

SIX NEW *MASDEVALLIA* SPECIES (ORCHIDACEAE) FROM PERU

CARLYLE A. LUER*

Missouri Botanical Garden, P.O. Box 299,
St. Louis, Missouri 63166-0299 USA. Corresponding address: 3222 Old Oak Drive,
Sarasota, Florida 34239-5019 USA. Email: cluer@juno.com

STIG DALSTRÖM

Marie Selby Botanical Gardens, 811 South Palm Avenue, Sarasota, Florida 34236-7726 USA.

ABSTRACT. Six *Masdevallia* (Pleurothallidinae) species from Peru are described, illustrated, and compared briefly with similar species.

Key words: Orchidaceae, Pleurothallidinae, *Masdevallia*, Peru

INTRODUCTION

During a recent trip to Peru, Stig Dalström visited the Perufflora orchid nurseries, owned and managed by Manuel Arias, and there recognized several new orchid species. The nursery staff previously had pressed some specimens, and other plants were also in flower at the time of the visit. The dried specimens are of excellent quality, although they lack collection data and color notes, which, hence, could not be included in the descriptions given here. By rehydrating the flowers in ammonia, however, it was possible to make illustrations of them during the visit. The Perufflora staff is committed to increasing scientific knowledge of the orchids of Peru by documenting flowering plants in the nurseries. Dried specimens will be deposited at the University of San Marcos, Lima (USM), filed in the Manuel Arias herbarium. During an earlier visit to the herbarium of the University of Cusco (CUZ), Dalström made an illustration of another *Masdevallia* from southern Peru, collected by Percy Nuñez Vargas, who also provided a color photograph of the plant, flowering in-situ.

TAXONOMIC TREATMENTS

***Masdevallia cheloglossa* Luer & Dalström**, sp. nov. TYPE: Peru—without specific collection data, cultivated by Manuel Arias Silva at Perufflora, March 2006, *S. Dalström 30-06* (Holotype: USM), C. Luer illustr. 21013. FIGURE 1.

Haec species *Masdevalliae* *tsubotae* similis est sed petalis acutis supra basim lobulatis et labelli epichilio lateribus recurvatis apice hamato distinguitur.

Plant medium to large in size, presumably

epiphytic, caespitose; roots coarse. **Ramicauls** stout, erect, 2–3 cm long, enclosed by a tubular sheath and 2–3 other sheaths at the base. **Leaf** erect, coriaceous, 16 cm long including a petiole 2–3 cm long; the blade elliptical, subacute, 2 cm wide, cuneate below into the petiole. **Inflorescence** a single flower borne successively in a loose raceme by an erect, triquetrous peduncle 20 cm long, with a bract near the base, from low on the ramicaul; floral bract tubular, 15 mm long; pedicel 25–30 mm long; ovary 4 mm long; sepals glabrous externally, microscopically pubescent within, the dorsal sepal ovate, 13–14 × 6 mm expanded, 3-veined, connate to the lateral sepals for 5 mm to form a tube, the apex acute, acuminate into a slender, ascending tail 35 mm long, the lateral sepals oblong-ovate, 25 mm long, 3-veined, connate 17 mm to form a longitudinally concave synsepal, 17 mm wide expanded, the apices acute, contracted into slender tails 15–18 mm long. **Petals** cartilaginous, oblong, 6.5 × 1.5 mm, 2.5 mm wide at the base, with a longitudinal callus along the labellar margin, ending in an obtuse angle above the base. **Lip** thick, more or less oblong, 5.5 × 2 mm, with the marginal folds near the middle, with the epichile subrugose, tubular with revolute sides, the apex with a thick, decurved hook, the hypochile oblong, truncate, hinged on the end. **Column** semiterete, 5.5 mm long, the foot 2 mm long with an incurved extension.

ETYMOLOGY: From the Greek *cheloglossa*, “clawed tongue,” in allusion to the claw at the tip of the lip.

Superficially this species appears very similar to the Colombian *Masdevallia tsubotae* Luer. The only apparent differences are the petals and lip. Instead of merely oblong, the petals of *M. cheloglossa* are wide at the base with obtuse, marginal angles, and the epichile of the lip of *M. cheloglossa* is tubular with revolute sides,

* Corresponding author.

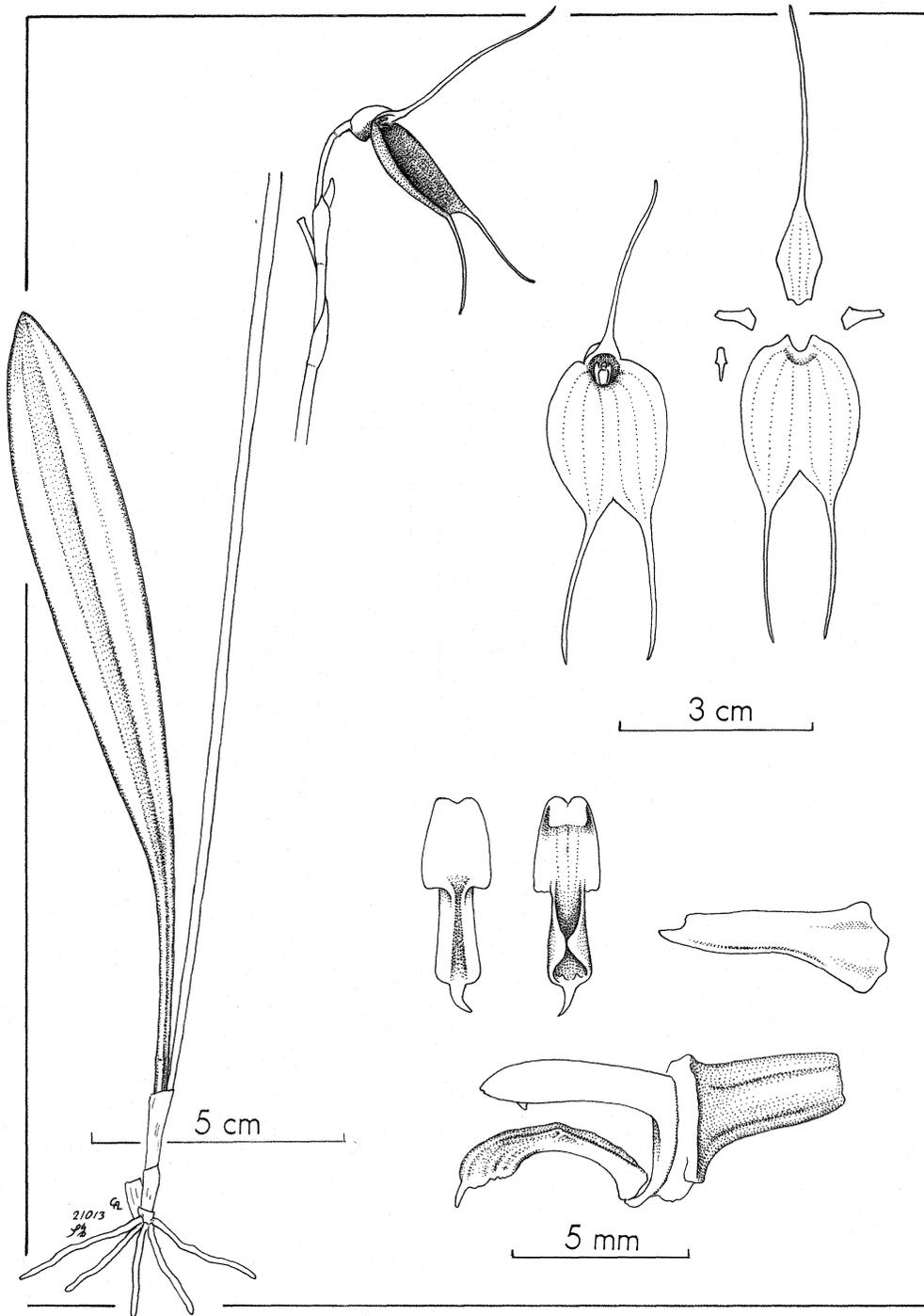


FIGURE 1. *Masdevallia cheloglossa*.

and with a prominent hook-like process at the tip.

Masdevallia listroglossa Luer & Dalström, sp. nov. TYPE: Peru—without specific collection data, cultivated by Manuel Arias Silva at Perufflora, March 2006, *S. Dalström 21-06* (Holotype: USM), C. Luer illustr. 21014. FIGURE 2.

Inter species subgeneris *Polyanthes*, statura medicari, pedunculo triquetro plus minusve aequilongo quam petioli foliorum, sepalis in tubum connatis brevicaudatis, petalis oblongis et labello obovato plicato palafomanti distinguitur.

Plant medium in size, presumably epiphytic, caespitose; roots slender. **Ramicauls** stout, erect, 2–3 cm long, enclosed by a tubular sheath below the middle and 2–3 other sheaths at the base. **Leaf** erect, coriaceous, 8–12 cm long including a petiole 2–3.5 cm long, the blade elliptical, subacute, 2–2.5 cm wide, cuneate below into the petiole. **Inflorescence** a single flower borne successively in a subcongested raceme by an erect, triquetrous peduncle 6–7 cm long, with a bract above the base, from low on the ramicaul; floral bract tubular, 7–8 mm long; pedicel 7–8 mm long; ovary 5 mm long; sepals glabrous, the dorsal sepal obovate, 8 × 7 mm expanded, 3-veined, connate to the lateral sepals for 5 mm to form a tube, the apex obtuse, contracted into a slender, ascending tail 12 mm long, the lateral sepals oblong-ovate, 15 mm long, 3-veined, connate 8 mm to form a longitudinally concave synsepal, 18 mm wide expanded, the apices obtuse, contracted into slender tails 8 mm long. **Petals** cartilaginous, oblong, 6 × 2 mm, thickened on the labellar half, obscurely lobed at the obscurely truncate apex. **Lip** thick, obovate, 7 × 3 mm, with the pair folds elevated near the middle, with the epichile broadly triangular, subacute to obtuse, minutely subverrucose with the acute tip decurved, the disc shallowly channeled between the folds, the hypochile truncate, hinged on the end. **Column** semiterete, 6 mm long, the foot 4 mm long with a very short, incurved extension.

ETYMOLOGY: From the Greek *listroglossa*, “spade-like tongue,” alluding to the shape of the lip.

Among the numerous species of subgenus *Polyantha* section *Alaticaulis*, this species is characterized by a long-petiolate leaf and a peduncle not longer. The flower resembles one of those related to the common *Masdevallia bicolor* Poepp. & Endl. with sepaline cup, concave synsepal, and relatively short tails. The lip, however, is distinguished by an obovate, spade shape with a pair of prominent, marginal folds near the

middle. The apex of the lip is triangular and minutely subverrucose with the tip decurved.

Masdevallia norrisiorum Luer & Dalström, sp. nov. TYPE: Peru—without specific collection data, cultivated by Manuel Arias Silva at Perufflora, (March 2006, *S. Dalström 13-06* (Holotype: USM), C. Luer illustr. 21017. FIGURE 3.

Haec species *Masdevalliae veitchianae* Rchb.f. affinis est sed foliorum laminis latioribus longipetiolatis et sepalis dorsali supra tubum angustiore differt.

Plant large, presumably epiphytic, caespitose; roots slender. **Ramicauls** stout, erect, 4–5 cm long, enclosed by a loose, tubular sheath, and 2–3 other sheaths below. **Leaf** erect, coriaceous, ca. 13 cm long including a petiole ca. 4 cm long, the blade elliptical, subacute, 2.5 cm wide, cuneate below into the petiole. **Inflorescence** a solitary flower borne by an erect peduncle 11 cm long, with a bract below the middle, from low on the ramicaul; floral bract tubular, ca. 1 cm long; pedicel 1.5 cm long; ovary 8–9 mm long. **Sepals** glabrous externally, the dorsal sepal purple, broadly elliptical with the sides recurved below the middle, concave, 21 × 13 mm expanded, 3-veined, connate to the lateral sepals for 3 mm to form a shallow, exposed cup, the apex rounded, contracted into a slender, erect, purple tail 5 cm long; the lateral sepals yellow with tufts of purple spicules, ovate, oblique, with the sides incurved, nearly meeting toward the apices, 20 × 11 mm, 3-veined, connate 5 mm to form a deep, more or less compressed mentum, the apices obtuse, contracted into slender, descending tails 4.5 cm long. **Petals** thickly cartilaginous, obliquely oblong, 6 × 2–3.5 mm, truncate at the apex, the labellar half with a thick, callous margin ending in a broad, obtuse, descending process at the base. **Lip** purple, arcuate, thin, elliptical, narrowed above the middle, with the apex obtuse, 6 × 3 mm, with 3 veins prominent toward the apex; the disc with a thickening in the lower third, the base truncate, thick, hinged beneath. **Column** semiterete, 4.5 mm long, the foot equally long with a free, incurved extension.

ETYMOLOGY: Named for Mr. and Mrs. George Norris of Texas, USA.

This relatively large-flowered species of *Masdevalliae* subsection *Coccineae* is morphologically similar to *Masdevallia veitchiana* Rchb.f., but the broad, long, petiolate leaves of the former differ markedly from the thick, narrowly linear leaves of the latter. In both species, the lateral sepals expand beyond the cylindrical, sepaline tube, but the dorsal sepal of *M. norrisiorum* is noticeably narrower than that of *M.*

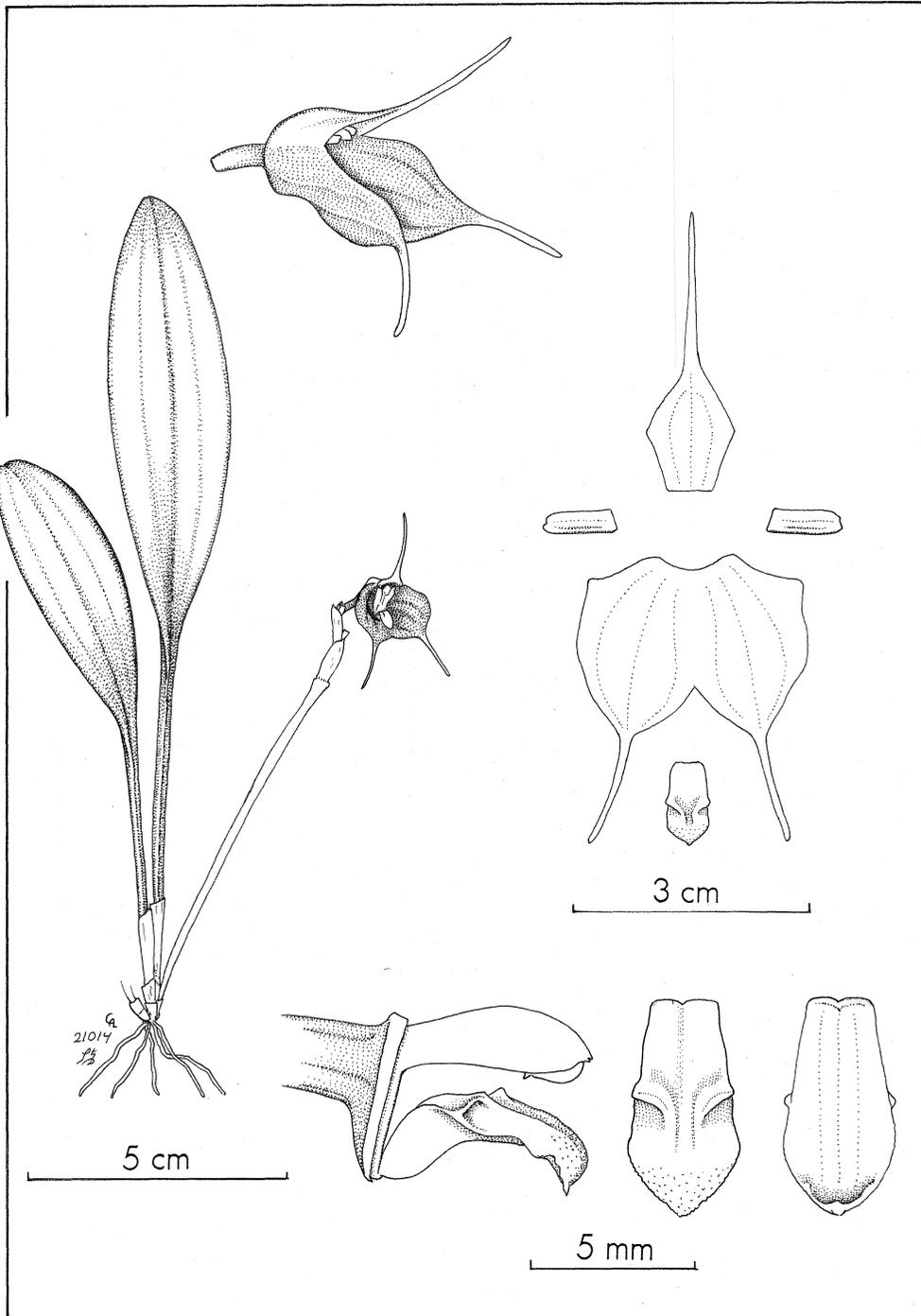


FIGURE 2. *Masdevallia listroglossa*.

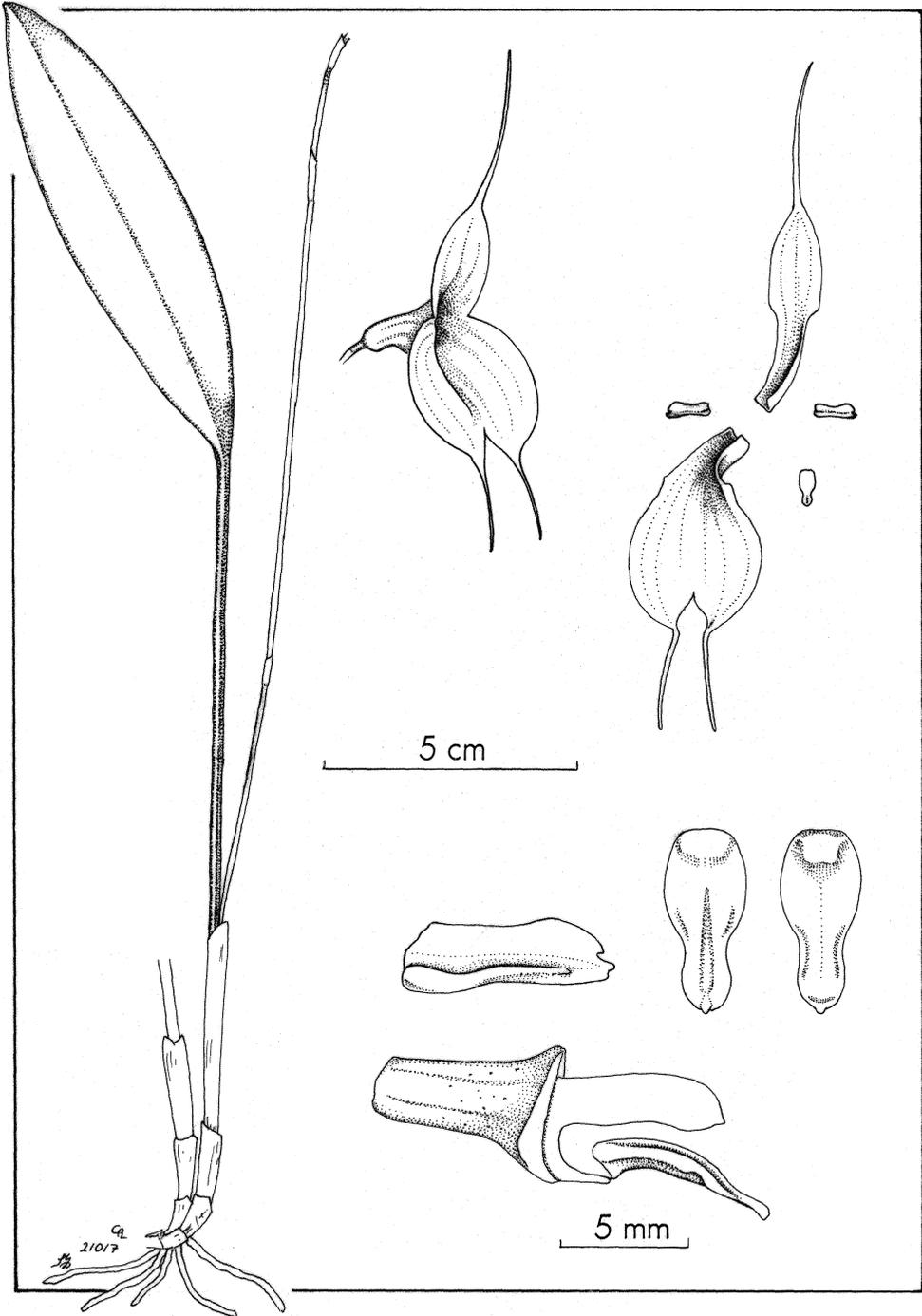


FIGURE 3. *Masdevallia norrisiorum*.

veitchiana. The petals and lip do not differ significantly.

Masdevallia nunezii Luer & Dalström, sp. nov. TYPE: Peru—Puno, without specific collection data, collected by *P. Nunez 3553* (Holotype: CUZ), C. Luer illustr. 21007.

FIGURE 4.

Inter species *Masdevalliae* sectionis *Masdevalliae* statura mediocri, sepalorum cupula brevi usque ad medium synsepalo 180° reflexo plicam transversam formanti, petalis oblongis apice bilobis et labello super plicam incumbenti distinguitur.

Plant medium in size, epiphytic, caespitose; roots fleshy. **Ramicauls** stout, erect, 9–10 cm long, enclosed by a tubular sheath and 2–3 sheaths about the base. **Leaf** erect, coriaceous, 16 cm long including a petiole 6 cm long, the blade elliptical, subacute, 2.5 cm wide, cuneate below into the petiole. **Inflorescence** a solitary flower borne by an erect peduncle 18 cm long, with a bract below the middle, from low on the ramicaul; floral bract tubular, 8 mm long; pedicel 8 mm long; ovary 6 mm long. **Sepals** glabrous, the dorsal sepal more or less oblong, 42 × 10 mm, 3-veined, connate to the lateral sepals for 18 mm into a cylindrical sepaline tube, the apex subacute, contracted into a slender, erect tail 28 mm long, the lateral sepals more or less obliquely ovate, 40 mm long, each 3-veined, connate 30 mm into an expanded, bifid, shallowly concave synsepal 28 mm wide, contracted below into the cylindrical tube with the dorsal sepal, the apices obtuse, contracted into slender, descending tails 20 mm long. **Petals** cartilaginous, oblong, 8 × 3 mm, unequally bifid at the tip, the labellar half with a longitudinal carina ending in a low, rounded callus at the base. **Lip** pyriform, oblong, slightly narrowed above the middle, with the apex round, recurved with a small, marginal callus, 7 × 3 mm, the base truncate, thick, hinged beneath. **Column** semiterete, 6 mm long, the foot 2 mm long including a free, incurved extension.

ETYMOLOGY: Named for Percy Nunez Vargas of Peru, who collected this species.

Among the members of *Masdevallia* subsection *Masdevalliae*, this surprisingly distinct species apparently is restricted to southeastern Peru. It appears to be related to the Bolivian *M. exquisita* Luer & Hirtz, but is readily distinguished by the prominent fold across the lateral sepals. *Masdevallia nunezii* is characterized by a gaping, medium-sized flower with a prominent, 180° transverse fold of the connate lateral sepals upon which the arcuate lip rests, in a manner seen in some species of *Dryadella* Luer, when the lip lies upon the transverse calli of the lateral sepals.

Below the fold is the concave interior of the sepaline cup; above the fold, the connate lateral sepals are transversely concave. The column itself is not unusual, but the free extension of the foot is remarkably elongated as it curves upward 180° to bear the lip as it rests on the convexity across the lateral sepals.

Masdevallia ruizii Luer & Dalström, sp. nov. TYPE: Peru—without specific collection data, cultivated by Manuel Arias Silva at Perufflora, March 2006, *S. Dalström 11-06* (Holotype: USM), C. Luer illustr. 21011.

FIGURE 5.

Inter species *Masdevalliae* subsectionis *Caudatae* statura mediocri, sepalo dorsali late elliptico marginibus infra medium recurvis, sepalis lateralibus late ovatis obliquis lateribus recurvis ad apices appositis, petalis cum processu grandi et labello tenui elliptico ad apicem leviter angustato distinguitur.

Plant medium to large in size, presumably epiphytic, caespitose; roots slender. **Ramicauls** stout, erect, 4–5 cm long, enclosed by a loose, tubular sheath, and 2–3 other sheaths below. **Leaf** erect, coriaceous, ca. 13 cm long including a petiole ca. 4 cm long; the blade elliptical, subacute, 2.5 cm wide, cuneate below into the petiole. **Inflorescence** a solitary flower borne by an erect peduncle 11 cm long, with a bract below the middle, from low on the ramicaul; floral bract tubular, ca. 1 cm long; pedicel 1.5 cm long; ovary 8–9 mm long. **Sepals** glabrous externally, the dorsal sepal purple, broadly elliptical with the sides recurved below the middle, concave, 21 × 13 mm expanded, 3-veined, connate to the lateral sepals for 3 mm to form a shallow, exposed cup; the apex rounded, contracted into a slender, erect, purple tail 5 cm long; the lateral sepals yellow with tufts of purple spicules, ovate, oblique, with the sides incurved, nearly meeting toward the apices, 20 × 11 mm, 3-veined, connate 5 mm to form a deep, more or less compressed mentum; the apices obtuse, contracted into slender, descending tails 4.5 cm long. **Petals** thickly cartilaginous, obliquely oblong, 6 × 2–3.5 mm; truncate at the apex, the labellar half with a thick, callous margin ending in a broad, obtuse, descending process at the base. **Lip** purple, arcuate, thin, elliptical, narrowed above the middle, with the apex obtuse, 6 × 3 mm, with 3 veins prominent toward the apex; the disc with a thickening in the lower third; the base truncate, thick, hinged beneath. **Column** semiterete, 4.5 mm long, the foot equally long with a free, incurved extension.

ETYMOLOGY: Named for Saul Ruíz Pérez, noted collector of orchids of Peru.

This handsome, colorful member of *Masdev-*

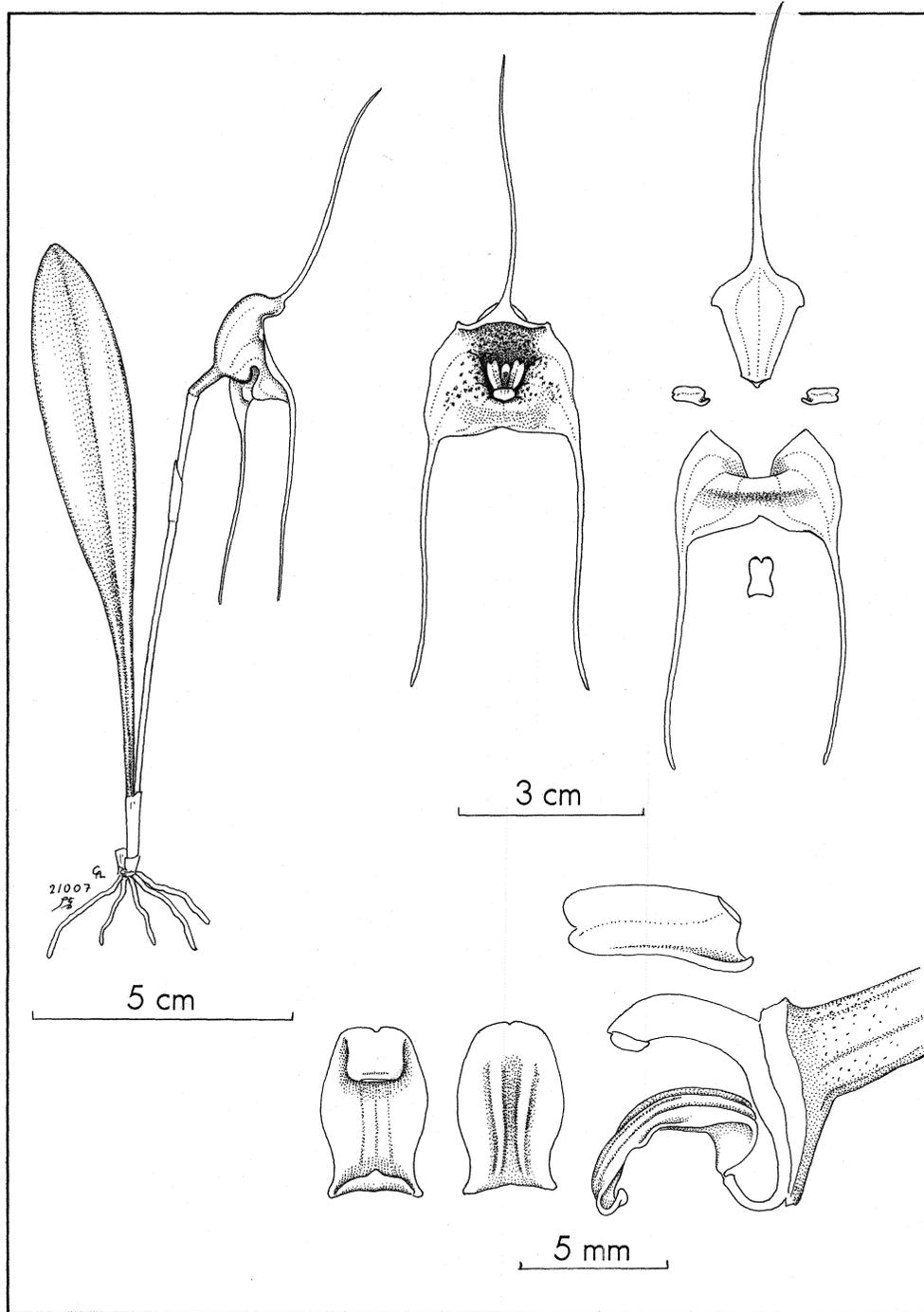


FIGURE 4. *Masdevallia nunezii*.

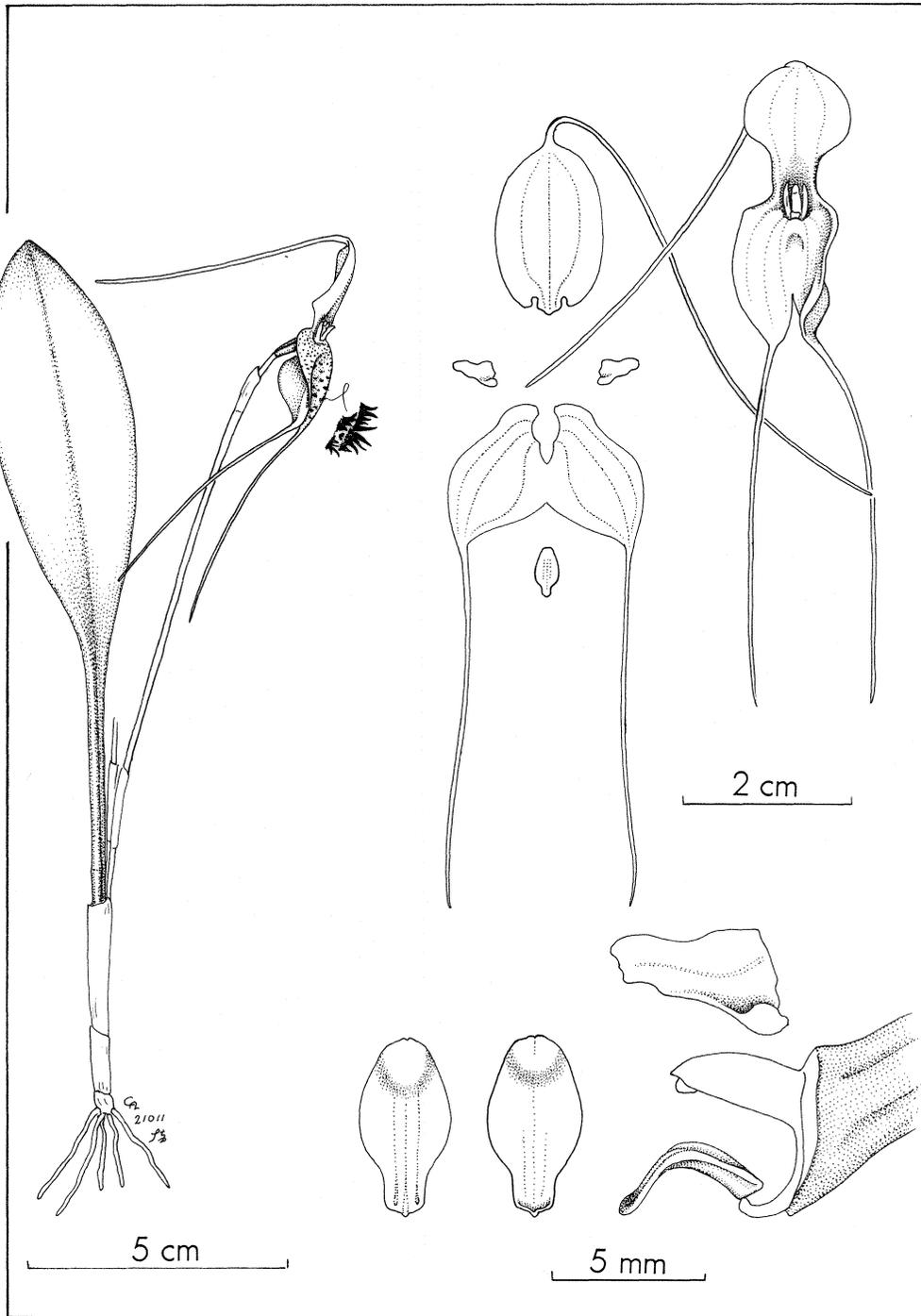


FIGURE 5. *Masdevallia ruizii*.

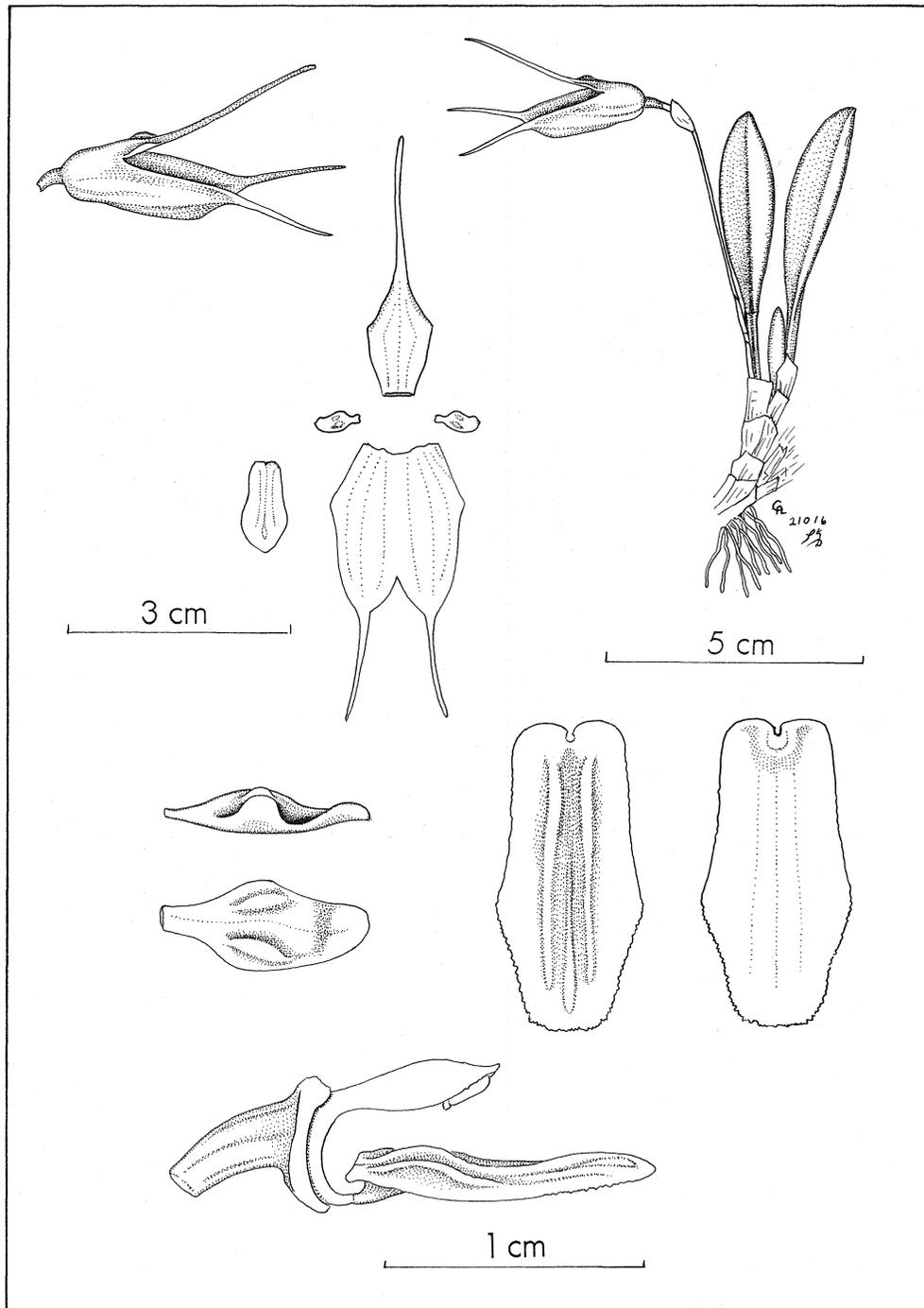


FIGURE 6. *Masdevallia silvanoi*.

allia subsection *Caudatae* is distinguished by the yellow lateral sepals that are spotted with clumps of purple spicules, contrasting with the erect, purple dorsal sepal. The lateral sepals are more or less perpendicular, with the sides erect and bent inward toward the apices. All three sepals terminate with long, slender tails. The thickly calloused petals and thin, elliptical lip are not unusual for the subsection.

Masdevallia silvanoii Luer & Dalström, sp. nov. TYPE: Peru—without specific collection data, cultivated by Manuel Arias Silva at Perufflora, March 2006, S. Dalström 12-06 (Holotype: USM), C. Luer illustr. 21016. FIGURE 6.

Haec species parva, dense caespitosa, flore solitario, sepalis in tubum connatis caudatis, petalis oblongis obtusis unguiculatis cum callis erectis centralibus duobus et labello proportione grandi oblongo bicarinato distinguitur.

Plant small, presumably epiphytic, densely caespitose-ascending; roots slender. **Ramicauls** stout, ascending-erect, 2–2.5 cm long, enclosed by a series of 3 loose, tubular sheaths. **Leaf** erect, coriaceous, ca. 5–6 cm long including a petiole ca. 1.5 cm long, the blade elliptical, subacute, 1 cm wide, cuneate below into the petiole. **Inflorescence** a solitary flower borne by an erect peduncle 5–6 cm long, with a bract below the middle, from low on the ramicaul; floral bract tubular, 7–8 mm long; pedicel 7–8 mm long; ovary 5 mm long. **Sepals** glabrous externally, densely cellular-pubescent within, the dorsal sepal obovate, ca. 14 × 9 mm expanded, 3-veined, connate to the lateral sepals for 9 mm to form a tube; the apex acute, acuminate into a slender, forwardly directed tail 3.5 cm long; lateral sepals oblong-ovate, ca. 24 mm long, 3-veined, connate 20 mm to form a longitudinally concave synsepal, 18 mm wide expanded, the apices sub-

acute, contracted into slender, forwardly directed tails 12 mm long. **Petals** cartilaginous, oblong, spathulate, 8 × 3.5 mm, broadly rounded at the apex, unguiculate at the base, with a smooth, erect pair of rounded lamellae on the middle third. **Lip** thin, oblong, 12 × 6 mm, with indistinct marginal angles between middle and apical third, with the apex broadly rounded, minutely denticulate-erose; the disc with a pair of low, longitudinal lamellae on the basal third, becoming raised veins on the apical third; the base broadly truncate, notched centrally, hinged from a short claw-like extension beneath. **Column** semiterete, 6.5 mm long, the foot 4 mm long with a free, incurved extension.

ETYMOLOGY: Named for Silvano Flores Huamani, noted collector of orchids in Peru.

With which subgeneric taxon of *Masdevallia* to associate this species is not readily clear. It seems to be going its own way on the evolutionary tree. The small, stout, densely ascending habit does not exclude any taxon from consideration, except subgenus *Polyantha*. The sepals offer nothing unusual, being compatible with subsections of *Coriaceae* and *Masdevallia* of *Masdevallia* and section *Reichenbachianae*. The strange, unique petals, however, with an erect pair of round lamellae (without a marginal callus or process) suggest a relationship with *Coriaceae*, even though the lip is only minutely erose, instead of verrucose.

ACKNOWLEDGMENTS

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