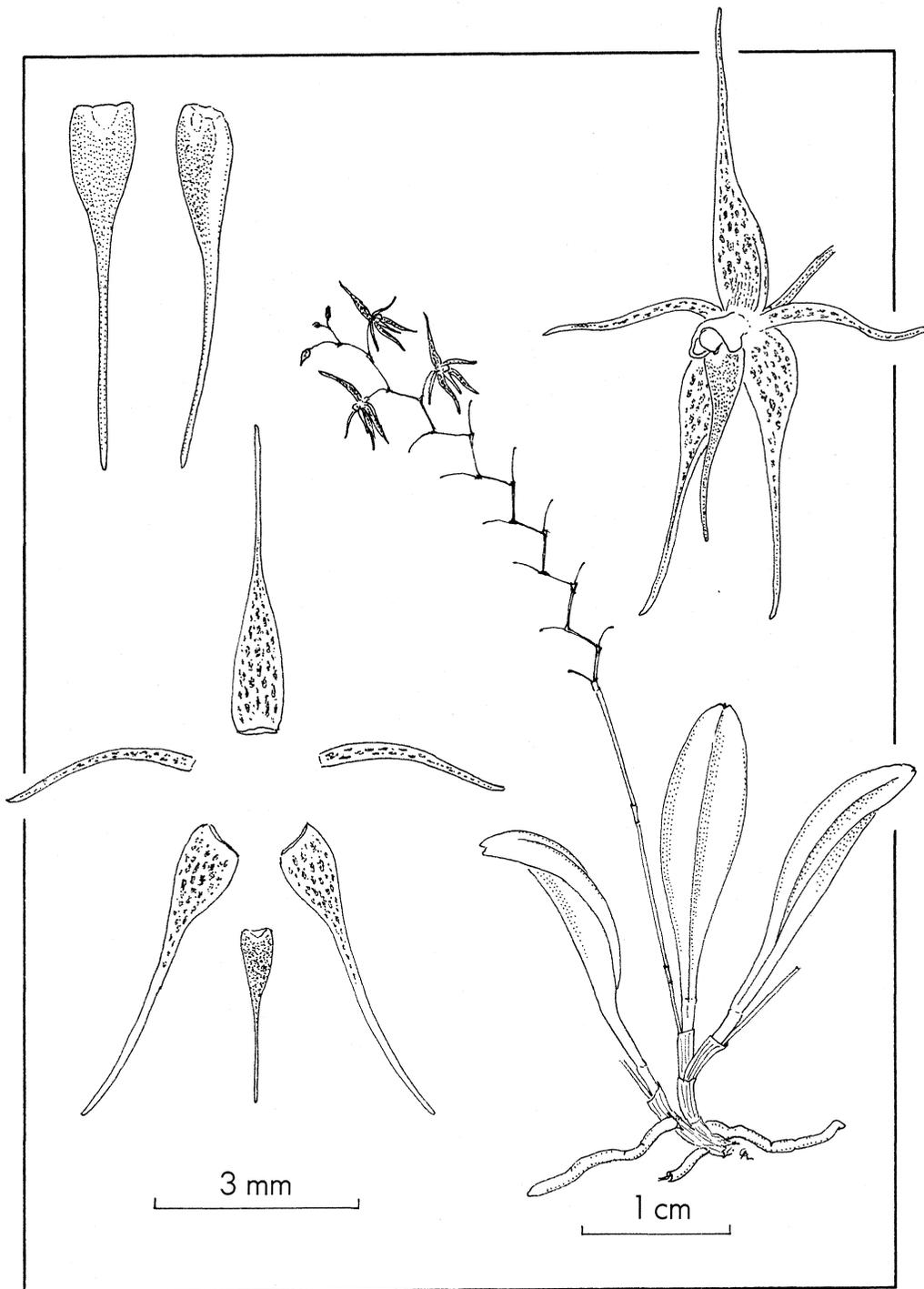


Figure 117. PLATYSTELE EXAMEN-CULICUM C. A. Luer

Platystele taylori C. Luer, sp. nov.

Herba minutissima epiphytica caespitosa, caulibus secundariis abbreviatis unifoliatis, foliis late obovatis obtusis tridenticulatis base cuneatis breviter petiolatis, racemo paucifloro folio duplolongiore, floribus successivis, sepalis flavo pellucidis ovatis acuminatis acutis, petalis linearibus acuminatis breviter ciliatis, labello rubro ovato acuminato acuto sepalis leviter ampliore.

Plant extremely small, epiphytic, caespitose; roots slender, flexuous. Secondary stems abbreviated, 1-1.5 mm long, mostly concealed by 1-2 thin sheaths, unifoliolate. Leaf broadly elliptic-obovate, the apex rounded to obtuse, tridenticulate, the base cuneate, short-petiolate, 4-5 × 2.5 mm, including the petiole. Inflorescence a few-flowered raceme, 5-8 mm long, the flowers produced singly and successively; peduncle filiform, from a node on the secondary stem; floral bract infundibuliform 0.5 mm long; pedicel 1.5 mm long; ovary 0.3 mm long; sepals translucent yellow, ovate, acuminate, acute, 1.6 × 0.6 mm, 1-veined, the lateral sepals free, oblique; petals narrowly linear, acuminate, acute, the margins microscopically short-ciliate, 1.2 × 0.2 mm; lip red, ovate, acuminate, acute, 1.8 × 0.8 mm; column very short, hooded, the stigma bilobed.

ETYMOLOGY: Named in honor of its discoverer, Peter Taylor of the Royal Botanic Gardens, Kew, England.

TYPE: PANAMA: PANAMA: Epiphytic along the Altos de Pacora road, alt. 650 m, 4 March 1976, C. Luer, J. Luer, P. Taylor & R. L. Dressler 741 (HOLOTYPE: SEL).

DISTRIBUTION: Panama

This extremely minute species is one of the smallest of the genus. Tiny clumps of obovate leaves produce hair-like peduncles to about twice their length, but a flowering plant still reaches less than a centimeter in height. The nearly microscopic yellow flowers with a bright red lip are produced singly in a slow succession. All the flower parts are acuminate or caudate, the petals linear, the sepals and lip ovate. The long-pointed lip is slightly larger than the sepals.

A piece of bark bearing about eight tiny clumps of these miniscule plants was discovered by Peter Taylor in the rain forest on the flank of Cerro Jefe east of Panama City. They have continued to flower intermittently in cultivation at the Marie Selby Botanical Gardens.

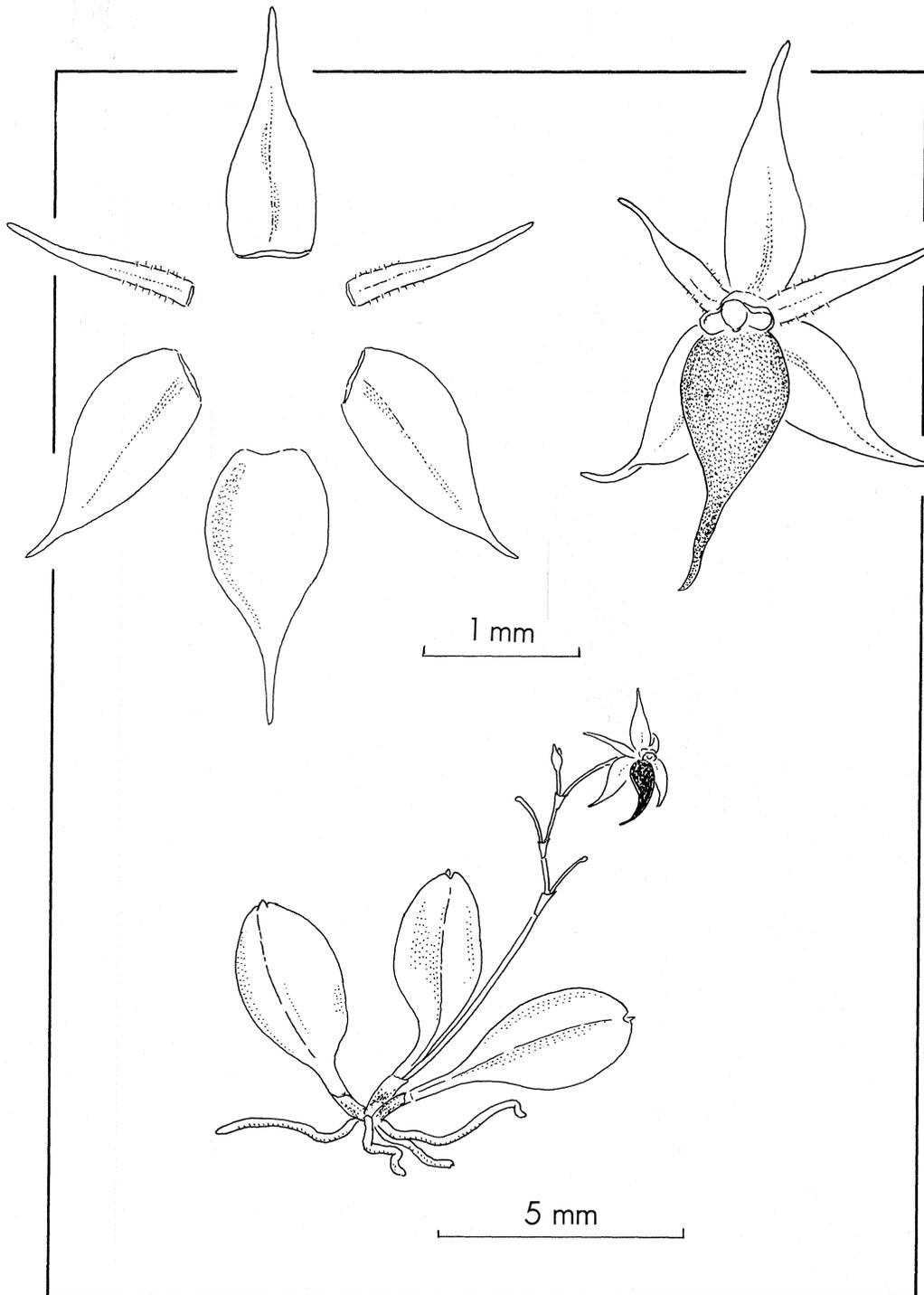


Figure 118. PLATYSTELE TAYLORI C. A. Luer

Scaphosepalum clavellatum C. Luer, sp. nov.

Planta parva epiphytica caespitosave breviter repens, caulibus secundariis brevissimis teretibus vaginis tubulosis tenuis unifoliatis, foliis subcoriaceis anguste obovatis subacutis tridenticulatis base sensim petiolatis, pedunculo gracillimo glabro decumbentive ascendenti racemo brevi congesto, flores singularibus successivis interdum binis inversis rubro armeniicis, sepalo inferno anguste oblongo apice obtuso incrassato clavellato synsepalo longiore, sepalis lateralibus connatis concavis supra medium pulvinatis, apicibus breviter caudatis petalis ovatis acutis unguiculatis, labello decurvo oblongo apice rotundato minutissime denticulato in medio dilatato base subsagittato.

Plant small, epiphytic, caespitose to shortly creeping; roots filamentous, flexuous. Secondary stems terete, abbreviated, 5-8 mm long, with 1-2 thin, tubular sheaths, unifoliate. Leaf subcoriaceous, narrowly obovate, subacute, tridenticulate, gradually narrowed into a long-petiolate base. Inflorescence scapose, the peduncle very slender, glabrous, decumbent to ascending, 5-15 cm long, the flowers red-orange, non-resupinate, produced singly, or occasionally doubly, in slow succession in a congested, few- to many-flowered raceme, the lowest flowers more or less distant; floral bract infundibular 2-2.5 mm long; pedicel 2-3 mm long; ovary 2.5 mm long; inferior sepal narrowly oblong, longer than the lateral sepals, tricarinate, navicular with incurved margins, the apex dilated, thickened, obtuse to rounded, club-shaped, 11-13 × 2.5 mm, 1.5 mm wide near the middle; lateral sepals connate to above the middle into an ovate synsepal, 8-9 × 5 mm, the apices free, more or less obtuse with acuminate tails, 1-1.5 mm long, with narrow, thickened, yellow cushions above the middle; petals ovate, shortly acuminate, acute, the upper margin thickened, unguiculate, yellow with 2 red veins, 3 × 1.5 mm; lip oblong, decurved near the middle, the apex rounded, denticulate, dilated in the middle third, the base subsagittate, shortly hinged to the column-foot, the disc with a pair of curved, denticulate lamellae, 2.5 × 1.5 mm; column red, broadly winged, tridentate, 2.5 mm long, the foot 1.5 mm long.

ETYMOLOGY: From the Latin *clavellatus*, "little-clubbed" (dim. of *clava*, "club"), in reference to the long, club-shaped middle sepal.

TYPE: PANAMA: PANAMA: epiphytic along the Altos de Pacora road, alt. 650 m, 4 March 1976, C. Luer, J. Luer, P. Taylor & R. L. Dressler 748 (HOLOTYPE: SEL).

OTHER MATERIAL EXAMINED: epiphytic on Cerro Jefe, alt. 1000 m, 2 March 1976, C. Luer, J. Luer & P. Taylor 740 (SEL).

DISTRIBUTION: Panama.

Prior to this report, only one species of *Scaphosepalum* (*S. elasmatopus* Schltr., syn. *S. longirepens* Ames) from the western mountains of Chiriqui, had been reported from Panama. Two additional species from eastern Panama have recently been found, one, tentatively identified as *S. microdactylum* Rolfe, the other apparently undescribed.

This species is similar to *S. elasmatopus*, but it may be distinguished by the conspicuous, club-shaped middle sepal which is considerably longer than the very short-tailed lateral sepals. The non-clavate middle sepal of *S. elasmatopus* is shorter than the lateral sepals. The clavate middle sepal of the Costa Rican *S. pittieri* Schltr. is also shorter than the lateral sepals which are described as being foveolate.

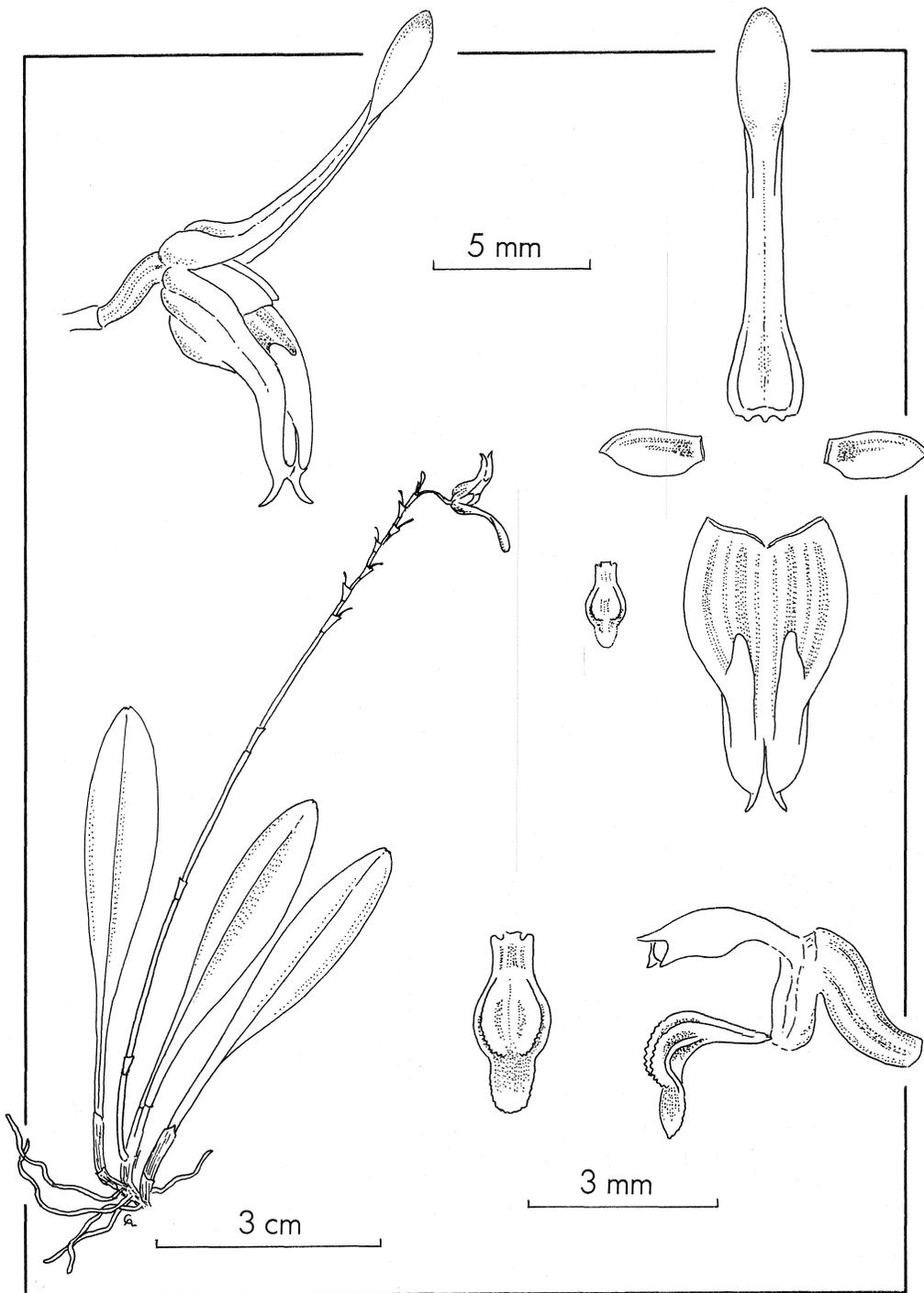


Figure 119. SCAPHOSEPALUM CLAVELLATUM C. A. Luer

Scaphosepalum ovulare C. Luer, sp. nov.

Planta perparva epiphytica caespitosa, caulibus secundariis brevissimis teretibus vaginis tenuibus obtectis unifoliatis, foliis coriaceis ellipticis subacutis tridenticulatis base cuneatis petiolatis, racemo gracilimo glabro descendenti paucifloro, flore ovario solitario successivo carnosio rubiginoso guttato inverso, sepalo intermedio ovato subacuto concavo supra medium ad synsepalum connato, sepalis lateralibus ovatis obtusis apiculatis supra medium connatis supra medium pulvinatis, petalis obovatis obliquis ventricosis apice late uncinatis, labello oblongo decurvato purpureo trilobato, lobo antico spatulato denticulato, lobis lateralibus rectangularibus, base unguiculato biauriculato, disco bialato cristato.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems abbreviated, terete, 4-6 mm long, clothed by 2 thin, ribbed sheaths, unifoliate. Leaf coriaceous, the upper surface lightly pustulate, elliptical, subacute, tridentate, the base cuneate, petiolate, the petiole channeled, 3-15 mm long, the blade 10-25 × 5-7 mm. Inflorescence a descending, few-flowered raceme, 2-4 cm long; peduncle very slender, glabrous, from a node on the secondary stem; flowers single, successive, non-resupinate, fleshy, purple-brown, ovoid in shape; floral bract infundibular, minutely echinate, 1 mm long; pedicel 4-6 mm long; ovary minutely verrucose, 1.5 mm long; middle sepal ovate, subacute, concave, 5 × 3 mm, united to above the middle to the lateral sepals; lateral sepals ovate, obtuse, apiculate, concave, united to above the middle, each with a well developed verrucose cushion above the middle, 4.5 × 6 mm together; petals obovate, strongly oblique, swollen above the middle on the labellar margin, the apex abruptly acuminate, oblique, obtuse, pink, speckled with purple, 2 × 1.5 mm; lip purple, oblong, decurved near the middle, 3-lobed, the anterior lobe spatulate, denticulate, the lateral lobes rectangular, the base unguiculate, minutely biauriculate, the disc with a rounded pair of denticulate lamellae, 2.5 × 1 mm; column winged, 2.5 mm long, with a foot 2 mm long.

ETYMOLOGY: From the Latin *ovulum*, "a little egg," and *-aris*, "resembling," in allusion the shape of the little flower.

TYPE: *ECUADOR*: NAPO: epiphytic in felled trees about 15 km west of Tena, alt. 600 m, 26 July 1975, C. Luer, G. Luer & S. Wilhelm 460 (HOLOTYPE: SEL).

DISTRIBUTION: Eastern Ecuador.

Vegetatively *Scaphosepalum ovulare* is very small for the genus. Solitary, little, red-brown, egg-shaped flowers are produced in a slow succession on a hair-like peduncle that descends from the base of a cluster of very small petiolate leaves. The concave sepals, connate to near the middle to form the ovoid flower, are devoid of caudicles, but a minute apiculum persists at each obtuse apex. The "cushion" of the lateral sepals, the hallmark of the scaphosepalums, is well developed and verrucose.

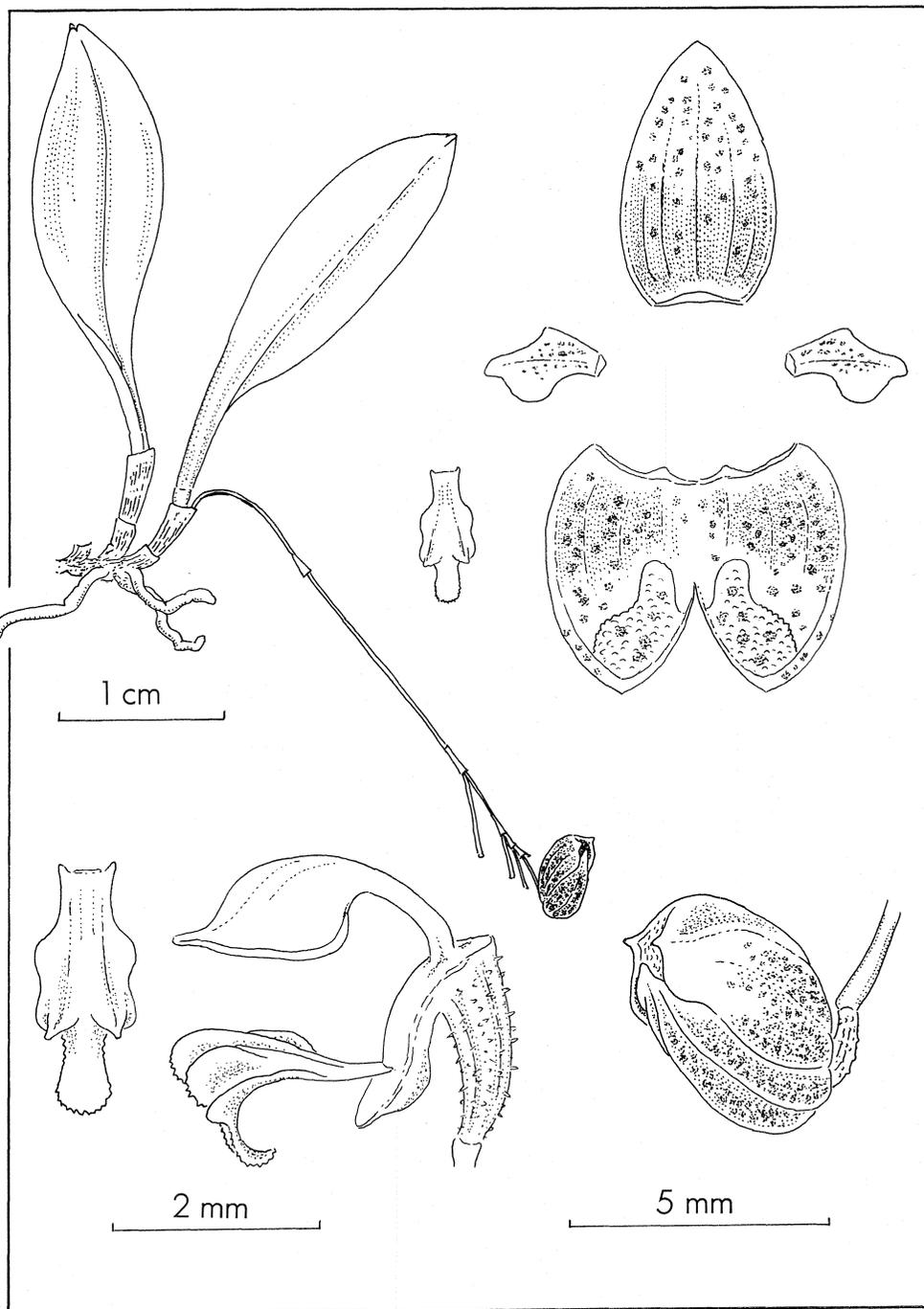


Figure 120. SCAPHOSEPALUM OVULARE C. A. Luer

Scaphosepalum rapax C. Luer, sp. nov.

Planta pusilla epiphytica caespitosave breviter repens, caulibus secundariis brevissimis teretibus vaginis obtectis unifoliatis, foliis coriaceis ellipticis subacutis tridenticulatis base cuneatis petiolatis, racemo gracillimo glabro descendenti paucifloro folio longiore, flore solitario successivo carnosio atro-purpureo guttato inverso, sepalo inferno ovato-triangulari acuminato apice crasso obtuso extus tricarinato asperulo sepalis lateralibus connatis concavis apicibus caudatis incrassatis scaberulis divergentibus valde pulvinatis, petalis unguiculatis ventricosis abrupte acuminatis, labello decurvato purpureo trilobato, lobo antico rotundato denticulato, lobis lateralibus rectangularibus, base unguiculato biauriculato, disco bilamellato dentato.

Plant small, epiphytic, caespitose to shortly creeping; roots slender, flexuous. Secondary stems very short, terete, 4-6 mm long, enclosed by 2 close-fitting, thin, ribbed sheaths, monophyllous. Leaf coriaceous, the upper surface lightly pusticulate, elliptical, subacute, tridentate, the apicule more or less uncinata, the base cuneate, petiolate, the petiole channeled, 5-10 mm long, the blade 10-22 × 5-8 mm. Inflorescence a descending, few-flowered raceme, 3-4 cm long; peduncle capillary, glabrous to minutely and sparsely verrucose, from a node on the secondary stem; flower solitary, successive, fleshy, dark purple-spotted, sparsely glandular, non-resupinate; floral bract infundibular, minutely echinate, 2 mm long; pedicel glabrous, 4-5 mm long; ovary minutely verrucose, 1.5 mm long; middle sepal ovate-triangular, acuminate, the apex obtuse, thickened, 7-9 × 3 mm, tricarinate, the carinae papillose-erose, with a minute uncinata process near the apex; lateral sepals united into a broadly ovate, concave synsepal, with a pair of well developed, fleshy cushions, the apices caudate, thickened, scabridous, diverging, 6-7 × 6.5 mm, the tails 4 mm long, externally bicarinate, similar to the dorsal sepal; petals obovate, abruptly acuminate, ventricose, unguiculate, white, marked with purple, 3 × 2 mm; lip red-purple, oblong decurved near the middle, three-lobed, the anterior lobe rounded, denticulate, the lateral lobes rectangular, the base unguiculate, minutely biauriculate, the disc with a pair of curved, toothed lamellae 3 × 2 mm; column winged, 3 mm long, with a foot 2 mm long.

ETYMOLOGY: From the Latin *rapax*, "a predatory beast," in allusion to the ferocious appearance of the flower.

TYPE: *ECUADOR: PASTAZA:* epiphytic in felled trees about 20 km east of Puyo, alt. ca. 600 m, 28 July 1975, C. Luer, G. Luer & S. Wilhelm 474 (HOLOTYPE: SEL).

DISTRIBUTION: Eastern Ecuador.

This species and *Scaphosepalum ovulare* C. Luer are the two smallest known species of the genus. Although the primary stems of *S. rapax* are shortly creeping, dense, caespitose clumps of the little, green leaves are formed. The hair-like flower stem descends to bear in slow succession a vicious-looking flower with mouth open and fangs bared.

This species is related to the much larger *S. punctatum* (Rolfe) Rolfe from Colombia.

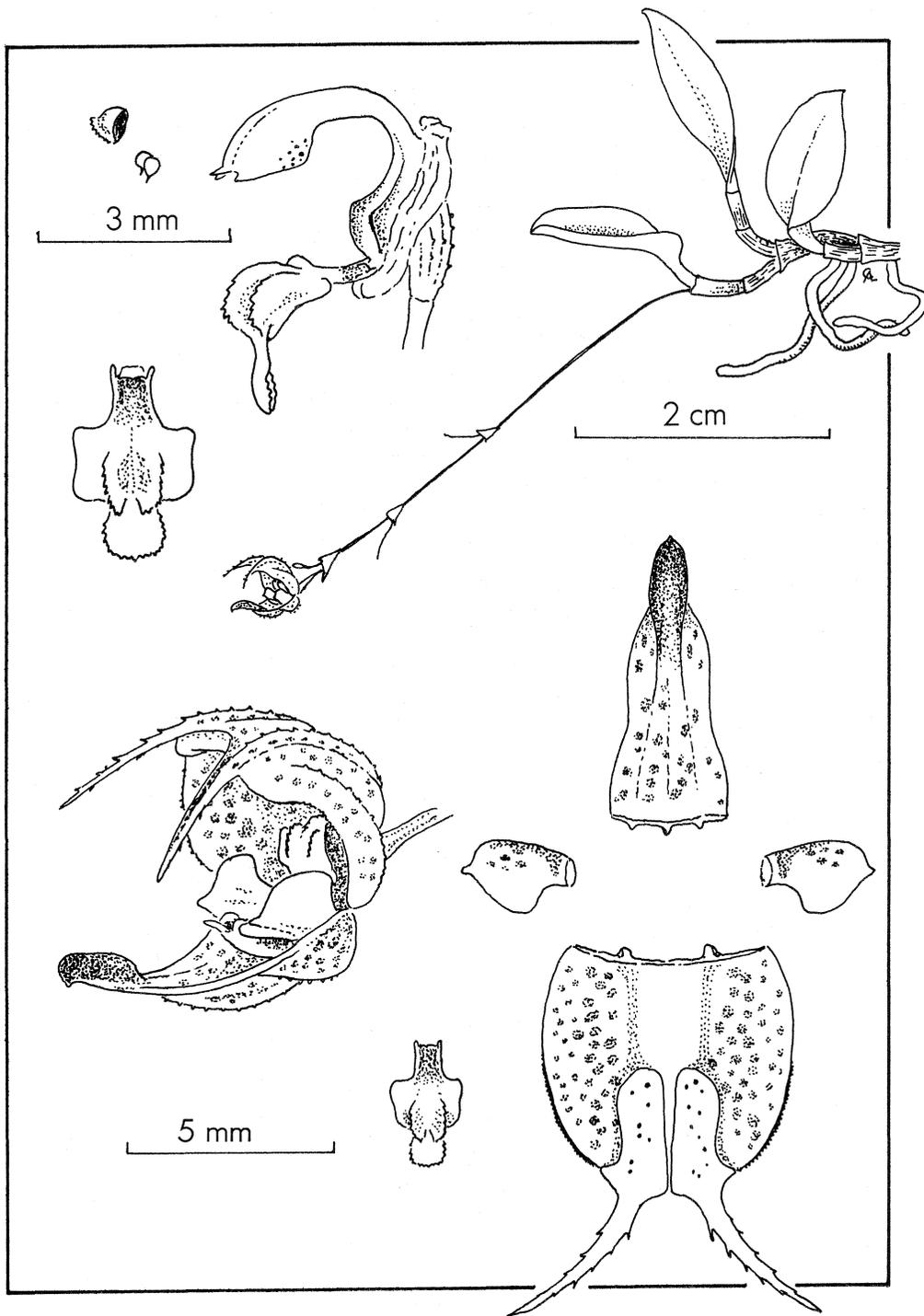


Figure 121. SCAPHOSEPALUM RAPAX C. A. Luer