

MISCELLANEOUS NEW SPECIES IN  
THE PLEUROTHALLIDINAE (ORCHIDACEAE)

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*Barbosella geminata* Luer, sp. nov.

Species haec *B. longipedi* Schltr. affinis sed nodis rhizomatum elongatum bifoliatis uniradicatisque, pedunculo brevior, flore minore et labello oblongo distinguitur.

Plant medium in size for the genus, epiphytic, scandent; rhizome stout, elongated, occasionally branching, 3-6 cm long between secondary stems, with a close, tubular sheath near the middle; roots slender, produced singly at the apex (or base) of a segment of rhizome. Secondary stems produced in pairs, each unifoliate, abbreviated, 3-8 mm long, enclosed by 1-2 thin, close, ribbed sheaths. Leaf thick, coriaceous, linear-obovate, the apex acute, tridenticulate, gradually narrowed below to the base, 25-28 mm long, 3-5 mm wide. Inflorescence a solitary, yellow flower produced by a slender, erect peduncle 4-5 cm long, from the apex of a secondary stem; floral bract oblique, acute, 4 mm long; pedicel 1 mm long, with a filament 3-4 mm long; ovary 2 mm long; dorsal sepal very narrowly ovate, acute, 12 mm long, 1.5 mm wide; lateral sepals connate into an ovate, retuse synsepal 11 mm long, concave below the middle, 5 mm wide spread out; petals narrowly ovate, 8 mm long, 1.25 mm wide, the apex attenuate, acute, the margins microscopically serrulate below the middle; lip oblong, 3 mm long, 1.2 mm wide, the apex obtuse, the base rounded, deeply concave to accommodate the bulbous apex of the column-foot, with an infolded pair of carinae extending forward to the distal third; column stout, 2 mm long, the foot 1 mm long.

ETYMOLOGY: From the Latin *geminatus*, "doubled, paired," in reference to the paired leaves.

TYPE: COSTA RICA: SAN JOSE: epiphytic in cloud forest above Division, alt. 2850 m, Dec. 1979, Kerry S. Walter 79-888 (HOLOTYPE: SEL), C. Luer illust. 4830.

DISTRIBUTION: Costa Rica.

This species is similar to the Colombian *B. longipes*, but *B. geminata* may be distinguished by the twice smaller leaves and flowers. A pair of leaves is present at the apex of each segment of elongated rhizome where only a solitary root emerges. Apparently the opposite occurs in *B. longipes*. The apex of each new rhizome is terminated by the development of a single secondary stem and leaf, but the next growth from the apex of the rhizome produces a secondary stem and leaf as well as another prolonged segment of rhizome. In this manner a long, loose mat of entangled, scandent rhizomes is evolved, with a pair of equal-sized leaves at each node of the rhizomes.

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*Cryptophoranthus cymbula* Luer, sp. nov.

Species haec *C. pleurothallopsis* Krzl. affinis sed lamina labelli elliptica subacuta cymbiformi differt.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems slender, unifoliate, 1.5-2.5 cm long, enclosed by 2-3 thin, ribbed, tubular sheaths. Leaf erect, coriaceous, elliptical, 3.5-5 cm long including a 6-8 mm long petiole, 1.2-1.5 cm wide, the apex acute, acuminate, tridenticulate, the base acuminate into the petiole. Inflorescence a loose, successively few (3)-flowered raceme to 6.5 cm long including the filiform peduncle, from the apex of the secondary stem; floral bract 3-4 mm long; pedicel 6-9 mm long; ovary curved, 3 mm long; sepals greenish white, suffused with red-purple, glabrous externally, with short, red, glandular hairs within, the dorsal sepal narrowly ovate, acute, 11 mm long, 3.5 mm wide, free at the base, the margins adherent to the synsepal above the middle, forming lateral apertures in the lower half of the flower, the lateral sepals connate into a deeply concave, ovate, obtuse, bicarinate synsepal 11 mm long, 5 mm wide unspread; petals translucent yellow-white, suffused with rose, obovate-spatulate, 5 mm long, 2 mm wide, the apex acuminate, acute; lip white, red along the margins with glandular cells, three-lobed, 11 mm long, 4 mm wide spread, 10 mm long, 3 mm wide unspread, the blade elliptical, subacute, cymbiform, the truncate base concave, immovably attached to the column-foot, the lateral lobes above the base, erect, oblong, oblique, rounded, 1 mm long; column greenish white, suffused with purple, clavate, 4 mm long, the apex toothed, the base pedestal-like.

ETYMOLOGY. From the Latin *cymbula*, "a little boat," referring to the appearance of the lip.

TYPE: ECUADOR: PICHINCHA: epiphytic in cloud forest near Santo Domingo, alt. 530 m, 22 July 1979, C. H. Dodson, H. H. Morgan & T. Dodson 8551 (HOLOTYPE: SEL), cult. at SEL, flowered in cult. 10 Dec. 1979, C. Luer illust. 4817.

DISTRIBUTION: Eastern Ecuador.

This little species is superficially similar to *C. pleurothallopsis* but the non-spotted flowers are readily distinguished by the white, cymbiform lip with a red margin of glandular cells.

*Dryadella hirtzii* Luer, sp. nov.

Planta pro genere grandis scandens breviter repens, flore grandi solitario breviter pedunculato virescenti purpureo guttato ecaudato, sepalo dorsali breviter acuminato minute ciliato, sepalis lateralibus libris divergentibus ovatis verrucosis, petalis pentangulatis, lamina labelli reniformi basi bilobata bicallosaque.

Plant large for the genus, epiphytic, shortly repent, scandent, the primary stems ascending, 5-10 mm between secondary stems; roots coarse, flexuous. Secondary stems purple, 15-28 mm long, unifoliate, enclosed by 2-3 thin, loose, white, tubular sheaths. Leaf erect, green, coriaceous, narrowly obovate, 4.5-6.5 cm long, 5-6 mm wide, the apex acute, tridenticulate, the base gradually narrowed into a purple petiole. Inflorescence a succession of

solitary flowers borne by a peduncle 1 mm long from a node on the secondary stem; floral bract and pedicel each 5-6 mm long; ovary tri-lobed, 1.5-2 mm long; sepals light green, spotted with red-purple, the dorsal sepal broadly ovate subcarinate externally, shortly acuminate, acute, 9 mm long, 5 mm wide, connate to the lateral sepals for 1 mm, the margins minutely ciliate, the lateral sepals free, widespread, ovate, acute, 8 mm long, 3.5 mm wide unspread, the sides revolute, the surface sparsely verrucose, the base deflexed below the transverse callus; petals yellow, suffused with purple, obscurely oblong-pentangular, 2.5 mm long, 2 mm wide, the apex obliquely truncate, with a narrow, rounded lobule midway on the labellar margin above a curved thickening along the lower portion of margin; lip yellow, heavily marked with red, spatulate, 4 mm long, 3 mm wide, the deflexed blade reniform, 2.5 mm long, 3 mm wide, the margin broadly rounded, lightly repand, with a pair of erect, marginal angles near the junction with the 1.5 mm long claw, the disc with a pair of low, converging calli at the base, the claw 1.5 mm long, bi-auriculate at the base; column green, suffused with purple, semiterete, 3 mm long, longitudinally winged above the middle.

**ETYMOLOGY:** Named in honor of Alexander C. Hirtz of Quito, Ecuador, who discovered this species.

**TYPE:** *ECUADOR: PINGUINCHA:* epiphytic in cloud forest near Rio Solante, alt. ca. 2000 m, 28 Oct. 1979, cultivated at SEL 79-1085, flowered in cult. 21 Feb. 1980, *C. Luer, J. Luer & A. Hirtz 5199* (HOLOTYPE: SEL).

**DISTRIBUTION:** Western Ecuador.

This species is characterized by the ascending habit, large, coarse roots, and large, short-pedunculate flowers without tails. The dorsal sepal is minutely ciliate; the lateral sepals are verrucose; and the blade of the lip is broadly rounded with a pair of basal calli and lobules.

*Masdevallia alexandri* Luer, sp. nov.

Species haec *M. heteropterae* Rchb. f. et affinitatibus cognata sed floribus parvis sepalis glabris brunneo fasciatis, petalis multangulis carinatis apiculatis basi lobulatis et labello arcuato subpandurato bicarinato apice rotundato distinguitur.

Plant small, epiphytic, caespitose; roots slender, fasciculate. Secondary stems ca. 1 cm long, unifoliate, enclosed by 2 thin, tubular sheaths. Leaf suberect, thinly coriaceous, elliptical, petiolate, 4-8 cm long including the 1.5-3 cm long petiole, 1.5-2 cm wide, the apex acute, tridenticulate, cuneate below into the conduplicate petiole. Inflorescence a single flower borne successively in a congested, 3- to 4-flowered raceme at the summit of a slender, erect peduncle 8.5-9 cm long, with a bract near the middle, embraced below the middle by the conduplicate leaf-petiole, from a node on the secondary stem; floral bracts imbricating, thin, tubular, 5-6 mm long; pedicels 7 mm long; ovary smooth, greenish brown, 3 mm long; sepals glabrous, light greenish brown with multiple minute bars of dark brown, the dorsal sepal suborbicular, concave, 7 mm long, 6.5 mm wide, connate to the lateral sepals for 1 mm, the apex rounded, contracted into a slender, erect, brown tail 23-25 mm long, the lateral sepals light yellow-brown toward the bases, obovate-oblong, 9 mm long, 3 mm wide, united to the column-foot to form a

rounded mentum, then deflexed, the rounded apices contracted into tails similar to that of the dorsal sepal, 22-27 mm long; petals yellow-green, suffused and marked with brown, oblong-multangular, 4 mm long, 2 mm wide, the obtuse apex apiculate, obscurely bi- or trilobed above the middle on the upper margin, dilated on the lower margin with a carina ending in a rounded lobule at the base; lip brown, oblong-subpandurate, arcuate, 4 mm long, 2.25 mm wide spread out, the apex rounded, the base subcordate, hinged beneath, the disc with a pair of low, parallel calli from near the middle to the apex; column yellow, dotted with purple-brown, semiterete, 3.5 mm long, with an equally long, curved column-foot.

ETYMOLOGY: Named in honor of Alexander C. Hirtz of Quito, Ecuador, who discovered this species.

TYPE: ECUADOR: PICHINCHA: epiphytic in cloud forest above Mindo, alt. 2200 m, 20 Oct. 1979, A. Hirtz & A. Andreetta s.n. (HOLOTYPE: SEL), C. Luer, illust. 4374.

DISTRIBUTION: Western Ecuador.

This small species is related to *M. heteroptera* and its allies, but may be distinguished by the small habit, glabrous sepals minutely banded in brown, multangular petals with a carina along the lower margin ending in a distinct lobule at the base, and a subpandurate, arcuate lip. Although these basically similar species form a unit or section within *Masdevallia*, in my opinion they are not generically distinct. The single characteristic of the hinge of the lip originating below the margin of the apex of the column-foot is found in other species of *Masdevallia*.

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

Inter species sectionis *Alaticaulium* Krzl. racemo congesto usque 6-floro, sepalis in tubum cylindricum satis connatis, sepalis lateralibus latissimis acuminatis brevicaudatis, petalis longitudine unicarinatis et labello ligulato apice minute verruculoso tricarinato distinguitur.

Plant medium in size, epiphytic, caespitose; roots coarse, flexuous. Secondary stems stout, unifoliate, 1-1.5 cm long, concealed by 2-3 loose, white, tubular sheaths. Leaf suberect, thickly coriaceous, narrowly obovate, 6-12 cm long, 1.5-2.1 cm wide, the apex subacute, tridenticulate, gradually narrowed below into an indistinct petiole. Inflorescence a congested 5- to 6-flowered raceme, 1-3 flowers produced simultaneously, at the apex of an erect, stout, sharply triquetrous peduncle 8-12.5 cm long, with a basal bract, from a node near the base of the secondary stem; floral bracts imbricating, broadly conduplicate, acute, 8-10 mm long; pedicel 4-6 mm long; ovary 5 mm long; dorsal sepal yellow-green, oblong, carinate, connate to the lateral sepals for 10 mm to form a gaping cylindrical tube, the free portion triangular, acute, acuminate into a suberect terete, green to purplish tail ca. 15 mm long, the total length of the dorsal sepal 27 mm, the width 9 mm; lateral sepals yellow-green, faintly to intensely suffused with purple, glandular-cellular within, connate 12 mm into a broadly ovate, bifid lamina 22 mm wide, 22 mm long, forming a deep mentum with the column-foot, the apices acute, acuminate into tails ca. 9 mm long; petals yellow, oblong, 9 mm long, 3 mm wide, the obtuse apex apiculate, the lower margin slightly dilated, with a low, longitudinal carina near the margin; lip red-purple, oblong-ligu-

late, 10 mm long, 4.5 mm wide, the disc with a pair of low carinae from above the middle extending to the minutely verrucose, obtuse apex, the carinae converging to either side of a central apical callus, the base subcordate, hinged beneath; column white with purple margins, semiterete, 8 mm long, the foot 4 mm long with an incurved extension.

ETYMOLOGY: Named in honor of Padre Luis Carollo, Salesian Missionary in the Oriente of Ecuador, co-discoverer of this species.

TYPE: ECUADOR: ZAMORA-CHINCHIPE: epiphytic in cloud forest near Rio San Bosco, alt. 1000 m, Oct. 1977, A. Andreetta, L. Carollo & M. Portilla 1723, cult. in Cuenca by Padre Andreetta, flowered in cult. Nov. 1979, C. Luer 4693 (HOLOTYPE: SEL).

DISTRIBUTION. Southern Ecuador.

This species is similar to many of the species related to *M. bicolor* Poepp. & Endl., but *M. carolloi* differs in the larger number of flowers eventually produced in the raceme; the tail of the dorsal sepal that is proportionately longer compared to the short, acuminate tails of the lateral sepals; the apiculate petals with a longitudinal carina above the lower margin; and a lip with less prominent folds above the middle, represented merely by low carinae that extend to the apex to either side of a central callus.

The population of this recently discovered species is represented by both lightly and darkly colored forms.

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

Species haec *M. calurae* Rchb. f. affinis sed foliis angustioribus, pedunculo unifloro (interdum bifloro), floribus alboflavescentibus minoribus caudis brevioribus, petalis secus marginem inferiorem incrassatis et labello bilamellato distinguitur.

Plant medium-sized, epiphytic, caespitose; roots slender, flexuous. Secondary stems slender, unifoliate, 2-3 cm long, enclosed by a loose tubular sheath and another 1-2 at the base. Leaf erect, coriaceous, narrowly obovate, long-petiolate, 10-13 cm long including the 3-5 cm long petiole, 1.1-1.4 cm wide, the subacute apex tridenticulate, gradually narrowed below into the slender petiole. Inflorescence a solitary flower, occasionally followed by a second flower, produced by a suberect, slender peduncle 5-8 cm long, with a short bract near the base, from a node on the secondary stem; floral bract 10-12 mm long; pedicel 18-20 mm long; ovary 5-6 mm long; dorsal sepal yellowish white, veined in purple toward the base, oblong, 17 mm long, 7 mm wide, connate to the lateral sepals for 15 mm to form a curved cylindrical tube, the free portion transversely triangular, the apex contracted into a slender, yellow, forwardly directed tail; lateral sepals connate 18 mm into an elliptical, arcuate, bifid lamina 15 mm wide, the obtuse apices contracted into 8 mm long tails, the entire length of the lateral sepals 30 mm; petals dark rose, thick, oblong-elliptical, 4.5 mm long, 2 mm wide, the apex obtusely angled, the labellar margin slightly dilated and thicker; lip rose, oblong-ligulate to slightly pandurate, 5 mm long, 2 mm wide, the apex thickened centrally, obtuse with microscopically erose margins, the disc with a short pair of rounded lamellae just above the middle, the base shallowly subcordate; column rose, semiterete, 4 mm long, with a stout foot 2 mm long.

ETYMOLOGY: Named in honor of Mark Chase of the University of Michigan, co-discoverer of this species.

TYPE: COSTA RICA: PUNTARENAS: epiphytic near Monteverde, alt. 1500-1700 m, 15 Aug. 1979, K. S. Walter & M. Chase 79306 (HOLOTYPE: SEL; ISOTYPE: CR), C. Luer illust. 4832.

DISTRIBUTION: Costa Rica.

This species is related to several of the well-known Costa Rican species, most closely allied to *M. calura*, but *M. chasei* may be distinguished by the narrower leaves; smaller, yellowish white, usually solitary, flowers; petals thickened along the labellar margin without a distinct carina; and the lip with a short pair of erect lamellae. From *M. marginella* Rchb. f. it may be distinguished by the narrow leaves longer than the inflorescences and the smaller flowers with a non-denticulate lip.

*Masdevallia humilis* Luer, sp. nov.

Species haec *M. zahlbruckneri* Krzl. affinis sed flore minore cum caudis sepalorum lateralium brevioribus, petalis sine dente supra basim et labello non-verrucoso differt.

Plant small to medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems stout, unifoliate, 1-1.5 cm long, enclosed by 2 thin, close, tubular sheaths. Leaf suberect, light green, thickly coriaceous, narrowly obovate, 6-10 cm long, 1.4-2 cm wide, the apex obtuse to rounded, tridenticulate, gradually narrowed below into an indistinctly petiolate base. Inflorescence a horizontally creeping, successively and distantly few-flowered raceme 4-7 cm long including the purple peduncle, from a node low on the secondary stem; floral bract tubular, 4-5 mm long; pedicel 5-6 mm long; ovary light green, suffused with rose, 3 mm long; flowers small, glabrous; dorsal sepal light yellow, ovate, 12-14 mm long including the 6-8 mm long, suberect tail, 4 mm wide, connate to the lateral sepals for 3 mm to form a short, cylindrical tube, the free portion triangular, acute; lateral sepals pale yellow, lightly suffused with purple externally, minutely speckled with purple within, connate 8 mm into a bifid, elliptical lamina 7-8 mm wide, 12-13 mm long including the 3-4 mm long, diverging tails from the adjacent, acute apices; petals white, marked with red-purple on the labellar half, oblong, 4.5-5 mm long, 1.75 mm wide, the apex truncate, tridentate, the labellar margin thickened with a low callus; lip white, minutely speckled with purple, oblong, ligulate, 5 mm long, 2 mm wide, the apex smooth, rounded, the base subcordate, hinged beneath, the disc shallowly channeled between a pair of low carinae near the middle; column white, edged in purple, semiterete, 4 mm long, the foot 2 mm long with a short, incurved extension.

ETYMOLOGY: From the Latin *humilis*, "humble, or low," referring to qualities of the plant.

TYPE: BOLIVIA. COCHABAMBA: epiphytic in forest near Villa Tunari, alt. ca. 400 m, Dec. 1978, cultivated at SEL s.n., flowered in cult. 15 Jan. 1980, C. Luer, J. Luer et al. 4844 (HOLOTYPE: SEL).

DISTRIBUTION: Bolivia.

This species is characterized by the purple, creeping peduncle that pro-

duces small, lusterless flowers. They are similar to those of *M. zahlbruckneri* but smaller with shorter tails, less colorful, petals without the basal tooth, and a smooth apex of the lip.

*Masdevallia hydrae* Luer, sp. nov.

Inter species sectionis *Polystictarum* Krzl. racemo secundo laxifloro, tubo sepalorum urceloato virescenti purpureo-punctato intus sparsim longipubescenti caudis aequilongo, petalis oblongis truncatis et labello purpureo oblongo arcuato bicristato antice flabellato distinguitur.

Plant small to medium in size, epiphytic, shortly repent, ascending to caespitose; roots slender, flexuous. Secondary stems slender, unifoliate, 1-1.5 cm long, concealed by 2-3 tubular sheaths. Leaf suberect to erect, coriaceous, narrowly obovate, long-petiolate, 4-9 cm long including the 2-3.5 cm long petiole, 0.6-1 cm wide, the apex subacute, tridenticulate, the base gradually narrowed into the slender petiole. Inflorescence a loose, few-flowered, subsecund raceme 12-18 cm long including the slender peduncle, from a node on the secondary stem; floral bract oblique, 4-5 mm long; pedicle 4-5 mm long; ovary green with purple dots, obscurely costate, 2 mm long; sepals light green, dotted with purple, especially along the veins, with a few long hairs within; dorsal sepal oblong, concave, 7 mm long, 4 mm wide, connate to the lateral sepals for 6 mm to form an urceolate, sepaline tube, the free portion transversely triangular, obtuse, abruptly contracted into an up-curved 7 mm long, purple-spotted tail; lateral sepals connate 5 mm into a subelliptical, concave synsepal 6.5 mm long, 5 mm wide, forming a rounded mentum with the column-foot at the base, the free apices subacute, contracted into tails similar to that of the dorsal sepal; petals translucent greenish white, oblong, slightly curved, 2.5 mm long, 0.75 mm wide, the truncate apex erose, with a slight thickening along the labellar margin; lip heavily marked with maroon, oblong, arcuate with erect margins, 2.5 mm long, 1.25 mm wide, narrowed above the middle, then expanded into a decurved, flabellate, broadly rounded, microscopically erose, microscopically papillose apex, the disc with a pair of denticulate carinae extending onto the expanded apical portion; column green, spotted with purple, semiterete, 3 mm long, the foot equally long.

ETYMOLOGY. From the Latin *hydrae*, "freshwater polyps, or hydrae," in allusion to the appearance of the inflorescence.

TYPE: *ECUADOR*: *LOJA*: epiphytic in cloud forests of the western slopes of the cordillera, alt. 2000 m, Dec. 1974, B. Malo s.n., cultivated near Cuenca, flowered in cult. 16 July 1977, *C. Luer 1717* (HOLOTYPE: SEL).

DISTRIBUTION: Southern Ecuador.

This species of the *Polystica* section may be recognized by the green, purple-dotted, urceolate sepaline tube. The tube is constricted above the middle with a stoma surrounded by spreading tails, in the manner of the tentacles of a marine polyp.

*Masdevallia menatoi* Luer & Vásquez, sp. nov.

Planta mediocris caespitosa, pedunculo guttato suberecto tereti paucifloro foliis anguste obovatis subaequilongo, floribus successivis parvis cam-

panulatis brunneolis caudis aurantiacis brevibus recurvis, sepalis rotundatis abrupte caudatis, petalis anguste oblongis apice tridentatis margine inferiore carinato, labello oblongo guttato supra medium obtusangulato apice obovato minutissime verruculoso denticulato.

Plant medium-sized, epiphytic, caespitose; roots slender, flexuous. Secondary stems slender, 3-4.5 cm long, unifoliate, enclosed by 3 loose, brown, tubular sheaths. Leaf erect, thickly coriaceous, narrowly obovate, petiolate, 10-15 cm long including the 3-4 cm long petiole, 1.8-2.2 cm wide, the apex subacute to obtuse, tridenticulate, gradually narrowed below into the petiole. Inflorescence a short raceme of 2-6 small flowers in rapid succession, borne by a suberect, terete peduncle speckled with purple, 8-10.5 cm long with a bract at the base, from a node low on the secondary stem; floral bract oblique, acute, dotted with purple, 10-14 mm long; pedicel dotted with purple, 10-12 mm long; ovary 3 mm long; dorsal sepal yellow, lightly suffused with rose, obovate, 10 mm long, 7 mm wide, connate to the lateral sepals for 7 mm to form a broad, cylindrical tube, the free portion broadly triangular, subacute, contracted into an erect, terete, orange, 10 mm long tail, slightly thickened toward the apex; lateral sepals brown or yellow, suffused with brownish purple, more or less obovate, connate 8 mm, each 14 mm long, the free portions rounded, revolute, 7 mm wide, cellular pubescent within, abruptly contracted into orange, recurved tails 5 mm long; petals yellowish white, narrowly oblong, 6 mm long, 1.5 mm wide, the apex tridenticulate, with a low carina along the labellar margin; lip yellow, dotted with purple-brown, more or less oblong, 6 mm long, 2.75 mm wide, with a pair of obtusely angled, lobe-like, marginal folds just above the middle, the anterior portion obovate, obtuse, minutely verrucose and denticulate, with broadly rounded, suberect margins below the middle, the base retuse, hinged beneath; column greenish white with purple margins, semiterete, 5 mm long, the foot 3 mm long with a short, incurved extension.

ETYMOLOGY: Named in honor of Sr. Dino Menato of Chulumani, Bolivia, who collected and has successfully cultivated this species.

TYPE: *BOLIVIA*: LA PAZ: Prov. of Sud Yungas, epiphytic in forest near Chulumani, ca. 1800 m, D. Menato s.n., cultivated in Chulumani, flowered in cult. 31 Jan. 1980, *C. Luer & R. Vasquez 5039* (HOLOTYPE: SEL).

DISTRIBUTION: Bolivia.

This species is readily recognized by the round, spotted peduncles nearly as long as the fleshy, obovate leaves. Some clones bear no more than three flowers on each peduncle, while others consistently bear five or six in succession. Two flowers are frequently produced simultaneously. The comparatively small flowers are brownish, wax-like in texture, with short, recurved, orange tails.

*Masdevallia vasquezii* Luer, sp. nov.

Planta parvula caespitosa, foliis ellipticis petiolis nigrescentibus, pedunculo gracili brevi unifloro, sepalis roseis atropurpureo costatis caudis gracilibus aequilongis, petalis oblongis apice tridentatis basi unidentatis, labello oblongo subacuto arcuato sulcato.



Plant very small, epiphytic, caespitose; roots slender, flexuous. Secondary stems slender, blackish, unifoliate, 0.5-1 cm long, with 1-2 loose, tubular, basal sheaths. Leaf erect, coriaceous, minutely dotted with black beneath, elliptical to narrowly obovate, petiolate, 3-3.5 cm long including the 1.2-1.3 cm long petiole, 9-10 mm wide, the apex subacute, tridenticulate, the base cuneate into the blackened petiole. Inflorescence a solitary flower borne by a suberect to transverse, filiform peduncle ca. 13 mm long, with a bract near the base, from a node low on the secondary stem; floral bract tubular, 5 mm long; pedicel 6 mm long; ovary purple, 4 mm long; sepals translucent rose, veined in dark purple, glabrous, the dorsal sepal obovate, carinate, 10 mm long, 4.5 mm wide, connate to the lateral sepals for 5 mm to form a curved sepaline tube, the acute apex of the free triangular portion contracted into a filiform tail 8 mm long, the lateral sepals obovate, oblique, connate 3 mm to form a mentum below the column-foot, the subacute, ovate, free portions contracted into tails similar to that of the dorsal sepal; petals white, marked with purple, oblong, 3.5-4 mm long, 1.5 mm wide, the truncate apex tridentate, the lower margin with a low, longitudinal carina ending in a short, retrorse tooth at the base; lip rose, marked with dark purple, especially in two longitudinal stripes, oblong, 5.5 mm long, 2.25 mm wide, arcuate, the recurved apex subacute, slightly dilated at the base with suberect margins, the margins recurved above the base, the disc sulcate; column white, semiterete, 3 mm long, with a foot 2.5 mm long.

ETYMOLOGY: Named in honor of its discoverer, Sr. Roberto Vásquez Ch., of Cochabamba, Bolivia, investigator of the Cactaceae and Orchidaceae of Bolivia.

TYPE: BOLIVIA: COCHABAMBA: PROV. of Chapare, epiphytic in cloud forest en route to Villa Tunari, alt. 2900 m, 22 Jan. 1980, C. Luer, J. Luer & R. Vásquez 4909 (HOLOTYPE: SEL).

DISTRIBUTION: Bolivia.

This little species, found by Roberto Vásquez, was growing on the trunk of a small tree in a mossy forest in close association with *M. hajekii* Luer and *M. nebulina* Luer; all three species were in flower. In this particular area *M. hajekii* was infrequent, although it is abundant at slightly lower elevations. *Masdevallia nebulina* was frequent, but *M. vasquezii* was very rare.

The latter may be recognized by the little, purple-striped flowers with slender tails about as long as the sepals themselves. The petals are tridentate, and the striped lip is ligulate and arcuate.

#### *Octomeria monetalis* Luer, sp. nov.

Planta parva caespitosa, caulibus secundariis brevibus vaginis inflatis costatis scabrosis imbricatis obtectis, foliis crassis purpureis circularibus, floribus magnis carnosus solitariis successivis, sepalis petalisque libris ellipticis purpureo suffusis, labello trilobato infra medium bicalloso antice rotundato lobis basalibus obtusis.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems suberect, unifoliate, 15-25 mm long, concealed by 3-4 loose, imbricating, ribbed, scabrous, often evanescent sheaths. Leaf erect, coriaceous, orbicular, green, suffused and mottled with purple above, purple beneath,

25-30 mm long, 22-27 mm wide, the rounded apex notched, mucronate, the rounded base abruptly contracted into a twisted petiole 1.5 mm long. Inflorescence a succession of solitary, large, fleshy flowers held behind the leaf from the apex of the secondary stem, the spathe fugacious; peduncles 1-3 mm long; floral bract 4 mm long; pedicel 4 mm long with an equally long filament; ovary dark green, 4 mm long; sepals free, thick, dull yellow-green, suffused and veined in purple, elliptical, 11-16 mm long, 4.5-6 mm wide, subacute to obtuse at the apex; petals rose, elliptical, 8-11 mm long, 3 mm wide, the apex obtuse to rounded; lip yellow-green, marked with purple, obovate, 3-lobed, 7-7.5 mm long, 5.5 mm wide, the broadly rounded apex more or less retuse, the lateral lobes erect, obtuse, near the truncate base, the disc with a parallel pair of thick, rounded calli; column greenish white, semiterete, 4-5 mm long, with a short foot.

ETYMOLOGY: From the Latin *moneta*, "money, or a coin," in reference to the shape of the leaves.

TYPE: ECUADOR: ZAMORA-CHINCHIPE: epiphytic in cloud forest near Valladolid, alt. ca. 2000 m, collected by W. Teague & L. Figueroa, cultivated in San Francisco, flowered in cult. 21 April 1979, *C. Luer 3646* (HOLOTYPE: SEL).

ADDITIONAL MATERIAL EXAMINED: ECUADOR: ZAMORA-CHINCHIPE: epiphytic on the road to Zamora, alt. 1800 m, 11 June 1958, *C. H. Dodson 222* (SEL).

DISTRIBUTION: Southern Ecuador.

This species is readily recognized by the small circular leaves borne by short secondary stems clothed by loose, scabrous sheaths. The large flowers are fleshy with a lip not unlike that of many species in the genus.

#### *Platystele altarica* Luer, sp. nov.

Planta parva dense caespitosa, radicibus crassis, racemo paucifloro debili foliis obovatis duplolongiore, floribus successivis, sepalis petalisque ovatis longi-acuminatis transludicis flavis bruneonervis, labello ovato obtuso dense pubescenti pilis purpureis clavatis.

Plant small, epiphytic, densely caespitose; roots coarse, flexuous. Secondary stems 3-4 mm long, unifoliate, enclosed by 2 thin, white, tubular sheaths. Leaf erect, coriaceous, obovate, petiolate, 15-20 mm long including a petiole 3-5 mm long, 5-6 mm wide, the apex obtuse to rounded, notched and apiculate, cuneate below into the petiole. Inflorescence a delicate, loose raceme 3-5 cm long with up to 7 successive flowers, the peduncle and rachis filiform, from a node on the secondary stem; floral bract 1 mm long; pedicel 4 mm long; ovary 0.5 mm long; sepals and petals translucent yellow with a brown midvein; dorsal sepal ovate, glabrous, 3.5 mm long, 1 mm wide, the acute apex long-acuminate; lateral sepals ovate, oblique, glabrous, 3.25 mm long, 1 mm wide, the acute apex also long-acuminate; petals narrowly ovate 3 mm long, 0.5 mm wide, the margins with microscopically prominent cells, the apex acute, long-acuminate; lip ovate, narrowly obtuse, 1.3 mm long, 1 mm wide, with a large, transverse glenion above the truncate base, and a longitudinal, elliptical, glabrous, shallow depression above, all

the rest of the upper surface covered with a short, dense pubescence, the hairs clavate, purple, giving the lip a purple appearance, obscuring the dull white basic color; column stout, hooded, 1 mm long, 1 mm wide.

ETYMOLOGY: Named for Volcan Altar, below which the species was discovered.

TYPE: *ECUADOR*: CHIMBORAZO: epiphytic in cloud forest east of Riobamba near the base of Altar, alt. 3200 m, 14 Nov. 1979, cultivated at SEL 79-1817, flowered in cult. 15 Feb. 1980, C. Luer, J. Luer & A. Hirtz 5196 (HOLOTYPE: SEL).

DISTRIBUTION: Central Ecuador.

This little, high-altitude, successively flowered species is distinguished by the ovate, obtuse lip which is covered by a dense mat of short, purple, clavate hairs except for a large, transverse glenion and an elliptical, central depression.

*Platystele alucitae* Luer, sp. nov.

Planta perparva caespitosa, caulibus secundariis abbreviatis, racemo disticho plurifloro foliis anguste obovatis multilongiore, floribus successivis minutis flavo-virescentibus plus minusve purpureo suffusis, sepalo dorsali ovato concavo longicaudato, sepalis lateralibus anguste ovatis acuminatis, petalis filiformibus, labello atrobrunneo vel atropurpureo glanduloso ovato acuto basi excavato.

Plant very small, epiphytic, densely caespitose; roots comparatively thick, flexuous. Secondary stems abbreviated, unifoliate, 2-4 mm long, concealed by 2 loose, tubular sheaths. Leaf erect, coriaceous, narrowly obovate, petiolate, 8-18 mm long, 3-5 mm wide, the apex subacute, tridenticulate, gradually narrowed below into a slender petiole 3-7 mm long. Inflorescence an erect, distichous, several-flowered raceme up to 6.5 cm long bearing up to 15 minute flowers, 2-4 open simultaneously, the peduncle filiform, from a node on the secondary stem; floral bract oblique, acuminate, 1 mm long; pedicel 3-4 mm long; ovary 0.5 mm long; sepals and petals glabrous, translucent green or yellow, with or without purple suffusion; dorsal sepal ovate and concave in the lower third, 3-3.5 mm long, 0.5-1 mm wide, the apex acute, acuminate into a filiform tail; lateral sepals narrowly ovate, oblique, 3-4 mm long, 0.5-0.9 mm wide, connate at the bases, the apices narrowed into filiform tails; petals linear-capillary, 2.5-3 mm long, 0.1-0.3 mm wide; lip dark brown to dark purple, glandular-cellular, ovate, 0.75-1.5 mm long, 0.4-0.8 mm wide, the apex acute, the base truncate with a broad, depressed, semicircular area, shortly deflexed below; column hooded, 0.75 mm long and broad.

ETYMOLOGY: From the Latin plural of *alucita*, "a gnat," in allusion to the appearance of a flowering raceme.

TYPE: *ECUADOR*: IMBABURA: epiphytic in cloud forest above Apuela, alt. ca. 2500 m, 8 Feb. 1979, C. Luer, J. Luer, R. Escobar & A. Hirtz 3943 (HOLOTYPE: SEL).

DISTRIBUTION: Ecuador.

Numerous hair-like racemes, each bearing a succession of gnat-like flowers, tower above large tufts of leaves of this tiny species. The sepals are

long-caudate, the petals are capillary, and the little ovate lip is sharply acute with a curved excavation at the base.

*Platystele microscopica* Luer, sp. nov.

Inter species generis *Platysteles* Schltr. foliis parvis spatulatis, racemo longo multifloro leviter flexuoso floribus minutis, sepalis translucidis flavovirescentibus longiattenuatis, petalis capillaribus, labello atropurpureo lineari pubescenti cum callo basali subsphaeroideo dignoscenda.

Plant very small, epiphytic, caespitose; roots slender, fasciculate. Secondary stems 3-4 mm long, unifoliate, enclosed by 2 thin, loose, tubular sheaths. Leaf erect to suberect, thickly coriaceous, spatulate, 8-13 mm long including the 3-5 mm long petiole, 4-5 mm wide, the blade elliptical, obtuse, tridenticulate, cuneate below into the petiole. Inflorescence a gradually lengthening, loosely and successively many-flowered, lightly flexuous raceme up to 7 cm long including the filiform peduncle, bearing 2-3 minute flowers simultaneously, from a node on the secondary stem; floral bract 1 mm long; pedicel 4-5 mm long; ovary triquetrous, 0.4 mm long; sepals and petals translucent yellow-green; dorsal sepal ovate, the apex long-attenuate, 2.5 mm long, 0.5 mm wide; lateral sepals ovate, long-attenuate, 3 mm long, 0.6 mm wide; petals linear-ovate, long-attenuate, 2.2 mm long, 0.2 mm wide, the margins cellular-ciliate; lip purple, pubescent, linear, acute, 1.5 mm long, 0.2 mm wide, with a subspherical, pedunculated callus at the base beneath the column; column broadly cucullate, 0.5 mm long and wide, with an obsolescent foot.

ETYMOLOGY: From the Greek *microscopicos* (μικροσκοπικός), "microscopic," in reference to the size of the plant and flowers.

TYPE: COLOMBIA: NARINO: epiphytic in cloud forest above Ricaurte, alt. ca. 1600 m, 3 Nov. 1979, C. Luer, J. Luer & A. Hirtz 4608 (HOLOTYPE: SEL).

DISTRIBUTION: Southern Colombia.

This species may be identified by the small, spatulate leaves and hair-like racemes of nearly invisible flowers. The sepals and petals are extremely thin and translucent, and the purple lip is slender and pubescent.

*Platystele spatulata* Luer, sp. nov.

Planta parva caespitosa, racemo debili flexuoso filiformi multifloro foliis spatulatis multilongiore, floribus minutis, sepalis reflexis pallide flavovirescentibus ovatis, petalis reflexis attenuatis, labello purpureo suborbiculari crasso protrudenti.

Plant small, epiphytic, caespitose; roots coarse, flexuous. Secondary stems slender, unifoliate, 5-10 mm long, enclosed by 2-3 loose, ribbed, tubular sheaths. Leaf erect, thinly coriaceous, spatulate, long-petiolate, the blade suborbicular, 2-4 cm long including the 1-2 cm long petiole, 8-14 mm wide, the apex rounded, notched, with an apiculum in the sinus, cuneate below into the slender petiole. Inflorescence a progressively lengthening, weak, flexuous, many-flowered raceme producing 1 to 5 minute flowers simultan-

ously, the peduncle and rhachis capillary, 5-18 cm long, from a node on the secondary stem; floral bract 1-1.5 mm long; pedicel 4-7 mm long; ovary tricostrate, 0.5 mm long; sepals and petals reflexed, pale yellow-green, the dorsal sepal broadly ovate, obtuse, concave, 2 mm long, 1.5 mm wide, the lateral sepals oblique, ovate, subacute, reflexed with their back surfaces touching, the petals narrowly ovate, attenuate, acute, 2 mm long, 0.5 mm wide; lip red-purple, protruding forward, suborbicular, thick, with an obtuse, erect apex, 1.5 mm long, 1.25 mm wide, shallowly concave above, the sides involute beneath, the surface glandular-cellular and microscopically pubescent; column yellow-green with red stigmatic lobes, 0.5 mm long and wide, with an obsolescent foot.

ETYMOLOGY: From the Latin *spatulatus*, "shaped like a spoon," referring to the orbicular blades of the leaves borne by slender petioles.

TYPE: *ECUADOR*: PICHINCHA: epiphytic in cloud forest above Mindo, alt. 2200 m, 11 Nov. 1979, C. Luer, J. Luer & A. Hirtz 4751 (HOLOTYPE: SEL)

DISTRIBUTION: Western Ecuador.

This species may be distinguished by the spatulate leaves and a flexuous, filiform raceme of many, minute, yellow-green flowers with reflexed sepals and petals and a protruding round, red-purple lip.

*Pleurothallis ancora* Luer & Vásquez, sp. nov.

Planta *P. setigerae* Lindl. et affinitatibus similis sed labello base profunde uncinato distinguitur.

Plant very small, epiphytic, densely caespitose; roots slender, fasciculate. Secondary stems abbreviated, unifoliate, 4-8 mm long, enclosed by a thin, tubular, ribbed sheath. Leaf erect, coriaceous, narrowly obovate, petiolate, 20-35 mm long including the slender petiole 8-18 mm long, 3-5 mm wide, the apex subacute to obtuse, tridenticulate, gradually narrowed below into the petiole. Inflorescence a slender, loose, subfractiflex raceme of successive flowers, up to 9 cm long including the filiform peduncle, from a node on the secondary stem; floral bracts 0.75-1 mm long; pedicels 6 mm long below, to 2 mm long above; ovary 1 mm long; sepals and petals widespread, translucent, purple to pale green with purple midveins, glabrous; dorsal sepal ovate and concave in the lower third, carinate, the acute apex filamentous, 10 mm long, 1.75 mm wide; lateral sepals similar to the dorsal sepal, oblique, connate basally for 0.5 mm, 10 mm long, 2 mm wide; petals ovate and long-fimbriate in the lower third, the apex filamentous, 7 mm long, 1.5 mm wide; lip green below the middle, thick, obovate, 3-lobed, 3 mm long, 1.5 mm across the lateral lobes, the anterior lobe dark purple, convex, rounded, 1.2 mm wide, the margins long-ciliate, the lateral lobes erect, uncinata, antrorse, 1.5 mm long, arising from near the base, the concave base extending forward into a deep, pubescent cleft formed by the thickened, touching sides of the lip; column slender, erect, curved, 2 mm long, with a thickened, bicallose foot.

ETYMOLOGY: From the Latin *ancora*, "an anchor," referring to the shape of the lip.

TYPE: *BOLIVIA*: COCHABAMBA: PROV. of Chapare, epiphytic in cloud forest along the road to Tablas, alt. 2300 m, 9 Feb. 1980, flowers green, C. Luer,

*J. Luer & R. Vásquez 5172* (HOLOTYPE: SEL); flowers purple, *C. Luer, J. Luer & R. Vásquez 5168* (SEL).

DISTRIBUTION: Bolivia.

This little species is practically indistinguishable from those related to *P. setigera* until the lip is examined closely. As in *P. macroblepharis* Rchb. f., the anterior lobe of the lip is surrounded by a fringe of long, fine hairs, but arising from the base are a pair of large, forwardly directed uncinat lobes.

*Pleurothallis atacasana* Luer, sp. nov.

Planta mediocris caespitosa, caulibus secundariis fasciculatis folio elliptico breviter petiolato aequilongis, racemis singularibus vel binis plurifloris, spatha parva, sepalis ciliatis flavis, sepalo dorsali libro ovato, petalis purpureis oblongis obtusis, labello purpureo ovato obscure trilobato, lobo antico obtuso concavo, lobis lateralibus rotundatis cum callis marginalibus.

Plant small to medium in size, epiphytic, caespitose, the rhizome ascending, shortly repent; roots slender, flexuous. Secondary stems erect, unifoliate, fasciculate, 4-8.5 cm long, mostly concealed by a long, loose, tubular sheath plus 2-3 imbricating sheaths at the base. Leaf erect, coriaceous, elliptical, 5-8 cm long including the 1-2 cm petiole, 1-1.4 cm wide, the obtuse apex tridenticulate, cuneate below into the petiole. Inflorescence racemose, 1-2 erect, subdensely several-flowered racemes 6-10 cm long including the slender peduncle 1-2 cm long, from a 5 mm long spathe at the base of the leaf-petiole; floral bract infundibular, 2.5-3 mm long; pedicel 2 mm long; ovary 2 mm long; sepals yellow, ciliate, lightly pubescent within, ovate, acute, the dorsal sepal free, concave, subcarinate, 5.5 mm long, 2.25 mm wide, the lateral sepals oblique, 5.25 mm long, 3.5 mm wide together, connate for 2 mm; petals purple, oblong, obtuse, concave, 3 mm long, 1.5 mm wide, 3-veined; lip purple, ovate obscurely 3-lobed, 2.5 mm long, 1.75 mm wide, the anterior lobe ovate, obtuse to rounded, concave, the lateral lobes erect, rounded, occupying the lower half of the lip, with a rounded callus along the anterior margins, the concave base fixed to the column-foot below a transverse carina; column stout, 1.5 mm long, with a short rounded foot.

ETYMOLOGY: Named for Mt. Atacaso where the species was discovered.

TYPE: ECUADOR: PICHINCHA: epiphytic in cloud forest on Atacaso, alt. 3500 m, 16 Feb. 1979, A. Hirtz A-1 (HOLOTYPE: SEL), C. Luer illust. 3977A.

DISTRIBUTION: Central Ecuador.

This small species is similar to those larger species related to *P. elegans* (HBK) Lindl., but *P. atacasana* may be distinguished by the small habit, a small spathe, and a free dorsal sepal. The purple lip is similar to that of several of the related species.

*Pleurothallis calypso* Luer, sp. nov.

Planta *P. dodsonii* Luer affinis sed habitu majore, foliis non-maculatis et spatha maxima differt.

Plant epiphytic, pendent, medium in size, to 40 cm in length, the pri-

mary stems dependent, 1.5-2.5 cm long between secondary stems, enclosed by 3 loose, white, conduplicate sheaths; roots slender, flexuous, from nodes of the primary stem. Secondary stems 1-1.5 cm long, unifoliate, enclosed by an inflated, conduplicate sheath. Leaf thinly coriaceous, unspotted, pendulous, elliptical, 4-6.5 cm long, 1.5-2.5 cm wide, the apex acute, tridenticulate, the base cuneate, sessile. Inflorescence a fascicle of successive, single flowers produced by 2- to 3- flowered congested racemes enclosed by 3-4 white, imbricating bracts ca. 3 mm long, the peduncles 1-2 mm long, the pedicels 2 mm long, the entire inflorescence concealed within a large, inflated, conduplicate, thin, papery spathe 2-4 cm long, 0.5-1.3 cm broad unfolded, minutely ciliate along the ribs and margins, from the axil of the leaf; ovary white suffused with purple, pubescent, 2.5 mm long; sepals triangular-ovate, acute, white, veined in bright rose, suffused with bright rose below the middle, the dorsal sepal connate to the lateral sepals for 1 mm, 7 mm long, 2.25 mm wide, the lateral sepals connate for 2 mm, 6.5 mm long, 2.5 mm wide, forming a mentum with the column-foot; petals white, suffused with bright rose below the middle, obovate-spatulate, subacute, 4 mm long, 1.5 mm wide; lip hastate-trilobed, 4 mm long, 3 mm wide across the lateral lobes, the lateral lobes erect, just above the base, suffused with dark purple, obtuse, oblique, each with a low carina extending onto the anterior lobe, the anterior lobe yellowish white, ovate, acute, minutely lacerate, the disc thickened at the base, the base hinged to the column-foot by a membranous strap; column white, suffused with rose, 2 mm long, winged at the apex, with a foot equally long.

ETYMOLOGY: Named for the classical mythological nymph Calypso who hid Ulysses, in allusion to the hidden flowers.

TYPE: *ECUADOR*: ZAMORA-CHINCHIPE: epiphytic in cloud forest between Loja and Zamora, alt. ca. 2000 m, Nov. 1979, *W. Teague, D. Welisch & L. Figueroa s.n.* (HOLOTYPE: SEL), *C. Luer* illust. 4810.

DISTRIBUTION: Southern Ecuador.

This long, pendent plant is closely allied to *P. dodsonii*, but differs in the larger habit, unspotted leaves, and a large inflated spathe. Deep within the fold of the spathe, the free edges innermost, the little woolly flowers are produced on very short peduncles, even the ripening capsule never becoming exposed. The flowers are white and suffused with bright rose, the petals are spatulate, and the lip is hastate with an erose anterior lobe.

*Pleurothallis capillifera* Luer & Vásquez, sp. nov.

Species haec *P. fastidiosae* Luer similis sed racemo paucifloro stricto, sepalis petalis labelloque subulatis longioribus et petalis capillaribus differt.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems suberect, slender, terete, 6-10 cm long, unifoliate, with a close, tubular sheath below the middle and another at the base. Leaf suberect, coriaceous, elliptical, 7-9 cm long including a 1 cm long, twisted petiole, 2.1-3 cm wide, the apex acuminate, acute, tridenticulate, the base cuneate into the petiole. Inflorescence an erect, straight, loose raceme of ca. 7 spindly, wide-spread flowers, 14-15 cm long including the slender peduncle, from a foliaceous spathe 3-4 cm long, 3-4 mm wide, from the apex of the

stem; floral bract tubular, 5 mm long, below the pedicel; pedicel 5-9 mm long; ovary 3 mm long; sepals translucent pale yellow with multiple small, pale red spots, glabrous, the dorsal sepal narrowly ovate-subulate, 15 mm long, 3.5 mm wide across the concave base, the lateral sepals completely connate into a narrowly ovate, narrowly obtuse synsepal 16 mm long, 4.5 mm wide near the base; petals dark red-purple with darker purple markings, narrowly ovate, subulate, oblique, the distal two thirds capillary, 15 mm long, 2 mm wide at the dilated biauriculate base; lip greenish white, dotted with red, narrowly ovate-subulate, 15 mm long, 2 mm wide, the truncate base immovably attached to the column-foot; column green, 1.5 mm long with an obsolescent foot.

ETYMOLOGY: From the Latin *capillus*, "a hair," and *-fer*, "-bearing," referring to the finely capillary petals.

TYPE: *BOLIVIA*: COCHABAMBA: Prov. of Chapare, epiphytic in cloud forest en route to Villa Tunari, alt. ca. 600 m, 24 Jan. 1980, cultivated at SEL 80-220, flowered in cult. 6 March 1980, C. Luer, J. Luer & R. Vásquez 5210 (HOLOTYPE: SEL).

DISTRIBUTION: Bolivia.

This species is characterized by the long spathe subtending the erect, delicate inflorescence. The wide-spread, subulate flower-parts do not seem to be as sensitive or fragile as those of the closely related *P. fastidiosa* of Ecuador. The petals are long and hair-like, and the projecting lip is long and narrow.

#### *Pleurothallis cerberus* Luer & Vásquez, sp. nov.

Planta mediocris caespitosa, caulibus secundariis argute triquetris, racemis paucifloris folio elliptico sessili multibrevioribus, sepalis brunneis carnosius crassis breviter pubescentibus intus verrucosissimis lateralibus falcatis leviter cohaerentibus, petalis obovatis acutis serratis, labello oblongo obtuso bicarinato infra medium bilobato.

Plant medium-sized, epiphytic, caespitose; roots coarse, fasciculate. Secondary stems erect, terete at the base and concealed by 1-2 tubular sheaths, soon becoming sharply triquetrous, 10-17 cm long, 5 mm deep near the apex, unifoliate. Leaf erect, coriaceous, elliptical, 7-10 cm long, 2.5-3.2 cm wide, the apex subacute, tridenticulate, the base cuneate, sessile. Inflorescence racemose, 1-2, 1- to 4-flowered racemes 1-1.5 cm long, from the base of the leaf, with a spathe ca. 8 mm long; floral bract white, tubular, oblique, 3-4 mm long; pedicel shortly pubescent, 2 mm long; ovary shortly pubescent, 2 mm long; sepals brown, suffused with purple toward the base, thick fleshy, covered with a short, white pubescence, the internal surfaces markedly verrucose, the dorsal sepal obovate, subacute, 9.5 mm long, 2.5 mm wide, the lateral sepals falcate, subacute, lightly adherent to the apex, 6 mm long, 2.25 mm wide; petals translucent white, suffused with purple, obovate, oblique, acute, 4 mm long, 1.5 mm wide, the margins serrate; lip dull yellow, suffused with purple, oblong 3 mm long, 1.25 mm wide, arcuate, the apex rounded with slightly irregular margins, with a pair of small, erect, denticulate marginal lobes below the middle, the base truncate, delicately hinged



between a pair of membranous lobules, the disc with a longitudinal pair of carinae from the lateral lobes to near the apex where they unite; column dark red-purple, semiterete, 2.5 mm long, obtusely winged above, the foot thick, pubescent, 2 mm long.

**ETYMOLOGY.** From the Latin *Cerberus*, a mythological, three-headed, dog-like monster, in allusion to the appearance of the few-flowered raceme.

**TYPE:** *BOLIVIA*: LA PAZ: Prov. Sud Yungas, without specific locality, collected near Chulumani by Dino Menato, flowered in cult. 1 Feb. 1980, C. Luer & R. Vásquez 5048 (HOLOTYPE: SEL).

**DISTRIBUTION:** Bolivia.

This wing-stemmed species is characterized by the brown, fleshy, gaping flowers covered by a short, white pubescence. Within, the sepals are markedly verrucose, the petals are serrulate, and the oblong lip is bilobed below the middle.

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

Planta parva longirepens, folio ovato caulibus secundariis erectis gracilibus breviora, racemo paucifloro brevissimo, floribus glabris niveis, sepalo dorsali anguste elliptico, synsepalo ovato, petalis subligulatis acutis erosis, labello oblongo crasso bicarinato cum angulis basalibus apiculatis.

Plant small, epiphytic, repent, the rhizome slender, 10-20 cm or more long, the segments of primary stem 1.5-4 cm long between secondary stems and with a short sheath at 2-4 internodes; roots few, slender, from nodes. Secondary stems erect, slender, laterally compressed above, unifoliate, 4-7.5 cm long, with 2-3 tubular sheaths near the base. Leaf coriaceous, suberect, ovate, 3.5 cm long, 1.5-2 cm wide, the acute apex tridentate, the rounded base sessile. Inflorescence a suberect to horizontal, 6- to 8-flowered raceme 1.5-2 cm long, from a spathe 4 mm long at the base of the leaf; floral bract 2 mm long; pedicel 1 mm long; ovary glabrous, 1.5 mm long; flowers snowwhite, glabrous; dorsal sepal erect, narrowly elliptical, 7 mm long, 2 mm wide, acute, apiculate; lateral sepals connate into an ovate lamina 6.5 mm long, 3.25 mm wide, the obtuse apex shortly acuminate; petals narrowly obovate-sigmoid, 2.25 mm long, 0.5 mm wide, the apex acute, the margins minutely erose; lip oblong, 2 mm long, 0.8 mm wide, with minutely subseriate margins, the apex obtuse, thickened below the middle with a pair of longitudinal calli merging into erect marginal angles at the base with minutely papillose, retrorse, apiculate apices, the base narrow, minutely bi-auriculate; column stout, 1.5 mm long, with a short foot.

**ETYMOLOGY.** From the Greek *chionopos* (*χιονοπος*), "snowwhite," in reference to the color (or absence of color) of the flowers.

**TYPE:** *ECUADOR*: NAPO: epiphytic in cloud forest north of Baeza, alt. 1650 m, 30 Oct. 1979, C. Luer, J. Luer & A. Hirtz 4494 (HOLOTYPE: SEL).

**DISTRIBUTION:** Eastern Ecuador.

This small species is distinctive in the long, creeping rhizome, erect secondary stems longer than the leaf they bear, and a short raceme of snowwhite flowers. The flowers reveal an alliance to those of *P. lanceana* Lodd.

*Pleurothallis chloë* Luer & Vásquez, sp. nov.

Species haec *P. scandenti* Ames similis sed flore majore, petalis longissimis supra medium teretibus et labello anguste oblongo bicarinato apice eroso differt.

Plant epiphytic, scandent, small to large, forming loose, pendent mats 1-2 meters long; roots slender, from the bases of secondary stems at the apices of previous secondary stems. Secondary stems slender, unifoliate, proliferating, 1-5 in a fascicle at the apex of another secondary stem, 1.5-6.5 cm long (or basally stout, to 20 cm or more long), enclosed by 2-4 close, tubular sheaths, the basal ones shortly hispid. Leaves erect, horizontal to pendent, coriaceous, narrowly elliptical, 4-11 cm long, 4-6 mm wide, the apex acute, tridenticulate, the base narrowly cuneate into an indistinct petiole 1-3 mm long. Inflorescence a dense fascicle of single, greenish white flowers produced 1-2 at a time, from the apex of a secondary stem; peduncles ca. 1 mm long; floral bract infundibular, engulfing the bases of the sepals, 3 mm long, hispid; pedicel ca. 1 mm long; ovary green, glabrous, 1 mm long; dorsal sepal ovate, acute, glabrous, 9 mm long, 3.5 mm wide, connate basally to the lateral sepals for 2 mm; lateral sepals ovate, oblong, oblique, subacute, 8 mm long, 3.25 mm wide, connate basally for 1-2 mm, shortly pubescent within near the base; petals oblong, 10 mm long, 2.25 mm wide, narrowed at the middle into a terete, apical half; lip greenish white, marked with purple, narrowly oblong, arcuate, 4 mm long, 1.5 mm wide, with short, erect, subacute lateral lobes in the lower third, with a pair of parallel lamellae in the middle third, the apical third oblong, thickened, rounded, with erose margins; column white, suffused with purple, semiterete, 3 mm long, the foot equally long with a pair of longitudinal lamellae.

ETYMOLOGY: From the Greek *chloë* (χλωη), "grass," in allusion to the appearance of the plant.

TYPE: *BOLIVIA*: COCHABAMBA: Prov. of Chapare, epiphytic in cloud forest along the road to Tablas, alt. ca. 2300 m, 9 Feb. 1980, *C. Luer, J. Luer & R. Vásquez 5200* (HOLOTYPE: SEL).

DISTRIBUTION: Bolivia.

Although the individual secondary stems with their single leaves are relatively small, the prolific, branching, pendent habit creates large, loose, tangled mats of stems and leaves that hang as long as two meters from the shady boughs of large, mossy trees. *Pleurothallis chloë* is similar to the widespread and variable *P. scandens*, but the flowers are larger with petals with a long, terete apex, and a narrow lip.

*Pleurothallis coripatae* Luer & Vásquez, sp. nov.

Herba medicris caespitosa, caulibus secundariis gracilibus foliis ellipticis subpetiolatis leviter brevioribus, racemo duplo longiore flexuoso disticho plurifloro, floribus mediocris pellucidis flavovirescentibus, sepalis libris anguste ovatis intus minute papillosis, petalis oblongis obtusis, labello pandurato trilamellato apice obtuso verrucoso.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems suberect, slender, terete, 3.5-5 cm long, unifoliate, mostly

enclosed by 2 close, ribbed, tubular sheaths. Leaf erect, coriaceous, gray-green, smooth on both surfaces, elliptical, 5-6.5 cm long including an ill-defined petiole ca. 1 cm long, 1.6-1.9 cm wide, the apex subacute, tridenticulate, the base cuneate into the petiole. Inflorescence an erect, subfractiflex, distichous, densely flowered raceme to 14 cm long including the slender peduncle ca. 5 cm long, from a 1 cm spathe at the base of the leaf; floral bract thin, oblique, 2-3 mm long; pedicel 1-1.5 mm long; ovary 2 mm long; sepals free, translucent pale yellow-green, glabrous and carinate externally, cellular papillose within and along the margins, narrowly ovate, acute, the laterals oblique, 8 mm long, 2 mm wide, 3-veined; lip yellow, marked with purple, oblong-pandurate, 4.5 mm long, 1.5 mm wide, the middle narrowed with recurved margins, the margins expanded below the middle, the apical half dilated, obtuse to rounded, verrucose, the disc with a pair of tall, smooth marginal lamellae that curve inward at the base to meet and continue forward as a central, longitudinal carina ending in a verrucose callus near the apex; column greenish white, dotted with purple, semiterete, 2 mm long with a foot 1 mm long.

**ETYMOLOGY:** Named for Coripata, a town near the locality where this species was found.

**TYPE:** BOLIVIA: LA PAZ: Prov. of Nor Yungas, epiphytic in cloud forest. alt. 2000 m, between Coripata and Coroica, 3 Feb. 1980, C. Luer, J. Luer, R. Vásquez & R. Lara 5070 (HOLOTYPE: SEL).

**DISTRIBUTION:** Bolivia.

This species is characterized by the gray-green, smooth, elliptical leaves and the twice longer raceme of translucent, yellow-green flowers. The narrowly acute sepals are minutely papillose within, the petals are obtuse, and the pandurate lip is trilamellate with a verrucose apex.

*Pleurothallis corynetes* Luer & Vásquez, sp. nov.

Herba perpusilla caespitosa, racemo capillari laxifloro foliis ellipticis multilongiore, sepalis expansis pellucidis purpureo guttatis longi-acuminatis clavellatis, petalis ovatis apice setiformibus infra medium ciliatis et labello crasso ovato acuminato apice clavato echinato.

Plant very small, epiphytic, caespitose; roots fine, numerous, fasciculate. Secondary stems unifoliolate, abbreviated, 3-4 mm long, enclosed by 1-2 loose, white, ribbed sheaths. Leaf erect, coriaceous, narrowly elliptical, 15-27 cm long including a petiole 3-10 mm long, 3-4 mm wide, the apex shortly acuminate, acute, tridenticulate, the base cuneate into the petiole. Inflorescence a suberect to arching, successively flowering, lax raceme of 4-7 flowers, up to 8 cm long including the capillary peduncle, from a node on the secondary stem; floral bract ca. 1 mm long; pedicel 3-8 mm long; ovary triquetrous, 1-5 mm long; sepals widespread, translucent pale yellow, spotted with purple, glabrous, the dorsal sepal ovate and carinate in the lowest 2 mm, 16 mm long, 2 mm wide, the apex long-acuminate, terminating in a slight, orange thickening, the lateral sepals ovate, oblique, 16 mm long, 2 mm wide, connate basally for 1 mm, the apex long-acuminate, similar to the dorsal sepal; petals translucent yellow, dotted with purple, ovate, 7 mm long, 1.5 mm wide, the acute apex ending in a filiform process, the sides long-ciliate below

the middle; lip yellow, marked with purple, thick, ovate, 3.5 mm long, 1.7 mm wide, with erect, minutely serrated margins below the middle, cellular-glandular, the sides reflexed above the middle creating a narrow isthmus below the dark purple, verrucose, clavate apex, the base truncate, narrowly hinged to the column-foot, with a microscopic, capitate, hair-like appendage to either side; column yellow, marked with purple, slender, semiterete, 3.5 mm long with a short, swollen, pubescent foot.

ETYMOLOGY: From the Greek *korynetes*, (*κορυνητης*), "a club bearer" (from *koryne*, *κορυνη*, "a mace"), referring to the echinate, clubbed apex of the lip.

TYPE: *BOLIVIA*: LA PAZ: Prov. of Nor Yungas, epiphytic in cloud forest above the Río Unduavi, alt. 2450 m, 6 Feb. 1980, C. Luer, J. Luer, R. Vásquez & M. Manon 5131 (HOLOTYPE: SEL).

DISTRIBUTION: Bolivia.

The comparatively large flowers of this minute species are easily recognized by the deep purple, clavate, echinate apex of the lip. The apices of the sepals are filiform, and the long-attenuated apices of the sepals are slightly clavellate.

*Pleurothallis costata* Luer & Vásquez, sp. nov.

Planta parva caespitosa, caulibus secundariis gracilibus vaginatis folio anguste ovato longioribus, vaginis anguste tubulosis imbricantibus costatis laevis ostio obliquo dilatato, racemo paucifloro folio brevioris, floribus aureis venis rubris, sepalis glabris acutis lateralibus semiconnatis, petalis acutis, labeo purpureo suffuso ligulato supra basim lobulato.

Plant small, epiphytic, caespitose; roots slender, fasciculate, Secondary stems slender, erect, monophyllous, 5-11 cm long, enclosed by a series of 5-8 close, imbricating tubular, non-ciliated, ribbed sheaths with oblique, dilated ostia. Leaf suberect, coriaceous, narrowly ovate, 3-5 cm long including a 3-4 mm long petiole, 7-9 mm wide, the acute apex tridenticulate, the base cuneate into the petiole. Inflorescence a suberect, 3- to 5-flowered raceme 2-4 cm long including the slender peduncle, from the apex of the secondary stem; floral bract oblique, acute, 2.5-3 mm long; pedicel 2-3 mm long; ovary 6-costate, green with the ribs brown, 1.5 mm long; sepals glabrous, yellow with red veins; dorsal sepal ovate, the apex acute, acuminate, 7.5 mm long, 3 mm wide, tricarinate; lateral sepals narrowly ovate, acute, connate for 2.5 mm, 8 mm long, 4 mm wide across the connate portion below the middle, each unicarinate; petals yellow with a red midvein, narrowly ovate, acute, 4 mm long, 1.2 mm wide; lip yellow, heavily suffused with red-purple, oblong-ligulate, 4 mm long, 1.9 mm wide, shallowly sulcate centrally, with a pair of erect, acute, marginal lobes above the base, the apex rounded; column green, semiterete, 2 mm long, with an orange foot equally long.

ETYMOLOGY: From the Latin *costatus* "ribbed," in reference to the costate sheaths of the secondary stems, the ribbed ovary, and the carinate sepals.

TYPE: *BOLIVIA*: LA PAZ: Prov. of Nor Yungas, epiphytic in cloud forest southeast of Coroico, alt. 2000 m, 3 Feb. 1980, cult. at SEL 80-211, flow-

ered in cult. 1 April 1980, *C. Luer, J. Luer, R. Vásquez & R. Lara 5231* (HOLOTYPE: SEL).

DISTRIBUTION: Bolivia.

Although this species is a member of the lepanthiform-sheathed section, the sheaths of the long, slender secondary stems are unusual in that they are destitute of hairs or verrucae. The few-flowered raceme is shorter than the leaf, the lateral sepals are semiconnate, and the petals are acute. The lip is similar to that of *P. dirhamphis* Luer of Ecuador.

*Pleurothallis dorotheae* Luer, sp. nov.

Planta parva dense caespitosa, foliis ellipticis crassissimis breviter petiolatis caulibus secundariis gracilibus aequilongis, flore solitarii nonresupinato glabro albovirescenti sparsim punctulato breviter pedunculato, sepalo impari synsepaloque concavis suborbicularibus, petalis purpureis ellipticis carinatis, labello orbiculato repando apiculato basi bi-auriculato.

Plant small, epiphytic, densely caespitose; roots fasciculate, flexuous. Secondary stems slender, suberect, unifoliate, 1.5-3 cm long, with 1-2 basal sheaths. Leaf erect to suberect, thickly coriaceous, elliptical, marginate, 18-24 mm long including a 2-3 mm long petiole, 9-12 mm wide, the obtuse apex tridenticulate, the base obtusely cuneate into the short petiole. Inflorescence a solitary, non-resupinate flower produced in succession from a 4 mm long spathe at the base of the leaf; peduncle ca. 1 mm long; floral bract 3 mm long; pedicel 4 mm long; ovary 2.5-3 mm long; sepals glabrous, translucent light green with a few purple specks; middle sepal suborbicular to broadly ovate, obtuse, 4 mm long, 4 mm wide, 3-veined; lateral sepals connate into a concave, orbicular to transversely ovate synsepal, the apex obtuse to rounded, 4 mm long, 5.5 mm wide spread out, 4-veined; petals purple, elliptical-oblong, obtuse, 3 mm long, 1 mm wide, carinate dorsally; lip yellow, marked with purple, suborbicular to transversely ovate, 2.5 mm long, 3 mm wide, the rounded apex shortly apiculate, the margins minutely wavy, the disc with a large, depressed glenion flanked basally with obtuse calli, the base concave with a pair of obtuse auricles embracing the column; column yellow, stout, 1 mm long, 1 mm wide, the foot obsolescent.

ETYMOLOGY: Named in honor of Miss Dorothy Lankester of San Jose, Costa Rica, who cultivated this species in her garden.

TYPE: COSTA RICA: without locality, cultivated by Dorothy Lankester in San Jose, SEL greenhouse acc. no. 79-1613, flowered in cult. 28 Feb. 1980, *C. Luer 5204* (HOLOTYPE: SEL).

DISTRIBUTION: Costa Rica.

This attractive little species is characterized by a densely caespitose habit, thick, hard leaves, a little, pale green, non-resupinate, rounded flower with carinate petals and a rounded, apiculate lip with basal auricles.

*Pleurothallis epiglottis* Luer, sp. nov.

Planta mediocris epiphytica caespitosa, foliis oblongis acuminatis caulibus secundariis gracilibus longioribus, floribus flavis solitariis successivis non-resupinatis e spatha parva basi folii, sepalo dorsali synsepaloque late o-

vato obtuso, petalis late ellipticis breviter acuminatis marginibus serrulatis, labello obtriangulari apice truncato apiculato lateribus obtusis erectis glenione erecto.

Plant medium in size, epiphytic, caespitose; roots numerous, fine, flexuous. Secondary stems slender, ascending to suberect, unifoliolate, 7-15 cm long, with a close, tubular sheath below the middle. Leaf erect, thinly coriaceous, oblong, 6-9.5 cm long, 1.6-2.6 cm wide, the apex acuminate, acute, tridenticulate, the base rounded, shallowly cordate, sessile. Inflorescence a succession of non-resupinate, solitary flowers borne from a 10-13 mm long reclining spathe at the base of the leaf; peduncles 3-5 mm long; floral bracts 4-5 mm long; pedicels 8-12 mm long; ovary 5 mm long; sepals glabrous, yellow, the middle sepal broadly ovate, obtuse, 6 mm long, 5 mm wide, 3-veined, the lateral sepals connate into a broadly ovate, obtuse lamina 6 mm long, 5.5 mm wide, 4-veined; petals yellow, elliptical, 4.5 mm long, 2.75 mm wide, 1-veined, the apex shortly acuminate, acute, the margins minutely serrate in the middle third; lip yellow, marked with purple, transversely obtriangular, 3 mm long, 4.5 mm wide spread out, the broadly truncate apex minutely apiculate, the sides rounded, erect, thickened toward the anterior margins, shallowly concave toward the posterior margins, the glenion erect, near the middle, the posterior surface flat and in apposition with the column-foot; column stout, 1.5 mm long, 2 mm wide, with a foot 1 mm long.

ETYMOLOGY. From the Latin *epiglottis*, "epiglottis," in allusion to the appearance of the erect glenion.

TYPE: *ECUADOR*: PICHINCHA: epiphytic in cloud forest above Mindo, alt. ca. 2000 m, 11 Nov. 1979, C. Luer, J. Luer & A. Hirtz 4739 (HOLOTYPE: SEL).

DISTRIBUTION: Western Ecuador.

This member of the cordate-leaved group is characterized by the small, yellow, non-resupinate flower that lies upon the oblong, acuminate leaf. The sepals and petals are broadly ovate, the petals shortly acuminate and serrulate. The lip is truncate with erect sides that flank an erect glenion reminiscent of an epiglottis standing guard over a trachea.

#### *Pleurothallis heliconioides* Luer & Vásquez, sp. nov.

Species *P. lanceanae* Lodd. cognata sed racemo longissimo flaccido disticho pendenti verticali et sepalis angustissimis rhachidi perpendicularibus.

Plant medium in size, epiphytic, caespitose, more or less pendent; roots slender, flexuous. Secondary stems unifoliolate, suberect, arching, to horizontal, stout, terete, lightly channeled near the apex, 6-13 cm long, enclosed near the base by 2-3 tubular sheaths. Leaf more or less horizontal, coriaceous, elliptical, 9-12 cm long, 2.5-3.5 cm wide, the subacute apex tridenticulate, the rounded base sessile. Inflorescence a lax, several-flowered, flaccid, distichous, pendent, vertical raceme, up to 23 cm long including the arching peduncle, from a spathe ca. 1.5 cm long at the base of the leaf; floral bract tubular, 5-6 mm long; pedicel 1.5 mm long; ovary green, minutely pubescent, 2 mm long; dorsal sepal yellow-orange, erect (horizontal in the natural position), narrowly linear, 31 mm long, 2 mm wide, 3-veined in purple near the base, shortly pubescent externally; lateral sepals yellow-orange, suffused with purple, connate into a narrowly ovate synsepal 27 mm long, 7 mm wide,

the acute apex minutely bifid, shortly pubescent externally, minutely verrucose internally; petals yellow, narrowly ovate, 7.5 mm long, 1.5 mm wide, 3-veined, the margins minutely serrate, the apex acuminate, acute; lip white, suffused with purple, oblong, thick, 4.25 mm long, 2 mm wide, the rounded apex minutely serrulate, the margins below the middle erect, rounded, serrulate, the disc sulcate centrally between thickened calli, the base hinged to the column-foot, minutely bi-auriculate; column yellow-white, semiterete with narrow wings, 3.5 mm long, the apex denticulate, the foot 2 mm long.

**ETYMOLOGY:** Named for the superficial similarity of the inflorescence to a heliconia (e.g. *Heliconia riopalenquensis* Dodson & Gentry).

**TYPE: BOLIVIA:** LA PAZ: Prov. of Sud Yungas, without locality, cultivated in Chulumani by Dino Menato, flowered in cult. 1 Feb. 1980, *C. Luer 5041* (HOLOTYPE: SEL).

**DISTRIBUTION:** Bolivia.

Although the flowers of this species are basically very similar to those of *P. lanceana*, the habit of *P. heliconioides* is very distinct. The very long, flaccid raceme hangs straight down over the side of the leaf, the synsepals lie appressed to the rachis while the long, narrow, distichous, dorsal sepals stand out perpendicularly.

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

Planta epiphytica aerea longirepens implexa, caulibus secundariis gracilibus foliis anguste lineari-ellipticis apiculatis multibrevioribus, racemo laxo brevi paucifloro floribus successivis, sepalis libris carnosis anguste ovatis purpureo virescentibus, petalis parvis oblongis serrulatis acicularibus, labello oblongo obtuso ciliolato carinato.

Plant medium in size, epiphytic, repent, forming rhizomes up to 50 cm long in loose, entangled, pendent mats, the primary stems more or less aerial, 1-2 cm long between secondary stems, clothed by 2-3 brown, tubular sheaths, rooting at nodes. Secondary stems ascending, slender, unifoliate, 1.5-2 cm long, concealed by 1-2 tubular sheaths. Leaf erect to pendent in the natural position, coriaceous, linear-elliptical, 7-11.5 cm long, 0.7-1 cm wide, the obtuse apex ending in a short, pointed apiculum, gradually narrowed below to the slender base. Inflorescence a loose, successively 2- to 12-flowered raceme, 1.5-5.5 cm long including the slender peduncle, from a 2 mm spathe at the apex of the secondary stem; floral bract 2-2.5 mm long; pedicel 2 mm long; ovary 2 mm long; sepals fleshy, glabrous, greenish rose externally, purple within, the dorsal sepal narrowly ovate, acute, 10 mm long, 2 mm wide, connate to the lateral sepals for 1 mm, the lateral sepals similar to the dorsal sepal, 10 mm long, 1.75 mm wide, nearly free, connate 0.5 mm to form a short mentum below the column-foot; petals translucent yellow-green with purple margins and apex, oblong, 3 mm long, 1 mm wide, the margins serrulate, the apex acuminate, acute; lip yellow with red margins and a red central stripe, oblong-obovate, 2.25 mm long, 1 mm wide, the apex obtuse, the margins ciliated, with a channeled callus down the center ending in a thick, bilamellate process at the base, the bi-auriculate base hinged to the column-foot; column yellow-white, semiterete, 2.5 mm long, the clinandrium denticulate, the foot short.

ETYMOLOGY: From the Latin *implexus*, "entangled, interlaced," referring to the loose, pendent, aerial mats formed by the creeping rhizomes.

TYPE: *ECUADOR*: CHIMBORAZO: epiphytic in scrubby trees east of Riobamba, alt. 3100 m, 14 Nov. 1979, C. Luer, J. Luer & A. Hirtz 4793 (HOLOTYPE: SEL).

DISTRIBUTION: Central Ecuador.

Although seemingly very different in habit, this unusual species is apparently allied to *P. barbulate* Lindl. *Pleurothallis implexa* may be recognized by the long, loose, creeping rhizomes; short secondary stems; long, narrow leaves; a short, successively-flowered raceme; free, narrow sepals; serrulate petals; and a ciliated lip.

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

Planta mediocris breviter repens, caulibus secundariis crassis folio ovato carnosio brevioribus, racemo paucifloro folio brevioris, floribus successivis grandibus duris, sepalis virescentibus purpureo suffusis ovatis alte carinatis, petalis linearibus acuminatis, labello crasso unguiculato lamina ovata spiculata erosa bilamellata, ovario lappaceo.

Plant medium in size, epiphytic, shortly repent to caespitose, the rhizome stout: roots coarse, flexuous, occasionally branching. Secondary stems unifoliate, stout, 2-3.5 cm long, enclosed by 1-2 loose, tubular sheaths. Leaf erect, thickly coriaceous, smooth, broadly to narrowly ovate, 4-11 cm long, 2.5-3.5 cm wide, the subacute apex tridenticulate, apiculate, the sessile base cuneate to rounded. Inflorescence a short, successively few-flowered raceme up to 3.5 cm long, from a 1-1.5 cm long spathe at the base of the leaf; floral bract green, loose, oblique, acute, 5 mm long; pedicel rose, ca. 7 mm long; ovary 3 mm long, shortly spiculate, the capsule 15 mm long, densely spiculate along the ribs; sepals yellow-green, veined and suffused with red-purple, rigid, not widely spread, carinate, ovate, acute, connate 2-3 mm at the base, the dorsal sepal 19 mm long, 8.5 mm wide; the lateral sepals oblique, 22 mm long, 8.5 mm wide, petals translucent yellow, veined in red, linear-ovate, the apex acuminate, acute, 13 mm long, 2 mm wide; lip red-purple on dull white, fleshy, ovate with erose margins, 15 mm long, 5.5 mm wide, the apex acute, the base abruptly unguiculate, the concave claw 2 mm long and wide, biauriculate, the blade verrucose-spiculate, with a pair of tall, erose lamellae just above the middle; column greenish white, slender, clavate, 8 mm long, with a thick foot 4 mm long.

ETYMOLOGY: From the Latin *lappago*, "a bur-bearing plant" (*lappa*, "a bur"), referring to the appearance of the plant with fruit.

TYPE: *ECUADOR*: EL ORO: epiphytic in cloud forest near Zaruma, alt. 1100 m, 18 July 1979, C. H. Dodson et al. 8435 (HOLOTYPE: SEL), cultivated at SEL 79-1358, flowered in cult. 31 Mar. 1980, C. Luer illust. 5230.

DISTRIBUTION: Southeastern Ecuador.

This short-stemmed, thick-leaved species is related to *P. erinacea* Rchb. f. and its allies, but it is readily distinguished by the short, few-flowered inflorescence. The large, hard-textured flowers persist on bur-like ovaries. The petals are smooth at the base without an auricle.



*Pleurothallis miranda* Luer, sp. nov.

Planta parva caespitosa, caulibus secundariis gracilibus vaginatis folio ovato petiolato longioribus, petiolo torsivo, spatha magna, flore successivo longipedunculato non-resupinato, synsepalo cucullato intus bilamellato, petalis profunds cucullatis, labello subquadrato sub columna acute deflexo.

Plant small, epiphytic, caespitose; roots fine, flexuous. Secondary stems slender, ascending, unifoliolate, 1-4.5 cm long, enclosed by a series of 3-4 loose, brown, compressed sheaths. Leaf suberect, coriaceous, ovate, petiolate, the blade 18-27 mm long, 11-15 mm wide, the apex acute, tridenticulate, the base rounded to cuneate into the twisted petiole 3-7 mm long. Inflorescence a fascicle of single, successive, long-pedunculate, non-resupinate flowers borne from an oblique spathe 8-13 mm long from the apex of the secondary stem; peduncles 12-24 mm long; floral bracts and pedicels each 3-4 mm long; ovary striped with green and purple, 2 mm long; sepals and petals translucent greenish white, veined and marked with purple; middle sepal ovate, subacute, 5.5 mm long, 4 mm wide; lateral sepals connate into a sub-orbicular lamina 4.75 mm long, 4.75 mm wide unspread, the rounded apex minutely bifid, deeply and conically concave in the center between a pair of short, erect lamellae; petals spatulate, 2.5 mm long, 2 mm wide, deeply concave-cucullate at the rounded apex, the base unguiculate; lip translucent yellow, suffused with brown, subquadrate, 1.4 mm long, 1.5 mm wide, sharply deflexed upon itself near the middle, with erect, acute, marginal folds to either side of the deflexion, the truncate apex broadly and roundly bilobed, minutely apiculate in the center; column white, suffused with brown at the apex, terete, 2 mm long, with an obsolescent foot.

ETYMOLOGY: From the Latin *mirandus*, "strange, causing wonder," alluded to the unusual characters of the species.

TYPE: ECUADOR. PICHINCHA: epiphytic in cloud forest along the river toward Nanegal, alt. ca. 2500 m, Oct. 1979, A. Hirtz and A. Andreae s.n., cultivated at SEL s.n., flowered in cult. 1 Jan. 1980, C. Luer 4372 (HOLOTYPE: SEL).

DISTRIBUTION: Western Ecuador.

This unusual little species is noteworthy in the long, twisted petioles of the leaves subtended by a proportionately large, oblique spathe from which long-pedunculated flowers are borne. The flowers are non-resupinate and striped with purple; the deeply concave synsepal is bilamellate within; the apices of the petals are deeply cucullate; and the minute lip is sharply deflexed to lie along the under surface of the column.

*Pleurothallis parviflora* Luer, sp. nov.

Species haec *P. antenniferae* Lindl. affinis sed habitu caespitoso, floribus multiminoribus et petalis membranosis differt.

Plant medium in size, epiphytic, caespitose; roots numerous, slender, fasciculate. Secondary stems slender, erect, unifoliolate, 12-20 cm long, with a close, tubular sheath below the middle and another 1-2 sheaths at the swollen base. Leaf erect, coriaceous, narrowly ovate, 6-10.5 cm long, 2-3 cm wide, the apex acuminate, acute, tridenticulate, the base cuneate to rounded,

sessile. Inflorescence racemose, 1-2 slender, erect, densely many-flowered racemes 10-16 cm long including the 3-4 cm long peduncle, from a spathe 15-22 mm long at the base of the leaf; floral bract 1.5-2 mm long; pedicel and ovary each 1.5 mm long; sepals and petals glabrous, translucent rose with rose veins; dorsal sepal oblong, 3 mm long, 1.75 mm wide, the apex abruptly acuminate, acute; lateral sepals connate into a deeply concave, ovate synsepal, 3 mm long, 2.25 mm wide unspread, the apex abruptly acuminate, minutely bifid; petals membranous, narrowly elliptical-obovate, acuminate, acute, 2.25 mm long, 0.3 mm wide; lip green, sagittate, 3-lobed, 1.3 mm long, 3.5 mm wide spread out, the obtuse anterior lobe ending in an acuminate, incurved apiculum, the obtuse lateral lobes erect, incurved, the base shortly reflexed and fixed to the base of the column; column stout, 1 mm long.

ETYMOLOGY: From the Latin *parviflorus*, "small-flowered," referring to the size of the flowers as compared to those of the closely allied *P. antennifera*.

TYPE: ECUADOR. NAPO: epiphytic in cloud forest below Papallacta alt. 2100 m, 29 Oct. 1979, C. Luer, J. Luer & A. Hirtz 4463 (HOLOTYPE: SEL).

DISTRIBUTION: Eastern Ecuador.

This small-flowered species is closely allied to *P. antennifera*, but may be distinguished from the latter by the caespitose habit and much smaller flowers with membranous petals.

*Pleurothallis praecipua* Luer, sp. nov.

Planta mediocris caespitosa, foliis parvis subconduplicatis anguste ovatis caulibus secundariis gracilibus ancipitiis multibrevioribus, flore solitario longipedunculato fasciculato, sepalo dorsali synsepaloque concavis anguste ovatis obtusis, petalis subfalcatis acutis incrassatis, labello praecipuo transverse obovato trilobato extus supra medium biapiculato, lobis lateralibus erectis late rotundatis falcatis abrupte acutis, lobo antico crasso rotundato apiculato foveato.

Plant medium in size, epiphytic, caespitose; roots numerous, fine, fasciculate. Secondary stems ascending to erect, slender, terete below, sharply but narrowly ancipitous above, unifoliate, 5-16 cm long, with a close, tubular sheath below the middle and another at the base. Leaf more or less recurving to spreading, conduplicate basally, coriaceous, narrowly ovate-elliptical, 3.5-5 cm long, 1.2-1.5 cm wide, the apex acuminate, acute, the obtusely cuneate base sessile, the sides decurrent on the secondary stem ca. 3 mm. Inflorescence a fascicle of solitary, successive, flowers borne from a narrow, 4-5 mm long spathe at the apex of the secondary stem a short distance above the base of the leaf; peduncle filiform, erect, 2-2.5 cm long; floral bract 5 mm long; pedicel 10-15 mm long; ovary 4 mm long; sepals and petals glabrous, lavender to white with purple dots; dorsal sepal concave, ovate, acuminate, narrowly obtuse, 10 mm long, 3.5 mm wide unspread; lateral sepals connate into an ovate, concave synsepal similar to the dorsal sepal, 10 mm long, 4 mm wide unspread; petals elliptical-subfalcate, 9 mm long, 1.9 mm wide, the apex acute, thickened externally, with microscopically serrate margins; lip white with a purple apex, transversely obovate,

3-lobed, 3.5 mm long, 4.5 mm wide spread out, the lateral lobes erect, broadly rounded, falcate, with an abruptly acute apex less than 1 mm from the sinus separating it from the anterior lobe, the anterior lobe thick, rounded, with a minutely serrated margin, shortly apiculate, with a nearby, wedge-shaped concavity on the disc, with a pair of pointed calli externally on either side above the middle, the broadly cuneate base transversely grooved, delicately hinged to the column-foot; column white, slender, arching, 4.5 mm long, with a short, rounded foot.

ETYMOLOGY: From the Latin *praecipuus*, "peculiar, extraordinary," referring to the unusual lip.

TYPE: ECUADOR: NAPO: epiphytic in cloud forest north of Baeza, alt. 1650 m, 10 Oct. 1979, C. Luer, J. Luer & A. Hirtz 4484 (HOLOTYPE: SEL).

DISTRIBUTION: Eastern Ecuador.

This species with laterally compressed stems is most remarkable in the peculiarities of the lip: a thick, rounded but flat, serrulate, apiculate middle lobe with a central pit is separated from the shortly acuminate apices of the large, dilated, lateral lobes by a narrow sinus. On the outer surface a short distance below these slits there is a pair of short, pointed calli.

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

Planta alta ramificans -caulibus secundariis proliferantibus, racemis paucis multifloris folio anguste elliptico longioribus, floribus illis *P. antenniferae* Lindl. similibus sed lobis lateralibus labelli brevioribus angustioribusque.

Plant medium to large, epiphytic, scandent, branching, up to 1 m or more tall; secondary stems terete, proliferating, up to 30 cm long below, mostly 3-10 cm long above, with a bract below the middle and another at the base, unifoliate, rooting with superposed stem at the apex of an old stem. Leaf erect, coriaceous, narrowly elliptical, 5-10 cm long, 1-2.3 cm wide, the apex acute, tridentate, the base cuneate into the sessile base. Inflorescence racemose, 1-2 many-flowered, congested, erect, arching racemes 6-15 cm long from a 1-2.5 cm long spathe at the base of the leaf; floral bract 2.5 mm long; pedicel 3 mm long; ovary 2 mm long; flowers gaping, glabrous, light green, yellow or orange to purple, with or without reddish spots; dorsal sepal ovate, acuminate, acute, 6 mm long, 3 mm wide; lateral sepals connate into a concave, ovate, acuminate, acute synsepal 6 mm long, 4 mm wide unspread; petals narrowly linear, acute, thickened, 5.5 mm long, 0.75 mm wide; lip transversely ovate, 3-lobed, 1.5 mm long, 2 mm wide unspread, the middle lobe rounded, minutely serrulate, shortly apiculate, the lateral lobes ca. 1 mm long, above the base, oblong, subacute, incurved, the base acutely and broadly recurved, densely united to the base of the column; column stout, 1 mm long, the foot obsolescent.

ETYMOLOGY: From the Latin *ramificans*, "branching," referring to the habit of the species.

TYPE: ECUADOR: IMBABURA: epiphytic in cloud forest above Apuela, alt. 2500 m, 8 Feb. 1979, C. Luer, J. Luer, A. Hirtz & R. Escobar 3920 (HOLOTYPE: SEL).

ADDITIONAL MATERIAL EXAMINED: COLOMBIA: NARIÑO: epiphytic in cloud forest east of La Victoria, alt. 3000 m, 4 Nov. 1979, *C. Luer et al. 4649* (SEL); PUTUMAYO: between La Cocha and Sibundoy, alt. 2700 m, 29 July 1978, *C. Luer et al. 3079* (SEL), 3 Aug. 1978, *C. Luer et al. 3146* (SEL); ECUADOR: CARCHI: above Maldonado, alt. 2000 m, 21 Feb. 1978, *C. Luer, J. Luer & A. Hirtz 2683* (SEL); NAPO: north of Baeza, alt. 1500 m, 10 Aug. 1978, *C. Luer et al. 3222* (SEL); below Papallacta, alt. 2800 m, 28 Aug. 1978; *C. Luer et al. 3435* (SEL); above El Playon east of Juan Andrade, alt. 3200 m, 5 Nov. 1979, *C. Luer et al. 4774* (SEL); east of Salcedo, alt. 3100 m, 12 Nov. 1979, *C. Luer et al. 4774* (SEL); PICHINCHA: above San Jose de Minas, alt. 2500 m, 24 Aug. 1978, *C. Luer et al. 3335* (SEL).

DISTRIBUTION. Ecuador and southern Colombia.

Although the flowers of this species are similar to those of *P. antennifera*, the habit of *P. ramificans* immediately distinguishes it. Long, branching stems ascend in bushes and thickets to produce clusters of one-leaved stems above with their arching racemes. The flowers vary in color, but the shape of the lip is constant. The incurved, lateral lobes are shorter and narrower than those of *P. antennifera*.

*Pleurothallis unduavica* Luer & Vásquez, sp. nov.

Species haec *P. coripatae* Luer & Vásquez affinis sed floribus minoribus. sepalis pubescentibus, petalis erosis at labello quinquilamellato differt.

Plant small to medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems suberect, slender, terete, 2.5-4 cm long, unifoliate, mostly enclosed by 2 close, ribbed tubular sheaths. Leaf erect coriaceous, gray-green, smooth on both surfaces, elliptical, 4-6.5 cm long including an ill-defined petiole 0.5-1 cm long, 1.3-1.5 cm wide, the apex subacute, tridenticulate, the base cuneate into the petiole. Inflorescence a suberect, distichous, densely flowered raceme to 14 cm long including the slender peduncle 4-5 cm long, from a 5-6 mm long spathe at the base of the leaf; floral bract thin, oblique, 1.5 mm long; pedicel 1-1.5 mm long; ovary 1 mm long; sepals free, translucent light green, glabrous externally, pubescent within, the laterals oblique, 6 mm long, 2 mm wide; petals translucent yellow, dotted with purple and with a purple midvein, obovate, 3 mm long, 1.5 mm wide, the apex rounded, minutely erose; lip yellow, marked with purple, oblong-pandurate, 3.5 mm long, 1.5 mm wide, the middle narrowed with recurved margins, the margins expanded below the middle, the apical half dilated, rounded, minutely verrucose, the disc with a pair of tall, smooth, marginal lamellae, a lower, longitudinal, midline carina, and to either side of the central carina a denticulate crest; column greenish white, dotted with red, slender, semi-terete, 1.8 mm long with a foot 1 mm long.

ETYMOLOGY: Named for Unduavi, a river and a town near the locality where this species was found.

TYPE: BOLIVIA: LA PAZ: PROV. of Sud Yungas, epiphytic in cloud forest, alt. 2450 m, below Unduavi, near Río Unduavi, 6 Feb. 1980, *C. Luer, J. Luer, R. Vásquez & M. Manon 5206* (HOLOTYPE: SEL).

DISTRIBUTION: Bolivia.

This species is allied to *P. coripatae*, but it may be distinguished by the smaller flowers long-pubescent within, and erose petals. The pandurate lip has three lamellae similar to those of *P. coripatae*, but an additional pair of toothed crests exists between the lateral and medial lamellae.

*Pleurothallis urceolata* Luer, sp. nov.

Planta grandis caespitosa, foliis ellipticis acutis caulibus secundariis et racemis paucis multifloris brevioribus, floribus flavis purpureo punctatis illis *P. antenniferae* Lindl. similibus sed majoribus, petalis non carnosus et lobo antico labelli urceolato cum marginibus involutis apiculum acutum formantibus differt.

Plant large, epiphytic to terrestrial, shortly repent to caespitose; roots coarse, flexuous. Secondary stems slender to stout, erect, unifoliate, 28-38 cm long, with a tubular sheath above the middle and 2 sheaths near the base. Leaf erect, coriaceous, elliptical, 11-17 cm long, 2.5-7 cm wide, the apex slightly acuminate, acute, tridenticulate, the base sessile, cuneate. Inflorescence racemose, 2-3 erect, flexible, arching, subdensely many-flowered racemes 15-25 cm long including the peduncle 6-7 cm long, from a spathe 1.5-2.5 cm long at the base of the leaf; floral bract 3-6 mm long; pedicel, 3-5 mm long; ovary 3 mm long; sepals and petals glabrous, yellow with purple dots; dorsal sepal ovate, acuminate, acute, 8 mm long, 4 mm wide; lateral sepals connate into an ovate, deeply concave, cymbiform synsepal, the apex acuminate, narrowly obtuse, 8 mm long, 5 mm wide unspread; petals narrowly linear-ovate, attenuate, acute, 8 mm long, 0.6 mm wide, more or less membranous, minimally thickened; lip green, 3-lobed, 1.5 mm long, 3 mm or more wide spread out, the lateral lobes antrorse, rounded, 1.5 mm long, 1 mm wide, the middle lobe transversely ovate, concave, with incurved margins forming an acute apiculum, the base deflexed, densely attached to the column-foot; column green, stout, 1.5 mm long, with an obsolescent foot.

ETYMOLOGY: From the Latin *urceolatus*, "pitcher-shaped," referring to the middle lobe of the lip.

TYPE: ECUADOR: NAPO: epiphytic in cloud forest north of Baeza, alt. ca. 1500 m, 10 Aug. 1978, C. Luer, J. Luer & A. Hirtz 3228 (HOLOTYPE: SEL).

ADDITIONAL MATERIAL EXAMINED: ECUADOR: CARCHI: terrestrial on the road cut southeast of Tulcan toward El Carmelo, alt. 3000 m, 23 Feb. 1978, C. Luer, J. Luer & A. Hirtz 2746 (SEL); NAPO: epiphytic in cloud forest near Papallacta, alt. 2850 m, 29 Oct. 1979, C. Luer, J. Luer & A. Hirtz 4435 (SEL); below Papallacta, alt. 2000 m, 29 Oct. 1979, C. Luer, J. Luer & A. Hirtz 4461 (SEL).

DISTRIBUTION: Eastern Ecuador.

This handsome species is closely related to *P. antennifera*, but *P. urceolata* may be distinguished by the caespitose habit, usually broader, acuminate leaves, racemes of larger, yellow flowers with red-purple spots, and a lip with the middle lobe concave with incurved margins forming a spout-like apex.

*Pleurothallis vorator* Luer & Vásquez, sp. nov.

Planta mediocris, folio ovato acuminato basi rotundato conduplicato caulibus secundariis argute ancipitiis brevioribus, floribus singularibus longipedunculatis, sepalis dorsali synsepaloque simili anguste ovato, petalis lineari-ovatis crassis attenuatis, labello suborbiculari lateribus unidentatis columna arcuata brevioribus.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems monophyllous, erect, slender, terete below, sharply compressed above, 8-17 cm long, 4 mm deep above near the leaf, with a tubular sheath below the middle and another at the base; leaf erect to spreading, coriaceous, ovate, 5.5-8 cm long, 2.5-3.5 cm wide, the apex acuminate, acute, tridenticulate, the base rounded, conduplicate, sessile. Inflorescence a succession of solitary flowers borne in a fascicle from a 5-8 mm long spathe deep within the folded base of the leaf; peduncles erect, 10-12 mm long; floral bract 6-8 mm long; pedicel 12-14 mm long; ovary subverrucose, 4 mm long; sepals and petals yellow-orange, minutely flecked with red-purple; dorsal sepal narrowly ovate, concave, shortly subacute, 9 mm long, 3 mm wide; lateral sepals connate into a synsepal similar to the dorsal sepal, 8.5 mm long, 4 mm wide; petals linear-ovate, thick, 8 mm long, 1.3 mm wide, the apex yellow, terete, narrowly acute; lip dull yellow to brown, mottled with purple, suborbicular to subquadrate, shallowly concave, 2 mm long, 2 mm wide, with a pair of small, marginal, acute, retrorse teeth near the middle on either side, the truncate apex with a pair of low calli externally on either side, and a discrete but shallow concavity just inside the central margin, the base truncate with a pair of low, rounded calli; column ascending, arching, mottled with purple, 2.5 mm long, with a large deflexed anther and rostellum, and an obsolescent foot.

ETYMOLOGY: From the Latin *vorator*, "a devourer," in allusion to the appearance of the column poised over the lip, as the head of an animal continually about to eat from a dish.

TYPE: *BOLIVIA*: LA PAZ: Prov. of Nor Yungas, epiphytic in cloud forest along the road southwest of Coroico toward La Paz, alt. 2800 m, 4 Feb. 1980, cult. at SEL, 80-213, flowered in cult. 22 March 1980, *C. Luer, J. Luer, R. Vásquez & R. Lara 5223* (HOLOTYPE: SEL); without specific locality, cultivated by Dino Minato in Chulumani, flowered in cult. 1 Feb. 1980, *C. Luer et al. 5046* (SEL).

DISTRIBUTION: Bolivia.

This ancipitous-stemmed species is recognized by the single, speckled flowers with a shallowly concave, suborbicular lip, shortly toothed on both sides, held beneath a slightly longer, arching column with a seemingly oversized anther.

*Porroglossum agile* Luer, sp. nov.

Inter species generis *Porroglossi* Schltr. species haec habitu mediocri, pedunculo gracili glabro foliis anguste obovatis verrucosis longiore, sepalis glabris flavis abrupte anguste caudatis, petalis plusminusve oblongis apice dilatatis, lamina labelli cuneata agili callo basali pyramidalis pubescenti dignoscenda.

Plant medium-sized, epiphytic, caespitose; roots slender, flexuous. Secondary stems unifoliate, 5-10 mm long, enclosed by 1-2 white, tubular sheaths. Leaf erect, thickly coriaceous, verrucose, narrowly obovate, petiole, 3.5-7 cm long including the 1.5-3.5 cm long petiole, 8-11 mm wide, the subacute apex tridenticulate, narrowly cuneate below into the petiole. Inflorescence a contracted, successively-flowered raceme borne by an erect, slender, glabrous peduncle 8-10 cm long, from a node low on the secondary stem; floral bract 5 mm long; pedicel 5 mm long; ovary minutely subverrucose, 4-6 mm long; sepals translucent light yellow with bright yellow veins, glabrous, 3-costate externally, the dorsal sepal obovate, 7 mm long, 5 mm wide, connate to the lateral sepals for 3.5 mm into a gaping cup, the obtuse to rounded apex abruptly contracted into a slender, reflexed tail 8 mm long, the lateral sepals ovate, oblique, 7 mm long, 7 mm wide at the very base, connate 2.5 mm to each other and to the column-foot to form a deep mentum, the acute apices contracted into slender, decurved tails ca. 6 mm long; petals translucent yellow with a brown midvein, oblong, 5 mm long, 1.5 mm wide, obscurely obtusely angled below the middle, narrowed to the slightly dilated, rounded apex; lip with a strap-like basal extension flexibly fitted around the free apex of the column-foot, the blade cuneate, 4.5 mm long, 4 mm wide, white with purple flecks and spicules above the middle, with an erect, transverse, more or less pyramidal, densely pubescent callus at the base, the truncate apex shortly apiculate with an adjacent midline concavity; column green, stout, semiterete, 2.5 mm long, the foot 4 mm long.

ETYMOLOGY: From the Latin *agilis*, "quick, nimble," referring to the rapid and repeated action of the lip.

TYPE: PERU: JUNIN: epiphytic near Chanchamayo, collected by J. Meza, cultivated by W. Königler in München, flowered in cult. 20 May 1980, C. Luer 5254 (HOLOTYPE: SEL).

DISTRIBUTION: Peru.

Superficially the flowers of this species appear similar to those of *P. muscosum* (Rchb. f.) Schltr., but *P. agile* may be readily distinguished by the glabrous peduncle. The densely pubescent, pyramidal callus at the base of the blade of the lip is similar to that of *P. meridionale* P. Ortiz.

In common with the other species of the genus, the lip of *P. agile* snaps up when stimulated, but within five minutes the lip has returned to the "down" position. This feat may be repeated consecutively at least four or five times before the returning mechanism begins to slow.

*Porroglossum andreettae* Luer, sp. nov.

Planta parva caespitosa, pedunculo gracili glabro erecto foliis anguste obovatis longiore, flore successivo, sepalis in caudas latas sensim contractis illis sepalorum lateralium declinatis, lateribus petalorum angulatis et lamina labelli grabra cuneata.

Plant small, epiphytic, caespitose, roots slender, flexuous. Secondary stems slender, blackish, unifoliate, ca. 1 cm long, with 1-2 close, tubular sheaths. Leaf erect to suberect, thickly coriaceous, minimally verrucose to nearly smooth, narrowly elliptical-obovate, 2.5-4 cm long including the 1-2 cm petiole, 6-8 mm wide, the apex subacute, tridenticulate, gradually nar-

rowed below into an indistinct petiole. Inflorescence a single flower produced successively from a few-flowered, congested raceme borne by an erect, smooth peduncle 4-6.5 cm long, with a close bract near the middle, from a node on the secondary stem; floral bracts imbricating, tubular, 5 mm long; pedicel 5 mm long; ovary dark olive green, subverrucose, 4 mm long; sepals yellow, veined and suffused with brown, microscopically pubescent within, the dorsal sepal obscurely obovate, connate to the lateral sepals for 3 mm into a gaping sepaline cup, the free portion triangular and reflexed into a thick smooth tail, the total length 10 mm, the width 4 mm, the lateral sepals more or less falcate, forming with the column-foot a deep mentum, the apices contracted into tails similar to that of the dorsal sepal, the total length 10 mm, 5 mm wide at the widest; petals translucent yellow with a brown midvein, oblong, 4.5 mm long, 2 mm wide, the apex rounded with a subacute angle near the middle of both margins; lip glabrous, yellow with a few purple flecks near the base, the blade obovate-obtriangular, 4.5 mm long, 2.5 mm wide, the truncate apex with a shallowly concave apical lobule, the basal extension folded with tension around the apex of the column-foot, column yellow, 2 mm long, with a foot 5 mm long.

ETYMOLOGY: Named in honor of Padre Angel Andreetta of Cuenca, Ecuador, who discovered this species.

TYPE: *ECUADOR*: ZAMORA -CHINCHIPE: epiphytic in cloud forest along Rio Calagras, alt. 1500 m, Oct. 1977, A. Andreetta, L. Carollo & M. Portilla 1714, cultivated by Padre Andreetta in Cuenca, flowered in cult. 8 Nov. 1979, *C. Luer 4695* (HOLOTYPE: SEL).

DISTRIBUTION: Southern Ecuador.

This little species may be recognized by the short, broad tails of the sepals, about as long as the blades themselves. The tails of the lateral sepals curve outward and downward. The blade of the lip is glabrous.

*Porroglossum aureum* Luer, sp. nov.

Species haec *P. sergioi* P. Ortiz affinis sed floribus aureis minoribus et lamina labelli angustiore glabraque differt.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems unifoliate, 5-10 mm long, enclosed by 2 close, tubular sheaths. Leaf suberect, coriaceous, subverrucose, narrowly obovate, long-petiolate, 5-6 cm long including the petiole, 9-10 mm wide, the apex subacute, tridenticulate, the base cuneate into the 2-4.5 cm long petiole. Inflorescence a congested raceme of single, successive, flowers borne at the summit of a slender, erect peduncle 12-13 cm long, with 2-3 widely separated, close bracts, from a node low on the secondary stem; floral bract 5 mm long; pedicel 6-8 mm long; ovary 3-4 mm long; sepals glabrous, bright yellow with darker yellow veins and tails, the dorsal sepal transversely obovate, the lateral margins rounded, 5 mm long, 6.25 mm wide, connate to the lateral sepals for 3 mm to form a sepaline cup, the apex shortly acuminate, acute, sharply reflexed into a tail ca. 2 mm long, the lateral sepals transversely ovate, oblique, 4 mm long, 7 mm wide, connate 3.5 mm to form an acute mentum below the column-foot, the acute apices contracted into thickened



tails 10 mm long; petals translucent yellow with a dark yellow midvein, oblong, 3.5 mm long, 1.5 mm wide, obtusely angled on either side, narrowed toward the rounded apex; lip glabrous, the blade cuneate, obovate, 5 mm long, 3.5 mm wide, the apex obtuse, shortly acuminate with a short, midline sulcus, broadly thickened toward the base, then deflexed into the strap-like unguiculate base angled about the free apex of the column-foot; column stout, semiterete, 1.5 mm long, the stigma with acute, lateral angles, the curved foot 5 mm long.

ETYMOLOGY: From the Latin *aureus*, "golden yellow," in reference to the color of the flowers.

TYPE: *ECUADOR*. CARCHI: epiphytic in cloud forest above Maldonado, alt. ca. 2500 m, July 1977, W. Teague s.n., cultivated in San Francisco, flowered in cult. 5 July 1980, *C. Luer 5298* (HOLOTYPE: SEL).

DISTRIBUTION. Northern Ecuador.

This showy, golden yellow-flowered species seems most closely allied to the white, yellow-tailed *P. sergioi* from Colombia. *Porroglossum aureum* is readily distinguished by the color and the narrower, glabrous lip.

*Porroglossum lycinum* Luer, sp. nov.

Planta parva caespitosa, foliis spatulatis subverrucosis reticulatis, pedunculo exserto, flore successivo flavo mento profundo, caudis antrorsis crassis brunneis, petalis supra basim angustatis leviter curvatis obtusis, lamina labelli cuneata supra medium ciliata spiculataque, infra medium glabra leviter incrassata.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems slender, unifoliate, 10-15 mm long, enclosed by 1-2 loose, white, tubular sheaths. Leaf erect, coriaceous, dark green, lightly verrucose on the dorsal surface, lightly reticulated, obovate, petiolate, 3-5.5 cm long including the 1-2.5 cm long petiole, 9-12 mm wide, the apex obtuse to rounded, tridentate, the base cuneate into the petiole. Inflorescence a succession of solitary flowers in a contracted raceme borne by an ascending to horizontal, slender, green, glabrous peduncle 8-10.5 cm long, from a node low on the secondary stem; floral bract 5 mm long; pedicel 6 mm long; ovary green, minimally subverrucose, 4 mm long; sepals yellow, suffused with brown in the thickened, narrowed, apical thirds and faded to yellowish white toward the base, tricostate externally, minutely dotted with purple and minutely red-spiculate within, the dorsal sepal subverrucose externally, especially along the midrib, narrowly ovate, concave below the middle, the apex narrowly obtuse, 15 mm long, 6 mm wide spread out, connate to the lateral sepals for 3 mm, the lateral sepals obliquely transversely multangular, connate 2.5 mm to each other and to the column-foot to form a deep mentum, the apices contracted into laterally and forwardly directed, thick, gradually narrowing tails, 15 mm long, 6 mm wide at the widest above the base; petals light amber with a brown midvein, obscurely ovate-multangular, 5 mm long, 1.5 mm wide at the base, then narrowed above obtuse marginal angles, slightly curved, the apex slightly dilated, obtuse; lip with a narrow strap-like claw flexibly bent about the free apex of the column-foot, the blade cuneate, 5

mm long, 3.5 mm wide, light green, dotted with purple on the slightly thickened, glabrous, basal portion, densely covered with short, purple spicules above, the ciliated, truncate apex shortly apiculate with an adjacent, midline concavity; column light green, stout, semiterete, 2 mm long, the foot 4 mm long.

**ETYMOLOGY:** From the Greek *lykinos* (λυκινος), "wolf-like," in allusion to the appearance of the flower.

**TYPE: PERU: AMAZONAS:** epiphytic in cloud forest between Pomacocha and Moyobamba, alt. 2100 m, Aug. 1979, W. Königler 29, cultivated in München, flowered in cult. 19 May 1980, *C. Luer 5251* (HOLOTYPE: SEL).

**DISTRIBUTION:** Northern Peru.

This fierce-looking little species may be recognized by the spatulate, lightly verrucose, reticulated leaves; an elongated, slender peduncle; and a proportionately large, yellow and brown flower with thick, forwardly directed, sepaline tails. The blade of the lip is minutely ciliate and spiculate toward the apex, but the slightly thickened base is glabrous.

**Porroglossum procul** Luer & Vásquez, sp. nov.

Planta parva caespitosa, pedunculo gracili glabro erecto foliis anguste obovatis verrucosis longiore, flore successivo, sepalis in caudas teretes abrupte contractis, illis sepalorum laterium ascendentibus, lateribus petalorum angulatis et lamina labelli minute velutina cuneata.

Plant small, epiphytic, caespitose, roots slender, flexuous. Secondary stems blackish, unifoliate, 5-10 mm long, enclosed by 1-2 close, tubular sheaths. Leaf erect to suberect, thickly coriaceous, minutely verrucose, elliptical to narrowly obovate, 20-35 mm long including the blackish petiole 7-16 mm long, 7-9 mm wide, the apex subacute, tridenticulate, gradually narrowed below into the petiole. Inflorescence a solitary flower borne successively in a congested raceme at the apex of a slender, erect peduncle 6.5-7.5 cm long, with a close bract near the middle and another below, from a node low on the secondary stem; floral bracts imbricating, tubular, 5 mm long; pedicel 6 mm long; ovary black, rugose-verrucose, 4 mm long; dorsal sepal translucent pale rose-brown, speckled with light purple, glandular-cellular within, obovate, 5 mm long, 3.25 mm wide, connate to the lateral sepals for 3 mm into a laterally compressed sepaline cup, the free portion triangular, the obtuse apex abruptly contracted into an erect, light tan, terete tail 6 mm long; lateral sepals translucent yellow-green with brown veins, oblique, transversely ovate, ca. 5 mm long, 7 mm wide at the widest, 3 mm wide (or long) from the column-foot to the anterior margin, connate 3 mm to form with the column-foot a deep mentum, the obtuse apices abruptly contracted into ascending, light tan, 7 mm long, terete tails; petals translucent pale yellow, more or less oblong, with a subacute angle near the middle of both margins, the apex slightly dilated, rounded; lip white, the blade cuneate, 4 mm long, 2 mm wide, the truncate apex with a shallowly concave apical lobule, cellular pubescent, with a smooth, pyramidal callus at the base, the linear, basal claw folded with tension around the apex of the column-foot; column greenish white, semiterete, 2 mm long, the foot 5 mm long.

ETYMOLOGY: From the Latin *procul*, "far," referring to the distant locality.

TYPE: *BOLIVIA*: LA PAZ: Prov. of Nor Yungas, epiphytic in cloud forest southeast of Coroico toward Coripata, alt. 2000 m, 3 Feb. 1980, C. Luer J. Luer, R. Vásquez & R. Lara 5071 (HOLOTYPE: SEL).

DISTRIBUTION: Bolivia.

*Porroglossum procul*, the first species of the genus to be reported from Bolivia, is presently the farthest south species known in the genus. It is closely allied to the Ecuadorian *P. andreettae* Luer, but may be distinguished by the lateral sepals that are abruptly contracted into ascending, terete tails.

*Porroglossum schramii* Luer, sp. nov.

Planta parva caespitosa, pedunculo gracili foliis obovatis verrucosis multilongiore, flore glabro albo roseoguttato, apicibus sepalorum sensim caudatis, caudis crassis, lamina labelli cuneata cum callo basali glabro erecto transversali.

Plant small, lithophytic to epiphytic, caespitose; roots slender, flexuous. Secondary stems blackish, unifoliate, ca. 1 cm long, enclosed by 2 close, tubular sheaths. Leaf erect, thickly coriaceous, verrucose, elliptical-obovate, petiolate, 2.5-5 cm long including the 0.8-2 cm long petiole, 0.8-1 cm wide, the obtuse to rounded apex tridenticulate, the base cuneate into the petiole. Inflorescence a succession of solitary flowers produced in a few-flowered, congested raceme borne by a suberect, slender peduncle 9-10 cm long, from a node low on the secondary stem; floral bract and pedicel each ca. 5 mm long; ovary subverrucose, 4 mm long; sepals glabrous, white with rose dots, the tails light dull-tan, the dorsal sepal ovate, the acute apex gradually contracted into a thick, erect tail 5-6 mm long, the total length of the dorsal sepal 13 mm, 4.5 mm wide, connate to the lateral sepals for 2 mm to form a gaping, sepaline cup, the lateral sepals ovate, oblique, connate 2 mm below the column-foot to form a deep mentum, the acute apices gradually contracted into thickened tails, the total length of the lateral sepal 15-16 mm 5.5 mm wide, petals white, obovate, 4 mm long, 1.5 mm wide, obtusely angled on both margins in the lower third, narrowed above the middle to a dilated rounded apex; lip with a narrow claw fitted around the free apex of the column-foot, the blade white, sparsely dotted with purple below the middle, cuneate-obovate, 4.5 mm long, 4.25 mm wide, cellular-pubescent along the apical margins, obtusely apiculate with a shallow sulcus extending onto the blade, with an erect, short, transverse, glabrous callus at the base above the deflexed claw; column semiterete, 1.5 mm long, the foot 3.5 mm long.

ETYMOLOGY: Named in honor of James Schram of Los Angeles, California, co-discoverer of this species.

TYPE: *ECUADOR*: ZAMORA-CHINCHIPE: lithophytic in cloud forest between Loja and Zamora, alt. 1600 m, Nov. 1978, W. Teague & J. Schram s.n., cultivated in San Francisco, flowered in cult. 14 March 1980, C. Luer 5218 (HOLOTYPE: SEL).

DISTRIBUTION: Southern Ecuador.

This little species may be identified by the white flowers dotted with

rose, sepals gradually narrowed into light brown tails, and a white, cuneate lip with an erect, glabrous callus at the base.

*Porroglossum taylorianum* Luer. sp. nov.

Inter species generis *Porroglossi* Schltr. statura mediocri, pedunculo glabro exserto, flore successivo dilute armeniaco, caudis sepalorum elongatis recurvatis et lamina labelli obovato obtuso microscopice pubescenti distinguitur.

Plant medium-sized for the genus, terrestrial to epiphytic, caespitose; roots slender, fasciculate. Secondary stems unifoliate, 1-1.5 cm long, enclosed by 1-2 loose, ribbed, tubular sheaths. Leaf erect, coriaceous, smooth, narrowly elliptical, petiolate, 4-5 cm long including the 2-3 cm long petiole, 7-9 mm wide, the apex acute, tridenticulate, cuneate below into the petiole. Inflorescence a succession of solitary flowers borne in a congested raceme at the apex of a slender, glabrous, erect peduncle up to 11 cm tall, with 3-4 close bracts, from a node low on the secondary stem; floral bract tubular, 5 mm long; pedicel 4 mm long; ovary purple, subverrucose, 4-5 mm long; sepals translucent pale orange with light red-brown veins, subverrucose externally especially along the veins, glabrous within; dorsal sepal suborbicular spread out, 5.5 mm long, 5.5 mm wide, connate to the lateral sepals for 2.5 mm to form a sepaline cup, the rounded apex abruptly contracted into a reflexed, yellowish tail ca. 7 mm long; lateral sepals obliquely transversely ovate, connate 3.5 mm below the column-foot, each 6 mm wide, with the apex gradually contracted into a laterally reflexed, terete tail, the entire length 16 mm; petals translucent yellow with an orange-brown midvein, more or less narrowly ovate-oblong, 4.75 mm long, 1 mm wide, with broad angles on either side, the apex obliquely rounded; lip white, marked with purple, especially near the cellular-pubescent apex, the blade obovate-cuneate, 5 mm long, 3.5 mm wide, the apex obtuse with a narrow depression centrally between callus-like thickenings of the disc, with a smooth, rounded, longitudinal callus ca. 1.5 mm tall toward the base, the slender claw acutely bent under tension around the apex of the column-foot; column rose, semi-terete, 2 mm long excluding the anther, the foot slender, 4.5 mm long.

ETYMOLOGY: Named in honor of Taylor (Mrs. Frank) Slaughter of Pheasant Hill Orchids, Pittsburgh, Pa., who cultivated this species and submitted it to the Orchid Identification Center of the Marie Selby Botanical Gardens.

TYPE: *ECUADOR*: NAPO: terrestrial on steep cliff, above Baeza, alt. ca. 2000 m, collected by Stan Samuel s.n. in 1978, cultivated by Taylor Slaughter in Pennsylvania, flowered in cult. 26 Feb. 1980, *C. Luer 5203* (HOLOTYPE: SEL).

DISTRIBUTION: Eastern Ecuador.

The flower of this species is most similar to that of *P. muscosum* (Rchb. f.) Schltr. and its allies, but *P. taylorianum* is easily distinguished by the glabrous peduncle. From those species with a glabrous peduncle, this species is distinguished by the long, slender, recurved tails of all three sepals, and the glabrous callus of the lip.

*Porroglossum teaguei* Luer, sp. nov.

Species haec *P. amethystino* (Rchb. f.) Schltr. affinis sed flore majore, ovario papilloso, cauda sepali dorsalis multilongiore et callo labelli crassiore altioreque differt.

Plant medium in size, epiphytic to terrestrial, caespitose; roots slender, flexuous. Secondary stem slender, 1-1.5 cm long, enclosed by 2 close, tubular sheaths. Leaf suberect, coriaceous, verrucose, narrowly obovate, long-petiolate, 5-10 cm long including the slender, 2-4 cm long petiole, 10-13 mm wide, the subacute apex tridenticulate, the base gradually narrowed into the petiole. Inflorescence a succession of single flowers produced in a congested raceme at the apex of a slender, erect to suberect peduncle 13-20 cm long, with 2-3 widely spaced, close, tubular bracts, from a node low on the secondary stem; floral bract 5 mm long; pedicel 8-10 mm long; ovary markedly verrucose to papillose, 3-4 mm long; sepals glabrous, bright amethyst, the dorsal sepal broadly ovate, 6 mm long, 6 mm wide, connate to the lateral sepals for 3 mm to form a sepaline cup, the shortly acuminate apex conduplicate, reflexed, produced into a somewhat thickened tail 12 cm long, the lateral sepals transversely ovate, oblique, 6 mm long, 6.5 mm wide, connate 3 mm to form a short conical mentum below the column-foot, the acute apices narrowed into slender tails ca. 20 mm long; petals translucent rose with a purple midvein, narrowly ovate, 5 mm long, 1.5 mm wide, obtusely angled on both margins below the middle, narrowed above to the oblique, obtuse apex; lip marked with dark purple, the blade sagittate-anchoriform, 5 mm long, 4 mm wide, the obtuse apex shortly and bluntly apiculate with a short sulcus, minutely ciliate, narrowed below obtuse, lateral angles to the deflexed base, the base of the blade with a tall, thickened callus, the base of the lip narrow, unguiculate, angled with tension around the free apex of the column-foot; column stout, semiterete, 2 mm long, the curved foot 5 mm long.

ETYMOLOGY: Named in honor of Walter Teague of San Francisco, California, who discovered this species.

TYPE. *ECUADOR*: PICHINCHA: terrestrial on a road embankment near Mindo, alt. 2200 m, July 1975, W. Teague s.n., cultivated in San Francisco, flowered in cult. 5 June 1980, *C. Luer 5299* (HOLOTYPE: SEL).

DISTRIBUTION: Western Ecuador.

This showy species is obviously closely allied to *P. amethystinum* with which it is sympatric. The flowers are of the same bright amethyst color, but those of *P. teaguei* appear considerably larger. The ovary is papillose while that of *P. amethystinum* is lightly verrucose; the tail of the dorsal sepal is twice as long as the blade while that of *P. amethystinum* is shorter than the blade; and the callus of the lip of *P. teaguei* is tall and thick compared to the low, slender, essentially ecallose base of the blade of *P. amethystinum*.

*Porroglossum uxorium* Luer, sp. nov.

Planta pumila epiphytica, pedunculo filiformi suberecto vel horizonatili foliis ellipticis reticulatis brevipetiolatis longiore, flore carnosio successivo, sepalis hepaticis in cupulam connatis cum apicibus in caudas breves incrassa-

tis, lateribus petalorum angulatis et lamina labelli cuneata apiculata velutina basi callosa.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems slender, 8-11 mm long, unifoliate, mostly concealed by a loose, ribbed, tubular sheath. Leaf erect, coriaceous, subverrucose, green with a network of purplish veins, elliptical, shortly petiolate, 25-30 mm long including the 5-8 mm long petiole, 9-11 mm wide, the apex obtuse to rounded, tridenticulate, cuneate below into the petiole. Inflorescence a congested raceme of single, successive flowers borne at the apex of a filiform, suberect to more or less transverse, lightly scabrous peduncle 4-7 mm long, from a node low on the secondary stem; floral bract tubular, 5 mm long; pedicel 6 mm long; ovary dark green, subverrucose, 4 mm long; sepals fleshy, tan with purple flecks near the purple apices, the dorsal sepal ovate, 9 mm long, 5 mm wide, connate to the lateral sepals for 3 mm to form a wide sepaline cup, the triangular free portion contracted into a thick, rounded apex, the 3 veins prominent externally, the lateral sepals broadly ovate, oblique, 8 mm long, connate 3.5 mm into a synsepal 10 mm wide spread out, the apices contracted into thick, rounded tails 2 mm long, 1.25 mm wide; petals translucent yellow, marked with purple, more or less oblong, 4 mm long, 2 mm wide, each side with an angle in the basal third, the angle of the upper margin obtuse, the lower acute, the apex thickened, dilated subtruncate; lip with a linear, angled claw bent under tension about the free end of the column-foot, the blade purple, cuneate, 4 mm long, 3.25 mm wide, the truncate apex with a protruding, narrowly obtuse apiculum, with a central cleft extending onto the blade, the lateral angles obtuse, the base with a thick pyramidal callus; column greenish white, semiterete, 2 mm long, with a curved foot 4 mm long.

ETYMOLOGY: From the Latin *uxorium*, "of the wife," referring to Jane Luer who discovered this species.

TYPE: ECUADOR: MORANA-SANTIAGO: epiphytic in cloud forest above the dam site east of Paute, alt. 1700 m, 10 July 1977, C. Luer, J. Luer, G. Luer & A. Andreetta 1683 (HOLOTYPE: SEL).

DISTRIBUTION: Southeastern Ecuador.

This little species is most closely allied to *Porroglossum condylosepalum* Sweet, but *P. uxorium* may be distinguished by the smaller leaves with a prominent network of purple veins. The tails of the sepals are two millimeters long, and the callus of the base of the blade of the lip is pyramidal and entire.

#### *Restrepia dodsonii* Luer, sp. nov.

Species haec *R. serrilabiae* Schltr. similis sed synsepalo roseo purpureo guttulado, petalis cum macula pubescenti basali, lateribus ambabus petalorum ciliatis et apice labelli subacuto vel anguste rotundato differt.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems unifoliate, 1.5-5.5 cm long, concealed by a series of 4-6 compressed, oblique, imbricating, whitish, unspotted sheaths. Leaf erect, coriaceous, suffused with purple beneath, ovate, 2-3.8 cm long, 1-2.5 cm wide, the subacute apex tridenticulate, the base rounded, sessile. Inflorescence a fascicle of slender, single-flowered peduncles 2-4 cm long, appearing behind the leaf,

from a node high on the secondary stem; floral bract tubular, 4-5 mm long; pedicel 2.3 mm long; ovary 2-3 mm long; dorsal sepal narrowly ovate in the lower portion, translucent rosy white with 5 thin, red-purple veins, narrowly attenuate in the middle, the apex clavate-thickened, orange, 19-24 mm long, 2 mm wide near the base; lateral sepals rose, suffused and dotted in lines with purple, connate to the minutely bifid, subacute to obtuse apex into an elliptical synsepal, 17-23 mm long, 7-8 mm wide, microscopically pubescent within; petals narrowly ovate in the lower portion, translucent white with a central, elevated, thickened, minutely pubescent, dark purple spot, with 1-2 hair-like appendages on both margins, filiform above into a minimally thickened apex, 11-13 mm long, 0.75 mm wide; lip dull cream, dotted with purple, narrowly oblong-subpandurate, 6 mm long, 1 mm wide, the blade subacute to narrowly rounded at the apex, the surface spiculate and the margins irregularly fimbriate, the basal portion suborbicular, shallowly concave, with a pair of lateral, hair-like, antrorse processes from thin lamellae coursing downward onto the blade; column slender, curved, clavate, white, 3 mm long, with a pedestal-like base.

ETYMOLOGY: Named in honor of Dr. Calaway H. Dodson, director of the Marie Selby Botanical Gardens and author of the *Orchids of Western Ecuador*, who has been familiar with this species for many years.

TYPE: *ECUADOR*: PICHINCHA: epiphytic in citrus trees ca. 3 Km west of Tandapi, alt. 1500 m, 16 Aug. 1975, C. Luer & S. Wilhelm 538 (HOLOTYPE: SEL).

ADDITIONAL MATERIAL EXAMINED: *ECUADOR*: PICHINCHA: epiphytic in cloud forest ca. 10 Km east of Tandapi, alt. ca. 1700 m, 2 Feb. 1978, C. Luer, J. Luer & A. Hirtz 2445 (SEL); epiphytic 12 Km west of Tandapi, alt. 1200 m, SEL greenhouse acc. no. 44-75-1, flowered in cult. 24 Aug. 1979, C. H. Dodson 8641 (SEL).

DISTRIBUTION: Western Ecuador.

This little species is apparently restricted to one valley of the western slopes of Pichincha. It is similar to the Colombian *R. serrilabia*, but the former is easily recognized by the pink color of the synsepal with tiny purple dots. The synsepal of *R. serrilabia* is yellow with purple dots. In addition, a purple, pubescent spot is present at the base of each petal of *R. dodsonii*, and the apex of the lip is narrowly rounded instead of truncate-retuse.

*Restrepia iris* Luer, sp. nov.

Ab speciebus ceteris generis *Restrepiae* HBK planta parva, vaginis caulium secundariorum immaculatis, pedunculo foliis late ovatis obtusis subaequilongis, synsepalo elliptico flavescenti purpureo striato, petalis supra basim minutissime dentatis et labello oblongo integro comparative lato dignoscenda.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems unifoliate, 3-5 cm long, concealed by a series of 4-5 compressed oblique, imbricating, white, unspotted sheaths. Leaf erect, coriaceous, suffused with purple beneath, broadly ovate, 3.5-4.2 cm long, 2-2.6 cm wide, the obtuse apex tridenticulate, the base rounded, sessile. Inflorescence a fascicle of slender, single-flowered peduncles 3-3.5 cm long, appearing behind the leaf,

from a node high on the secondary stem; floral bract tubular, 4-5 mm long; pedicel 3-5 mm long; ovary 2-3 mm long; dorsal sepal narrowly ovate in the lower portion, translucent white with 5 purple veins, narrowly attenuate in the middle, the apex dull orange, clavate-thickened, 20 mm long, 2 mm wide near the base; lateral sepals connate into an elliptical synsepal with a minutely bifid, obtuse apex, 18 mm long, 9 mm wide, striped in red-purple along the veins, becoming dots toward the apex, the background color greenish white toward the apex, rosy yellow centrally and white basally; petals narrowly ovate in the lower portion, translucent white with a purple midvein, both margins orange, minutely and sparsely denticulate, filiform above into a dark purple, clavate-thickened apex, 12 mm long, 1 mm wide; lip oblong, very slightly narrowed centrally, 6 mm long, 2.5 mm wide, the basal portion green, shallowly concave, with delicate, lateral, setiform processes 1 mm long, the blade oblong, orange, speckled with brown, visibly entire and smooth (microscopically cellular-glandular), the apex truncate, slightly re-tuse; column green, curved, clavate, 3.5 mm long, with a pedestal-like base.

ETYMOLOGY: From the Latin *iris*, "a rainbow," in allusion to the multicolored flowers.

TYPE :ECUADOR: ZAMORA-CHINCHIPE: epiphytic in cloud forest between Loja and Zamora, alt. 2500 m, Nov. 1978, W. Teague s.n., cultivated by H. Ripley in San Francisco, Calif., flowered in cult. 20 Aug. 1979, *C. Luer 4102* (HOLOTYPE: SEL).

DISTRIBUTION: Southeastern Ecuador.

This little species with colorful flowers may be distinguished from others of the genus by unspotted sheaths (although this may not hold true), and an ovate leaf and peduncles about the same length. The flowers are best identified by the small lip which is rectangular and comparatively broad with visibly entire margins and a smooth surface.

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

Inter species generis *Restrepiae* HBK planta mediocris, vaginis caulium secundariorum maculatis, foliis late ovatis obtusis, pedunculo elongato, synsepalo fusiformi aurantiaco rubroque purpureo guttato et petalis supra basim ciliatis dignoscenda.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems unifoliate, 4-8 cm long, concealed by a series of 5-6 compressed, oblique, imbricating sheaths, white, heavily dotted with black, less on the upper sheaths. Leaf erect, coriaceous, suffused with purple beneath, broadly ovate, 4-5.5 cm long, 3-3.8 cm wide, the obtuse apex tridentate, the base rounded, sessile, Inflorescence a fascicle of slender, single-flowered peduncles 3.5-4.5 cm long, appearing behind the leaf, from a node high on the secondary stem; floral bract tubular, oblique, 5 mm long; pedicel 2 mm long; ovary 4 mm long; dorsal sepal narrowly ovate in the lower portion, translucent white with 5 thin, purple veins, narrowly attenuate in the middle, the apex clavate-thickened, orange dotted with purple, 24 mm long, 3 mm wide near the base; lateral sepals connate to the minutely bifid, acuminate, acute apex into an elliptical-fusiform synsepal, the base narrowed, 24 mm long, 9 mm wide, red in the basal and apical thirds, orange in the mid-



dle, diffusely dotted with purple; petals narrowly ovate in the lower portion, translucent white with a purple midvein, both margins yellow, irregularly ciliate, filiform above into a minimally thickened apex, 15 mm long, 1.5 mm wide; lip orange, dotted with red-brown, oblong-subpandurate, 7.5 mm long, 2.5 mm wide, the blade truncate to shallowly retuse at the apex, the surface minutely verrucose and margins minutely serrulate, the basal portion suborbicular, shallowly concave, with a pair of lateral, hair-like, antrorse processes; column curved, clavate, 4 mm long, with a pedestal-like base.

ETYMOLOGY: Named in honor of Walter Teague of San Francisco, California, who discovered this species.

TYPE: *ECUADOR*: ZAMORA-CHINCHIPE: epiphytic in cloud forest between Loja and Zamora, alt. 1600 m, July 1975, W. Teague s.n., cultivated by H. Ripley in San Francisco, Calif., flowered in cult. 20 Aug. 1979, *C. Luer 4101* (HOLOTYPE. SEL).

DISTRIBUTION. Southeastern Ecuador.

This pretty species may be recognized by the red and orange, fusiform synsepal dotted with purple. The petals are ciliated on both margins of the narrowly ovate basal portion. Although the lip is similar to that of most of the other species, it appears to be smooth, but examination under the microscope reveals it to be minutely verrucose.

#### *Scaphosepalum hirtzii* Luer, sp. nov.

Inter species generis *Scaphosepali* Pfitz. habitu mediocri, foliis tenuibus longipetiolatis, sepalis glabris in tubum cylindricum connatis, cauda sepalii inferioris tubulosa decurvata, pulvinis sepalorum lateralium grandibus planis semilunatis ab medio reflexis caudis gracilibus brevibus, petalis falcatis et labello ligulato arcuato bis cristato dignoscenda.

Plant medium-sized, epiphytic, caespitose; roots slender, flexuous. Secondary stem slender, unifoliate, 4-7.5 cm long, provided with 2-3 close, tubular sheaths. Leaf erect, thinly coriaceous, elliptical, long-petiolate, 18-27 cm long including the 6-10 cm long petiole, 2.7-4 cm wide, the apex acute, tridenticulate, the base cuneate into the narrow, conduplicate petiole. Inflorescence a single, non-resupinate flower produced successively in a many-flowered, congested, progressively lengthening raceme by a slender, smooth, suberect to horizontal or descending peduncle, from a node on the secondary stem; floral bracts tubular, 4-6 mm long; pedicels 6-12 mm long; ovary purple-brown, smooth with low ribs, 4 mm long; middle sepal light brown, oblong, concave, 3-carinate, 11 mm long including the tail, 3 mm wide, connate to the lateral sepals for 6 mm to form a broad, cylindrical tube, the sides of the free portion revolute into a decurved, tubular tail; lateral sepals yellow-brown, connate 6 mm into a bifid lamina 8 mm broad when spread, 6-carinate, the apical callosities pale yellow to pale red-orange to pale orange-brown, flat, semilunate, reflexed from the middle, 8-9 mm long, 5 mm wide, the acute apices contracted into filiform, green tails 3 mm long; petals translucent yellow, falcate, 4 mm long, 1.75 mm wide, 2-veined, the acute apex recurved, the lower margin dilated; lip yellow, oblong-ligulate slightly dilated near the middle, arcuate, 4 mm long, 1.5 mm wide, the anterior por-

tion rounded, serrulate, the base truncate, obscurely bilobed, the disc with a parallel pair of crests near the middle, column red-brown, semiterete, 4.5 mm long, broadly winged above the middle, with a thick foot 2 mm long.

ETYMOLOGY: Named in honor of the discoverer, Alexander C. Hirtz of Quito, Ecuador.

TYPE: *ECUADOR*: PICHINCHA: epiphytic in cloud forest above Mindo, alt. 2200 m, 11 Nov. 1979, C. Luer, J. Luer & A. Hirtz 4752 (HOLOTYPE: SEL).

DISTRIBUTION: Western Ecuador.

Vegetatively this species is similar to *Sc. swertiaefolium* (Rchb. f.) Rolfe, but the flower is unique. The inferior sepal is connate up to the base of the tail with the lateral sepals to form a cylindrical tube the opening of which is blocked by the broad, semilunar pads of the lateral sepals. The diverging surfaces create a flat, orbicular face of the flower with only a midline crack from which the decurved tail of the inferior sepal emerges.