

ICONES PLEUROTHALLIDINARUM  
(ORCHIDACEAE)  
MISCELLANEOUS NEW SPECIES AND COMBINATIONS  
IN THE PLEUROTHALLIDINAE

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The following descriptions of pleurothallids are being published without the illustrations which will appear soon in respective monographs for the genera.

***Dracula chiroptera* Luer & Malo sp. nov.**

A *Dracula wallisii* (Rchb. f.) Luer et affinitatibus floribus mediocribus, sepalis brevipubescentibus dense rubiginoso punctatis et epichilio labelli albo orbiculari concavo marginibus denticulatis involutis dignoscenda.

Plant medium in size, epiphytic, caespitose; roots coarse, flexuous. Secondary stems channeled, 2-4 cm long, unifoliate, enclosed by 2-3 loose, tubular sheaths. Leaf erect, thinly coriaceous, narrowly elliptical, subpetiolate, 10-14 cm long, 2.5-3.7 cm wide, the acute apex tridenticulate, carinate dorsally along the midrib, cuneate below into the indistinct, conduplicate petiole. Inflorescence a successively, few-flowered, lengthening raceme borne by a horizontal to descending, sparsely bracted peduncle 15-18 cm long; floral bract tubular, 6-12 mm long; pedicel 16-20 mm long; ovary 7 mm long; sepals glabrous without, densely short-pubescent within, intensely dotted with red-brown, more or less confluent and in rows centrally, on a greenish white background, the dorsal sepal ovate, 24-27 mm long, 21-25 mm wide, connate to the lateral sepals for 8 mm, the subacute apex contracted into a slender, brown tail 4-4.5 cm long, the lateral sepals ovate, connate 17 mm into a broad, deep mentum, the subacute apices contracted into tails similar to that of the dorsal sepal; petals ivory marked with brown, oblong, 4 mm long, 2 mm wide, the rounded apex bivalvate, the inner lamina denticulate, papillose between the laminae, the outer lamina revolute; lip white, spatulate, 15 mm long, 10-11 mm wide, the hypochile oblong, 5 mm long, 3.5 mm wide, with erect, rounded, marginal angles, shallowly cleft centrally between a pair of obtuse teeth, the concave base hinged loosely to the column-foot, the epichile suborbicular, concave, 10-11 mm long, 10-11 mm wide, the margins denticulate, involute, with low, branching veins within the concavity; column white, semiterete, 5 mm long, with a stout foot 4 mm long.

ETYMOLOGY: Named for Chiroptera, the mammalian order of the bats, in allusion to the appearance of the flowers. From the Greek *chiro-* (comb. form of *cheir*, "hand") and *pteron*, "wing," for the wings modified from webbed fingers.

TYPE: *ECUADOR*: PICHINCHA: epiphytic in cloud forest between Quito and Chiriboga, alt. ca. 1800 m, B. Malo s.n., cultivated near Cuenca, flowered in cult. 22 July 1977, C. Luer 1759 (HOLOTYPE: SEL); same area, A. *Andreetta* 68 (SEL).

DISTRIBUTION: Western Ecuador.

This species is very similar to the larger Colombian *Dracula wallisii*, but, besides the smaller size of the flowers with shorter tails, it may be dis-

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tinguished by the minute, red-brown coalescing spots on the densely short-pubescent sepals. The broad, deep mentum is proportionately large to accommodate the rounded, bowl-shaped lip. The margins of the epichile are conspicuously rolled inward and toothed by the terminations of elevated veins.

*Dracula hawleyi* Luer, sp. nov.

A speciebus generis *Draculae* Luer foliis angustis longissimis, cupula sepalorum glabra luteola ochraceo suffusa caudis longis brunneis, petalis bivalvatis spathulatis et epichilio nivei suborbiculato concavo marginibus denticulatis unicarinato cum lamellis pluris imperfectis distinguenda.

Plant medium to large in size, epiphytic, caespitose; roots coarse, flexuous. Secondary stems well developed, channeled, unifoliolate, 2-2.5 cm long, enclosed by 2-3 tubular sheaths. Leaf erect to suberect, thinly coriaceous, very narrowly obovate to linear, carinate dorsally along the midrib, 17-31 cm long, 1.5-2 cm wide, tridenticulate at the acute apex, gradually narrowed below to the conduplicate base. Inflorescence a 2-to 3(?)-flowered raceme borne by a suberect to horizontal, sparsely bracted, purple peduncle up to 20 cm long, from a node low on the secondary stem; floral bract tubular, 15-16 mm long; pedicel 30 mm long; ovary yellow, 6 mm long; sepals glabrous, light yellow, suffused with brown within, the dorsal sepal obovate, 22 mm long, 18 mm wide, connate to the lateral sepals for 12 mm into a gaping cup, the free portion broadly ovate, the obtuse apex produced into a slender, brown tail 7 cm long, the lateral sepals ovate, connate 16 mm into a bifid lamina forming a narrow mentum below the column-foot, each lateral sepal 27 mm long, 16 mm wide, the acute apices contracted into brown tails 6.5 cm long; petals ivory, marked with orange below the middle, brown above, spatulate, 4 mm long, 2 mm wide, the acute apex thickened, bivalved, papillose between the valves; lip white, spatulate, 8.5 mm long, 5 mm wide, the hypochile oblong, 3.5 mm long, 2.75 mm wide, with erect, rounded marginal angles, narrowly cleft centrally between toothed lamellae, the base concave, hinged to the column-foot, the epichile suborbicular, 5 mm long, 5 mm wide, concave, the involute margins denticulate, with a central, minutely verrucose carina and 3-4 incomplete, radiating lamellae to either side; column white, stout, semiterete, with a foot 2 mm long.

ETYMOLOGY: Named in honor of Ronald M. Hawley of Mill Valley, California, who discovered this species.

TYPE: *ECUADOR*: *CARCHI*: epiphytic in cloud forest above Maldonado, alt. ca. 2500 m, 20 May 1976, R. Hawley & R. Levi 7601, cultivated in Mill Valley, California, flowered in cult. 11 Oct. 1978, *C. Luer 3454* (HOLOTYPE: SEL).

DISTRIBUTION: Northwestern Ecuador.

Apparently this species has been collected but once in the same remote valley of northwestern Ecuador where several other species of *Dracula* new to botanical science recently have been discovered. *Dracula hawleyi* is most readily compared to *D. levii* Luer (page 369, this issue). Both species have long narrow leaves, but those of the former are slightly wider. The more widely spread flowers of *D. hawleyi* are yellow, suffused with brown within, and with brown tails. Except for being marked with orange and brown, the spatulate petals of the two species are very similar. The lips, however, differ

greatly. The well-demarcated, rounded, toothed epichile of the lip of *D. hawleyi* is coursed by several incomplete lamellae to either side of the central carina. The little, smooth epichile of *D. levii* is indistinctly divided from the hypochile, and only one or two fragments of veins may be seen to either side of the central carina.

***Dracula levii* Luer, sp. nov.**

Inter species generis *Draculae* Luer foliis longissimis angustissimis, cupula sepalorum nivea glabra conica caudis viriscentibus, petalis bivalvatis spathulatis, labello parvo oblongo et epichilio e hypochilio obscure partito ovato concavo non-denticulato unicarinato cum venulis paucis imperfectis dignoscenda.

Plant medium in size, epiphytic, caespitose; roots coarse, flexuous. Secondary stems well-developed, channeled, unifoliate, 2.5-6 cm long, clothed by 2-3 loose, tubular sheaths. Leaf erect to suberect, thinly coriaceous, very narrowly obovate to linear, carinate dorsally along the midrib, 18-32 cm long, 1.5-2.3 cm wide, the acute apex tridenticulate, gradually narrowed below to the conduplicate base. Inflorescence a 2-to 3(?)-flowered raceme of successive white flowers borne by a suberect to horizontal, sparsely bracted, green peduncle ca. 12 cm long, from a node low on the secondary stem; floral bract tubular, oblique, 15 mm long; pedicel 20 mm long; ovary yellowish white, 6 mm long; sepals glabrous, white, faintly suffused with yellow toward the base within, the dorsal sepal obovate, unicarinate, 20 mm long, 12 mm wide, connate to the lateral sepals for 15 mm to form a conical tube, the free portion triangular, the subacute apex contracted into a 5-7 cm long greenish white tail, the lateral sepals ovate, connate 15 mm into a bicarinate, bifid lamina 25 mm long, 22 mm wide, the acute apices contracted into tails similar to that of the dorsal sepal; petals yellowish white, spatulate, 4 mm long, 2 mm wide, bivalvate at the thickened apex, both valves acute, erose, narrowed and concave below the middle; lip white, oblong-subpandurate, 7 mm long, 3 mm wide, the hypochile more or less oblong, indistinctly divided from the epichile, 3 mm long, 2.5 mm wide, with erect, rounded, marginal angles incurved to meet above a slender, central cleft, the concave base hinged to the column-foot, the epichile ovate, 4 mm long, 3 mm wide, rounded at the subacute apex, concave, the margin smooth, with a central, minutely verrucose carina and 1-2 incomplete, slightly raised venules to either side; column yellow-white, stout, semiterete, with a foot 2 mm long.

ETYMOLOGY: Named in honor of Robert D. Levi of Mill Valley, California, co-discoverer of this species.

TYPE: *ECUADOR*: *CARCHI*: epiphytic in cloud forest above Maldonado, alt., ca. 2500 m, 20 May 1976, R. Hawley & R. Levi 7602, cultivated in Mill Valley, California, flowered in cult. 11 Oct. 1978, *C. Luer* 3455 (HOLOTYPE: SEL); same area, 26 Aug. 1978, *C. Luer, J. Luer & A. Hirtz* 3409 (SEL).

DISTRIBUTION: Northwestern Ecuador.

This species was pictured in an article by Ronald Hawley on page 608 of the July 1977 American Orchid Society Bulletin. Apparently *Dracula levii* is confined to one valley in northwestern Ecuador where it has been discovered several times by independent collectors. It is characterized by the

long, narrow leaves that accumulate into great clumps on the lower, mossy portions of the trunks of arboreal giants. The greenish white tails spread from a white, conical, sepaline tube. The claws of the spatulate petals are somewhat concave. The oblong lip deep inside the sepaline tube is small for the size of the flower, and the transition between the epichile and hypochile, nearly equal in size, is gradual. The little epichile is concave with smooth margins and with only one or two veins to either side of the central carina.

*Dracula radiella* Luer, sp. nov.

Species haec *D. fuliginosae* (Luer) Luer persimilis, sed foliis grandioribus et epichilio labelli nondenticulato cum venis radiantibusque dignoscenda.

Plant large, epiphytic, caespitose; roots coarse, flexuous. Secondary stems stout, channeled, 2-4 cm long, unifoliate, enclosed by 2-3 loose, tubular sheaths. Leaf erect, thinly coriaceous, carinate dorsally along the midvein, narrowly obovate, 10-37 cm long, 2.5-4 cm wide, the apex acute, tridenticulate, gradually narrowed below into an indistinct, conduplicate petiole. Inflorescence a successively flowered (up to 10) raceme produced by a horizontal to descending, slender, sparsely bracted peduncle 12-18 cm long, from a node low on the secondary stem; floral bract tubular, 7-10 mm long; pedicel 12-15 mm long; ovary green, speckled with purple, 6 mm long; sepals pale green to greenish white, lightly suffused with blackish brown externally, closely dotted with blackish brown within, sometimes in distinct rows, glabrous, broadly ovate to suborbicular, 15 mm long, 18 mm wide, connate to the lateral sepals for 6-7 mm to form a shallowly cupped flower, the free portions obtuse to rounded, abruptly produced into an erect, black, slender tail 5-8 cm long, the lateral sepals broadly ovate, oblique, connate 10 mm to form a deep rounded mentum, with a thickening, sometimes white, radiating from either side of the column-foot, the obtuse free portions produced into tails 5-9 cm long, similar to that of the dorsal sepal; petals cream, marked with dark brown, oblong, 3 mm long, 2 mm wide, the thickened apex rounded, bilvalved, papillose between the laminae, the inner lamina subacute, denticulate; lip pink, marked with darker rose along the veins, spatulate, 6.5 mm long, 5.5 mm wide, the hypochile oblong, 2.5 mm long, 3 mm wide, with erect, rounded, marginal angles, cleft centrally between a pair of acute teeth, the concave base hinged to the column-foot, the epichile suborbicular, 4.5 mm long, 5.5 mm wide, concave with smooth, involute margins, with ca. 8 lamellae radiating from the base of the central keel; column stout, semiterete, white with a few purple ridges near the apex, 3.5 mm long, with an equally long, stout foot.

ETYMOLOGY: From the Latin *radians*, "radiating," and *-ellus*, a diminutive suffix, referring to the radiating lamellae within the epichile of the lip, and the similarity to the larger-flowered *D. radiosa*.

TYPE: *ECUADOR*: *CARCHI*: epiphytic in cloud forest above Maldonado, alt. ca. 2500 m, 26 Aug. 1978, *C. Luer, J. Luer & A. Hirtz 339* (HOLOTYPE: (SEL).

DISTRIBUTION: Northwestern Ecuador.

ADDITIONAL MATERIAL EXAMINED: *ECUADOR*: *CARCHI*: collected by W. Teague & D. Welisch, July 1975, probably from above Maldonado, cultivated by M. & O. Robledo at La Ceja, Colombia, flowered in cult. 17 Oct. 1977, *C. Luer 2104A* (SEL); above Maldonado, J. Landsman, July 1976, culti-

vated by J & L Orchids, Easton, Ct., flowered in cult. 8 Nov. 1977, *C. Luer 2181* (SEL).

This species, apparently isolated on the western slopes of northern Ecuador, is closely allied to *D. fuliginosa* of the western slopes of Pichincha. Because of the similarity of the flowers, and because of uncertainty of collection data at that time, the two were included in the description of *D. fuliginosa* in *Phytologia* 39:203, 1978. Examination of further material, however, convinces me that the two entities are specifically distinct. The leaves of *D. fuliginosa* are comparatively small and narrow, up to 17 cm long and 1.5 cm wide. The leaves of *D. radiella* may be much longer and wider. The flowers are similar in size, shape and color, but the lips are distinct. The epichile of *D. fuliginosa* is toothed and contains irregular, broken lamellae. The margin of the epichile of *D. radiella* is smooth and several complete lamellae radiate from the center.

*Dracula radiella* also resembles the Colombian *D. radiosa* (Rchb. f.) Luer, but the flower of the latter is considerably larger with a distinct orange color on the backs of the sepals.

Additional new combinations in *Dryadella*:

***Dryadella crenulata*** (Pabst) Luer, comb. nov.

*Masdevallia crenulata* Pabst, *Bradea* 2:66. 1976.

***Dryadella susanae*** (Pabst) Luer, comb. nov.

*Masdevallia susanae* Pabst, *Bradea* 2:76. 1976.

***Masdevallia echinata*** Luer & Andreetta, sp. nov.

*Masdevallia rosea* Veitch, *Man. Orchid. Pl.* 5:60. 1889; not Lindl.

*Masdevallia rosea* Woolward, *Monograph Genus Masdevallia*, 1896; not Lindl.

Species haec *M. roseae* Lindl. persimilis sed labello minore apice nonlobulato crasso echinato differt.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems semiterete, blackish, unifoliate, 1-3 cm long, enclosed by 2-3 loose, tubular sheaths. Leaf erect, coriaceous, elliptical, long-petiolate, 10-15 cm long including the petiole 3-6 cm long, 2-3.5 cm wide, the obtuse apex tridenticulate, the base cuneate into the channeled petiole. Inflorescence a solitary, more or less horizontal to nutant, showy flower borne at the apex of a slender, suberect peduncle 10-15 cm long, with a bract below the middle, from a node low on the secondary stem; floral bract tubular, 9-13 mm long; pedicel 10-19 mm long; ovary 8 mm long, purple-brown, pitted; sepals bright rose, commonly orange toward the bases, the dorsal sepal narrowly linear, connate to the lateral sepals for 18-28 mm to form a narrow, laterally compressed tube, the free portion narrowly triangular, acuminate to the attenuated apex, more or less decurved over the lateral sepals, the total length 52-72 mm, the maximum width 2-5 mm, the lateral sepals connate 30-35 mm, dilated above the sepaline tube into ovate, oblique blades, the acute apices produced into 10 mm long tails, the total lengths 48-67 mm, 12-23 mm across both lateral sepals spread out; petals yellow-white, oblong, 4.5 mm long, 1-2.25 mm wide, the apex obtuse, with a broad, retrorse, uncinatate lobe on the lower margin near the base and a broad, rounded lobe on the upper margin near the base; lip light yellow with a purple-brown apex, ob-

long, 5-5.5 mm long, 2 mm wide, the thickened, rounded apex densely beset with long and short, dark purple spicules or hairs, the disc thickened with a pair of low, longitudinal calli, shortly pubescent, the base subcordate, hinged beneath; column white, semiterete, 5 mm long, the 2 mm foot terminated with a slender, incurved extension.

**ETYMOLOGY:** From the Latin *echinatus*, "bristly," in reference to the apex of the lip.

**TYPE:** *ECUADOR:* CARCHI: epiphytic in cloud forest east of Tulcan toward El Carmelo, alt. ca. 3000 m, April 1978, A. Andreetta & A. Hirtz 75, cultivated in Cuenca, flowered in cult. 18 Aug. 1978, C. Luer 3315 (HOLOTYPE: SEL).

**DISTRIBUTION:** Southern Colombia and northeastern Ecuador.

**ADDITIONAL MATERIAL EXAMINED:** *COLOMBIA:* INTEND. OF PUTUMAYO: epiphytic in cloud forest between La Cocha and Sibundoy, alt. ca. 3000 m, 4 August 1978, C. Luer, J. Luer, R. Escobar & J. Kuhn 3164 (SEL, JAUM).

John Lindley described *Masdevallia rosea* in 1845 from dried specimens collected near Loja, Ecuador, by Theodore Hartweg in 1842 or 1843. Apparently because the showy sepaline tube was so distinctive, Lindley made no mention of the petals and lip. In Bonplandia in 1854, however, Reichenbach described the apex of the lip of Warszewicz' specimen from near Loja as being trilobed, asperulous and with a denticulate margin. Examination of living material also from near Loja (Zamora-Chinchipe), reveals the apex of the lip to be indistinctly trilobed, the middle lobe reflexed, and microscopically cellular-glandular with a cellular-erose margin. Otherwise, the lip is glabrous. The same description applies to the lips of living plants of *M. rosea* from the Andes east of Quito (Napo), from near Baños (Tungurahua), and from east of Cuenca (Morona-Santiago). *Masdevallia rosea* varies somewhat in size and color through its range, but the morphology of the petals and lips is relatively constant.

According to Woolward in her monograph of the genus *Masdevallia*, Consul F. C. Lehmann succeeded in sending to Europe in 1880 a living collection of very similar plants identified as *M. rosea* from the Andes east of Pasto, Colombia. These plants first flowered in 1882 and became the basis for Miss Woolward's illustration and subsequent descriptions of *M. rosea*, including those by Veitch and Kraenzlin. The lip is portrayed with a thick, bristly apex which does not apply to *M. rosea*.

Examination of living material also from east of Pasto (Intend. of Putumayo) and from east of Tulcan (Prov. of Carchi, Ecuador) reveals the non-lobed, echinate lip as illustrated by Miss Woolward, very different from the larger, glabrous lip of the *M. rosea* from farther south. The average size of the flowers of the northern plants is somewhat smaller and the petals are more distinctly lobed, especially on the upper margin near the base. Because of the well-defined, separate geographical distributions and very dissimilar lips, I believe that the northern plants, recognized here as *M. echinata*, are specifically distinct from the southern *M. rosea*. Drs. Dodson and Dressler concur and suggest that the difference is probably due to longstanding isolation, and that both species are probably pollinated by hummingbirds.

**Masdevallia elachys** Luer, sp. nov.

Planta perparva epiphytica caespitosa, caulibus secundariis brevissimis unifoliatis, folio coriaceo anguste obovato petiolato pedunculo duplo longiore, sepalis albis basi brunneo suffusis in tubo cylindrico connatis intus pubescentibus caudis luteis gracilibus, petalis oblongis truncatis basi cum dente retrorso, labello oblongoligulato apice minute eroso.

Plant very small, epiphytic, caespitose; roots fine, flexuous. Secondary stems slender, terete, 8-15 mm long, enclosed by 2 thin, loose, tubular sheaths. Leaf erect, coriaceous, long-petiolate, narrowly elliptical-obovate, 3-7 cm long including the 1.5-4 cm long petiole, 7-11 mm wide, the subacute apex tridenticulate, narrowly cuneate below into the slender petiole. Inflorescence a solitary flower borne by an erect, slender peduncle ca. 2 cm long, with a basal bract, from a node low on the secondary stem, floral bract tubular, 5-6 mm long; pedicel 5-6 mm long; ovary yellowish white, 3 mm long; sepals white, suffused with light brown toward the bases, glabrous without, shortly pubescent within above the middle, with a few red dots below the middle, the dorsal sepal narrowly obovate 14 mm long, 4.5 mm wide, connate to the lateral sepals for 9 mm into a cylindrical sepaline tube, the free portion triangular, the acute apex contracted into a slender, yellow tail 13 mm long, the lateral sepals connate 8 mm into a bifid, oblong synsepal, with a mentum below the column-foot, the blade, the triangular free portions and tails similar to those of the dorsal sepal; petals white, oblong, 4 mm long, 1.5 mm wide, the truncate apex minutely tri-lobed, with a callus on the lower margin below the middle produced into a thick, blunt, retrorse tooth; lip light yellow, speckled with red-purple, oblong-ligulate, 4.25 mm long, 2 mm wide, the apex obtusely short-acuminate, minutely erose, the disc shallowly sulcate centrally between a low pair of longitudinal calli, the base subcordate, hinged beneath; column red, stout, semiterete, 3 mm long, the foot equally long with a curved extension.

ETYMOLOGY: From the Greek *elachys* (ἐλαχύς), "small, short, or low," in reference to the stature of the plant.

TYPE: *BOLIVIA*: SANTA CRUZ: collected by Helen Kuhn s.n., near Sibiria, Aug. 1976, cultivated by J & L Orchids at Easton, Ct., flowered in cult. 20 Apr. 1978, *C. Luer 2893* (HOLOTYPE: SEL).

DISTRIBUTION: Bolivia.

This small, unobtrusive species of *Masdevallia* was collected inadvertently with plants of *M. paivaeana* Rchb. f. Nearly two years later strange flowers began to appear among the leaves of potted plants of the latter. Examination revealed the stowaway to be a much smaller plant growing closely entwined among the roots. *Masdevallia elachys* may be distinguished by the small, long-petiolate leaves and a short peduncle bearing a small whitish, tubular flower slightly suffused with brown, with filiform tails spreading from the shortly pubescent interior. The petals are provided with a basal tooth, the ligulate lip is yellow, marked with red-purple, and the column is red.

**Masdevallia guerrieroi** Luer & Andreetta, sp. nov.

Species haec *M. bicolore* Poepp. & Endl. similis sed caudis sepalorum omnibus tribus deflexis, petalis cum dente basali acuto deflexo et apice labelli acuto dignoscenda.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems stout, semiterete, 1.5-3 cm long, unifoliate, enclosed by 2-3 loose, tubular sheaths. Leaf erect, coriaceous, narrowly elliptical, shortly petiolate, 9-12 cm long including the 1-2 cm long petiole, 2-2.5 cm wide, the obtuse apex tridenticulate, narrowly cuneate below into the petiolate base. Inflorescence a congested, successively few-flowered (2-3?) raceme borne by a suberect, triquetrous peduncle 12-13 cm long, subtended by a bract, from a node near the base of the secondary stem; floral bract oblique, tubular, acute, 12-15 mm long; pedicel 15 mm long; ovary light green, shiny, 5 mm long; sepals dull yellow-orange below the middle, suffused with dull purple above the middle with yellow tails, fleshy, rigid, glabrous, the dorsal sepal ovate, 39 mm long, 8 mm wide, connate 12 mm to the lateral sepals to form a conical tube, the free portion narrowly triangular, gradually acuminate into the decurved tail, the lateral sepals 30 mm long, connate 14 mm to form a rigid, cymbiform synsepal ca. 1 cm wide unspread, with a shallow mentum above the smaller basal mentum below the column-foot, the apices approximate, acuminate into recurving, diverging tails ca. 1 cm long; petals white with lavender dots, oblong, 6.5 mm long, 1.5 mm wide, the obtuse apex notched, with a sharp carina along the labellar margin ending in a narrow, acute, deflexed tooth 1 mm long; lip white dotted with purple, oblong-subpandurate, 6.5 mm long, 2.5 mm wide, with marginal folds just above the middle, the apical portion ovate, acute, with serrulate margins; column white, semiterete, 5 mm long, with a spotted foot 3 mm long, ending in an incurved extension.

ETYMOLOGY: Named in honor of Padre Antonio Guerriero of Bomboiza, Ecuador, co-discoverer of this species.

TYPE: *ECUADOR*: MORONA-SANTIAGO: epiphytic in cloud forest along Río Kampanakentsa near Bomboiza, alt. 1000 m, collected by A. Andreetta & A. Guerriero 61, Oct. 1977, cultivated by A. Andreetta in Cuenca, flowered in cult. 21 Aug. 1978, *C. Luer* 3323 (HOLOTYPE: SEL).

DISTRIBUTION: Southeastern Ecuador.

Although this triquetrous-stemmed species is related to the variable and widespread *Masdevallia bicolor*, the flower of *M. guerrieroi* is very distinct. The deep, more or less conical sepaline tube is ventricose below, and all three tails are deflexed. The lateral sepals form a rigid, boat-shaped synsepal with a bifid bow formed by the approximate apices with diverging tails.

#### *Masdevallia helenae* Luer, sp. nov.

Planta parva epiphytica caespitosa, caulibus secundariis brevibus unifoliatis, folio coriaceo anguste obovato pedunculo paulo longiore, bractea floris atropunctata, sepalis nitidis aureis rubrovittatis in tubo cylindrico alte connatis caudis virescentibus fere aequilongis, petalis oblongis truncatis basi unguiculatis cum dente crasso grandi, labello oblongoligulato.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems blackish, short, terete, 1-2 cm long, concealed by 1-2 loose, tubular sheaths. Leaf erect, coriaceous, narrowly obovate, 6-9 cm long, 12-18 mm wide, the obtuse to rounded apex tridenticulate, gradually narrowed below into an indistinct, channeled petiole 2-3 cm long. Inflorescence a single, colorful flower borne by an erect, slender peduncle 4-5 cm long, from a node



on the secondary stem; floral bract tubular, 5-6 mm long, green, dotted with black; pedicel 6-18 mm long; ovary green, smooth, 7-8 mm long; sepals shiny, glabrous, light yellow-green at the base to yellow-orange above, the lateral sepals becoming white toward the apices, each sepal with 3 red stripes and a yellow-green tail, the dorsal sepal obovate, 14 mm long, 6 mm wide, connate to the lateral sepals for 9 mm into a sepaline tube, the triangular free portion produced into a thick tail 18 mm long, the lateral sepals obliquely oblong, 15 mm long, 5 mm wide, connate for 8 mm to form a shallow mentum, the free portions ovate, the subacute apices produced into tails similar to that of the dorsal sepal; petals white, marked with purple, oblong, 6 mm long, 2.5 mm wide, the truncate apex obscurely trilobed, with a thick carina along the lower margin terminating in a large, obtuse, incurved and retrorse process just above the unguiculate base; lip red-orange marked with red, oblong-ligulate, 6 mm long, 2.5 mm wide, the subacute apex yellow, the disc broadly and shallowly canaliculate between a pair of low, rounded, longitudinal calli along either side, the shallowly cordate base hinged beneath to the column-foot; column white, edged in purple, semiterete, 6 mm long, the foot 3 mm long with a long, slender, incurved extension.

ETYMOLOGY: Named in honor of Helen Kuhn of Easton, Ct., who discovered this species.

TYPE: *BOLIVIA*: SANTA CRUZ: without locality, collected by Helen Kuhn, Aug. 1976, cultivated by J & L Orchids, Easton, Ct., flowered in cult. 4 March 1978, *C. Luer 2784* (HOLOTYPE: SEL).

DISTRIBUTION: Bolivia.

Vegetatively inseparable from numerous allied species, the shiny, colorful, tubular flower of *Masdevallia helenae* is distinctive. The basic color of yellow-orange merging to white on the free portions of the lateral sepals is striped in red, and the thick, diverging tails are green to yellow. The oblong petals are provided with a thick, incurved, posteriorly directed appendage at the lower base. The simple, ligulate lip is longitudinally sulcate between low, rounded calli.

#### *Masdevallia naranjapatae* Luer, sp. nov.

Species haec *Masdevalliae zahlbruckneri* Krzl. persimilis, sed caudis sepalorum filiformibus multilongioribus et petalis angustioribus apicibus obliquis acutis cum callo angusto et dente basali acuto differt.

Plant small to medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems slender, 1-1.5 cm long, unifoliate, concealed by 2-3 short, tubular sheaths. Leaf suberect, coriaceous, narrowly obovate, indistinctly petiolate, 5-12 cm long, 1.2-1.8 cm wide, the subacute apex tridenticulate, gradually narrowed below to the slender base. Inflorescence a successively few-flowered, congested raceme borne by a slender horizontal to descending peduncle 5-8 cm long, from a node low on the secondary stem; floral bract tubular, close, transparent, 4 mm long; pedicel light green speckled with purple, 11 mm long; ovary yellow, suffused and dotted with purple, 5 mm long; dorsal sepal yellow, lightly spotted with purple, microscopically pubescent above the middle, obovate, 10 mm long, 5 mm wide, connate to the lateral sepals for 5 mm to form a cylindrical tube, the free portion triangular, the apex acuminate into a filiform, reflexed tail 3-4 cm long; lateral sepals connate 20 mm into a narrowly ovate, bifid lamina,

covered with minute purple verrucae, microscopically pubescent, the apices attenuated into slender, recurving tails, the total length 4-5 cm, 1 cm wide across the synsepal spread out; petals white, strongly marked with purple along the labellar margin, variably marked with purple near the upper margin, oblong, 6 mm long, 2.5 mm wide, the apex oblique, acute, shortly bifid, obtusely angled on the upper margin above the narrow, unguiculate base, with a longitudinal callus along the lower margin ending in an acute, retrorse tooth above the base; lip white, speckled with purple, oblong-subpandurate, 5.5 mm long, 2 mm wide, the apex subacute, the base subcordate, hinged to the column-foot; column white marked with purple, semiterete, the foot 2 mm long with a minute, incurved extension.

ETYMOLOGY: Named for the tiny community of Naranjapata where this species occurs.

TYPE: *ECUADOR*: CHIMBORAZO: epiphytic near Naranjapata, km 100 along the railroad from Guayaquil to Quito, alt. 550 m, June 1977, W. Teague s.n., cultivated in San Francisco, California, flowered in cult. 23 Sept. 1978, C. Luer 3448 (HOLOTYPE: SEL).

DISTRIBUTION: western central Ecuador.

Apparently isolated in a lowland valley of western central Ecuador, this species is very closely allied to *Masdevallia zahlbruckneri* from Costa Rica, Panama, and northwestern Colombia. The habit and flower parts of the two species are extremely similar, although the flowers of *M. naranjapatae* may be immediately distinguished by the long, slender, sepaline tails. The latter, however, are subject to variation. The broad, obtuse petal of *M. zahlbruckneri* is very characteristic with a broadly elliptical, red-purple callus and a blunt, basal tooth. The petal of *M. naranjapatae* is obliquely acute with a narrow callus ending in a sharp, basal tooth. The lip of the latter may be considered more acute, but otherwise the lips of the two species are very similar.

The variability of the color and dimensions of the sepals within the population of *M. naranjapatae* (at that time tentatively identified as *M. aequatorialis* Krzl.) from the same and only known locality was the subject of a portion of a doctoral dissertation by Calaway Dodson in 1959, submitted to the faculty of Claremont Colleges, California.

#### *Masdevallia nitens* Luer, sp. nov.

Planta mediocris epiphytica caespitosa, caulibus secundariis gracilibus unifoliatis, folio coriaceo anguste elliptico petiolato pedunculo paulo longiore, sepalis glabris nitidis in tubum cylindricum connatis partibus libris triangularibus caudis gracilibus aequilongis, sepalo dorsali luteo purpureo striato, sepalis lateralibus intense purpureis, petalis oblongis cum dente basali uncinato, labello anguste ligulato acuto purpureo.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous, secondary stems slender, 2-3.5 cm long, unifoliate, enclosed by 2-3 loose, tubular sheaths. Leaf erect, coriaceous, petiolate, narrowly elliptical, 5-8.5 cm long including the 2-3 cm long petiole, 1-1.5 cm wide, the subacute apex tridentate, the base narrowly cuneate into the slender petiole. Inflorescence a solitary, colorful flower borne by an erect, slender peduncle 5-8 cm long, with a bract near the base, from a node low on the secondary stem; floral bract tubular, 8 mm long; pedicel 13-15 mm long; ovary greenish white,

dotted with black, 5 mm long; sepals glabrous, shining, the dorsal sepal yellow with 3 red-purple veins, narrowly oblong-cymbiform, carinate, 20 mm long, 6 mm wide spread out, connate 12 mm with the lateral sepals to form a curved, cylindrical tube, the free portion triangular, the acute apex contracted into a yellow-orange, forwardly directed, filiform tail 15-17 mm long, the lateral sepals purple with darker purple veins, each sepal obliquely oblong, 15 mm long, 6 mm wide, connate 9 mm, forming an acute mentum beneath the column-foot, the free portions ovate-falcate with the tails, similar to that of the dorsal sepal, decurved, petals white, oblong, 6.5 mm long, 1.5 mm wide, the truncate apex more or less tridentate, the upper tooth incurved, with a longitudinal callus along the labellar margin terminating in a thick, incurved, uncinat process, the processes of the 2 petals meeting in the midline above the base of the lip; lip red-purple, narrowly oblong-ligulate, 7 mm long, 1.75 mm wide, the acute apex microscopically verrucose centrally, the subcordate base hinged beneath; column white, marked with red, semiterete, 5 mm long, the foot 3 mm long with a slender, inflexed extension.

ETYMOLOGY: From the Latin *nitens*, "shining" (pres. part of *niteo*, -ere, "to shine"), in allusion to the shiny, glabrous flowers.

TYPE: *BOLIVIA*: COCHABAMBA: between Cochabamba and Villa Tunari, alt. ca. 2500 m, Feb. 1973, Janet Kuhn s.n., cultivated by J & L Orchids, Easton, Ct., flowered in cult. 7 June 1978, *C. Luer 2925* (HOLOTYPE: SEL).

DISTRIBUTION: Bolivia.

This attractive species is distinguished by the petiolate leaf and a slightly shorter flower stem bearing a colorful, yellow and purple flower, shining as if recently varnished. The slender tails are about as long as the blades of the sepals that bear them. The petals are furnished with a cylindrical, incurved, hook-like tooth at the base. In the natural position the processes of the two petals touch along much of their length above the base of the narrowly ligulate lip.

*Masdevallia pallida* (Woolward) Luer, comb. et stat. nov.

*Masdevallia xanthina* Rchb. f. var. *pallida* Woolward, Monogr. Genus *Masdevallia* 1896 (without pagination).

Species haec *Masdevalliae xanthinae* Rchb. f. persimilis sed sepalis glabris albidis pallidissime viridibus vel pallidissime flavis plerumque cum macula fusca basi sepalorum lateralium dignoscenda.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems blackish, terete, 1-1.5 cm long, unifoliate, enclosed by 2-3 loose, tubular sheaths. Leaf erect, coriaceous, elliptical-spatulate, petiolate, 3-7 cm long including the 1-2 cm long petiole, 1.5-2 cm wide, the apex obtuse to rounded, tridenticulate, cuneate below into the slender, blackish petiole. Inflorescence a solitary flower borne by an erect to suberect, slender, 5-6 cm long peduncle, with a bract near the base, from a node low on the secondary stem; floral bract tubular, 10 mm long; pedicel 10-18 mm long; ovary white, 5-7 mm long; dorsal sepal yellowish white to greenish white, sometimes with minute red dots along the midvein, obovate, concave-cucullate, 11-17 mm long, 7-15 mm wide, connate to the lateral sepals for 3 mm to form a wide-open flower, the rounded apex produced abruptly into an erect, filiform, yellow-green tail 2.5-6.5 cm long; lateral sepals colored similar to the dorsal sepal but usually

with a dark, purple-brown spot at the base, elliptical, oblique, 10-18 mm long, 7-13 mm wide, connate 3-4 mm, the apices obtuse, contracted into tails similar to that of the dorsal sepal; petals white, oblong, 5 mm long, 2 mm wide, the truncate apex minutely bi- or tridentate, with a thick callus along the lower margin terminating in an incurved, thick, more or less folded lamina; lip erect, white, elliptical-oblong, the rounded to truncate apex provided with a red-brown central callus protruding beyond the margin, the rounded base hinged beneath; column white marked with purple, semiterete, 3.5-4 mm long, bidentate at the apex, the foot equally long with an incurved extension.

ETYMOLOGY: From the Latin *pallidus*, "pale," in reference to the pale color of the flower.

TYPE: without locality, *F. C. Lehmann s.n.* (HOLOTYPE: K).

DISTRIBUTION: Colombia and Ecuador.

COLOMBIA: ANTIOQUIA: Munic. of Liborina, Sillon-La Pava, alt. 2000-2200 m, Nov. 1973, J. M. Serna s.n. cultivated at La Ceja by M. & O. Robledo, flowered in cult. 23 Jan. 1978, *C. Luer 2314* (SEL).

ECUADOR: MORONA-SANTIAGO: cloud forest of the Cordillera Oriental, alt. 1700 m, Apr. 1975, B. Malo s.n., cultivated near Cuenca, flowered in cult. 9 July 1977, *C. Luer 1657* (SEL); NAPO: epiphytic near El Chaco, alt. 1500 m, A. Hirtz s.n., flowered in cult. 26 Feb. 1978, *C. Luer 2777* (SEL); same area, 11 Aug. 1978, *C. Luer, J. Luer, A. Hirtz & A. Andreetta 3211* (SEL); TUNGURAHUA: *J. Brenner 12* (SEL).

Although similar to *Masdevallia xanthina*, and considered by some authors to be merely a color variation, *M. pallida* is easily recognized by the glabrous, whitish flowers. The orange sepals of *M. xanthina* are studded with multiple patches of microscopic red hairs (reminiscent of those of *M. guttulata* Rchb. f.). The size of the sepals and the length of the tails are variable in both species, but usually larger and longer respectively in *M. pallida*. The dark "eye-spots" commonly seen at the bases of the white sepals of the latter are readily visible, possibly indicating a selective pollinator. These spots, however, are absent in at least one population in southern Ecuador. The petals, basically similar in both species, differ in minor details. Instead of ending in a solid, blunt process, the carina along the lower margin of the petal of *M. pallida* terminates in an inflexed, folded, tooth-like lamina. The two species have separate, overlapping geographical distributions. *Masdevallia xanthina* is restricted to Colombia while *M. pallida* ranges from central Colombia far to the south in Ecuador.

#### *Masdevallia portillae* Luer & Andreetta, sp. nov.

Inter species sectionis *Alaticaulium* Krzl. pedunculo crasso, floribus grandibus, synsepalo lato biapiculato, petalis oblongis apiculatis cum carina alata et dente basali etiam apice labelli villosa distinguitur.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems semiterete, 2-3 cm long, unifoliate, enclosed by 2-3 loose, tubular sheaths. Leaf erect, coriaceous, elliptical, gradually short-petiolate, 12-15 cm long including the 2-3 cm long petiole, 2.5-3 cm wide, the obtuse apex tridenticulate, the base gradually narrowed into the petiole. Inflorescence a congested raceme of successive, large, nutant flowers borne at the

apex of an erect, stout, 14-18 cm long, sharply triquetrous peduncle, 5 mm thick at the apex, subtended by a bract, from a node at the base of the secondary stem; floral bract subacute, broadly conduplicate, 14 mm long, 7 mm broad; pedicel 7-8 mm long, enclosed by the floral bract; ovary 7 mm long, subverrucose, partially enclosed by the floral bract; dorsal sepal yellow, suffused with purple above the middle, the apex green, ovate, 49 mm long, 9 mm wide, connate 14 mm to the lateral sepals to form a cylindrical tube, the free portion narrowly triangular, forwardly directed, gradually tapering to the acute apex; lateral sepals maroon, connate 37 mm into an elliptical, cymbiform lamina 45 mm long, 24 mm wide, bifid at the apex into 8 mm long, green, acuminate tails; petals white, oblong, 9 mm long, 3 mm wide, the obtuse apex apiculate, minutely erose below the apiculum, with a longitudinal carina, broadly alate above the middle and produced into an obtuse tooth just above the base; lip maroon, oblong, 10 mm long, 4 mm wide, with a pair of acutely angled wings near the middle, the apical portion ovate, acute, densely villous with 3 longitudinal villous crests, the basal portion oblong, truncate, with concave "nectiferous" corners, hinged at the lower margin to the column-foot; column semiterete, 6.5 mm long, the stout foot 4 mm long with a very short, incurved extension.

ETYMOLOGY: Named in honor of Sr. Mario Portilla of Cuenca, Ecuador, who along with Padre Angel Andreetta discovered this species.

TYPE: *ECUADOR*: MORONA-SANTIAGO: epiphytic in cloud forest near Cuyes, alt. 1500-1800 m, March 1978, collected by A. Andreetta & M. Portilla 55, cultivated in Cuenca, flowered in cult. 18 Aug. 1978, *C. Luer 3445* (HOLOTYPE: SEL).

DISTRIBUTION: Southeastern Ecuador.

*Masdevallia portillae* is characterized by the large, nutant flower borne singly in a congested raceme at the apex of a thick, triquetrous peduncle. The long, narrow, free portion of the dorsal sepal overlies the broad, boat-shaped synsepal. The callus of the petal is a longitudinal carina presenting as a broadly rounded wing above the middle and ending in a stout tooth below. The apex of the lip is markedly villous.

*Masdevallia setacea* Luer & Malo, sp. nov.

*Masdevalliae xanthinae* Rchb. f. affinis sed statura grandiore, sepalis angustis longissimicaudatis non cilio-punctulatis et dente petalorum brevi obtuso incurvato differt.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems blackish, terete, 1-1.5 cm long, unifoliate, enclosed by 2-3 loose, thin, tubular sheaths. Leaf erect, coriaceous, elliptical-obovate, petiolate, 5-8 cm long including the 2-3 cm long petiole, 1.5-2.5 cm wide, the apex obtuse to rounded, tridentate, cuneate below into the slender, channeled petiole. Inflorescence a solitary flower borne by an erect, slender peduncle 6-8 cm long, with a bract near the base, from a node low on the secondary stem; floral bract tubular, 10 mm long; pedicel 18-20 mm long; ovary 6 mm long; sepals orange to yellow-green suffused with rose, microscopically glandular-cellular within, the dorsal sepal erect, elliptical, concave above, the sides reflexed below, 25 mm long, 12 mm wide, connate basally for 5 mm to the lateral sepals, the rounded apex contracted into an erect, filiform, greenish

orange tail 6.5 cm long, the lateral sepals deflexed, oblong, 22 mm long, 8 mm wide, connate 5 mm beneath the column-foot, the apices acuminate into yellow-green tails similar to that of the dorsal sepal; petals white, marked with purple, oblong, 6 mm long, 1.5 mm wide, narrowed apically to an oblong, truncate-retuse apex, with an intramarginal lamella below ending in a short, obtuse, incurved angle; lip erect, pink dotted with purple, oblong, 5.5 mm long, 2.5 mm wide, the rounded apex provided with a central, marginal callus, the subcordate base hinged beneath, the disc with a low pair of longitudinal calli; column white, marked with purple, semiterete, 4.5 mm long, the foot 3 mm long with an incurved extension.

ETYMOLOGY: From the Latin *setaceus*, "bearing bristles," in reference to the three long tails of the sepals.

TYPE: *ECUADOR*: MORONA-SANTIAGO: epiphytic in cloud forest of the Cordillera Oriental, alt. 1700 m, April 1975, collected by B. Malo, cultivated near Cuenca, flowered in cult. 9 July 1977, *C. Luer 1658* (HOLOTYPE: SEL).

DISTRIBUTION: Southeastern Ecuador.

This species is known by a single plant collected by Benigno Malo. It is closely related to the smaller *Masdevallia xanthina* Rchb. f. and to the larger *M. wurdackii* C. Schweinf. The tails of the sepals are much longer than those of *M. xanthina* which is characterized by the yellow color with tiny pubescent spots. The tails are shorter than those of *M. wurdackii* which is recognized by the white flowers covered by minute purple dots. The flowers of *M. setacea* are pale yellow-orange and suffused with rose without dots. Similar to the other two species, the column, petals and lip of *M. setacea* stand exposed and erect in the center of the widely spread flower. The petals are provided with a short, obtuse, incurved tooth at the base.

***Masdevallia speciosa* Luer & Malo, sp. nov.**

Planta mediocris epiphytica caespitosa, caulibus secundariis brevibus, foliis erectis coriaceis obovatis petiolatis, pedunculo tereti gracili erecto, racemo paucifloro floribus successivis, cupula sepalorum conoidea cuprea vel rubiginosa caudis filiformibus subaequilongis, petalis truncatis cum angulo basali subacuto retrorso, labello oblongo apice et marginibus anticis deflexis.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems semiterete, unifoliate, 2-3 cm long, enclosed by 2-3 loose, tubular sheaths. Leaf erect, coriaceous, obovate, petiolate, 8-11 cm long including the petiole, 2-2.5 cm wide, the apex subacute, tridentate, the midrib flanked by a parallel vein to either side, the base cuneate into the 2.5-4 cm long, slender petiole. Inflorescence a contracted, few-flowered (2-3?) raceme of successive flowers borne by an erect, slender, terete peduncle ca. 12 cm long, with a bract below the middle, from a node low on the secondary stem; floral bract tubular, 11 mm long; pedicel 15 mm long; ovary 7 mm long; sepals glabrous, yellow-orange minutely speckled with red externally, internally bright, rusty, red-orange, more intense along the veins, the surface glandular-cellular, the dorsal sepal ovate, the blade 23 mm long, 12 mm wide, subcarinate, connate to the lateral sepals for 14 mm to form a conical tube, the free portion triangular, the acute apex contracted into an erect, filiform tail 18 mm long, the lateral sepals elliptical, oblique, the blades 26 mm long, 15 mm wide, connate midway, the free portions ovate,

reflexed, the subacute apices contracted into filiform tails 15 mm long; petals white, cuneate, 5.5 mm long, 1.5-2.5 mm wide, the truncate apex minutely lobulate, with an oblique carina along the inferior margin ending in a retrorse, subacute angle at the base; lip cream marked with purple, oblong, 6.5 mm long, 3 mm wide, the margins of the distal third and the subacute apex deflexed, the truncate base notched, hinged from the lower margin; column white marked with purple, semiterete, 5 mm long, the 3 mm long foot ending in an incurved extension.

ETYMOLOGY: From the Latin *speciosus*, "showy," in reference to the colorful, showy flower.

TYPE: ECUADOR: ZAMORA-CHINCHIPE: epiphytic in cloud forest, alt. ca. 2700 m, between Loja and Zamora, 1976, B. Malo s.n., cultivated near Cuenca, flowered in cult. 20 Aug. 1978, C. Luer 3320 (HOLOTYPE: SEL).

DISTRIBUTION: Southeastern Ecuador.

The most conspicuous feature of this showy, terete-stemmed, successively flowered species is the bright burnt red-orange or coppery color of the conical sepaline tube. Except for the filiform tails, the flower resembles one of *Masdevallia racemosa* Lindl. in size and brilliance of color although the color is obviously a darker hue.

#### *Masdevallia teaguei* Luer, sp. nov.

Planta mediocris epiphytica caespitosa, caulibus secundariis aliquantum longis unifoliatis, folio coriaceo elliptico petiolato, racemo brevi floribus congestis successivis, pedunculo erecto cylindrico folio paulo brevior, flore aurantiaco rubro suffuso sepalis minute pubescentibus ringentibus brevicaudatis basibus in cupulam brevem connatis, petalis ellipticis obtusis apiculatis basi cum dente brevi, labello crasso ovato trilobato, lobis lateralibus aliformibus prostratis, lobo apicali trilamellato.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems terete, 2-5 cm long, unifoliolate, concealed by 2-3 loose, tubular sheaths. Leaf erect, coriaceous, elliptical, petiolate, 9-13 cm long including the petiole up to 3.5 cm long, 2-3 cm wide, the rounded apex tridentate, the base cuneate into the channeled petiole. Inflorescence a congested raceme, up to 3 cm long, producing up to 8 flowers in succession, at the apex of an erect, rounded, peduncle 10-13 cm long, with a bract below the middle or near the base, from a node low on the secondary stem; floral bract tubular, 8-10 mm long; pedicel 12-16 mm long; ovary subverrucose, 6 mm long; sepals yellow-orange suffused with red, minutely short-pubescent within, widely spread from a well-formed sepaline cup, the dorsal sepal connate to the lateral sepals for 8 mm, obovate, 15 mm long, 9 mm wide, the free portion ovate, the obtuse apex contracted into an erect, slender, 17 mm long tail, the lateral sepals connate 15 mm to form a deep mentum immediately below a sharp transverse fold at the base of the column-foot, each broadly ovate, oblique, 17 mm long, 10 mm wide, the subacute apices contracted into tails 7 mm long; petals yellow, marked with red, elliptical, oblique, 6 mm long, 3 mm wide, the truncate apex obscurely tridentate, the middle tooth a decurved apiculum, the base with a short, thick, acute tooth above the lower margin, originating obliquely from the lower third of the column; lip red-orange, ovate, 6 mm long from the base to the apices of the lateral

lobes, 3.75 mm wide, deeply cleft down the center into a pair of prostrate, truncate, lateral lobes overlying the rigidly decurved, rounded apical lobe 2.5 mm long, 2.25 mm wide, with 3 tall, subverrucose lamellae, the base of the lip thickened, hinged below to the bottom of the column-foot; column yellow, semiterete, 6.5 mm long, the foot 4 mm long, very thick, incurved, the apex sub-bulbous.

ETYMOLOGY: Named in honor of Walter Teague of San Francisco, California, a co-discoverer of the species.

TYPE: *ECUADOR*: ZAMORA-CHINCHIPE: epiphytic in cloud forest near Valladolid, alt. ca. 2300 m, July 1975, collected by W. Teague, L. Figueroa & D. Welisch s.n., cultivated at San Francisco, California, flowered in cult. Sept. 1977, and Sept. 1978, *C. Luer 2035* (HOLOTYPE: SEL).

DISTRIBUTION: Southern Ecuador.

This attractive species is apparently without close affinities. It may be recognized by the petiolate leaf and an equally long, erect inflorescence. The peduncle is round in cross-section. The gaping yellow-orange flowers suffused with red are borne successively in a congested raceme. The sepals are connate basally into a distinct cup with a deep mentum, sharply angled beneath, then widely spread. The apex of the petals is provided with a decurved apiculum. The lip is deeply cleft centrally to form flat, wing-like, lateral lobes that overlie the decurved, trilamellate, apical lobe. The thickened base is connected beneath to the bottom of a thickened, bulbous column-foot by a thin, broad strap.

#### *Pleurothallis aberrans* Luer, sp. nov.

Planta mediocris epiphytica caespitosa, caulibus secundariis horizontalibus vel descendentes supra medium leviter compressis unifoliatis, foliis coriaceis obtusis base rotundatis caulibus 1 cm longe decurrentibus, racemo brevi paucifloro, floribus glabris carnosus viridibus, sepalo dorsale oblongo-spatulato obtuso crasso, sepalis lateralibus in laminam oblongam bidentatam connatis mentum formantibus, petalis truncatis apiculatis bicallosis, labello atrovirenti pyriformi longi-unguiculato prope basim laminae bicalloso etiam supra medium bicalloso.

Plant medium in size, epiphytic, shortly repent to caespitose; roots slender, fasciculate. Secondary stems horizontal to descending, 4-8 cm long, terete below, provided with a loose, tubular sheath and a shorter one at the base, slightly compressed and shallowly channeled above, flanked by the base of the leaf for 10-12 mm. Leaf coriaceous, oblong-elliptical, obtuse, flat, the base rounded, with the sides decurrent on the stem. Inflorescence a short (4 cm), few-flowered (5-6), pendent raceme lying against the leaf, the flowers opening simultaneously, the peduncle about 1 cm long, from a narrow spathe about 1 cm long, from the apex of the secondary stem, about 1 cm above the base of the leaf; floral bract oblique, acute, 4 mm long; pedicel 4 mm long; ovary dark green, glabrous, 1.5-2 mm long; flowers bilabiate, fleshy, glabrous, green; dorsal sepal oblong-spatulate, concave below the middle, thickened and semi-terete above, the apex obtuse, apiculate, 10 mm long, 2.5 mm wide, 3-veined, subcarinate at the base; lateral sepals connate into an oblong lamina, bifid and biapiculate at the obtuse apex, the margins microscopically scabrous below the middle, forming a mentum with the column-foot, 9 mm long, 3.75 mm wide, 6-veined; petals oblique, rectangu-



lar, truncate at the apex, apiculate, the margins thin, with a pair of thick, longitudinal calli terminating in a pair of smooth tuberosities near the corners of the truncate apex, 2 mm long, 1 mm wide, translucent greenish white, veined in green; lip deep green, the thick, arcuate, pyriform blade 2 mm long, 1.5 mm wide, abruptly narrowed into a slender claw 1 mm long, broadly rounded to truncate at the apex, the very narrow, hyalin margin minutely erose, the disc with a pair of calli at the junction with the claw, and with a prominent pair of pyramidal calli above the middle; column slender, light green, 3 mm long, the foot thick, 2 mm long, the anther cap pilose along the upper margin.

ETYMOLOGY: From the Latin *aberrans* (ab-, "away," and *errare*, "to err, or to stray"), "straying from the usual," in reference to the unusual characteristics of the species.

TYPE: PANAMA: VERAGUAS: epiphytic in tree north of the continental divide, alt. ca. 700 m, above Santa Fé, 6 Sept. 1976, C. Luer & R. L. Dressler 1628 (HOLOTYPE: SEL), greenhouse acc. no. 123-76-15, flowered in cult. 6 June 1977.

DISTRIBUTION: Panama.

Only one plant of this unusual species was found on a fallen tree limb beside the muddy trail in the cloud forest on the Caribbean side of the continental divide of the province of Veraguas in central Panama. Vegetatively it resembles *Pleurothallis circumplexa* Lindl., *P. pacayana* Schltr., or *P. pantasmi* Rchb. f. because the inflorescence emerges from the blade of the leaf above the base. The sides of the base are decurrent on the stem, but the stem is only minimally compressed, not winged as it is in the other species. Superficially the green, glabrous, gaping flowers in the short raceme resemble those of *P. cogniauxiana* Schltr., *P. decipiens* Ames & Schweinf., and *P. vercunda* Schltr. (as well as many others). The petals and lip, however, are distinctive. The bicallose, truncate petals end in a short apiculum. A pair of pointed calli rest near the center of the deep green, long-handled, paddle-shaped lip.

***Pleurothallis areldii* Luer, sp. nov.**

Habitu *P. acrisepalae* Ames & Schweinf. similis, sed foliis floribusque duplomagioribus et pedunculo brevioribus non-erecto.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems abbreviated, 12-15 mm long, clothed by a thin, tubular sheath and shorter ones at the base, unifoliate. Leaf erect, coriaceous, narrowly obovate, acute at the apex, tridenticulate, the base gradually acuminate into a grooved petiole, 8-13 cm long, 15-20 mm wide. Inflorescence a horizontal or creeping peduncle, 5-8.5 cm long, bearing at the apex successive flowers in a fascicle or extremely contracted raceme, the single flower nodding, bilabiate, heavily spotted with purple; floral bract 3-5 mm long, pedicel 10-12 mm long; ovary yellow, dotted with brown, 2 mm long; dorsal sepal ovate, acuminate, acute, dull yellow, spotted with purple, 15 mm long, 4.5 mm wide; lateral sepals united to near their acuminate apices into an ovate synsepal similar to the dorsal sepal, 15 mm long, 7 mm wide, subpapillose within, bicarinate without; petals obovate, obtusely acuminate, oblique, the labellar margin dilated, maroon, 5 mm long, 3 mm wide; lip fleshy, maroon, oblong, the apex obtuse, recurved, tuberculate, with small, erect, obtuse

lateral lobes below the middle with verrucose calli extending forward onto the apical lobe, the base with a pair of thin auricles, 4.5-5 mm long, 2 mm wide; column 3 mm long, denticulate, winged, with a prominent foot.

**ETYMOLOGY:** Named in honor of its discoverer, Dr. Robert L. Dressler (RLD) of the Smithsonian Tropical Research Institute, Balboa, Canal Zone.

**TYPE:** PANAMA: CHIRIQUI: epiphytic in cloud forest at the Fortuna dam site, alt. ca. 750 m, Feb. 1977, *R. L. Dressler s.n.*, greenhouse acc. no. 77-1787, flowered in cult. 9 Aug. 1977, *C. Luer 1653* (HOLOTYPE: SEL).

**DISTRIBUTION:** Panama.

This fleshy-leaved plant appears very much like a *Masdevallia*, and the inflorescence creeps along the substrate, very much like many *Masdevallias*, to produce a relatively large, more or less pendent, gaping flower. The flower, however, is very similar to that of *Pleurothallis acrisepala*, except that it is twice as large. The flower of *P. acrisepala* is borne on a long erect peduncle from leaves half the size of those of this species. The sepals and petals of these two species are similar in shape and color. The lip of *P. areldii* is larger with thicker calli near the middle.

***Pleurothallis corysta* Luer, sp. nov.**

Planta grandis epiphytica caespitosa, caulibus secundariis gracilibus teretibus unifoliatis, foliis oblongis cordatis acuminatis horizontalibus, floribus singulariis successivis bilabiatis ferrugineis, sepalo dorsali grandi late ovato profunde concavo multinervi, synsepalo anguste ovato lateribus revolutis, petalis oblongo-falcatis glabris, labello subrhombico lateribus supra medium deflexis infra apicem convexo.

Plant large, epiphytic, caespitose, roots slender, flexuous. Secondary stems slender, terete, horizontal to suberect, 15-18 cm long, with a close, tubular sheath below the middle and another 1-2 at the base, unifoliate. Leaf horizontal, coriaceous, oblong, acute at the acuminate, tridentate apex, the base deeply cordate with auricles 1 cm long, sessile, 12-18 cm long, 5-6 cm wide. Inflorescence a fascicle of single, successive, bilabiate flowers, all parts red-brown, from a spathe 15 mm long at the base of the leaf; floral bract thin, about 5 mm long; pedicel about 1 cm long; ovary 6 mm long; dorsal sepal large, broadly ovate, subacute, deeply concave, 24 mm long, 15 mm wide, 9-11 veined; lateral sepals connate into a narrowly ovate synsepal, obtuse, minutely pubescent, the sides revolute, 21 mm long, 8 mm wide spread out, bicarinate externally; petals oblong-falcate, subacute, glabrous, 12 mm long, 3.5 mm wide; lip ascending, subrhombic to broadly elliptical, the sides revolute above the middle to create a narrowed, rounded apex, with a convexity beneath, the base broadly truncate without an obvious glenion, 6.5 mm long, 5 mm wide; column greenish white, stout, 2 mm long, 3 mm wide.

**ETYMOLOGY:** From the Greek *korys*, "helmet," *korystes*, "helmeted," in allusion to the deeply concave, prominent dorsal sepal.

**TYPE:** ECUADOR: PICHINCHA: epiphytic near Chiriboga on the old road between Quito and Santo Domingo, *J. Brenner 128*, flowered in cult. at Puyo 4 Aug. 1977, *C. Luer 1815*, (HOLOTYPE: SEL).

**DISTRIBUTION:** Western Ecuador.

*Pleurothallis corysta* is allied to *P. deflexa* Luer and *P. jupiter* Luer, the rich red-brown flowers about midway between them in size. The leaves, how-

ever, are considerably larger. All three species share more or less the configuration of the lip: elevated in the natural position with the sides revolute above the middle. From the smaller *P. deflexa*, it may be separated by the large, multiveined dorsal sepal. From the larger *P. jupiter*, it may be distinguished by the glabrous lip and petals. It is also similar to *P. grandiflora* Lindl., but the petals of the latter are denticulate and the sides of the lip are not deflexed.

*Pleurothallis deregularis* (Barb. Rodr.) Luer, comb. nov.

*Physosiphon spiralis* Lindl., Edward's Bot. Reg. 21:sub t. 1797. 1835; not

*Pleurothallis spiralis* (Ruiz. & Pav.) Lindl.

*Pleurothallis clausa* A. Rich. ex Rchb. f., Cat. Orch.-Samml. Schiller, ed.

3:59. 1857, *nomen tantum*; not DePuydt, also *nomen tantum*.

*Stelis deregularis* Barb. Rodr., Orchid. Nov. 2:94. 1882.

*Pleurothallis crassipes* Rchb. f., Wawra, Itin. Princ. S. Coburg 2:82. 1888; not Lindl.

*Physosiphon deregularis* (Barb. Rodr.) Cogn., Flora Brasiliensis 3(4):341. 1896.

*Physosiphon minutiflorus* Ames & Schweinf., Sched. Orchid. 8:11. 1925.

*Pseudostelis deregularis* (Barb. Rodr.) Schltr., Anexos Mem. Inst. Butantan, Secc. Bot. 1(4):38. 1922.

*Pseudostelis spiralis* (Lindl.) Schltr., l. c. 1(4):38. 1922.

*Pleurothallis schweinfurthiana* L. O. Wms., Ceiba 5:92. 1956.

Plant small to medium in size, epiphytic, densely caespitose; roots slender, flexuous. Secondary stems fasciculate, slender, terete, 2-10 cm long, unifoliolate, enclosed by 2 loose, smooth, tubular sheaths and 1-2 others at the base. Leaf thin, coriaceous, narrowly elliptical, 4-11 cm long, 1-1.7 cm wide, subacute to obtuse, tridenticulate, the base cuneate with a more or less distinct, channeled petiole up to 1 cm long. Inflorescence racemose, 1-3 slender, densely many-flowered, distichous to subsecund racemes, up to 24 cm long, the flowers very small, glabrous, greenish white or yellowish white; peduncle slender, from a slender spathe, about 1 cm long, near the apex of the secondary stem; floral bract tubular, transparent, 1.5-2 mm long; pedicel and ovary each 1 mm long; dorsal sepal elliptical, subacute to obtuse, 2.5-3 mm long, 1 mm wide, connate basally with the lateral sepals; lateral sepals ovate, oblique, obtuse, each 2.5-3 mm long, 1-1.3 mm wide, spreading but connate basally into a shallow mentum; petals ovate, obtuse to rounded, translucent white, 0.6 mm long, 0.3 mm wide; lip fleshy, concave, transversely oblong, about 1 mm across spread out, 0.6 mm long, more or less 3-lobed, the lateral lobes orbicular, incurved, the apical lobe broadly triangular, equal to or slightly protruding beyond the lateral lobes, subacute to rounded, the base abruptly concave behind a fleshy transverse ridge, broadly attached to the column-foot; column stout, 0.6 mm long, bluntly winged, with a short, bulbous foot.

ETYMOLOGY: From the Latin *deregularis*, "irregular," possibly implying a departure from the usual *Stelis*, the genus to which the species was being attributed.

TYPE LOCALITY: *BRAZIL*: epiphytic in shady forests of the mountains of Rodeio.

DISTRIBUTION: Honduras, Nicaragua, Costa Rica, Panama, Ecuador, southern Brazil.

HONDURAS: CORTES: epiphytic, Santa Cruz de Yojoa, alt. ca. 650 m, 24 Nov. 1933, *J. B. Edwards 611* (SEL).

NICARAGUA: without specific locality, cult. by *Janet Kuhn s.n.* (SEL), greenhouse acc. no. 31-76-42, flowered in cult. 28 June 1976.

ECUADOR: Los Ríos: epiphytic at the Río Palenque Science Center, alt. 200 m, 8 June 1974, *C. H. Dodson 5561* (SEL) and May 1975, *C. H. Dodson 5973* (SEL); PICHINCHA: old road between Quito and Santo Domingo, Nov. 1974, *G. Kennedy s.n.* (SEL), greenhouse acc. no. 30-74-241, flowered in cult. 22 April 1976; CARCHI: epiphytic a few km above Maldonado, alt. 1500 m, 21 Feb. 1978, *C. Luer, J. Luer & A. Hirtz 2691* (SEL).

This species is morphologically variable in its wide distribution from Honduras to southern Brazil. It must certainly be inadequately reported from the intervening areas. The narrowly oblong leaves borne by slightly shorter, slender stems is not very distinctive. A few, long, slender racemes of numerous, crowded, tiny, pale yellowish flowers are produced. Superficially, the plant resembles a *Stelis*. The spreading sepals are united basally for less than one millimeter of their three millimeter length. The minute, translucent petals are more or less ovate in outline. The concave lip is transversely three-lobed in varying proportions throughout the range.

***Pleurothallis erythrium* Luer, sp. nov.**

Planta parva epiphytica caespitosa, caulibus secundariis gracilimis unifoliatis, foliis patentibus coriaceis tenuibus ovatis acuminatis base profunde cordatis, inflorescentia fasciculata, floribus rubris bilabiatis singularibus parvis pro genere, sepalis dorsali oblongo, synsepalo cordato, petalis linearibus serrulatis, labello ovato-oblongo convexo apice rotundato base subcordato.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems very slender, terete, unifoliate, 5-11 cm tall, with a narrow, tubular sheath below the middle and 1-2 others at the base. Leaf spreading, coriaceous, thin, ovate, acute to acuminate at the apex, the base sessile, deeply cordate, the basal auricles more or less erect, 3.5-4.5 cm long, 2-2.75 cm wide. Inflorescence a fascicle of short, single-flowered peduncles from a deciduous spathe 5-8 mm long, at the base of the leaf, the red-purple, bilabiate flowers occurring successively; floral bract 3 mm long; pedicel 3-5 mm long; ovary 2.5 mm long; dorsal sepal oblong, subacute to obtuse, 5 mm long, 2.25-2.75 mm wide, 3-veined; lateral sepals connate into an ovate-cordate lamina, subacute at the apex, 4.5 mm long, 3.5-4 mm wide, 4-veined; petals maroon, spreading, narrowly triangular-linear, attenuate, minutely serrulate-erose, 4 mm long, 0.5 mm wide; lip red, ovate-oblong, convex, slightly concave centrally, rounded at the apex, the base subcordate with a well-defined glenion, shortly concave on the end to accommodate the column-foot, 3 mm long, 2 mm wide; column stout, about 1 mm long, 1 mm wide.

ETYMOLOGY: From the Greek *erythros*, "red," and the diminutive *-ium*, hence, "a little red one," in allusion to the appearance of the plant.

TYPE: ECUADOR: ZAMORA-CHINCHIPE: epiphytic near km 25 between Loja and Zamora, alt. ca. 2000 m, 6 March 1977, *C. Luer, J. Luer & K. Cordo-*

*ba 1626* (HOLOTYPE: SEL), greenhouse acc. no. 77-1735, flowered in cult. 31 May 1977.

ADDITIONAL MATERIAL EXAMINED: *ECUADOR*: NAPO: epiphytic about 14 km north of Archidona, alt. 600 m, 27 July 1975, *C. Luer, G. Luer & S. Wilhelm 517* (SEL); ZAMORA-CHINCHIPE: epiphytic near km 42 between Loja and Zamora, alt. 1400 m, 29 Sept., *C. H. Dodson & L. B. Thien 815* (SEL); epiphytic along the river near Zamora, alt. 1100 m, 26 July 1960, *C. H. Dodson 177* (SEL); without locality, *Janet Kuhn 19* (SEL), flowered in cult. 25 March 1976.

DISTRIBUTION: Eastern Ecuador.

This small species of the Oriente of Ecuador is very closely allied to the widely distributed and variable yellow-flowered *Pleurothallis acostaei* Schltr. At first I thought it merely a red-flowered form of the latter, but no red-flowered forms of *P. acostaei* are known in Central America where the latter is frequent. *Pleurothallis erythrium* is constant in morphology and color in its limited, sympatric distribution. Vegetatively the two species are inseparable, but the flowers are immediately distinguished by their colors. In addition, the lip of *P. erythrium* is smooth and convex. If yellow forms of *P. erythrium* occur, they would not be readily separable from *P. acostaei*. *Pleurothallis erythrium* is also related to the small, red-flowered *P. obpyriformis* Luer which is easily distinguished by its smaller, narrow, non-cordate leaves.

***Pleurothallis penelops* Luer, sp. nov.**

Planta epiphytica mediocris caespitosa, caulibus secundariis gracilibus teretibus unifoliatis, foliis anguste cordatis deflexis supra medium inflexis acuminatis marginibus revolutis, spatha magna, floribus fasciculatis successivis marroninis, sepalis petalisque valde reflexis, sepalis late ovatis revolutis, petalis ovatis acutis serrulatis, labello ovato obtuso, columna alba.

Plant medium-sized, epiphytic, caespitose; roots slender, fasciculate. Secondary stems erect, slender, terete, unifoliolate, 8-16 cm long, with a tubular sheath below the middle and another 1-2 at the base. Leaf deflexed, coriaceous, dull green, narrowly ovate, gradually curved upward toward the acuminate apex, tridenticulate, the sides revolute, the base sessile, deeply cordate, 8-12 cm long, 14-21 mm wide; juvenile leaves erect, narrowly elliptical; inflorescence a fascicle of single, successive flowers with markedly reflexed sepals and petals, from a prominent, deflexed, oblong spathe, 12-15 mm long, at the base of the leaf; floral bract 7-10 mm long; pedicel about 10 mm long; ovary green, 5 mm long; sepals dark purple or maroon, suborbicular to broadly ovate, obtuse, with the sides revolute, minutely subverrucose, the dorsal sepal 10 mm long, 8 mm wide, the lateral sepals connate into a reflexed, revolute tube, 8 mm long, 7 mm wide spread out; petals maroon, ovate, acute, minutely serrulate, narrowed above the base, 9 mm long, 3 mm wide; lip purple, ovate, with thickened calli above the middle, rounded at the apex, the base white, unguiculate, the disc minutely papillose around the glenion, 5.5 mm long, 4 mm wide; column stout, white, 1.5 mm long and wide.

ETYMOLOGY: From the Greek *penelops*, "a kind of duck," in allusion to the appearance of the flowers.

TYPE: *ECUADOR*: MORONA-SANTIAGO: epiphytic in cloud forest east of Paute toward the dam site, alt. ca. 1700 m, 10 July 1977, *C. Luer, G. Luer, J.*

*Luer & A. Andreetta 1659* (HOLOTYPE: SEL).

DISTRIBUTION: Eastern Ecuador.

In habit this species is similar to *Pleurothallis peculiaris* Luer of Panama. The narrowly cordate leaves are acutely deflexed from the base, but then are curved upward and outward. The spathe is proportionately large and also deflexed. The emerging flower is deep purple, but the column is white. The conspicuous column and lip, protruding beyond the markedly reflexed sepals and petals, remind one of the head and bill of a duck in flight with a swept-back wings.

***Pleurothallis praemorsa* Luer, sp. nov.**

Planta perparva epiphytica caespitosa, caulibus secundariis gracilibus brevibus unifoliatis, foliis coriaceis ellipticis brevipetiolatis, racemo flexuoso, pedunculo pubescenti, floribus successivis marroninis expansis, sepalis anguste ovatis acutis, petalis ellipticis acutis, labello anguste obovato convexo infra medium minute bilobulato apice abrupte truncato base biauriculato.

Plant very small, epiphytic, caespitose; roots fine, flexuous. Secondary stems slender, 4-8 mm long, with a close, thin, ribbed, tubular sheath and another at the base, unifoliate. Leaf erect, coriaceous, elliptical, subacute at the tridenticulate apex, the base cuneate into a short, 3-5 mm long, channeled, more or less twisted petiole, the blade 1.5-2 cm long, 5-7 mm wide. Inflorescence an ascending, fractiflex raceme, 5-15 mm long, of successive, widely spread, maroon flowers, the peduncle shortly pubescent, about 15 mm long, from a 1 mm spathe at the base of the leaf-petiole; floral bract pubescent, 1.5-2 mm long; pedicel 1.5-2 mm long; ovary red, 0.5-1 mm long; dorsal sepal narrowly ovate, acute, subcarinate, 6 mm long, 1.75 mm wide; lateral sepals narrowly ovate, acute, carinate, connate only at the base to form a mentum with the column-foot, each 6.5 mm long, 1.25 mm wide; petals elliptical, maroon, white at the acute apex, the margins minutely glandular, 3.25 mm long, 1.3 mm wide; lip maroon, narrowly obovate, convex, the apex sharply truncate, edged in white and minutely glandular, the base delicately hinged to the column-foot, flanked by a pair of thin, white auricles, with a small pair of erect, oblong, lateral lobes on the lower third, 4.5 mm long, 1.25 mm wide; column red, 2 mm long with a denticulate clinandrium, with a short, concave foot.

ETYMOLOGY: From the Latin *praemorsus*, "as if bitten off," in allusion to the appearance of the apex of the lip.

TYPE: ECUADOR: PASTAZA: epiphytic in rain forest about 20 km east of Puyo, alt. ca. 600 m, 3 Aug. 1977, C. Luer, J. Luer & J. Brenner 1813 (HOLOTYPE: SEL).

DISTRIBUTION: Eastern Ecuador.

Only a single plant of this small species was discovered by Jane Luer in the upper branches of a felled rain-forest tree. A prolonged search failed to reveal another. The little tufted plant is not remarkable, but a pubescent peduncle produces a markedly fractiflex, slowly lengthening raceme of successive, maroon flowers. Although larger, the flowers superficially resemble those of *Pleurothallis polygonoides* Griseb. and its allies. *Pleurothallis praemorsa* is apparently closely related to the much larger *P. smaragdina* Luer.

The lip terminates in an abruptly truncate apex. On the jungle-collected plant I interpreted the apex as having been chewed off by an insect. Subsequent flowers, however, prove this to be a physical feature. The sharply transverse apex is minutely glandular and edged in white, appearing very much like a few-day-old amputation.

***Pleurothallis verbiformis* Luer, sp. nov.**

Planta mediocris epiphytica caespitosa, caulibus secundariis gracilibus vaginatis unifoliatis, foliis anguste oblongis obtusis petiolatis, racemo erecto dense multifloro longissimo gracillimo verbiformi, floribus parvis luteolis, sepalis similibus oblongis subacutis ciliolatis infra medium connatis, petalis late ovatis obtusis, labello oblongo-ovato obtuso base truncato disco callis marginalibus.

Plant medium in size, epiphytic densely caespitose; roots numerous, fasciculate. Secondary stems slender, terete, 6-10 cm long, unifoliate, mostly covered by a thin, papery, tubular sheath near the middle, with 1-2 other sheaths at the base. Leaf erect, coriaceous, thin, narrowly oblong, obtuse to rounded at the apex, tridenticulate, the base cuneate, petiolate, 8-15 cm long, 1.5-2.5 cm wide, the petiole 1-1.5 cm long. Inflorescence a long, slender, erect, densely many-flowered raceme, to 35 cm long, including the peduncle about 10 cm long, from a narrow spathe, 1.5-2 cm long at the apex of the secondary stem; floral bract thin, oblique, infundibular, 2 mm long; pedicel and ovary each 1 mm long, mostly sheathed by the floral bract; flowers small, yellowish white; sepals similar, oblong, subacute, minutely ciliate, connate for the basal 2 mm into a short tube, the apices slightly spreading, the dorsal sepal 5 mm long, 2 mm wide, the lateral sepals each 5 mm long, 1.75 mm wide, 3-veined; petals membranous, broadly ovate, obtuse, 1.25 mm long, 1 mm wide, 3-veined; lip oblong-ovate, pale yellow, 2 mm long, 1.25 mm wide, obtuse to rounded at the apex, truncate to subcordate at the base with short, rounded, basal angles, shortly hinged to the column-foot, concave just above the base to accommodate the column-foot, the disc with a pair of marginal calli near the middle; column stout, 1 mm long, with a short, rounded foot.

ETYMOLOGY: From the Latin *verber*, "a lash, or whip," and *-formis*, "in the form of," in allusion to the long, whip-like inflorescence.

TYPE: *ECUADOR*: without locality, 1973, collected by Janet Kuhn s.n., greenhouse acc. no. 25-75-153, flowered in cult. 12 Jan. 1977, *C. Luer 1297* (HOLOTYPE: SEL).

DISTRIBUTION: Ecuador.

This apparently rare, grass-like, or *Stelis*-like species is closely related to the widespread *Pleurothallis deregularis* (Barb. Rodr.) Luer (syn: *Physosiphon multiflorus* Ames & Schweinf.). Vegetatively and florally it is considerably larger than the latter. In a similar manner, many small, pale yellow flowers are crowded on a long, whip-like inflorescence. The three similar, minutely ciliate sepals are also connate below the middle into a short tube. The petals and lip are minute. The obtusely ligulate labellum is entire instead of indistinctly three-lobed, and a thick pair of callosities are present along either side near the middle.

**Scaphosepalum viviparum** Luer, sp. nov.

Inter species generis *Scaphosepali* Pfitz. planta parva vel mediocri, pedunculis ramiferis viviparis, sepalis albobirescentibus rubromaculatis, carinis caudisque sepalorum lateralium laciniatis, petalis pentangulatis obtusis, labello subpandurato lobo antico ovato deflexo denticulato disco bilamellato distinguitur.

Plant small to medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems unifoliate, 5-12 mm long, enclosed by 2-3 loose, tubular sheaths. Leaf suberect, coriaceous, petiolate, elliptical, carinate dorsally, 4-7 cm long including the 1.5-3 cm long petiole, 1.5-2.5 cm wide, the subacute apex tridenticulate, the base cuneate into the channeled petiole. Inflorescence a successively flowering raceme, the peduncle branching irregularly and frequently developing plantlets at the nodes, up to 16 cm long, from a node near the base of the secondary stem; floral bract tubular, 3-4 mm long; pedicel 5 mm long; ovary 4-5 mm long; sepals greenish white suffused with purple within below the middle, diffusely and irregularly spotted with red-purple, the middle sepal ovate, 9 mm long, 3 mm wide unspread, tricarinate, the acute apex with revolute margins prolonged into a pink tail, the lateral sepals connate to near the apices into a concave, subquadrate synsepal, 8 mm long, 5.5 mm wide together unspread, bicarinate, the carinae deeply lacinate with a few laciniae extending along the 4 mm long decurved tails, the cushions ovate, dull yellow; petals purple, 5-angled, dolabriform, the obtuse apex white, 3 mm long, 1.75 mm wide, subacutely angled on the upper margin, broadly obtusely angled on the lower margin; lip bright purple-pink, oblong-subpanduriform, 3 mm long, 1.75 mm wide, deflexed and abruptly constricted above the middle, the anterior lobe ovate, the rounded apex denticulate, subquadrate and shallowly concave below the anterior lobe, the disc with a pair of rounded, slightly denticulate lamellae straddling the junction with the anterior lobe, the truncate base hinged to the column-foot; column cream suffused with red, arcuate, 3 mm long, narrowly long-winged above the middle, the foot thick, 2.5 mm long.

ETYMOLOGY: From the Latin *viviparus*, "bearing plantlets as offshoots from the parent," from *vivus*, "living," and *-parus*, "bearing" (*parere*, "to bear, to bring forth"), hence live-bearing in reference to the habit of bearing plantlets on the peduncle.

TYPE: PANAMA: VERAGUAS: epiphytic in cloud forest on Cerro Tute, alt. 900 m, Jan. 1977, R. L. Dressler s.n., cultivated at SEL, greenhouse acc. no. 77-3, flowered in cult. 21 Aug. 1977, C. Luer 1820 (HOLOTYPE: SEL).

DISTRIBUTION: Panama.

Some species of pleurothallids normally produce a succession of secondary stems, each from the apex of another. Plants are frequently formed or propagated when roots develop at the bases of individual secondary stems. Under abnormal circumstances, plantlets may also develop at the apex of the secondary stem of species in which the secondary stems are not normally prolific. Except for *Scaphosepalum viviparum*, I know of no species of pleurothallid that produces plantlets (keikis) normally or abnormally from the peduncle. Also apparently unique in the subtribe is the frequent branching of the peduncle of this species. The flower is most remarkable in the fringed carinae of the synsepal, and the narrow constriction above the middle of the lip at the point of deflexion of the anterior lobe.



ICONES PLEUROTHALLIDINARUM  
ADDENDA ET CORRIGENDA

SELBYANA

- 1:184 *Pleurothallis pacayana* Schltr., Repert. Spec. Nov. Regni Veg. 21:335. 1925 as *gacayana*.

Fritz Hamer of San Salvador has called my attention to the orthographical error in the spelling of the specific epithet of this species. The name of the volcano in Amatitlan, Guatemala, is Pacaya.

- 3:74 *Pleurothallis carnosilabia* Heller & Hawkes, Phytologia 14:9. 1966. *Pleurothallis caligularis* Luer, Selbyana 3:74. 1976.

Previously known only by the type collection from Nicaragua, this species occurs in Panama and also most likely in intervening Costa Rica. In describing the collection from Panama as a new species, I was misled by the illustration published for *P. carnosilabia*.

- 3:102 *Pleurothallis cordata* (Ruiz & Pav.) Lindl., Gen. Sp. Orchid. 5. 1830. *Pleurothallis erymnochila* Luer, Selbyana 3:102. 1976.

- 3:82 After reconsideration, I believe that the species identified as *P. cordata* in Selbyana 3:82, 1976, is *P. monocardia* Rchb. f., and that *P. erymnochila* is *P. cordata*.

- 3:222 *Dracula mopsus* (Lehm. & Krzl.) Luer, Selbyana 2:196. 1978. *Masdevallia mopsus* Lehm. & Krzl., Repert. Spec. Nov. Regni Veg. 17:419. 1921.

*Masdevallia triceratops* Luer, Selbyana 3:222. 1977.

Because of the misleading key in Kraenzlin's monograph of the genus *Masdevallia*, which completely excludes this species from *M. mopsus*, I described this species as new, which is not the case.

- 3:270 This species should be deleted from the synonymy of *P. cogniauxiana*.

- 3:78 This species is herewith described as *Pleurothallis congruens*.

*Pleurothallis congruens* Luer, sp. nov., Figure 142, Selbyana 3:79. 1976. Species haec ab *P. cogniauxiana* Schltr. et affinitatibus differt foliis late cordatis acuminatis, racemo paucifloro et petalis late ellipticis.

TYPE: PANAMA: PANAMA: epiphytic in cloud forest along the El Llano-Cartí road, alt. 300 m, 3 March 1976, C. Luer, J. Luer, P. Taylor & R. L. Dressler 987 (HOLOTYPE: SEL), greenhouse acc. no. 43-76-84, flowered in cult. 23 Dec. 1977; PARATYPES: PANAMA: COLON: epiphytic along the Santa Rita lumber road, 28 Jan. 1968, R. L. Dressler 3362 (SEL); Río Iguanita, March 1976, N. H. Williams s.n. (SEL). ECUADOR: Los Rios: epiphytic in cloud forest 12 km from Patricia Pilár on road to 24 de Mayo, Montañas de Ila, alt. 540 m, 30 May 1976, C. H. Dodson 6096 (SEL).

This species was erroneously attributed to *P. coffeicola* Schltr., then erroneously identified as a depauperate *P. cogniauxiana* Schltr. For two years *P. cogniauxiana* and *P. congruens* have been grown side by side in the "cool house" at SEL, and consistent differences are significant. *Pleurothallis cogniauxiana* is a considerably larger plant with longer racemes of 6 to 12 flowers. The petals are ovate-acuminate. *Pleurothallis congruens* is smaller with more deeply cordate leaves and very short, 1-to 3-flowered racemes. The petals are broadly elliptical. *Pleurothallis congruens* differs from *P. coffeicola* and *P. consimilis* Ames in the shorter rhizome, larger habit and short, few-flowered racemes.