

## ICONES PLEUROTHALLIDINARUM

### PLEUROTHALLIS OF ECUADOR (ORCHIDACEAE)

C. A. Luer

Approximately one hundred (of perhaps as many as two hundred) legitimate species of *Pleurothallis* have been reported from Ecuador in botanical literature. The first species, *Pleurothallis ruscifolia* (as *Epidendrum ruscifolium*), was described from Martinique by Jacquin in 1760. Many years later it was also identified from Ecuador. Robert Brown based the genus *Pleurothallis* on this widespread species in 1813.

The first large number of species of *Pleurothallis* attributed to Ecuador was described by Lindley in the mid-nineteenth century, mostly from specimens collected around Quito by Professor Jameson of the University of Quito. At that time political boundaries in South America were vague and frequently changing, and not as we know them today. Lindley often cited "Peru," but most of these sources are clearly referable to present-day Ecuador. Following its final liberation from Spanish rule in 1822, Ecuador became part of "Gran Colombia" along with Colombia and Venezuela. In 1830 Ecuador became an independent nation with disputed boundaries, some of which still are not settled today.

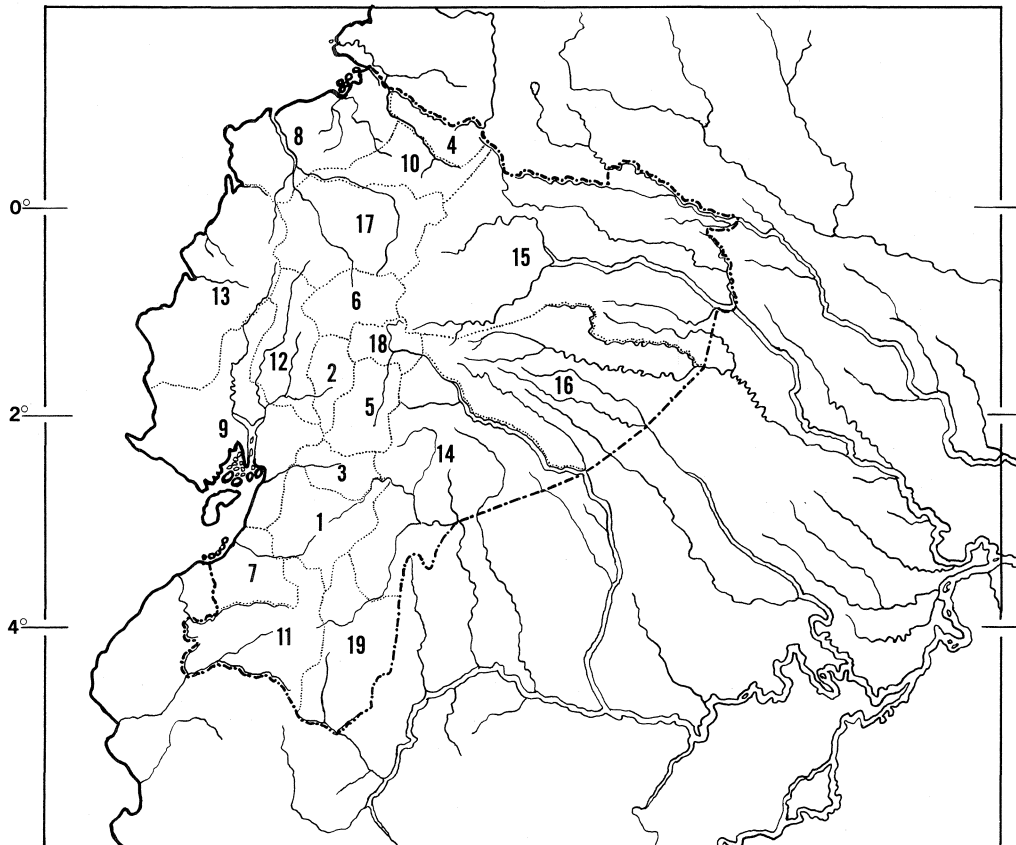
Reichenbach, followed by Rolfe, Lehmann, and Kränzlin, also described significant numbers of *Pleurothallis* from Ecuador. Early in this century Schlechter described many more, a considerable number of which had been given earlier names. Contemporary and subsequent investigators also re-described many species, either believing that their variations represented new species, or not realizing that their specimens pertained to previously described species. This confusion caused a multiplication of epithets due largely to the facts that much of the older literature is difficult to obtain or difficult to interpret because of fragmentary, vague and inaccurate descriptions, most often not accompanied by illustrations, and that many of the type specimens are inaccessible, if they exist at all.

Investigators within geographical areas described their floras often with little regard for those floras of neighboring or more distant areas. Consequently, many species were given new names over and over again. Therefore, a widespread species known by one name in Mexico may be known by another in Panama and still another in Brazil. Variable species compound the problem.

During the past decade and a half, Dodson and collaborators have assembled a large collection of orchid specimens from Ecuador. From this collection the species of *Pleurothallis* will be discussed in this series of articles. In this first report twenty-one species are treated. Two new species are described, and seven are being reported for the first time from Ecuador, which considerably extends the range of each.

The lists of synonymous names for each species will vary from those previously published. Reasons for adding to or subtracting from prior lists will be briefly discussed. Little or no discussion will be included concerning those names relegated to synonymy by other authors, about which there is no difference of opinion.

Corrections, additions, or suggestions by readers are welcome.



*THE PROVINCES OF ECUADOR*

- |               |                     |                      |
|---------------|---------------------|----------------------|
| 1. Azuay      | 8. Esmeraldas       | 15. Napo             |
| 2. Bolivar    | 9. Guayas           | 16. Pastaza          |
| 3. Cañar      | 10. Imbabura        | 17. Pichincha        |
| 4. Carchi     | 11. Loja            | 18. Tungurahua       |
| 5. Chimborazo | 12. Los Rios        | 19. Zamora Chinchipe |
| 6. Cotopaxi   | 13. Manabi          |                      |
| 7. El Oro     | 14. Morona Santiago |                      |

**Pleurothallis amblyopetala** Schltr., Repert. Spec. Nov. Regni Veg. 12:486 1913.

*Pleurothallis tenuifolia* C. Schweinf., Bot. Mus. Leafl. 15:102, t. 33. 1951.

*Pleurothallis tenuifolia* var. *longisepala* C. Schweinf., l.c. 16:55. 1953.

Plant epiphytic, small to medium in size, caespitose with numerous filiform roots. Secondary stem slender, 4-10 cm tall, with 2-3 dry, evanescent sheaths, unifoliate. Leaf linear, narrowly obovate, obtuse and minutely apiculate, base acuminate and indistinctly petiolate, 5-7 cm × 6-12 mm, coriaceous. Inflorescence racemose, usually solitary, about twice the length of the leaf or longer, loosely many-flowered, flowers yellowish white, peduncle from an 8 mm spathe at the base of the leaf; pedicel slender, 3 mm long, with a sheathing floral bract also about 3-4 mm long; ovary slender, about 3 mm long; dorsal sepal narrowly ovate, acute to subacuminate, 8-13 × 2-1.5 mm, 3-nerved, slightly carinate dorsally; lateral sepals free or connate basally, narrowly ovate, oblique, acute, 8-12 × 2.3 mm, 3-nerved; petals obovate, apex rounded, 5 × 2 mm, 3-nerved with the middle nerve thickened dorsally; lip obovate to pyriform, slightly arcuate, 4-5 × 2 mm, apex broadly rounded and finely papular, base narrower and slightly rounded, short-unguiculate, disc with a pair of low parallel lamellae; column slightly arcuate, semi-terete, 3.5 mm long with a conspicuous 2 mm foot.

ETYMOLOGY: From the Greek *amblys*, "blunt," and *petalon*, "petal," referring to the broad, blunt, obovate petals of the species.

TYPE: Bolivia: "Epiphyt im Bergwald der Yungas de San Mateo, c. 2000 m ü. d. M." Herzog 1988a.

DISTRIBUTION: Ecuador, Peru, and Bolivia.

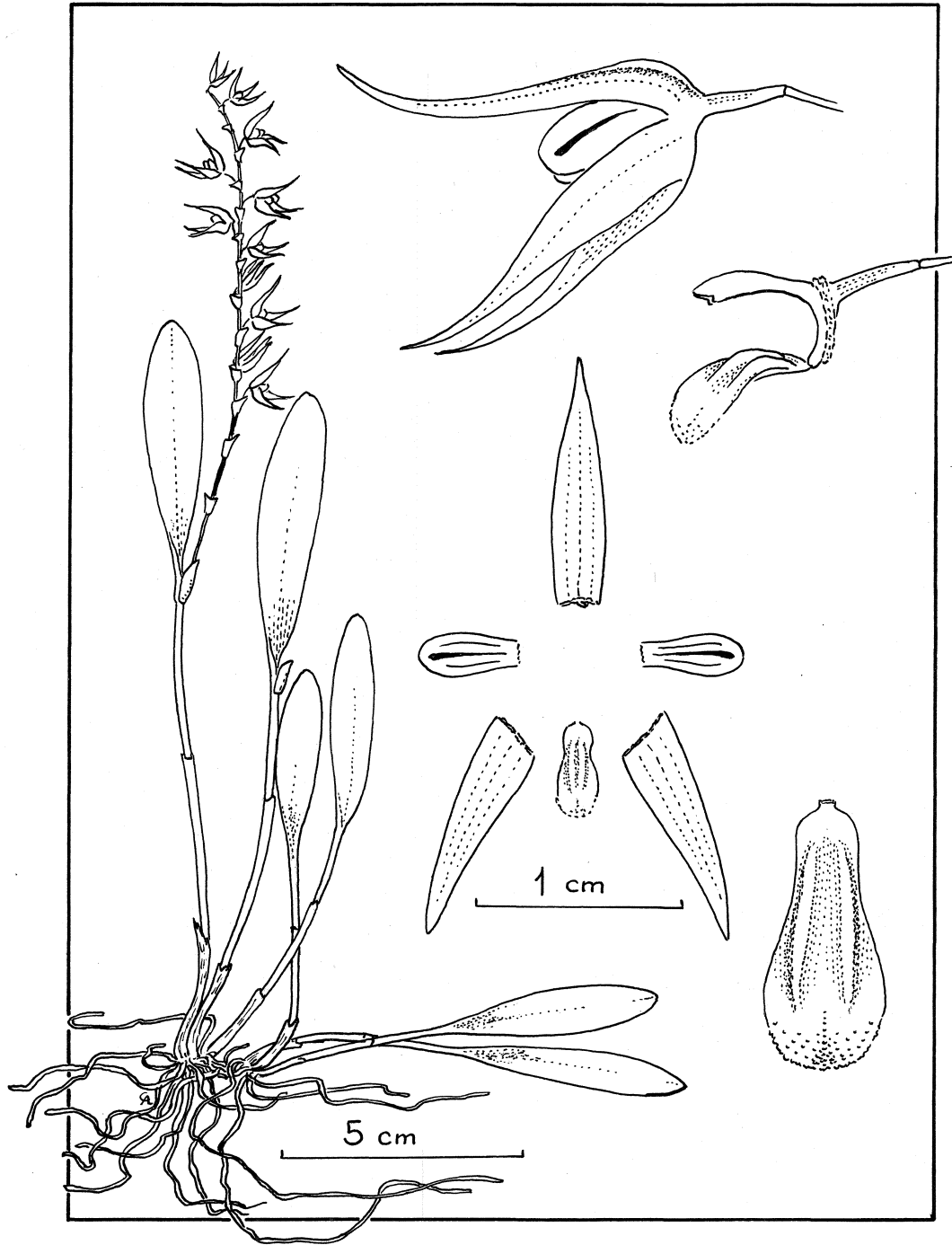
ECUADOR: LOJA: Km 14-17 between Loja and La Toma, alt. 2600 m, 20 Nov. 1961. Dodson and Thien 1533 SEL.

This species is apparently somewhat variable in its range on the eastern slopes of the Andes from Ecuador to Bolivia. The plants collected in Ecuador by Dodson and Thien have characteristics of both *Pleurothallis amblyopetala* Schlechter from Bolivia and *P. tenuifolia* Schweinfurth from Peru, suggesting that unification of these three plants into a single species is preferable to describing a new species.

Vegetatively the plant described by Schlechter is smaller, but the flowers of the plants from all three areas are very similar. In the plants from Ecuador and Bolivia the sepals are essentially glabrous (described as finely pubescent in their upper parts in the plants from Peru and they are microscopically puberulent in those from Ecuador) and at least the dorsal sepal is somewhat carinate (apparently minimal in the Peruvian plants). The sepals are long (20 mm) and narrow in plants (var. *longisepala* C. Schweinf.) from one area in Peru. The obovate petals are slightly retuse in the plants from Bolivia, but rounded in those from Ecuador and Peru.

This species may be identified by its small to medium size, slender narrowly obovate leaves, a single raceme longer than the leaf, of yellowish white flowers about 1 cm long with obovate rounded petals with a prominent vein externally, and an obovate lip with a pair of low keels.

This species had not been reported from Ecuador.



PLEUROTHALLIS AMBLYOPETALA Schltr.

***Pleurothallis barbulata*** Lindl., Folia Orch. Pleuroth. 40. 1859.

*Pleurothallis barbata* Focke, Bot. Zeitung 227. 1853, not Westcott.

*Humboldtia barbulata* (Lindl.) O. Ktze., Rev. Gen. Pl. 2:667. 1891.

*Pleurothallis abjecta* Ames, Sched. Orch. 2:17. 1923.

*Pleurothallis ciliilabia* Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19:185. 1923.

*Pleurothallis minima* C. Schweinf., Bot. Mus. Leaflet. 3:82. 1935.

*Pleurothallis involuta* L. Wms., Bot. Mus. Leaflet. 12:239. 1946.

*Pleurothallis nubensis* Foldats, Acta Bot. Venez. 3:384. 1968.

Plant epiphytic, minute, caespitose, about 2 cm high; roots numerous, velamentous. Secondary stem very short, 2-4 mm long, with an evanescent sheath, unifoliate. Leaf obovate, up to 16 × 5 mm, apex obtuse, minutely emarginate, base acuminate, more or less pedicellate. Inflorescence peduncle slender, shorter or longer than the leaf, arising from a node on the secondary stem, with a thin basal sheath; flowers translucent yellowish and suffused with purple, borne singly in a very short raceme which appears as a fascicle at the apex of the peduncle; pedicel 2-4 mm long, with a minute floral bract; ovary about 2 mm long; dorsal sepal narrowly ovate, about 3.5 × 1 mm; lateral sepals united nearly to the apex, ovate, about 3 × 2 mm; petals ovate, acuminate, microscopically erose-pilose on the margin, about 2.5 × 1 mm; lip oblong-ligulate, subacute, about 2 × 0.7 mm, margins long-ciliate, base with a pair of minute rounded lobes which are folded under in the natural position, short-unguiculate; disc with a pair of low longitudinal lamellae which meet before the base in a slight prominence; column membranous, denticulate, about 1 mm long, foot indistinct.

ETYMOLOGY: From the Latin *barbulatus* (dim. of *barbatus*), "having a little beard," referring to the ciliated labellum.

TYPE: Surinam, *Focke s.n.*

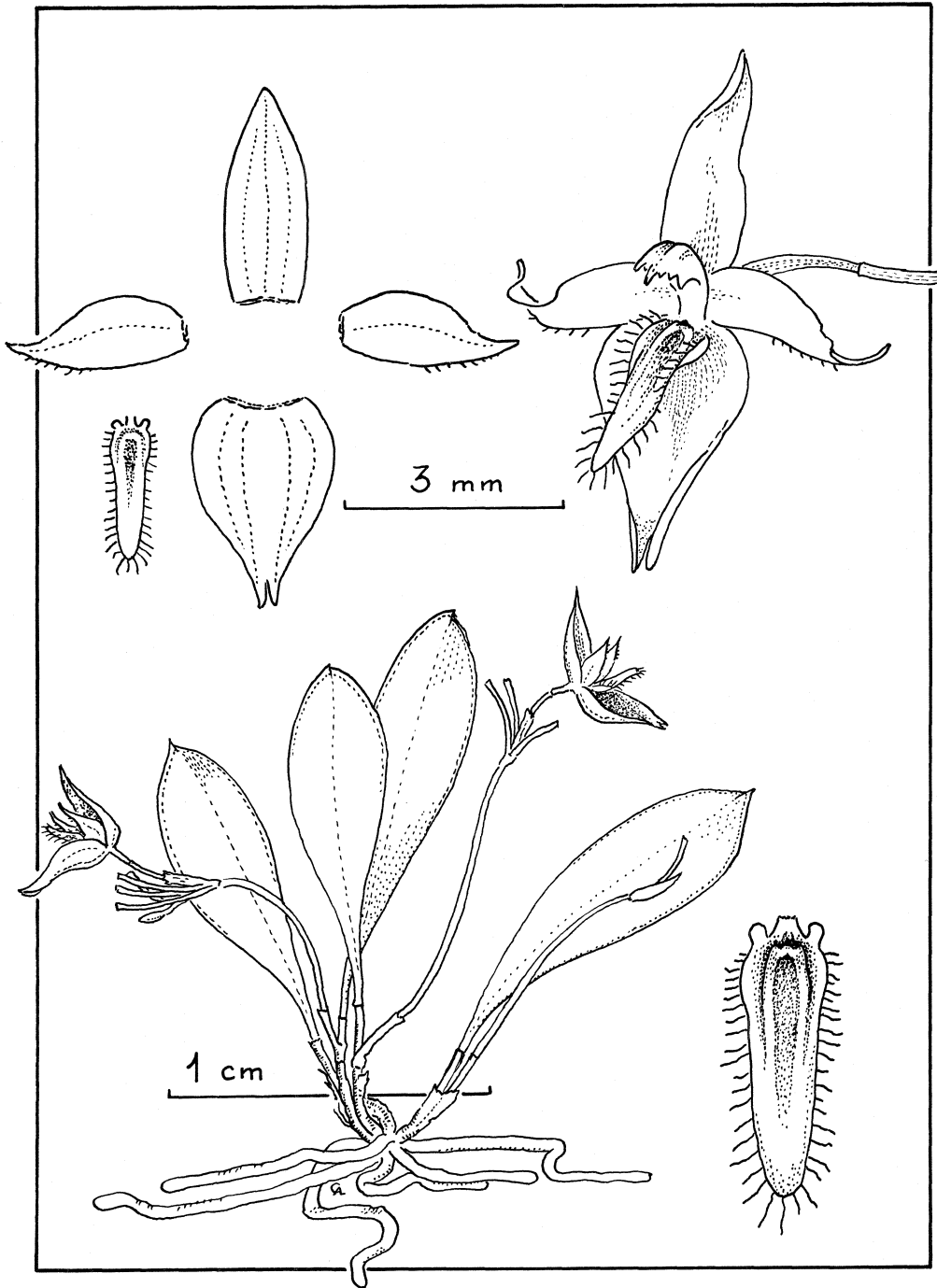
DISTRIBUTION: Mexico, Guatemala, Honduras, Nicaragua and Costa Rica in the North; Venezuela, Guyana, Surinam, and Northern Brazil to the East; Ecuador to the South; and most likely in the intermediate regions.

ECUADOR: NAPO: along Rio Masahualli between Tena and Archidona, alt. 450 m, 26 Feb. 1963. *Dodson and Thien 2316 SEL.*

*Pleurothallis barbulata* is an extremely small plant which can be very easily overlooked. It was first described in 1853 by Focke as *P. barbata*, but the epithet already had been applied to a plant from Brazil by Westcott in 1841. Lindley described Focke's plant from Surinam in 1859 as *P. barbulata*. In 1923 Ames described the plant from Guatemala as *P. abjecta* and Schlechter described it from Costa Rica as *P. ciliilabia*.

Throughout its extensive range, *P. barbulata* is represented by variable forms. Apparently the leaves vary from narrowly obovate and petiolate to elliptical and essentially epetiolate as described from Mexico by Williams as *P. involuta* and as illustrated by Dunsterville in Venezuelan Orchids 1:307. The lateral sepals are usually joined to near the apex, but the degree must certainly be variable.

The margins of the petals vary from entire or microscopically erose to sparsely and finely ciliate. The lip also varies in the degree of pubescence and in the thickness of the parallel lamellae. Schweinfurth based his *P. minima*



PLEUROTHALLIS BARBULATA Lindl.

on a plant from Guyana which has slightly wider petals and a column toothed a little differently in addition to slightly narrower petals. Foldats based his *P. nubensis* on a variation of the lamellae on the lip which converge above the middle.

This species may be recognized by its minute stature, obovate leaves with practically absent secondary stems, a purplish yellow flower on a hair-like peduncle, and an oblong lip edged with shaggy hairs and with a basal pair of lobules which will escape detection unless searched for diligently with a microscope. This species had not been reported from Ecuador.

***Pleurothallis casapensis*** Lindl., Edward's Bot. Reg. 28:misc. 76. 1842.

*Pleurothallis chamensis* Lindl., Orch. Linden. 2. 1846.

*Pleurothallis triangularis* Kl., Allg. Gartenzeitung 15:329. 1847.

*Pleurothallis triquetra* Kl. ex Lindl., Folia Orch. Pleuroth. 13. 1859, not Schltr.

*Humboldtia casapensis* (Lindl.) O. Ktze., Rev. Gen. Pl. 2:667. 1891.

*Humboldtia chamensis* (Lindl.) O. Ktze., Rev. Gen. Pl. 2:667. 1891.

*Pleurothallis phyllostachys* Schltr., Repert Spec. Nov. Regni. Veg. Beih. 9:76. 1921.

*Pleurothallis chamensis* Lindl. var. *tenuis* C. Schweinf., Bot. Mus. Leaflet. 10:176. 1942.

Plant epiphytic, medium in size, with a short creeping rhizome and flexuous velamentous roots. Secondary stem terete below to narrowly ancapital above, 3-15 cm long and to 5 mm wide above, with 2-3 sheaths below, unifoliate. Leaf elliptical to ovate, up to 9 × 3.5 cm, apex acute to subacute, minutely tridentate, base broadly cuneate, rounded to subauricular, sessile. Inflorescence a few-flowered (3-5) raceme, usually produced singly, from about  $\frac{1}{3}$  to over  $\frac{2}{3}$  the length of the leaf, peduncle from a spathe, about 0.5 cm long at the base of the leaf. Flowers fleshy, orange to yellow; floral bract 2-4 mm long; pedicel about 3 mm long; ovary also about 3 mm long, micro-pubescent; dorsal sepal narrowly ovate to obovate, 10-12 × 2-5 mm, sparsely pubescent; lateral sepals coherent to past the middle into a bidentate lamina about 9 × 4.5 mm; petals ovate, acute, 3.5 × 1 mm, margins serrate; lip ovate-oblong, 4.5 × 2 mm, dilated below the middle with the sides recurved in the natural position, broad unguiculate, apex blunt, obtuse, microscopically serrulate; column stout, 3 mm long with a distinct column-foot.

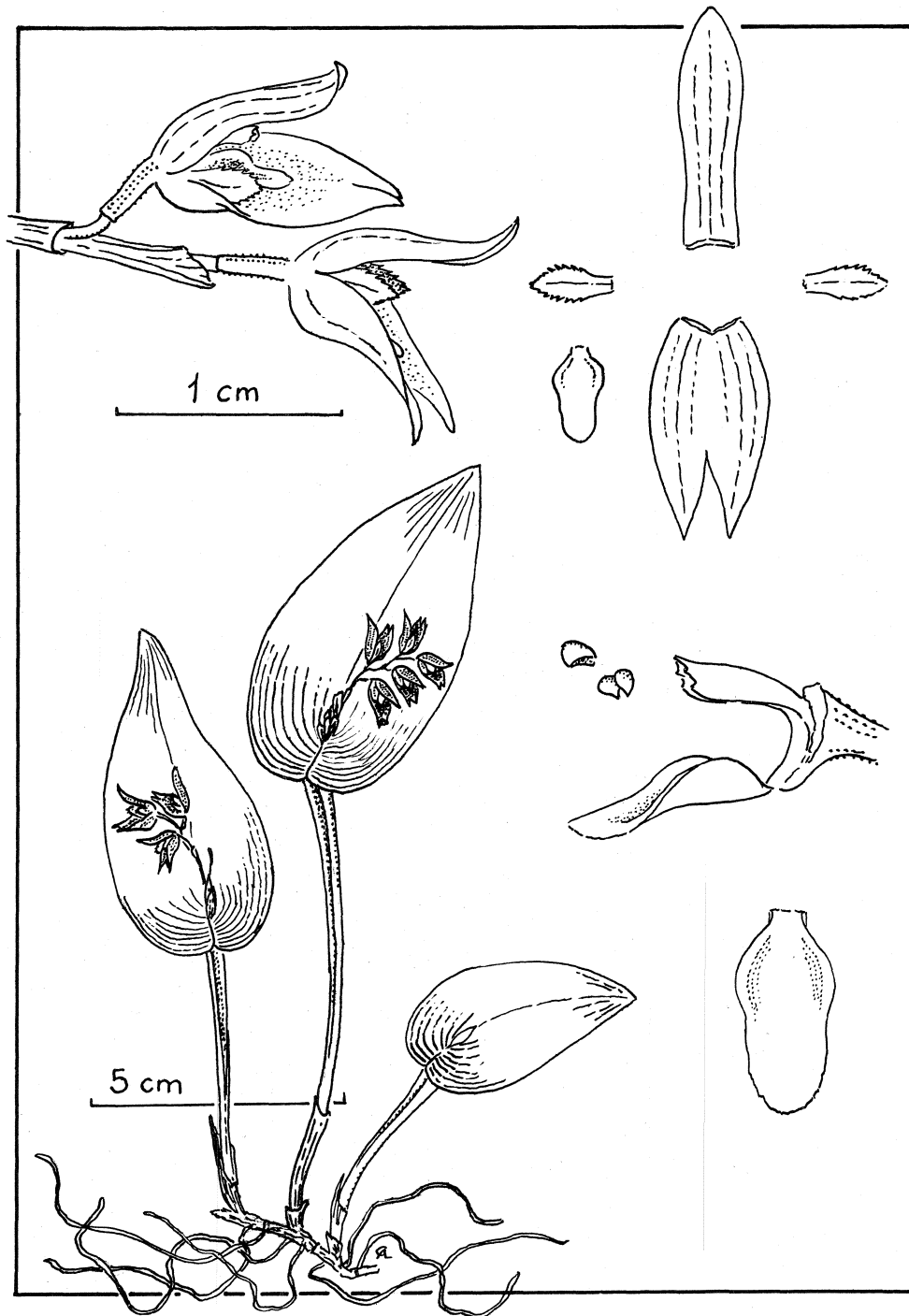
ETYMOLOGY: Named for the locality of collection, Casapi (Cassapi), an unidentified site in Peru.

TYPE: Peru: near Casapi. *Mathews s.n.*

DISTRIBUTION: Venezuela, Colombia, Ecuador, Peru, and Bolivia.

ECUADOR: LOJA: Km 13 between Loja and Zamora, alt. 2800 m, 5 Dec. 1957. *Dodson 219, 220 SEL*; TUNGURAHUA: 5 km west of Rio Negro, alt. 1500 m, 8 Jan. 1962, *Dodson and Thien 1918 SEL*; near Rio San Francisco, alt. 1700 m, 16 Feb. 1963. *Dodson and Thien 2263 SEL*.

*Pleurothallis casapensis* was first described by Lindley from a collection by Mathews from Peru. Four years later he described the plant again from Linden's collection from Colombia as *P. chamensis*. Most subsequent writers have chosen to use the latter name. In his *Folia Orchidaceae*, Lindley differentiates between the two by stating that the raceme of *P. casapensis*



PLEUROTHALLIS CASAPENSIS Lindl.



is shorter and the leaf more cordate. His specimens of *P. chamensis* from Colombia and Venezuela are indistinguishable from those of his *P. casapensis* from Ecuador. The trivial variations of a slightly shorter inflorescence and a slightly more cordate base of the leaf are not sufficient to separate these plants.

Lindley reduced *P. triquetra* Kl. and *P. triangularis* Kl. to the synonymy of *P. chamensis*. The description and drawing of *P. phyllostachys* Schltr. also apply to this species. *Pleurothallis harpophylla* Rchb.f., a similar plant from Venezuela sometimes included in the synonymy, is distinguished by a tricarinate, auricled lip.

This widespread, rather frequent species is readily identified by its winged stems, elliptical blade with a rounded or cordate base, a few-flowered raceme shorter than the leaf, flowers with serrated petals and an entire, oblong lip. The flowers are usually yellowish, but maroon forms occur (var. *tenuis*).

***Pleurothallis caulescens*** Lindl., J. Bot. (Hooker) 1:9. 1834.

*Humboldtia caulescens* (Lindl.) O. Ktze., Rev. Gen. Pl. 2:667. 1891.

*Pleurothallis graminea* Schltr., Repert. Spec. Nov. Regni Veg. Beih. 9:74. 1921.

Plant small, epiphytic, caespitose with a few slender, flexuous roots. Secondary stem slender, up to about 6 cm long, sheaths leaf-like, 5-9, up to 15 mm long, completely concealing the stem. Leaf slender, narrowly elliptical, up to 20 × 2 mm, terminating the stem. Inflorescence a slender raceme, 1-3 but often single, 3-7 cm long, as long as or longer than the secondary stem, peduncle from the base of the leaf and also from within the terminal sheath. Flowers numerous, yellow, 6-7 mm long; floral bract tubular, about 3 mm long; pedicel slender, about 2 mm long; ovary 1 mm or less long; dorsal sepal narrowly ovate, acute to acuminate, navicular, 5-6.5 × 2 mm, dorsal vein prominent; lateral sepals narrowly ovate, acuminate, coherent in the basal half, 5-5.5 mm long and 2 mm wide together, slightly bicarinate externally; petals elliptical, oblique, acute, about 4 × 1.25 mm; lip ovate, 3-lobed, 1.5 × 1.25 mm, basal lobes rounded and oblique, curved upward in the natural position, mid-lobe oblong, apex blunt and retuse, disc with a small depression between the basal lobes. Column short, stout, 1 mm long, with a foot nearly as long as the column itself.

ETYMOLOGY: From the Latin *caulescens*, "becoming a stem" (the Latin *caulis* from the Greek *caulos*, "stem"), referring to the leaf-like sheaths borne on the stem.

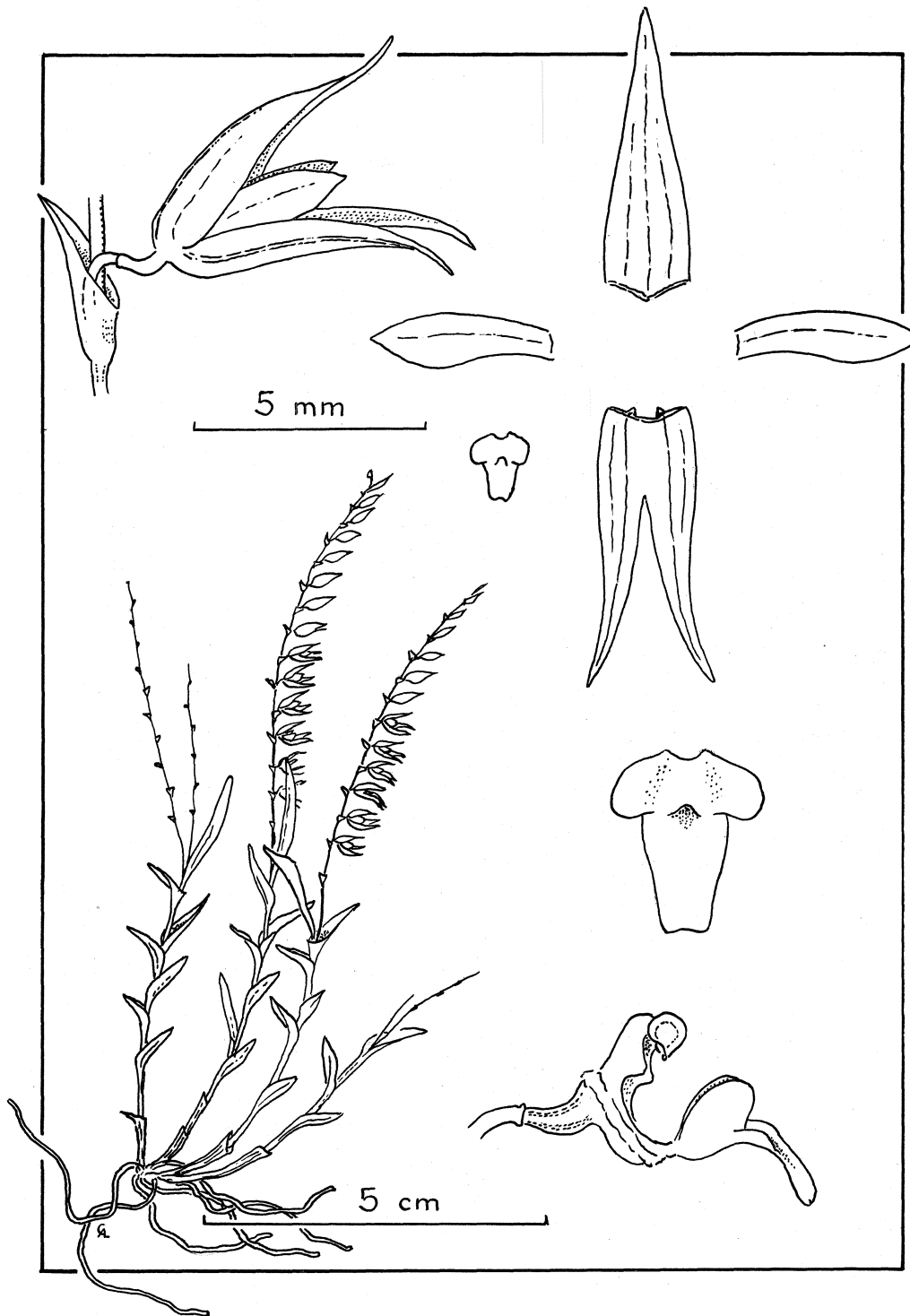
TYPE: Ecuador: Cerro de Upar near Cuenca (not Peru). Jameson s.n.

DISTRIBUTION: Ecuador and Peru.

ECUADOR: AZUAY: Zaragucho, west of Cuenca, epiphytic on trees near lake, alt. 3000 m, 10 Jan. 1958. Dodson 291 SEL.

The sheaths of the secondary stem of this species are unique in *Pleurothallis*. Instead of simply flaring at the apex, they are prolonged into slender, leaf-like blades. The terminal blade is probably analogous to the solitary leaf typical of the genus. It, along with the peduncle, is produced from within the top enveloping sheath.

Lindley described this species from a collection by Jameson. He identified the site as "Peru," but it is within the boundaries of present-day Ecua-



PLEUROTHALLIS CAULESCENS Lindl.

dor. Schlechter described the plant from Cuzco, Peru, as *P. graminea*. Apparently the range is restricted to the cordilleras of Ecuador and Peru.

*Pleurothallis caulescens* is easily recognized by its small stature, "leafy" stems, a terminal, many-flowered raceme about as long as the stem itself, small yellow flowers, entire petals, and a 3-lobed lip.

***Pleurothallis crateriformis*** C. Schweinf., Bot. Mus. Leaflet 15:88, t. 26. 1951.

Plant epiphytic, small, caespitose; roots slender, velamentous. Secondary stem slender, about 8-10 cm tall, with 1-2 thin tubular sheaths, unifoliate. Leaf ovate, about 5-6 × 3-4 cm, apex acute to acuminate, minutely tridentate, base deeply cordate with overlapping auricles, sessile, horizontally spreading. Flowers dark purple, borne singly in a few-flowered fascicle arising from a 1 cm spathe at the base of the leaf; pedicel slender, about 1 cm long, with a minute floral bract; ovary 3 mm long, microscopically papillose; dorsal sepal broadly ovate, acute to acuminate, 5-8 × 4 mm, 7-nerved; lateral sepals united more or less to the apex into a broadly ovate lamina, obtuse, 4-8 × 4-5 mm, concave, 6-nerved; petals linear, semi-terete, acute, slightly curved, 2 × 0.5 mm, microscopically papillose; lip ovate to suborbicular, 2.5-4 × 2-3 mm, short-unguiculate, deeply concave in the center and surrounded by flattened margins from elevations near the cordate base; column broad, about 1 mm long, foot short and wide.

ETYMOLOGY: From the Latin *crateriformis*, "in the form of a crater" or "bowl-shaped," referring to the concave portion of the labellum.

TYPE: Peru, Junin, Prov. of Tarma, Agua Dulce, alt, 2000 m. *Woytkowski 35487*, HOLOTYPE in UC, ISOTYPES in AMES and MO.

DISTRIBUTION: Ecuador and Peru.

ECUADOR: TUNGURAHUA: Along cliff face between Rio Blanco and Rio Verde, alt. 1800 m, 7 Jan. 1961. *Dodson and Thien 1961 SEL*.

*Pleurothallis crateriformis* was described in 1951 by Schweinfurth from a collection from Peru by Woytkowski. Apparently the plant is rarely collected and was known previously only from the type collection. Very probably its distribution is much wider, especially to the North, than was heretofore known. Undoubtedly it is frequently overlooked because it is a member of the "cordatae" complex which consists of numerous closely allied species mostly with heart-shaped leaves and flowers of a basic similarity. The shape of the lip of this species is unique in the complex. The central portion is deeply concave with a broad flat margin, reminiscent of a bowl.

The species may be identified by its small, deeply-cordate leaves, and its single dark purple flowers about 8 mm long, with a deeply concave lip.

This species had not been reported from Ecuador.

***Pleurothallis crocodiliceps*** Rchb. f., Bonplandia 3:72. 1855.

*Humboldtia crocodiliceps* (Rchb. f.) O. Ktze., Rev. Gen. Pl. 2:667. 1891.

*Pleurothallis arietina* Ames, Sched. Orch. 4:16. 1923.

*Pleurothallis nelsonii* Ames, Sched. Orch. 4:22. 1923.

Plant epiphytic, small to medium-sized; roots slender, velamentous, from a short creeping rhizome. Secondary stem slender, up to 30 cm tall, with 2-3 thin, dry sheaths below, narrowly ancipital above, monophyllous. Leaf long-ovate, apex acute to acuminate, minutely tridentate, base sub-



cordate, sessile, 5-10 × 1.5-3.5 cm. Flowers whitish to yellow-green, borne singly and successively on long pedicels in a 1-2 flowered fascicle arising from a 1 cm spathe at the base of the leaf; pedicel filiform, up to 4 cm long; floral bract minute, 1-2 mm; ovary about 5 mm long; dorsal sepal oblong to narrowly ovate, up to 14 × 4 mm, subacute, concave, fleshy, 3-veined; lateral sepals connate to the apices, up to 13 × 5 mm, similar to the dorsal sepal, 4-veined; petals linear, acuminate, up to 13 × 2 mm, fleshy, terete to semi-terete, sometimes with a marginal angle above the middle; lip about 1.5 × 1.5 mm, deep purple to red, ovate, thick, fleshy, ciliate-pubescent, with a pair of acuminate, curved basal lobes which fold together over the disc, nearly 3 mm wide spread apart, short-unguiculate; column semi-terete, 3 mm long, foot obsolescent.

ETYMOLOGY: From the Latin *crocodilus* + *-ceps* (from *cephalus*, "head"), "crocodile-headed," referring to the fanciful shape of the gaping flower.

TYPE: Colombia ? : Agua de las Virgen. *Wagner s.n.*

DISTRIBUTION: Mexico (Chiapas), Costa Rica, Panama and Colombia to Venezuela and Ecuador.

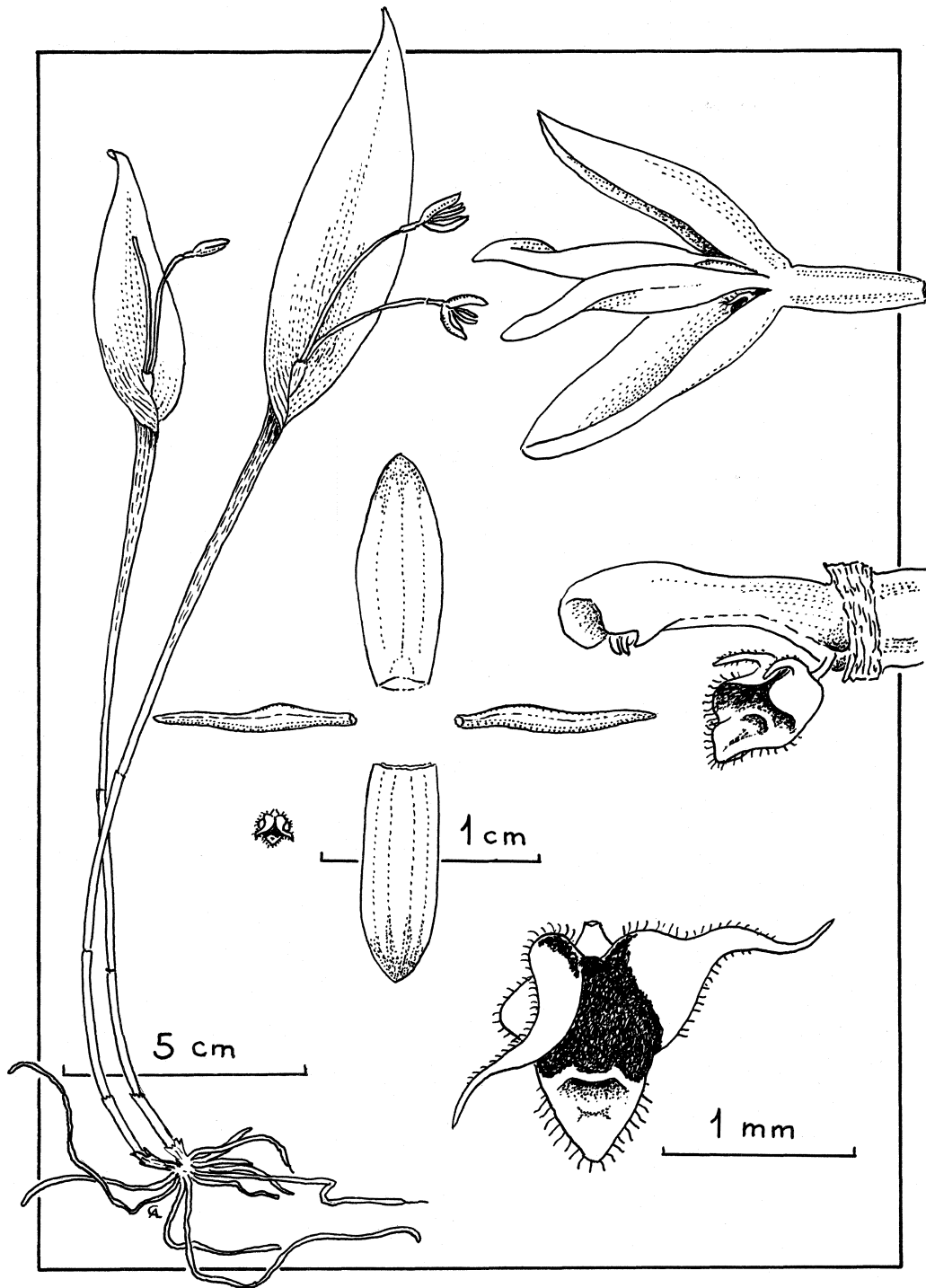
ECUADOR: AZUAY: Sevilla de Oro, southeast of Gualaceo, alt. 2800 m, 10 Feb. 1958. *Dodson 326 SEL*; ZAMORA-CHINCHIPE: Km 33 between Loja and Zamora, alt. 1600 m, 3 May 1958. *Dodson 350 SEL*; TUNGURAHUA: 4 km east of Baños near Rio Blanco, alt. 1600 m, 8 Oct. 1961. *Dodson and Thien 895 SEL*.

*Pleurothallis crocodiliceps* was first collected by Wagner probably somewhere in Colombia (or Venezuela ?) and was described by Reichenbach who apparently compared the gaping flowers to the head of a miniature crocodile. The lip reminded Ames of a ram's head when he described from Costa Rica a taller plant with broader leaves and sepals as *P. arietina*. At the same time, he also described *P. nelsonii*, the same species from Chiapas, but smaller with less markedly thickened petals. The specimens from the three Ecuadorean sites cited above vary in size and shape of the leaves and floral parts to the same degree as those described. Sometimes the fleshy petals are membraneous in the inner third.

Upon superficial inspection of the flower by the presbyopic naked eye, the lip seems to be wanting: only a speck of dirt appears to have become lodged beneath the column. Upon close examination with a strong lense, the microscopic lip suddenly acquires the frightening qualities of a hairy-armed monster. Possibly it is supposed to resemble a minute insect or spider to entice a predator into the jaws of the crocodile-flower to perform the act of cross-pollination.

This species is identified by its elliptical, subcordate leaf from the flattened end of the stem, long-pedicellate, single, gaping, yellow-green flowers more than a centimeter long, long thickened petals, and a minute very characteristic pubescent lip with a pair of basal horns.

This species had not been reported from Ecuador.



PLEUROTHALLIS CROCODILICEPS Rehb. f.

**Pleurothallis cyripedioides** Luer, sp. nov.

Herba epiphytica parva caespitosa, *Pleurothallidi amparoanae* affinis, caulibus secundariis abbreviatis, folio late elliptico acuto tridenticulato petiolato, racemo filiformi fractiflexo paucifloro successivo, flori guttulato purpurato subglobose *Cypripedii* simili, sepalis glabris exter sed villosissimis interne, sepalis lateralibus cohaerentibus saccatis, petalis obovatis vel spatulatis, labello cordato unguiculato acuto carinis marginatis.

Plant epiphytic, small, caespitose; roots very slender, flexuous. Secondary stem abbreviated, 8-12 mm long, with 2-3 short tubular sheaths, unifoliate. Leaf elliptical, apex acute to acuminate, tridenticulate, base cuneate, petiolate, 3-7 cm long (including the petiole) and 15-18 mm wide. Inflorescence an arching raceme, shorter than to about twice as long as the leaf, flowering singly and successively, rachis filiform, fractiflex, peduncle from the base of the leaf-petiole within a sheath. Flower flecked with purple, subglobose; floral bract about 1.5 mm long; pedicel slender, 4 mm long; ovary 3 mm long; sepals glabrous externally, densely villous internally, the hairs bright purple; dorsal sepal elliptical, acute, 8 × 4 mm, carinate, margins recurved; lateral sepals broadly obovate, oblique, obtuse, the apex cucullate, each 9 × 6 mm, lightly coherent into a deeply saccate pouch; petals obovate and acute, 2.5 × 1 mm to broadly spatulate and obtuse, 2 × 1.5 mm, fleshy 3-nerved; lip cordate, deflexed near the middle, with rounded basal lobes curved up in the natural position, 3 × 2.5 mm, apex acute, base distinctly clawed, disc purple-papillose near the base, with intramarginal keels above the middle; column arcuate, 4 mm long, clinandrium long-denticulate, keeled dorsally, column-foot short.

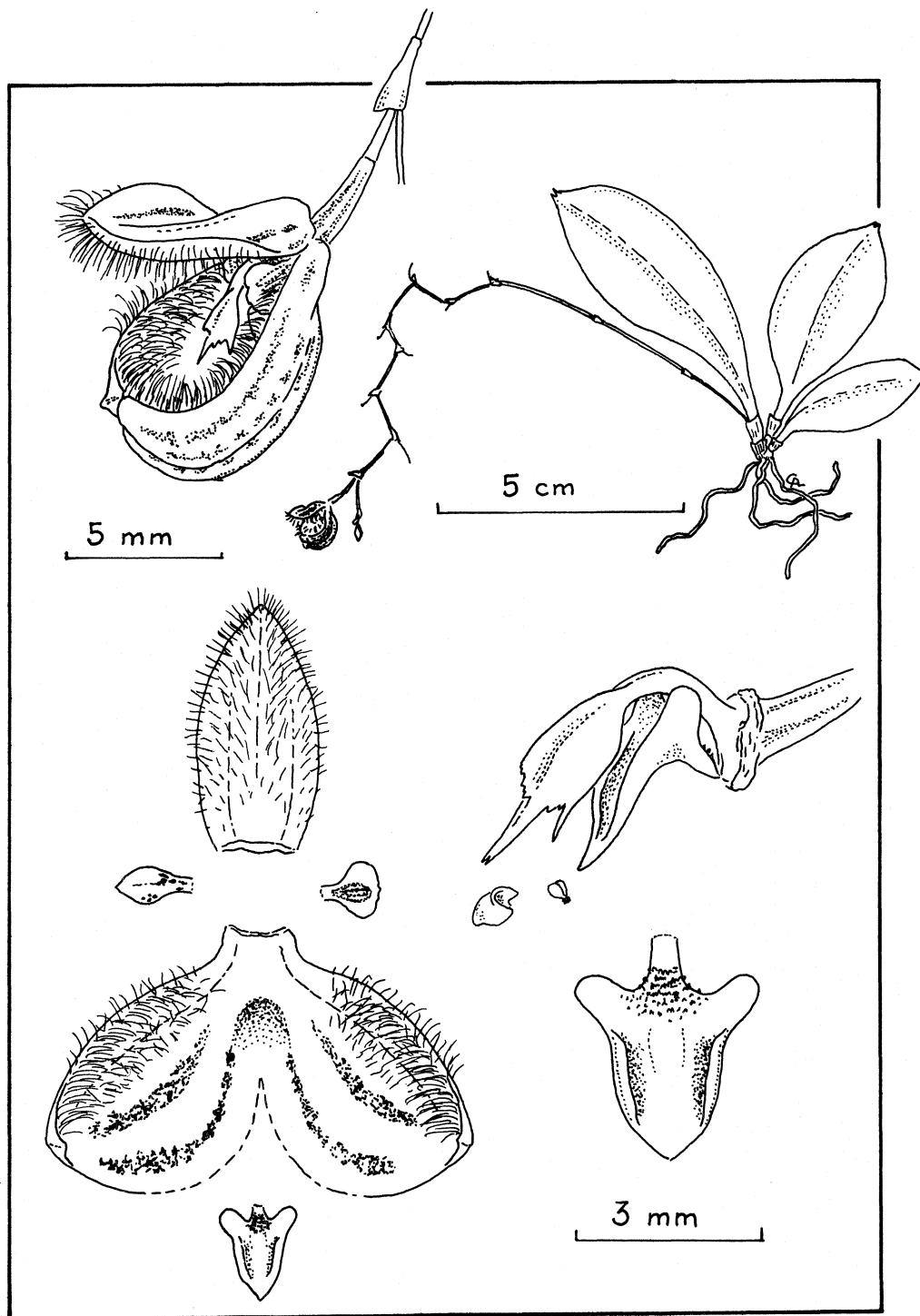
ETYMOLOGY: Named for the superficial similarity of the flower to those of the genus *Cypripedium*.

ECUADOR: NAPO: Epiphytic near Rio Payamino, 60 km west of Coca, alt. 350 m, flowered in cultivation 5 Nov. 1974. *Fuchs s.n.* HOLOTYPE in SEL, #26-74-126.

Fred Fuchs, Jr. first collected this fascinating little species in Ecuador in 1973. Except for their purple color, the flowers are very similar to those of *Pleurothallis amparoana* Schlechter from Costa Rica, but the habit of the plant is more readily distinctive. The secondary stems of *P. amparoana* are described as being 3 to 4 cm long with narrowly obovate, obtuse leaves 6 to 9 cm long and 9 to 11 mm wide. The stems of this species are at most 1.5 cm long with elliptical, acute leaves only 3 to 6 cm long and proportionately much wider (15 to 18 mm).

The inflorescence of *P. amparoana* is a densely-flowered distichous raceme. As many as 25 flowers are described as occurring at once. The inflorescence of *P. cyripedioides* is a fractiflex raceme which produces flowers singly and successively over a long period of time. The flowers of *P. amparoana* are creamy white with long white hairs within. The flowers of this species are richly marked with purple with long bright purple hairs within. The cordate lip of *P. amparoana* is described as being 3-veined, the center one thickened and ornate. The lip of this species has no central ornate thickening, but it has instead a pair of intramarginal lamellae.

The flower is reminiscent of a minute *Cypripedium*. The lid-like dorsal sepal rises above an inflated pouch created by the lateral sepals and lined by long, incurved hairs. Instead of a staminode, the bristly column itself



PLEUROTHALLIS CYPRIPEOIDES Luer



seems to act also as a deterrent to a pollinator's exit before passing by the stigma and anther.

Fuchs describes two colonies of this species within 100 meters of each other. The flowers of one are heavily pigmented with purple; the others appear pink due to lighter pigmentation on a yellow-green background. The petals of the purple flowers are obovate and acute, and the petals of the pink flowers are broadly spatulate with a truncate apex.

**Pleurothallis geminicaulina** Ames, Sched. Orch. 6:59. 1923.

*Pleurothallis ellipsophylla* L. O. Wms., Ann. Missouri Bot. Gard. 29:344. 1942.

Plant epiphytic, small to medium sized, from a short creeping rhizome, with flexuous, velamentous roots. Secondary stems often produced in pairs, 3-11 cm long, sheathed on the lower half by 2 evanescent sheaths, unifoliate. Leaf elliptic to oblong, acute, minutely bidentate, 3-7 cm × 7-15 mm, sessile, coriaceous. Flowers purplish, borne on a few-flowered (1-4) raceme up to  $\frac{2}{3}$  as long as the leaf, peduncle from an 8 mm spathe at the base of the leaf; floral bract tubular, about 2 mm long; ovary and pedicel each about 2 mm long; dorsal sepal oblong, acute to acuminate, 8-10 × 2 mm, 3-veined, microscopically ciliate externally; lateral sepals united to the apex or the apex of the lamina may be bidentate, narrowly ovate, 8-9 × 3-5 mm, 6-veined, with a shallow mentum; petals elliptic, acuminate, 5 × 1.5-2 mm, margins denticulo-lacerate; lip elliptic-oblong, acute to apiculate, 4 × 1.5-2 mm, fleshy, often somewhat dilated below the middle with marginal lamellae, margin microscopically erose, bilobed at the base to either side of a distinct, short claw; column 3 mm long with a short foot.

ETYMOLOGY: From the Latin *gemi*, "twins," and *caulinus* (from *caulis*, "stem"), "pertaining to the stem," hence "twin-stemmed," referring to the habit of growth in which the stems are often produced in pairs.

TYPE: Costa Rica: La Union, Turrialba, alt. 1200 m. *Lankester 454*. HOLOTYPE in AMES.

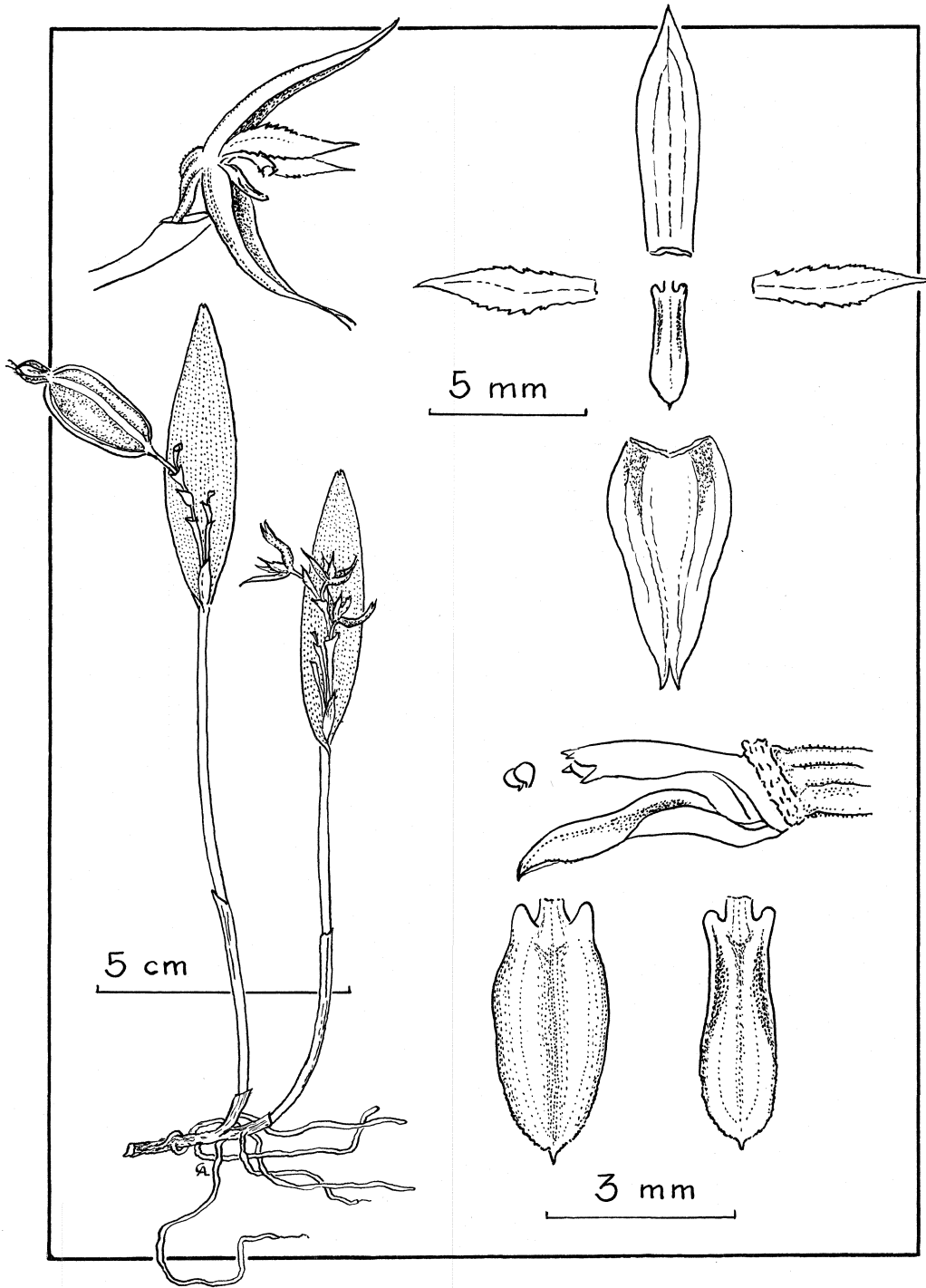
DISTRIBUTION: Costa Rica, Panama and Ecuador.

ECUADOR: PICHINCHA: epiphytic along Rio Baba south of Santo Domingo, alt. 300 m, 1 Nov. 1961. *Dodson and Thien 1156* SEL; in orange tree near Santa Domingo, alt. 675 m, 15 June 1967. *Dodson, Williams and Adams 3707* SEL.

*Pleurothallis geminicaulina* is a species widely distributed from Central America into the western part of Ecuador, where it apparently becomes much more frequent. It was first described by Ames in 1923 from a plant collected in Costa Rica by Lankester. A distinctive characteristic of the plant is its habit of producing secondary stems in pairs. This led Ames to choose aptly the specific epithet. Occasionally the rhizomes aggregate to create clumps of twinned stems.

In 1942 Williams described the plant from Panama under the name *ellipsophylla*, distinguishing it from *geminicaulina* by minor variations of features of the lip, which vary practically to the same degree in plants from different parts of Ecuador. This is the first report from Ecuador.

This species may be recognized by its paired stems, elliptical leaves, a few-flowered raceme shorter than the leaf, gaping purplish (sometimes



PLEUROTHALLIS GEMINICAULINA Ames

spotted or tipped with orange) flowers about 1 cm in size, denticulate petals and an elliptical lip with marginal lamellae below the middle and bilobed at the base with a distinct claw.

***Pleurothallis gracillima*** Lindl., Folia Orch. Pleuroth. 35. 1859.

Plant epiphytic or terrestrial, caespitose, small to medium in size; roots slender, flexuous. Secondary stem unifoliate, short, terete, about 1 cm long, concealed by 1 or 2 dry, tubular sheaths to 2.5 cm long. Leaf narrowly obovate, apex subacute to obtuse, base very long-petiolate, 6-9 cm long including the petiole (2.5-4 cm long), and 7-11 mm wide. Inflorescence a very long and slender, many-flowered, secund raceme much longer than the leaf, to 35 cm long, peduncle very slender, ancipital, from the base of the leaf-petiole within a sheath. Flowers small, yellow-green, glabrous, non-resupinate; floral bract 1-2 mm; pedicel 3-4 mm long; ovary about 1 mm long; dorsal sepal ovate, subacute, 5.5 X 2 mm; lateral sepals united to near the middle, acute, ovate, bidentate, 5.5 X 3 mm together; petals obovate, subacute, 3 X 1 mm, 1-nerved, margin micro-erose above the middle; lip ovate, dilated below the middle, 2.75 X 1.75 mm, narrowly short-unguiculate, apex rounded, disc smooth, 3-nerved; column 2 mm long with a short foot less than 1 mm long.

ETYMOLOGY: From the Latin *gracillimus* (superlative of *gracilis*), "most slender or thinnest," referring to the very slender habit of the species.

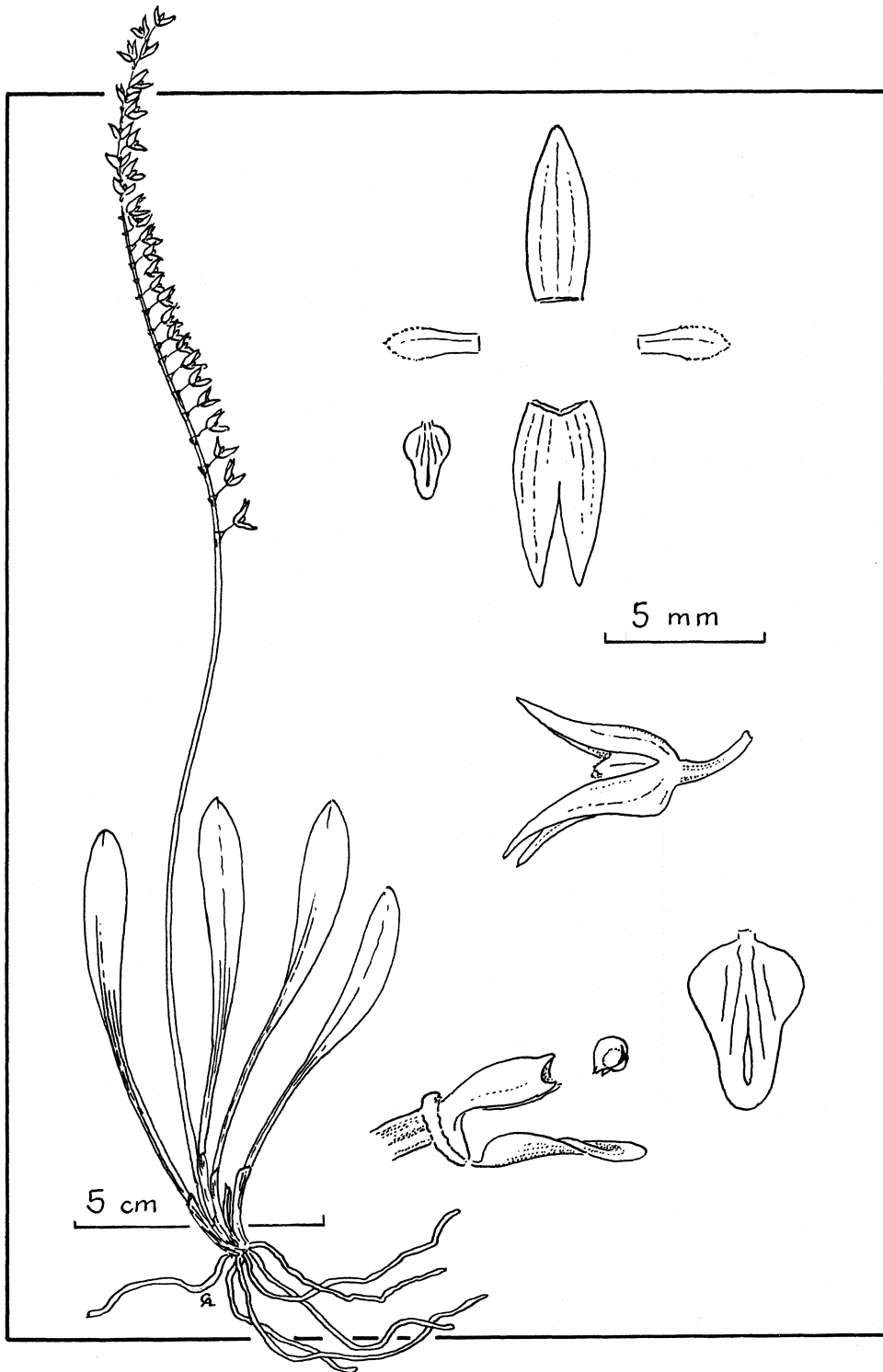
TYPE: "Peru, (western Andes on trees; forest on the road to Nanegal)." (presently Ecuador) *Jameson s.n.* HOLOTYPE in K.

DISTRIBUTION: Ecuador.

ECUADOR: PICHINCHA: Terrestrial on road embankment, km 29, between Quito and Santo Domingo, alt. 2900 m, 28 Oct. 1961. *Dodson and Thien 1029 SEL*; Km 65, near Chiriboga, alt. 1600 m, 26 July 1967. *Dodson, Williams and Adams 3827 SEL*.

This species was described from one of Jameson's collections near Quito, Ecuador (not "Peru") which were sent to Lindley. Apparently it is restricted to the western declivity of the Andes of Ecuador and has not been recorded as having been found since that time.

*Pleurothallis gracillima* is easily recognized by its slender, obovate, long-petiolate leaves, a very short secondary stem, and a long, slender raceme much exceeding the leaf. The wand-like peduncle is very thin and flattened and bears a compact row of small greenish flowers each with a blunt, ovate lip.



PLEUROTHALLIS GRACILLIMA Lindl.

**Pleurothallis hemirhoda** Lindl., Paxton's Fl. Gard. 3:133. 1853.

*Restrepia vittata* Lindl., J. Hort. Soc. London 3:315. 1848, not *Pleurothallis vittata* Lindl.

*Restrepia nuda* Kl., Allg. Gartenzeitung 20:275. 1852.

*Restrepia vittata* var. *biflora* Regel, Ann. Sci. Nat. (Paris) 4, 6:373. 1856.

*Pleurothallis nuda* (Kl.) Rchb. f., Walp. Ann. Bot. 6:184. 1861.

*Humboldtia hemirhoda* (Lindl.) O. Ktze., Rev. Gen. Pl. 2:667. 1891.

Plant epiphytic, medium-sized, caespitose with velamentous roots. Secondary stem slender, terete, commonly about 25 cm long, with 2-3 purple-spotted tubular sheaths, unifoliate. Leaf narrowly elliptical, commonly 12 × 2 cm, apex subacute to obtuse, minutely tridentate, base cuneate, sessile. Flowers large, whitish marked with red, borne singly and successively from a 1 cm spathe at the base of the leaf; floral bract small, 1-2 mm; pedicel about 1 cm long; ovary slender, up to 1 cm long, dorsal sepal narrowly elliptical, acuminate, navicular, about 24 × 6 mm, yellowish white striped with maroon; lateral sepals connate to their apices, about 24 × 8 mm, similar to the dorsal sepal; petals ovate basally, margins serrulate, about 6 × 2-3 mm, the apex attenuate to filiform to a total length of about 18 mm; lip 3-lobed, about 18 × 8 mm, mid-lobe large, elliptical, acute, margins denticulate, yellowish with or without 3 prominent maroon stripes, basal lobes broadly triangular, blunt, curved up in the natural position. Column stout, 3 mm long, with a somewhat bulbous base.

ETYMOLOGY: From the Greek *hemi-*, "half-," and *rhodon*, "rose." "The outer half of the flower is pure white, the inner half more or less red: whence the name." — Lindley.

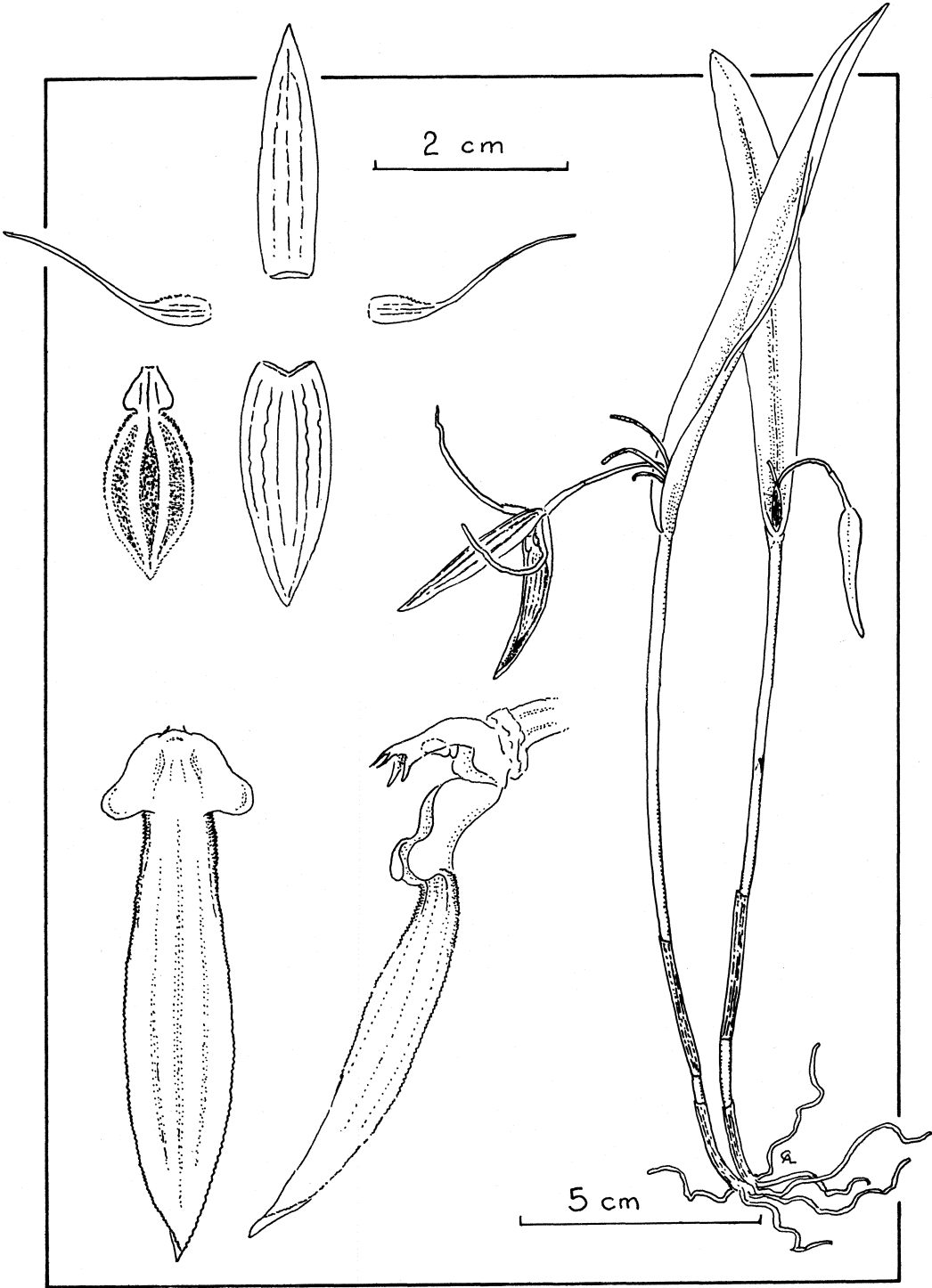
TYPE: Colombia.

DISTRIBUTION: Venezuela, Colombia, Ecuador, and Peru.

ECUADOR: ZAMORA-CHINCHIPE: Epiphytic along Rio Zamora, alt. 110 m, 26 July 1960. *Dodson 189* SEL.

This distinctive species is widespread in northern South America. It was introduced to Europe by Linden, Lindley first described it in the genus *Restrepia* because of the similarity of the large flowers. Later, when it was discovered to have only two pollinia instead of four, he transferred it to *Pleurothallis*. Since he already had named a *Pleurothallis vittata*, it became necessary for him to invent a new epithet.

*Pleurothallis hemirhoda* is readily recognized by its large flower borne singly or two at a time on rather long pedicellate ovaries from the apex of a long stem and at the sessile base of a narrowly elliptical leaf. The flower is whitish, suffused or striped with red, with long aristate petals and a 3-lobed lip, the middle lobe large, yellowish or striped with red, and finely serrated along the margins.



PLEUROTHALLIS HEMIRHODA Lindl.

***Pleurothallis incurva*** Lindl., Folia Orch. Pleuroth. 30. 1859.

*Humboldtia incurva* (Lindl.) O. Ktze., Rev. Gen. Pl. 2:667. 1891.

Plant epiphytic or terrestrial, small to medium in size, caespitose; roots slender, flexuous. Secondary stem very slender, terete to narrowly ancipital above, 4-13 cm, with 2-3 close-fitting tubular sheaths, unifoliate. Leaf oblong 3-6 × 1-2 cm, apex attenuate to acuminate, apiculate, base broadly cuneate to rounded, sessile. Inflorescence a many-flowered raceme as long as or slightly longer than the leaf; peduncle slender, from a narrow sheath 5-12 mm long in the axil of the leaf. Flowers small, non-resupinate, green with or without red spots; floral bract 1.5-2 mm; pedicel 1-1.5 mm long; ovary 0.5-1 mm long; middle sepal (lowermost) narrowly ovate, acuminate, 5 × 1.5 mm, concave, 3-veined; lateral sepals united into a synsepal which is uppermost, ovate, attenuate, 5 × 2 mm, concave, 4-veined; petals narrowly linear, acuminate, 4 × 0.25 mm, 1-veined; lip obscurely oblong, 3-lobed just below the middle and acutely deflexed near the middle, 2 × 1 mm spread out, lateral lobes triangular subacute, incurved in the natural position, middle lobe oblong, acuminate, acute with 2 smooth, low elevations, base long-unguiculate; column 1 mm long with a subulate rostellum, winged below the apex, with an indistinct foot.

ETYMOLOGY: From the Latin *incurvus*, "curved inwards," referring to the incurved lateral lobes of the lip.

TYPE: "Peru, (Andes of Quito)." (presently Ecuador) *Jameson s.n.* HOLOTYPE in K.

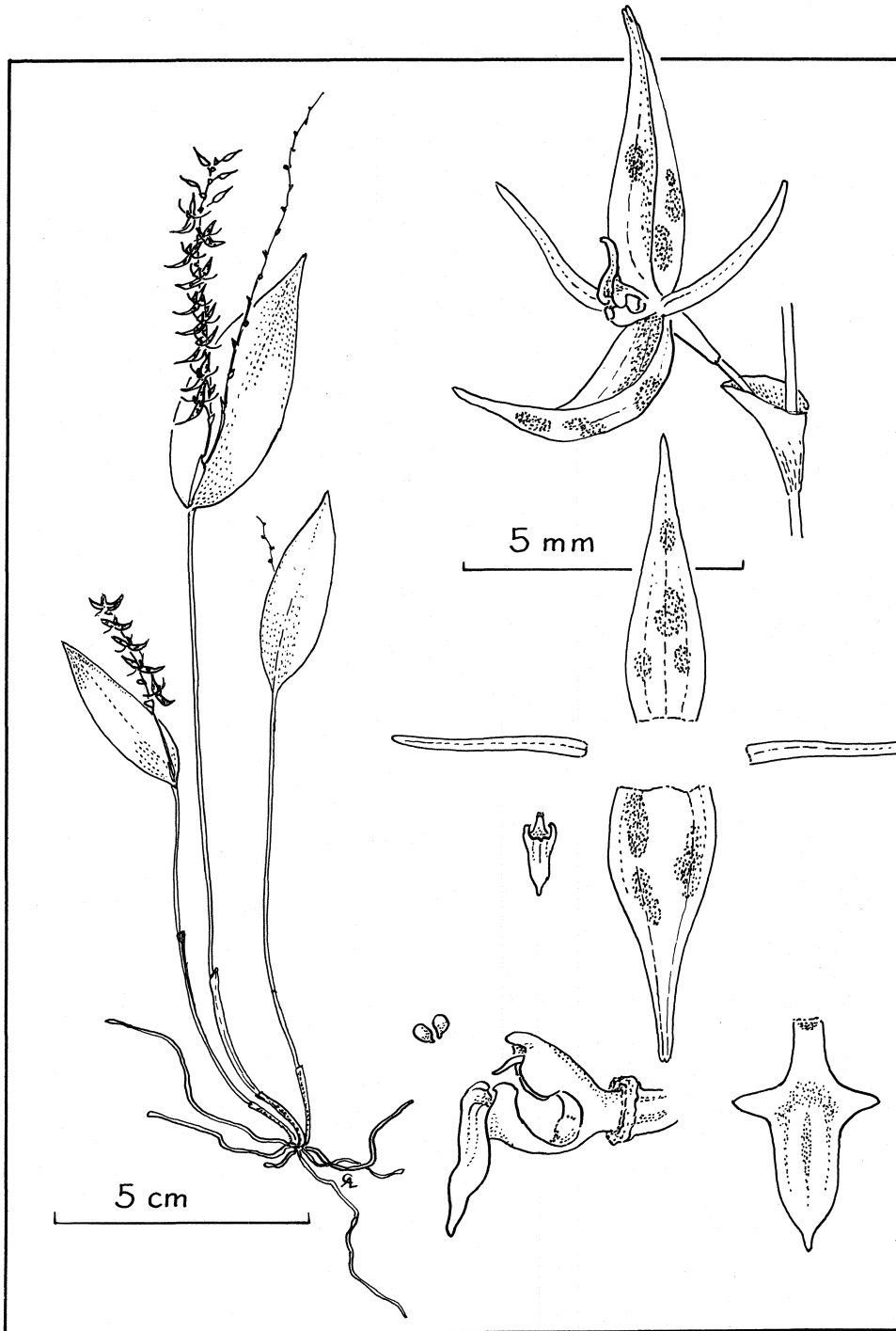
DISTRIBUTION: Ecuador and ? Venezuela.

ECUADOR: PICHINCHA: Epiphytic and terrestrial on road embankment, km 86 between Quito and Santo Domingo, alt. 1400 m, 1 Feb. 1963. *Dodson and Thien 2210 SEL*; Terrestrial on roadside near Chiriboga, km 70, alt. 1400, 3 July 1967. *Dodson, Williams and Adams 3805 SEL*.

This species was described by Lindley from a collection by Jameson, not from "Peru," but from Ecuador, most probably in the province of Pichincha. From Venezuela Foldats has identified as this species a much larger plant, apparently with well developed lateral lobes of the lip, which might belong to another taxon.

Although the description and a photograph of the type specimen in the Lindley herbarium leave little doubt about the identity of this plant, some interpretation of the floral analysis is necessary. The drawing of the lip on the herbarium sheet apparently was made as seen from above without spreading the lip. This would have obscured much of the middle lobe. No mention was made of red spots, which seem to be there in the photograph, nor was the non-resupinate position of the flowers noted.

*Pleurothallis incurva* may be recognized by its fairly small stature, slender stems, oblong leaves with more or less attenuate apices and sessile bases, a raceme, slightly longer than the leaf, of little green flowers which may be spotted with red, and an uppermost three-lobed lip with lateral lobes incurved.



PLEUROTHALLIS INCURVA Lindl.



**Pleurothallis otopetalum** (Lehm. & Krzl.) Schltr., Repert. Spec. Nov. Regni Veg. 10:292. 1912.

*Otopetalum tunguraguae* Lehm. & Krzl., Bot. Jahrb. Syst. 26:457. 1899, not *Pleurothallis tunguraguae* Lehm. & Krzl.

*Kraenzlinella tunguraguae* (Lehm. & Krzl.) O. Ktze., Post & Ktze., Lex Gen. Phan. 310. 1904.

Plant epiphytic, medium-sized to large, caespitose with numerous, flexuous, velamentous roots. Secondary stem short, stout, often 3-4 cm long, mostly obscured by 2-3 dry, tubular, imbricating sheaths, unifoliate. Leaf coriaceous, narrowly elliptical, 10-21 × 2.5-5 cm, apex acute to obtuse, mucronate, base narrowly cuneate, subsessile. Inflorescence racemose, solitary, several times longer than the leaf, fractiflex with prominent floral bracts, peduncle with 4-5 tubular bracts about 2 cm long, from a 2 cm spathe at the base of the leaf. Flowers yellowish to brownish, arranged distichously and appearing alternately, 2-3 simultaneously, in a slow succession up the rachis; Floral bracts ancipital, 15-20 mm long; pedicel 5-8 mm long; ovary densely glandular-papillose, 3 mm long; dorsal sepal ovate, acute, concave, fleshy, about 14 × 6 mm; lateral sepals free, linear, oblique, acute, 19-22 × 3.5 mm; petals oblong, about 8 × 1.3 mm, acute and entire except for a rounded lobule (about 1 × 1 mm) near the base from the superior margin, adnate to the column basally; lip narrowly oblong, ligulate, 9 × 1.8 mm, slightly dilated near the middle, base geniculate and unguiculate, apex acute to obtuse, disc with a pair of low, smooth elevations from the base to near the middle and a second pair of low elevations about the middle. Column 7 mm long, short-winged, with a distinct foot about 2.5 mm long.

ETYMOLOGY: From the genus *Otopetalum* in which the species was described.

From the Greek *otion*, "ear," and *petalon*, "petal referring to the auricle at the base of the petal.

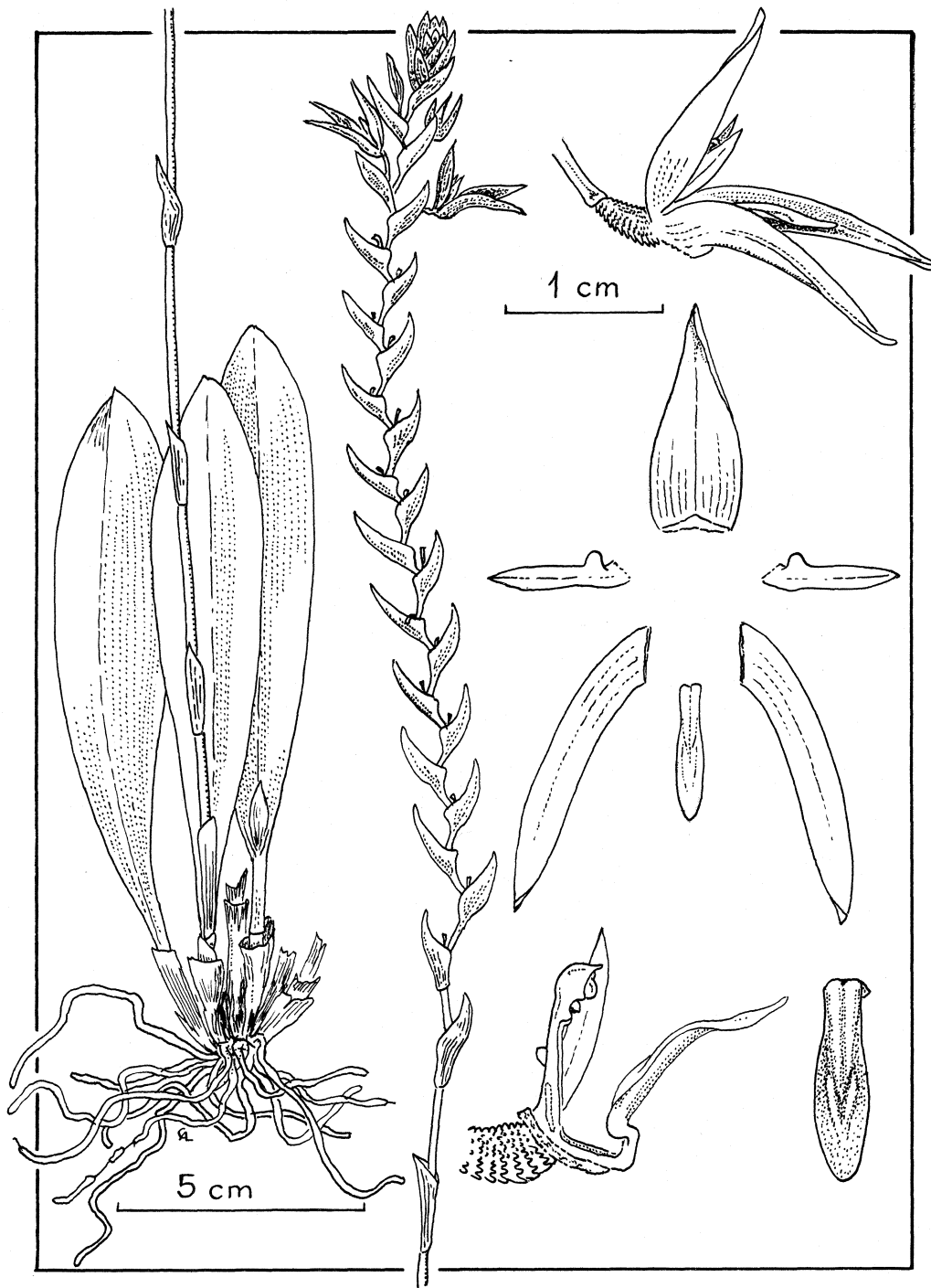
TYPE: Ecuador: Epiphytica in silvis apertis ad pedem montis ignivomi Tunguragua prope Baños, 1500-2000 m. *Lehmann & Kränzlin 8088*.

DISTRIBUTION: Colombia and Ecuador.

ECUADOR: CARCHI: Near mountain crest between Ibarra and San Lorenzo, alt. 800 m, 10 Aug. 1958. *Dodson 229 SEL*; TUNGURAHUA: On the slopes of Volcán Tunguragua, alt. 2300 m, 9 Oct. 1961. *Dodson and Thien 937 SEL*.

Lehmann and Kränzlin described a monotypic genus, *Otopetalum*, basing it upon this species characterized by auricled petals which arise from the sides of the lower part of the column. The generic name proved to be invalid because of prior use in the *Apocynaceae*. Otto Kuntze then proposed the name *Kraenzlinella*. Since the features used to distinguish the genus hardly seemed to justify the segregation of this plant, with all the other characteristics of a *Pleurothallis*, Schlechter referred it to *Pleurothallis* in 1912. The specific epithet *tunguraguae* had already been occupied by another plant.

This distinctive species is recognized by its elliptical leaf, which is much longer than its short stem, and a long fractiflex raceme with prominent floral bracts and a few yellowish flowers, nearly two centimeters long, open at a time. The petals issue diagonally from near the base of the column and are distinguished by a rounded lobule on the dorsal margin near the base. The lip has no basal lobes.



PLEUROTHALLIS OTOPETALUM (Lehm. & Krzl.) Schltr.

This species is closely related to *P. erinacea* Rchb. f. from Colombia and Venezuela and *P. gigantea* Lindl. from Peru, which are distinguished by having pointed basal lobes of the lip. In his *Folia Orchidacea* of 1859 Lindley suggested that these two species might be separated into a distinct genus. Lehmann and Kränzlin might well have included them in *Otopetalum*.

***Pleurothallis quadriserrata* Luer, sp. nov.**

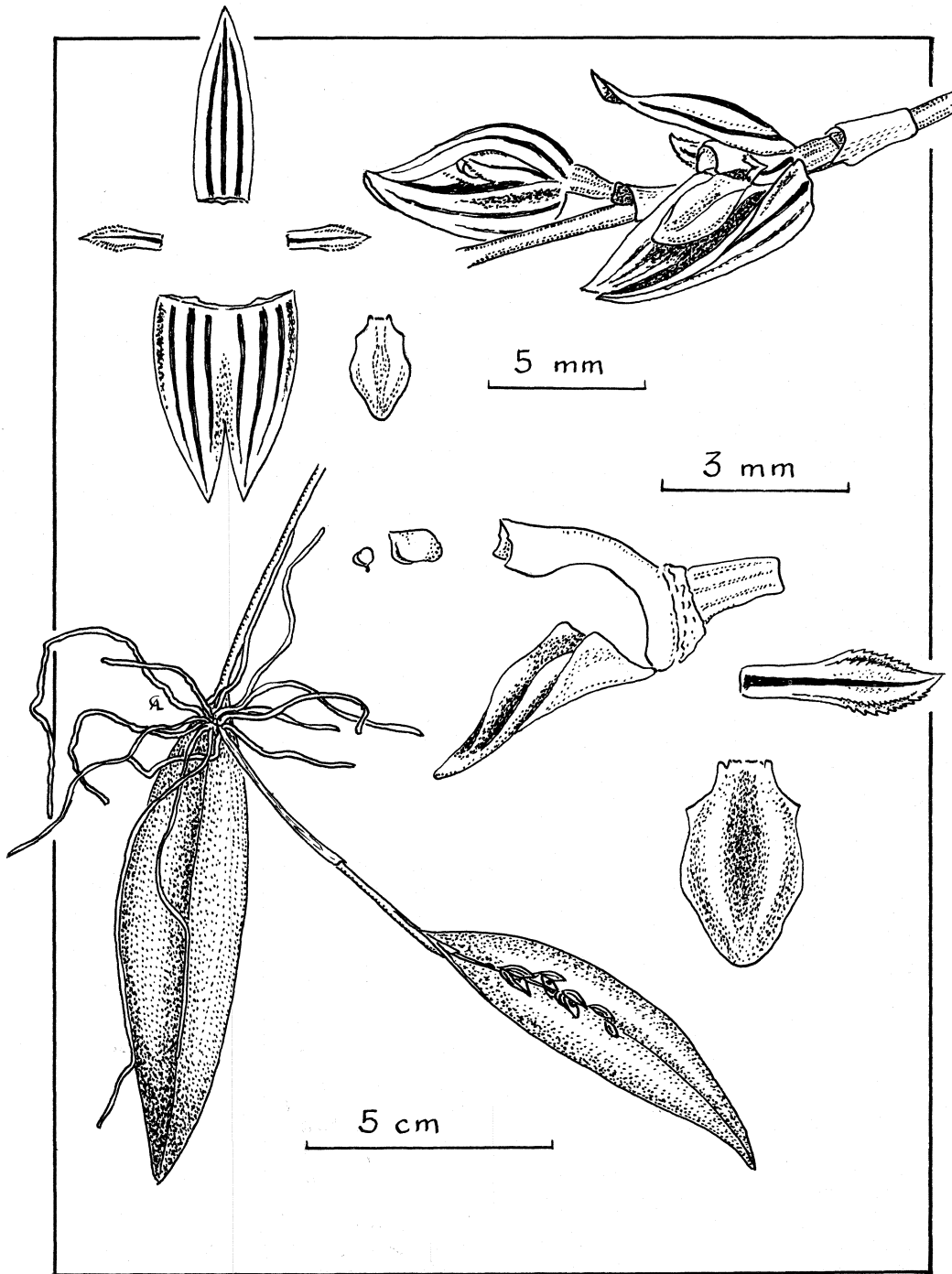
Herba epiphytica pendens, caule prolifero, folio sessili anguste elliptico acuto vel acuminato, racemo paucifloro folio brevior, sepalis carinatis, sepalo dorsali oblongo acuto, sepalis lateralibus semiconnatis, petalis acuminatis quadriserratis, labello carnosio elliptico obtuso, angulo obtuso utrinque, basi microauriculato.

Plant epiphytic, medium-sized, proliferative, pendent; roots numerous, slender, velamentous. Secondary stem slender, 6-8 cm long, usually producing a new stem from the apex of an older one, with 1-2 close tubular sheaths, unifoliate. Leaf coriaceous, richly suffused with purple, narrowly elliptical, 7-9 × 1.5-2 cm, apex acute to acuminate, tridentate, base acuminate, sessile. Inflorescence racemose, few-flowered (5-6), about half the length of the leaf, peduncle slender, from a 6 mm spathe at the base of the leaf; flowers yellow-green with purple stripes; floral bract tubular, 2 mm long; pedicel short, 1 mm; ovary stout, 1.5 mm; dorsal sepal oblong, acute, 6 × 2 mm, prominently 3-veined, dorsally carinate; lateral sepals coherent to above the middle into a bifid lamina, 6.5 × 4.5 mm, 6-veined, bicarinate externally; petals narrowly obovate, acuminate, margins serrate, with a prominent central vein and the two other veins produced into a pair of parallel serrated crests on the inner surface; lip red-purple, fleshy, elliptical, obtuse, 3.25 × 2 mm, with an obtuse angle on each side below the middle, base with a pair of minute auricles, short-unguiculate, disc with a pair of low parallel fleshy calli; column slightly arcuate, semiterete, 2.5 mm long with a foot 0.5 mm long. ETYMOLOGY: From the Latin *quadri-*, "four-," and *serratus*, "serrate" or "saw-edged," referring to the four serrated edges of each petal.

**ECUADOR:** PICHINCHA: Epiphytic in old cacao trees along road between Santo Domingo and Chone, alt. 350 m, collected in 1972, flowered in cultivation 15 June 1974. *David and Thomas Dodson s.n.* HOLOTYPE in SEL, #14-74-70.

This species is readily distinguished by its proliferative and pendent habit, purplish leaves, a short, few-flowered raceme of yellow-green flowers prominently striped with purple, each petal with serrated edges as well as a pair of serrated lamellae, and a purplish red lip with an obtuse apex and minute basal auricles.

The unusual condition of the petals suggests a relationship with *Pleurothallis carinata* Schweinfurth, which occurs in Peru at a considerable altitude on the opposite side of the Andes, but the lip of the latter differs in being apiculate, in having small, erect, triangular lateral lobes, and in lacking the basal auricles. The flowers are dark yellow and the secondary stems apparently are not proliferative, but produced from a creeping rhizome.



PLEUROTHALLIS QUADRISERRATA Luer

- Pleurothallis restrepioides** Lindl., Companion Bot. Mag. 2:356. 1836.  
*Pleurothallis laurifolia* Rchb. f., Bonplandia 2:23. 1854, not HBK.  
*Pleurothallis fritillaria* Rchb. f., Bonplandia 3:240. 1855.  
*Pleurothallis roezlii* Rchb. f., Linnaea 61:13. 1877.  
*Humboldtia fritillaria* (Rchb. f.) O. Ktze., Rev. Gen. Pl. 2:667. 1891.  
*Humboldtia roezlii* (Rchb. f.) O. Ktze., l. c. 2:668. 1891.  
*Humboldtia restrepioides* (Lindl.) O. Ktze., l. c. 2:668. 1891, as *H. restrepioides*.

Plant epiphytic, occasionally terrestrial, large, caespitose; roots velamentous, flexuous. Secondary stem erect, terete, 10-30 cm long, with 2-3 close-fitting tubular sheaths, unifoliate, often proliferating. Leaf oblong to elliptical, apex obtuse to subacute, base cuneate to rounded, sessile to short-petiolate, 9-24 × 2-7.5 cm. Inflorescence racemose, 1 or 2, arcuate, from nearly as long as to surpassing the leaf by more than twice its length, loosely several- to many-flowered, peduncle from a spathe 1-3.5 cm long in the axil of the leaf. Flowers large, about 2 cm in size, bilabiate, mottled in wine-red to purple in varying degrees, from spots which coalesce to solid; floral bracts infundibular, about 1 cm long; pedicel slender, 8-15 mm; ovary about 5 mm long; dorsal sepal ovate, acute to acuminate, 18 × 6 mm; lateral sepals connate nearly to their apices, ovate, acute, 16-18 × 6-9 mm; petals elliptical to obovate, acute to acuminate, slightly oblique, 9-12 × 3.5 mm, prominently 3-veined; lip fleshy, more or less oblong, dilated below the middle with the margins rounded and turned up in the natural position, apical half ovate, subacute to obtuse, margins erose and revolute, 15 × 5 mm; column 5 mm long, angled and shortly winged near the middle, with a very short column-foot.

ETYMOLOGY: Named for the resemblance of the species to members of the genus *Restrepia*. *Restrepia* was named in honor of José Emanuel Restrepo.

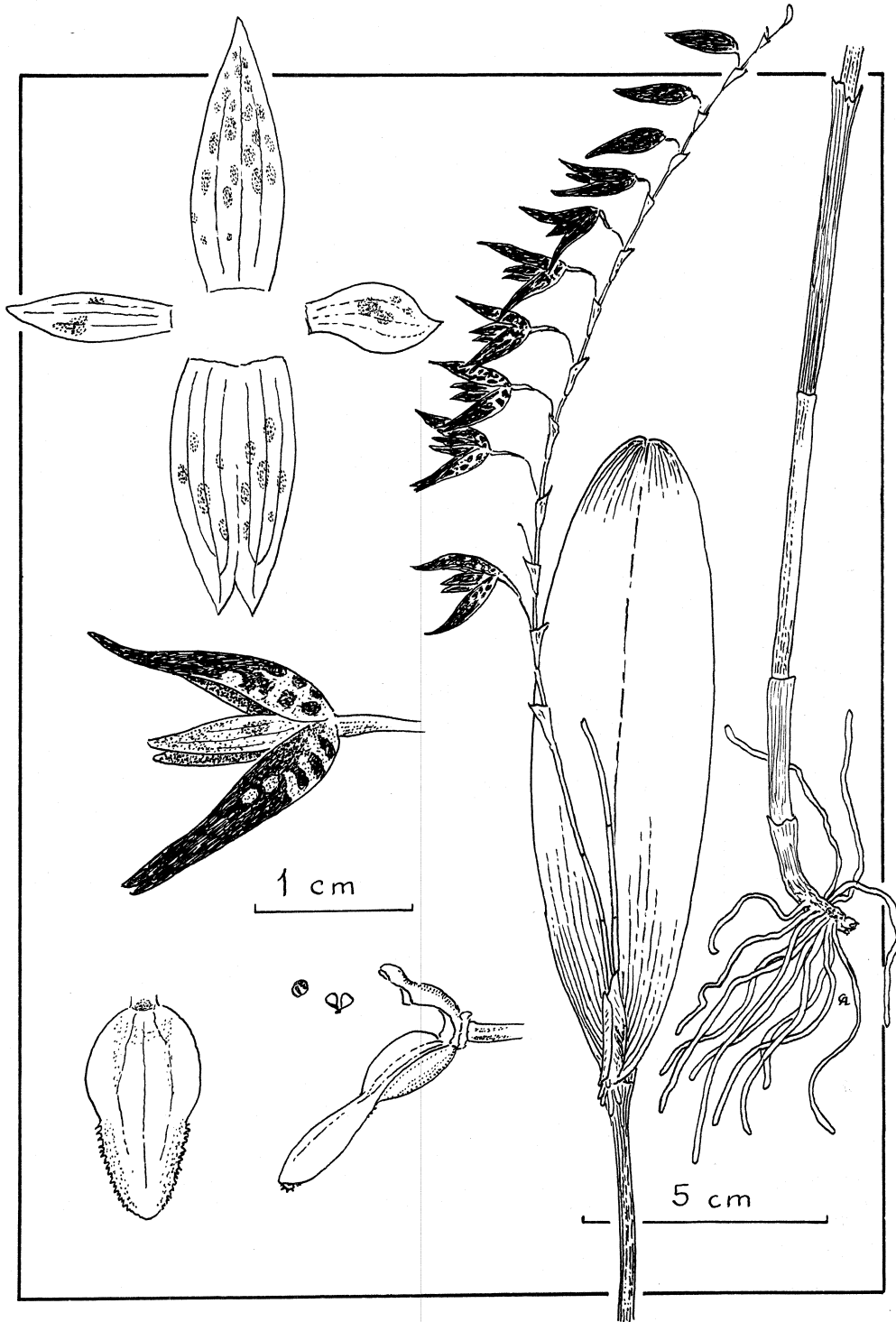
TYPE: Peru: in the Province of Chachapoyas. *Mathews s.n.* HOLOTYPE in K.

DISTRIBUTION: Colombia, Venezuela, Ecuador, and Peru.

ECUADOR: CANAR: Epiphytic between Duran and Tambo, alt. 1500 m, 21 Nov. 1957. *Dodson 274 SEL*; CARCHI: Epiphytic at crest of mountain between Ibarra and San Lorenzo, km 78, alt. 1400-1500 m, 14 Dec. 1961. *Dodson and Thien 1592 SEL*; PICHINCHA: Terrestrial on roadside, Quito to Chiriboga, km 72, alt. 1700 m, 5 Feb. 1963. *Dodson and Thien 2229 SEL*; Km 25-35, alt. 2400-2800 m, 14 Mar. 1963. *Dodson and Thien 2397 SEL*.

In Hooker's Companion to the Botanical Magazine, Lindley drew a similarity of *Pleurothallis secunda*, *P. grandiflora*, and this species, which he named *restrepioides*, to members of the genus *Restrepia*. His plant was collected by Mathews in the Amazon region of Peru. Jameson's collection from Pichincha west of Quito, where some of Dodson's collections were made, was described by Reichenbach as *P. fritillaria*. A comparison of the descriptions and photographs of the type specimens suggests that these two names are synonymous. The descriptions and drawings of *P. laurifolia* Rchb. f. and *P. roezlii* Rchb. f. from Colombia indicate that they also are synonymous, although the flowers may be somewhat larger.

This species is a handsome member of the genus *Pleurothallis*. It has a generous raceme of large, maroon or maroon-mottled flowers and large leaf mounted on a sturdy stem. The petals are relatively large, entire and marked



PLEUROTHALLIS RESTREPIOIDES Lindl.

with three veins. The fleshy lip is longer than the petals and is somewhat variable in the various collections, but it is more or less involute below the middle and revolute above the middle.

***Pleurothallis ruscifolia*** (Jacq.) R. Br., Aiton, Hort. Kew. ed. 2, 5:211. 1813.

Basionym: *Epidendrum ruscifolium* Jacq. Enum. Pl. Carib. 29. 1760.

*Dendrobium ruscifolium* (Jacq.) Sw., Nov. Act. Soc. Ups. 6:84. 1799.

*Pleurothallis laurifolia* HBK., Nov. Gen. Sp. Pl. 1:364. 1815, not Rchb. f.

*Pleurothallis succosa* Lindl., Gen. Sp. Orch. 5. 1830.

*Humboldtia succosa* Pavon ex Lindl., l. c. in synonymy.

*Pleurothallis multicaulis* Poepp. & Endl., Nov. Gen. Sp. Pl. 1:47, t. 82. 1836.

*Humboldtia laurifolia* (HBK.) O. Ktze., Rev. Gen. Pl. 2:667. 1891.

*Humboldtia ruscifolia* (Jacq.) O. Ktze., Rev. Gen. Pl. 2:668. 1891.

*Pleurothallis ruscifolia* var. *caquetana* Schltr., Repert. Spec. Nov. Regni Veg. Beih. 23.55. 1924.

Plant epiphytic to terrestrial, variable, small to medium in size, caespitose with numerous slender roots. Secondary stem slender, erect, usually between 5-25 cm long, with 2-3 tubular, evanescent sheaths, unifoliate. Leaf elliptical to oblong, apex acute to acuminate, tridenticulate, base cuneate to acuminate, petiolate, commonly 5-18 X 1-5 cm, coriaceous but thin, often grey-green in color. Inflorescence a fascicle of single, pale yellow-green to greenish white flowers from a spathe up to 1 cm in length, but which is often degenerate, at the apex of the stem; floral bract minute, about 1 mm long; pedicel 5-7 mm long; ovary about 3 mm long; dorsal sepal ovate to narrowly ovate, acute to acuminate, concave basally, about 6-8 X 2-3 mm; lateral sepals usually connate to their apices into a synsepal, 6-8 X 1.5-2 mm, similar to the dorsal sepal; petals linear, 3-6 X 1 mm, usually 1-nerved; lip fleshy, ovate, obscurely 3-lobed with the sides curved up in the natural position, geniculate near the center, 1-2 X 0.7-2 mm, apex acute with crenulate margins, base short-unguiculate and concave; column about 1 mm long with an inconspicuous foot.

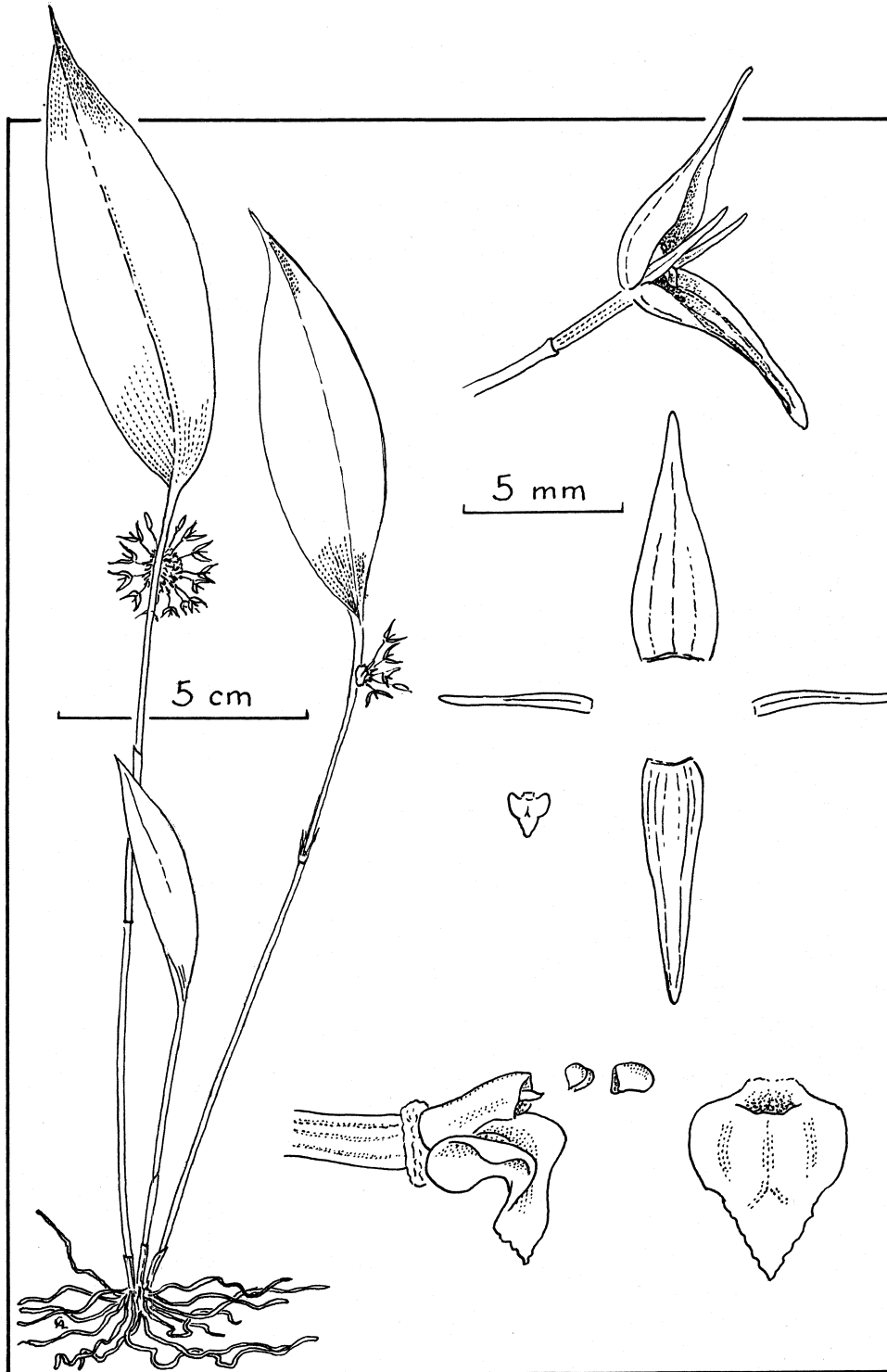
ETYMOLOGY: From the Latin *ruscum*, "a rough prickly shrub from which brushes were made," and *folium*, "a leaf," referring to the clusters of stiff pointed leaves produced by the plant.

TYPE: Martinique: "in sylvis densis."

DISTRIBUTION: West Indies (Cuba, Jamaica, Haiti, Dominican Republic, Puerto Rico, Guadeloupe, Dominica, Martinique, St. Vincent, Grenada), Central America (Guatemala, El Salvador, Costa Rica) through Panama and Colombia to Venezuela, Trinidad, Guyana, Surinam, and to Ecuador, Peru, Bolivia, and Brazil.

ECUADOR: CARCHI: Epiphytic along mountain crest between Ibarra and San Lorenzo, km 78, alt. 1400-1500 m, 14 Dec. 1961. *Dodson and Thien 1603 SEL*; PICHINCHA: Terrestrial on road embankment between Quito and Santo Domingo, km 80-87, alt. 1650 m, 1 Nov. 1961. *Dodson and Thien 1223 SEL*; Near Santo Domingo in orange trees, alt. 675 m, 15 June 1967. *Dodson, Williams and Adams 3706 SEL*.

This first-described species of *Pleurothallis* is common, variable and widely distributed in tropical America. The sepals vary from ovate and narrowly acuminate or aristate, to ovate with merely acute to subacute apices. Sometimes the apices of the lateral sepals are free, as described in *P. lauri-*



PLEUROTHALLIS RUSCIFOLIA (Jacq.) R. Br.



*folia* HBK. The *P. laurifolia* of Reichenbach is an entirely different plant.

Schlechter described var. *caquetana* from Colombia on the basis of slender sepals with much shorter petals. The petals of the flowers from one locality in Ecuador are short and comparatively broad (3 X 1 mm), yet still 1-nerved. Some descriptions of this species record the petals as 3-nerved; others, as 1- or 3-nerved. All those examined from Ecuador are 1-nerved. The configuration of the lip seems relatively constant. Lindley states that "there seems to be nothing to distinguish *multicaulis* and *succosa*" from *ruscifolia*.

The plant illustrated in Dunsterville and Garay, *Venezuelan Orchids* 1:357 as *P. wendlandiana* Rchb. f. is, in my opinion, *P. ruscifolia*. Reichenbach described *P. wendlandiana* as being similar to *P. chloroleuca* Lindl., a much larger plant, although undoubtedly related, and the flowers are described as being spotted.

*Pleurothallis ruscifolia* may be identified by its small to medium size, petiolate, oblong-fusiform leaves and an aggregate inflorescence of often numerous single, pale green flowers about 8 mm long with narrow, entire petals, and a small, ovate, acute, obscurely 3-lobed lip which is decurved near the middle.

***Pleurothallis scoparum* Rchb. f., Flora 71:153. 1888.**

Plant terrestrial, caespitose, medium in size, up to 35 cm tall; roots numerous, slender, flexuous. Secondary stem slender, terete, 3-10 cm long with 1-2 close-fitting tubular sheaths, unifoliate. Leaf very long-petiolate, the petiole similar to the secondary stem, 5-15 cm long, the blade narrowly fusiform, about 17 X 1.2 cm, apex acuminate, acute, base attenuate, with a prominent mid-rib. Inflorescence a dense fascicle of dry pedicels plus a few single flowers from a 5 mm spathe 3-5 mm from the apex of the leaf. Flowers gaping, pink with red spots; floral bract 5 mm long, sheathing the pedicel; pedicel 1.5-2 cm long and the ovary 3 mm long; dorsal sepal ovate, concave, 9 X 3 mm, acuminate, attenuate; lateral sepals connate to the apex into a synsepal similar to the dorsal sepal; petals ovate, 8 X 2 mm, attenuate, margins finely denticulate above the middle; lip fleshy, verrucose, ovate, 2.5 X 2 mm, short-unguiculate, apex acute, the margins deeply and irregularly lacerate, the sides upcurved in the natural position; column short, 1.5 mm, with a short column-foot.

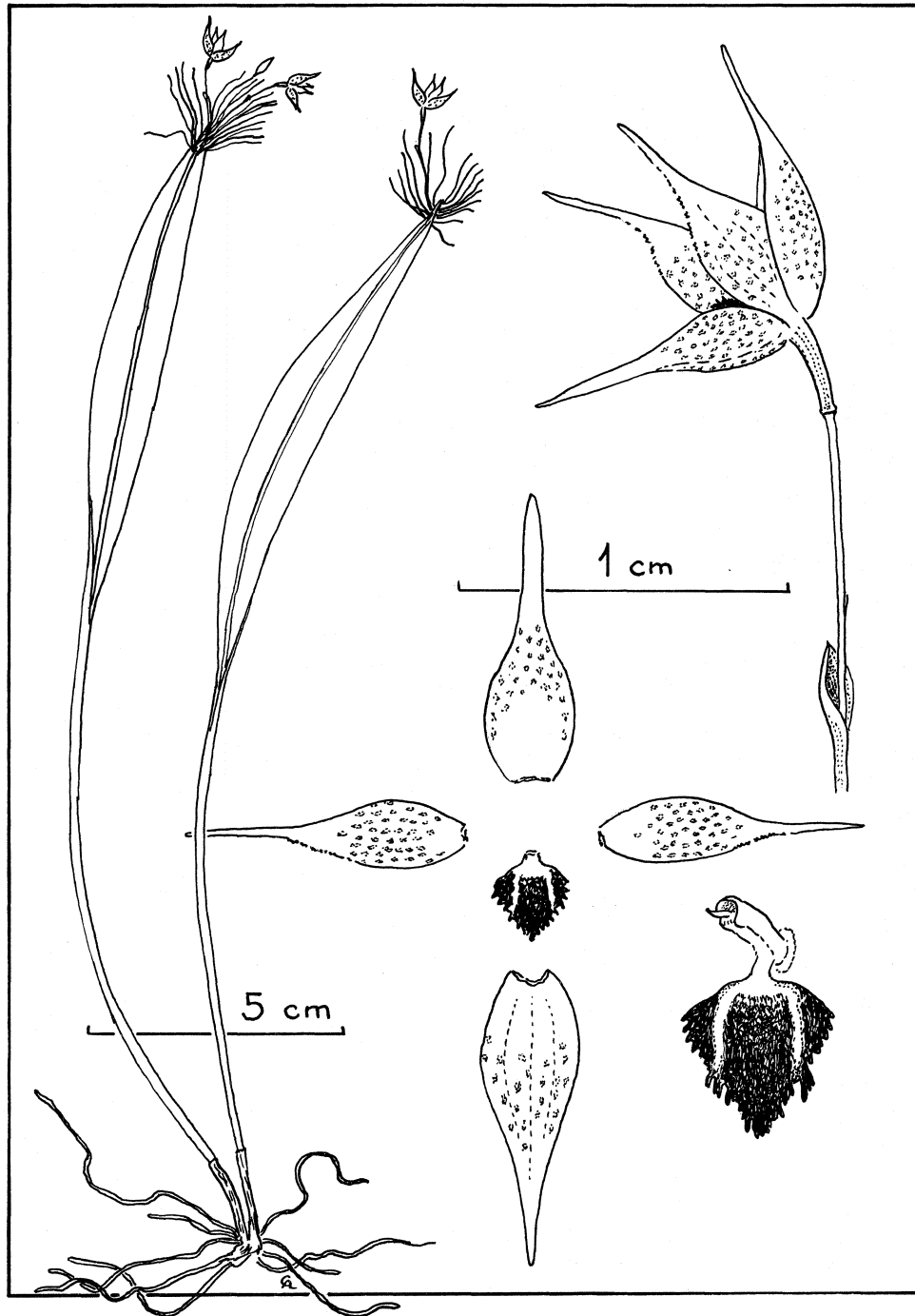
ETYMOLOGY: From the Latin *scopae*, *-arum*, "a broom or a brush," referring to the brush-like appearance of the old inflorescences at the apex of the leaf.

TYPE: Ecuador, *Klaboch s.n.*

DISTRIBUTION: Ecuador.

ECUADOR: PICHINCHA: Terrestrial on road embankment between Quito and Santo Domingo, km 80-87, alt. 1600 m, 2 Feb. 1963. *Dodson* and *Thien* 2218 SEL.

This little-known species was first collected by Klaboch from an unidentified site in Ecuador and described by Reichenbach in 1888. Nothing about it has appeared in the literature since that time. Last year a plant with a similar habit was described from Colombia in a monotypic genus (*Colombiana* Ospina, as *C. garayana* Ospina, *Orquideologia* 8:230. 1974). Characters cited for this genus fall within those of *Pleurothallis*.



PLEUROTHALLIS SCOPARUM Rehb. f.

The unusual habit of producing the fascicle of flowers from very near the apex of the leaf is shared only by *P. garayana*. (*Pleurothallis garayana* (Ospina) Luer, comb. nov.). Other species, which produce an inflorescence about half-way to the apex of the leaf (e.g. *P. circumplexa* Lindl. and *P. immersa* Linden & Rchb. f.) are known.

*Pleurothallis scoparum* is readily recognized by its long, slender leaf-petiole and long, fusiform leaf terminated at the apex by a brush-like fascicle of many old pedicels. Pink-spotted flowers, nearly a centimeter in size, are produced successively, but few simultaneously. The sepals and petals are ovate-aristate and the red, warty lip is shaggy along the margins.

***Pleurothallis sicaria*** Lindl., Edward's Bot. Reg. 27:misc. 91. 1849.

*Pleurothallis tripteris* Rchb. f., Linnaea 22:829. 1849.

*Pleurothallis trigonopoda* Kl., Allg. Gartenzeitung 21:361. 1853.

*Humboldtia sicaria* (Lindl.) O. Ktze., Rev. Gen. Pl. 2:668. 1891.

*Pleurothallis alpina* Ames, Sched. Orch. 5:14. 1923.

Plant medium in size, epiphytic, caespitose, erect to ascending; roots slender, flexuous. Secondary stem 15-25 cm long, sheathed basally with 2 dry tubular sheaths, carinate and broadly winged above, to 13 mm wide at the oblique junction with the leaf, unifoliate. Leaf elliptical, 6-11 × 2-3 cm, apex acute, cuneate below and tapering into the winged stem. Flowers yellowish with purplish veins, borne successively in short racemes in fascicles within a scarious spathe less than 1 cm long at the apex of the stem; peduncle up to 1 cm long; floral bract about 3 mm long; pedicel 2-3 mm long; ovary also 2-3 mm long; dorsal sepal oblong, acute to subacute, 8-10 × 2-3 mm; lateral sepals united to the apex into an ovate lamina, 7-8 × 5 mm, or free and falcate; petals obovate acute, 3-5 × 1.5 mm, microscopically to grossly serrate above the middle; lip fleshy, oblong, 4-5 × 1.5-2 mm, broadly unguiculate, 3-lobed, lateral lobes small, narrowly falcate near the middle, mid-lobe elliptical, microscopically verrucose, disc with a pair of low, longitudinal keels; column 3 mm long with a column-foot 2 mm long.

ETYMOLOGY: From the Latin *sica*, "a short sword" or "stiletto" (*sicarius*, "an assassin"), in allusion to the dagger-like shape of the stem and blade of the species.

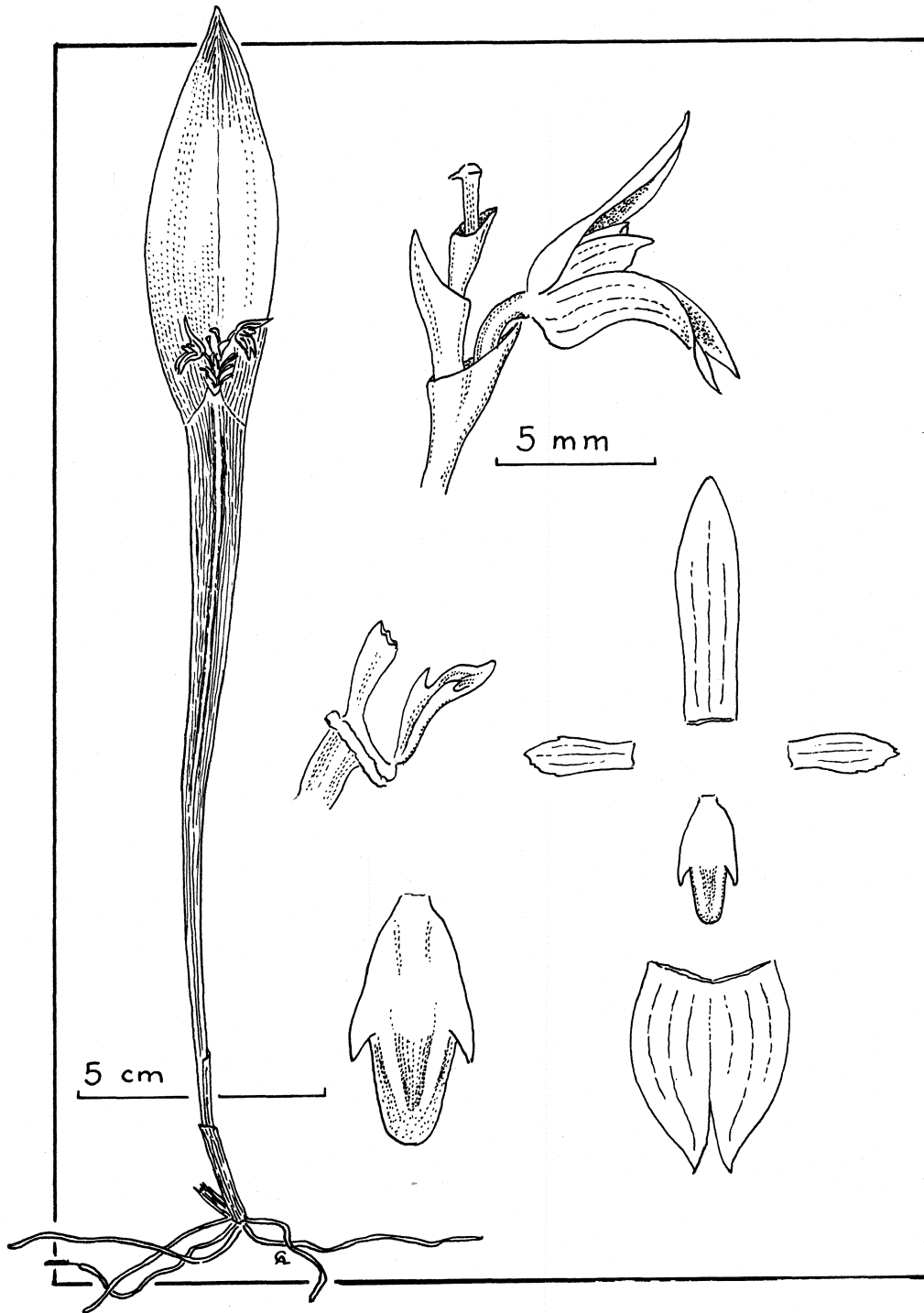
TYPE: Trinidad.

DISTRIBUTION: Costa Rica, Panama, Colombia, Ecuador, Venezuela, Trinidad, and Guyana.

ECUADOR: ZAMORA-CHINCHIPE: Epiphytic between Loja and Zamora, km 25, alt. 1500 m, 12 Oct. 1959. *Dodson 21* SEL; TUNGURAHUA: Epiphytic near Rio Negro, alt. 1300 m, 12 March 1963. *Dodson and Thien 2362* SEL.

*Pleurothallis sicaria* is widespread and relatively common in northern tropical America from Costa Rica to Guyana and south into Ecuador. Ames described it from Panama as *P. alpina*, the only difference being a somewhat more rounded, or less acute, middle lobe of the lip. The lip is variable in Ecuador, and the petals vary from serrate to essentially entire. The lateral sepals may cohere to their apices into a broad lamina, or they may be completely free from each other, but this condition may depend upon the age of the flower.

The species is remarkable for its broad-winged secondary stem which together with the blade reminded Lindley of "a bayonet blade (*sica*) with



PLEUROTHALLIS SICARIA Lindl.

the point downwards." With a prominent keel down the length, the stem may even appear three-winged. The leaf-like wings merge into the blade at a nearly invisible "suture line" which runs from the junction diagonally upward on either side of the apex of the stem. At this point the maroon-striped yellow flowers on short one- to three-flowered racemes appear, as if fascicled, protruding from behind a short spathe.

***Pleurothallis talpinaria*** (Karst.) Rchb. f., *Flora* 69:554. 1886.

*Talpinaria bivalvis* Karst., *Florae Columb.* 1:153, t. 76. 1859, not *Pleurothallis bivalvis* Lindl.

*Pleurothallis trimerglossa* Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 9:78. 1921.

Plant epiphytic, small to medium in size, caespitose with slender velamentous roots. Secondary stem slender, terete, 5-15 cm tall, with 2 close-fitting tubular sheaths, unifoliate. Leaf coriaceous, oblong to elliptical 3-7 × 0.7-1.5 cm, apex obtuse to subacute, base cuneate with a fairly distinct petiole about 1 cm long. Flower light green marked with purple, gaping, borne singly and successively from a relatively large spathe 10-15 mm long at the base of the leaf-petiole; floral bract tubular, about 1 cm long within the spathe; pedicel slender, about 1 cm long; ovary 5-8 mm long; dorsal sepal elliptical to ovate, acute to subacute, about 10 × 4.5 mm; lateral sepals united into a lamina similar to the dorsal sepal, about 10 × 5 mm, sometimes bidentate; petals linear, 5.5 × 0.5 1-nerved; lip reddish, more or less oblong, about 7 × 2 mm, apex trilobate or tridentate from folds on either side of the acute middle lobe, lateral lobes below the middle decurved in a semi-orbicular manner, long-pubescent or lacerate beneath, unguiculate, disc with a carina near the base and between the lateral lobes and with a depression in front of it; column slender with apical wings, 4 mm long with a 1 mm column-foot.

ETYMOLOGY: Named for the genus *Talpinaria* proposed by Karsten for this species. From the Latin *talpinus*, "mole-like" (*talpa*, "mole"), referring to the form of the lateral lacerations of the lip which might have been compared to the star-nosed mole.

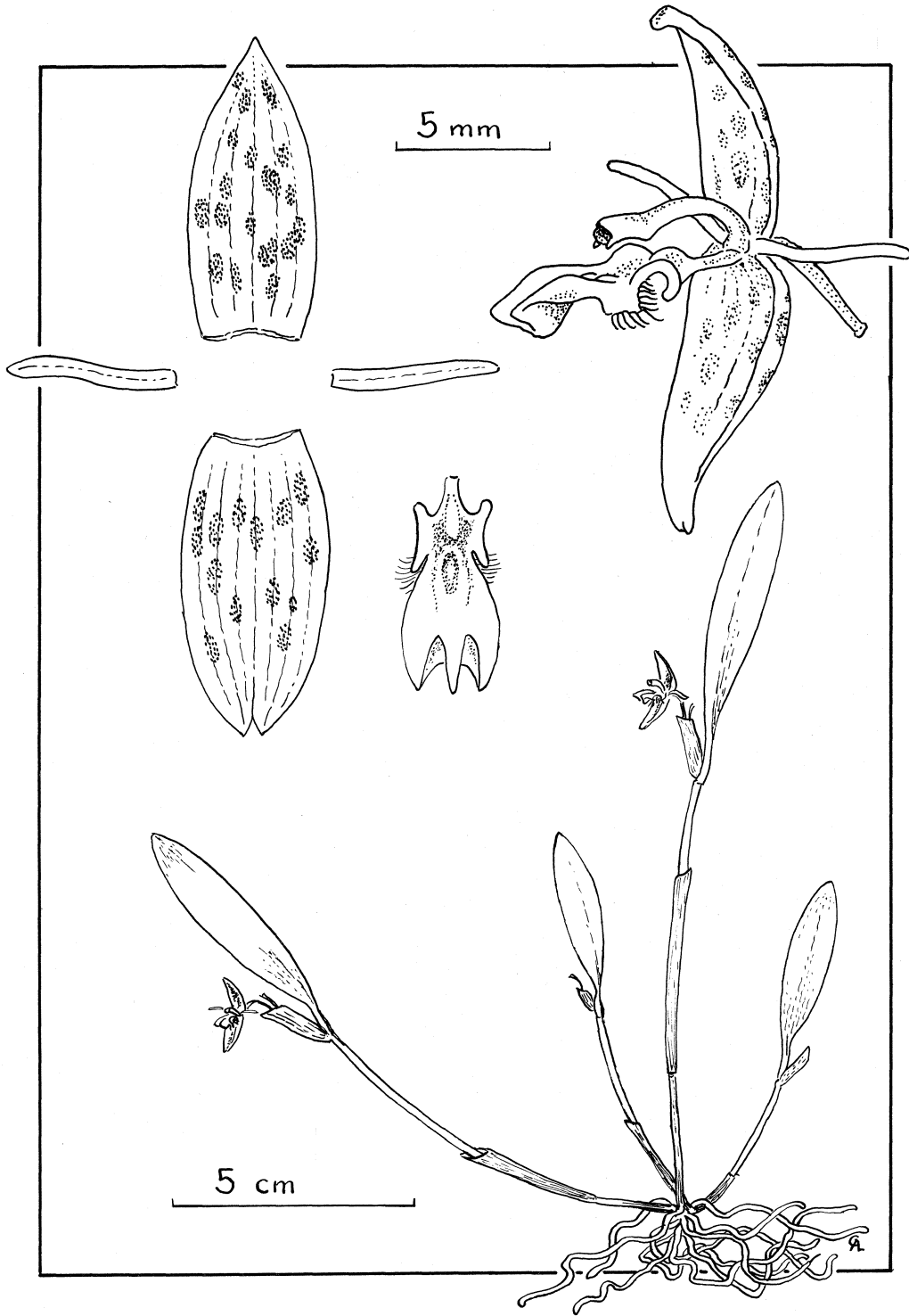
TYPE: Colombia and Venezuela. "Habitat regiones andinas cordillerae Bogotanae et Caracasanae, alt. 2700 m." *Karsten s.n.*

DISTRIBUTION: Venezuela, Colombia, Ecuador, and Peru.

ECUADOR: ZAMORA-CHINCHIPE: Between Loja and Zamora, km 42, alt. 1400 m, 18 Sept. 1961. *Dodson and Thien 660 SEL*; NAPO: Between Baños and Puyo, 8 Oct. 1961. *Dodson and Thien 929 SEL*.

This distinctive species was described from Colombia and Venezuela by Karsten in utmost detail as the only species of a new genus, *Talpinaria*. Reichenbach f. later removed it to *Pleurothallis*, but its original specific epithet, *bivalvis*, had already been used by Lindley for a species in the "cordatae" complex. Schlechter described the species from Peru as *P. trimerglossa*.

*Pleurothallis talpinaria* is easily recognized by its unique lip: three-parted apically and with semi-circularly curved lateral lobes which are fringed below and with a fin above. The labellum is easily visible within the bilabiate flower which is spread nearly two centimeters wide. The green



PLEUROTHALLIS TALPINARIA (Karst.) Rehb. f.

flowers with purple or red spots are borne singly from a spathe at the end of a long stem and at the base of an elliptical, petiolate leaf.

***Pleurothallis tricarinata*** Poepp. & Endl., Nov. Gen. Sp. Pl. 1:49, t. 87. 1836, not Focke.

*Pleurothallis platystachys* Regel, Gartenfl. 37:459. 1888.

*Humboldtia tricarinata* (Poepp. & Endl.) O. Ktze., Rev. Gen. Pl. 2:668. 1891.

Plant small to medium in size, epiphytic; rhizome stout, creeping; roots slender, velamentous. Secondary stem stout, up to 8 cm tall with 1-2 dry, evanescent sheaths below, narrowly ancipital above, unifoliate. Leaf elliptical to oblong, obtuse, base cuneate to rounded, sessile, 4-9 × 2-3 cm. Inflorescence a single raceme 2-3 times as long as the leaf, loosely 7-18 flowered, distichous with conspicuous floral bracts, peduncle from a 1 cm spathe at the base of the leaf. Flowers yellow, non-resupinate; pedicel 2 mm long, hidden by a conduplicate floral bract about 10 mm long; ovary tricarinata, about 3 mm long; dorsal sepal oblong to narrowly ovate, acute to acuminate, navicular, 8-10 × 2.5-3 mm, with a prominent dorsal keel; lateral sepals connate nearly to the apex, 9-10 × 4 mm, the synsepal oblong, acute, bidentate, bialate externally with wings 1 mm wide; petals oblong, slightly oblique, acute, 4 × 1 mm; lip oblong, ovate, 5 × 2 mm, margins below the middle more or less erect and becoming low elevations near the middle, apex acute to obtuse, microscopically erose; base short-unguiculate; column semi-terete, winged, 3.5 mm long with a prominent bilobed foot.

ETYMOLOGY: From the Latin *tricarinatus*, "three-keeled" (*tri-*, "three-," and *carina*, "keel"), referring to the conspicuously winged flowers of the species.

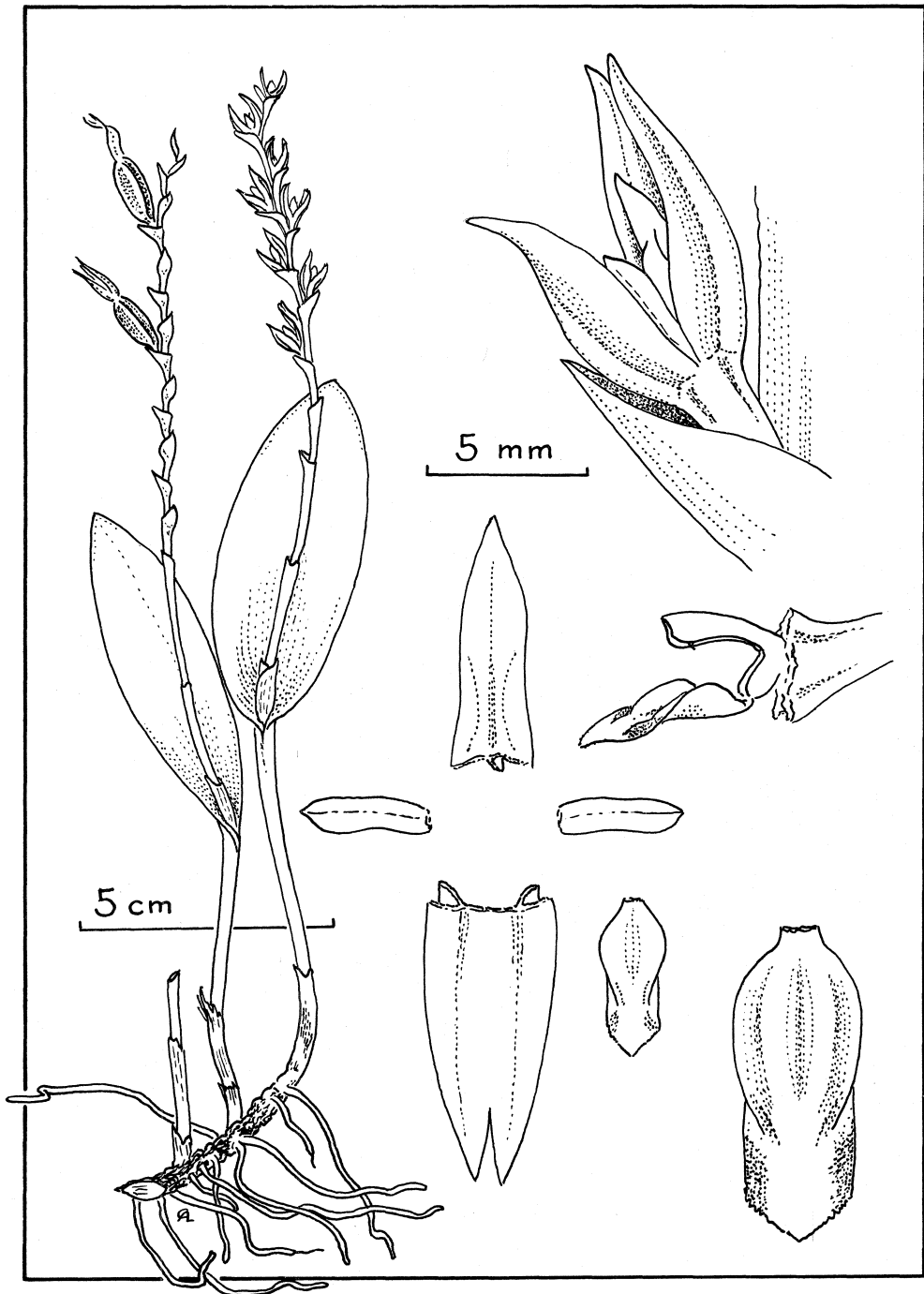
TYPE: Peru, subalpine forest at Pampayaco and Cuchero. *Humboldt s.n.*

DISTRIBUTION: the eastern slopes of the Andes from Ecuador, Peru, Bolivia, and Brazil.

ECUADOR: ZAMORA-CHINCHIPE: Epiphytic on trees near Rio Zamora, alt. 1100 m, 26 July 1960 *Dodson 145 SEL*; EL ORO: Epiphytic near Cariamanga, alt. 1000 m, 10 May 1958. *Dodson 336 SEL*.

*Pleurothallis tricarinata* was diagramed and described in 1836 by Poeppig and Endlicher from a collection from Peru. Regel described it as *P. platystachys* from Rio de Janeiro, Brazil in 1888. It is a distinctive species found on the eastern slopes of the Andes from Ecuador to southern Brazil. This is the first report of the species from Ecuador.

This species is readily recognized by its distichous raceme of large-bracted, sessile, non-resupinate flowers, the three sepals of which are prominently keeled. The raceme is longer than the elliptical leaf which is more or less as long as the narrowly ancipital secondary stem.



PLEUROTHALLIS TRICARINATA Poepp. & Endl.



*Pleurothallis tripterantha* Rchb. f., Bonplandia 2:24. 1854.

*Pleurothallis tripterygia* Rchb. f., Bonplandia 2:24. 1854.

*Pleurothallis procumbens* Lindl., Fol. Orch. Pleuroth. 35. 1859.

*Lepanthes tricarinata* Barb. Rodr., Gen. Sp. Orch. Nov. 2:43. 1882, not

*Pleurothallis tricarinata* Poepp. & Endl.

*Humboldtia procumbens* (Lindl.) O. Ktze., Rev. Gen. Pl. 2:668. 1891.

*Humboldtia tripterantha* (Rchb. f.) O. Ktze., l. c. 2:668. 1891.

*Humboldtia tripterygia* (Rchb. f.) O. Ktze., l. c. 2:668. 1891.

*Pleurothallis trialata* Cogn., Martius Fl. Bras. 3, pt. 4:500, t. 100, fig. 2. 1896.

Plant epiphytic, small to medium in size, shortly repent to caespitose; roots slender and numerous. Secondary stem abbreviated, less than 2 cm long, concealed by 1 or 2 close-fitting sheaths, monophyllous. Leaf subcoriaceous, narrowly elliptical to narrowly obovate, apex acute, tridentate, base attenuated into a long, channeled petiole, up to about 16 cm long including the petiole  $\times$  1.5 cm wide. Inflorescence a laxly-, few-flowered (2-8) raceme, shorter than to nearly as long as the leaf; peduncle slender, ascending or pendent, from a node on the secondary stem. Flowers ringent or indehiscent, fleshy, tricarinate, greenish to purplish; floral bract 1-2 mm; pedicel slender, 7-10 mm long; ovary 2 mm, 3-winged; dorsal sepal narrowly ovate, cymbiform,  $11 \times 2.5$  mm, with a 1 mm carina dorsally, apex solid and acuminate; lateral sepals each longitudinally concave with an external keel, free or united, together  $11 \times 4.5$  mm, apex thick and acuminate, lightly spotted with purple; petals subrhombic to obovate,  $4.5 \times 1.5$  mm, acuminate, translucent yellow-green with 3 rows of purple spots along the veins; lip ligulate to elliptical or ovate,  $5.5 \times 2$  mm, upper surface micro-verrucose, pale pink flecked with purple, sides slightly recurved in the natural position, indistinctly keeled beneath, apex acute to blunt, base with an indistinct, small auricle at either side, short-unguiculate; column slender, 4 mm long with a 1 mm column-foot; capsule prominently 3-winged.

ETYMOLOGY: From the Greek *tripterus*, "three-winged" (*tri*-, "three-," and *pteron*, "wing"), and *anthos*, "flower," referring to the conspicuously tricarinate flowers (and fruit) of the species.

TYPE: Venezuela: Caracas. *Wagner s.n.*

DISTRIBUTION: Venezuela, Colombia, Ecuador, Peru, and Brazil.

ECUADOR: ZAMORA-CHINCHIPE: Epiphytic along Rio Zamora, alt. 1100 m, 26 July 1960. *Dodson 143 SEL*: TUNGURAHUA: 4 km east of Baños along Rio Blanco, alt. 1600 m, 8 Oct. 1961. *Dodson and Thien 903 SEL*.

*Pleurothallis tripterantha* and *P. tripterygia* were described simultaneously by Reichenbach from collections by Wagner near Caracas. He described the former from a specimen with open flowers on maturing capsules, and the latter from a fragment of a smaller plant with a closed flower. In his *Folia Orchidaceae* Lindley stated that the latter would have been better left undescribed, concluding that the two were the same. In the same publication he described the species himself as *P. procumbens*, also obtained from Caracas.

Barbosa Rodriguez described the species from Brazil as *Lepanthes tricarinata*, and later Cogniaux transferred it to *Pleurothallis* as *P. trialata* because the epithet *tricarinata* had been used by Poeppig and Endlicher for a different plant.

This species is usually illustrated with swollen capsules, the flowers



remaining relatively fresh as the ovaries ripen. The flowers are commonly cleistogamous, many populations being represented by plants whose flowers never open.

This species is easily recognized by its markedly three-winged flower, whether open or closed, at which time it resembles a bird's head complete with beak. Each sepal has a distinct keel running its length and extending onto the ovary. The few flowers, usually seen with their tri-lobed ovaries dangling in various degrees of maturity, are borne on a weak peduncle from a short stem below an attenuated, long-petiolate leaf. This is the first report of this widespread species from Ecuador.

**Pleurothallis truncata** Lindl., Companion Bot. Mag. 2:355. 1836.

*Humboldtia truncata* (Lindl.) O. Ktze., Rev. Gen. Pl. 2:668. 1891.

*Pleurothallis corazonica* Schltr., Repert, Spec. Nov. Regni Veg. 14:128. 1915, not Lehm. & Krzl.

Plant small to medium sized, lithophytic to epiphytic, caespitose; roots numerous, thin, flexuous. Secondary stem slender, terete, to 17 cm tall, with 2 close-fitting tubular sheaths, 1 basal, the other near the middle, monophyllous. Leaf elliptic, 5-7 × 1.5-2.5 cm, acuminate, base cuneate, sessile. Inflorescence 1-2 racemes, densely many-flowered, secund, slightly shorter or slightly longer than the leaf, peduncle slender, from an inconspicuous 5 mm spathe at the base of the leaf. Flowers orange; floral bract tubular, 2 mm, pedicel 1.5 mm; ovary 1.5 mm; dorsal sepal ovate, 3 × 2 mm, subacute to obtuse, concave, 3-nerved; lateral sepals connate into a deeply concave synsepal, 3 × 4 mm spread out, apex often bidentate; petals oblong-obovate, 2 × 1 mm, apex rounded; lip 3-lobed, 1.75 × 3 mm spread out, lateral lobes large and rounded, folded over the suborbicular, concave mid-lobe in the natural position, broadly hinged to the column-foot; column 1.5 mm, with an apical tooth, terete, column-foot indistinct.

ETYMOLOGY: From the Latin *truncatus*, "truncate" (from *truncus*, "cut short, a stump, or a trunk") referring to the broad, 3-lobed lip which ends abruptly.

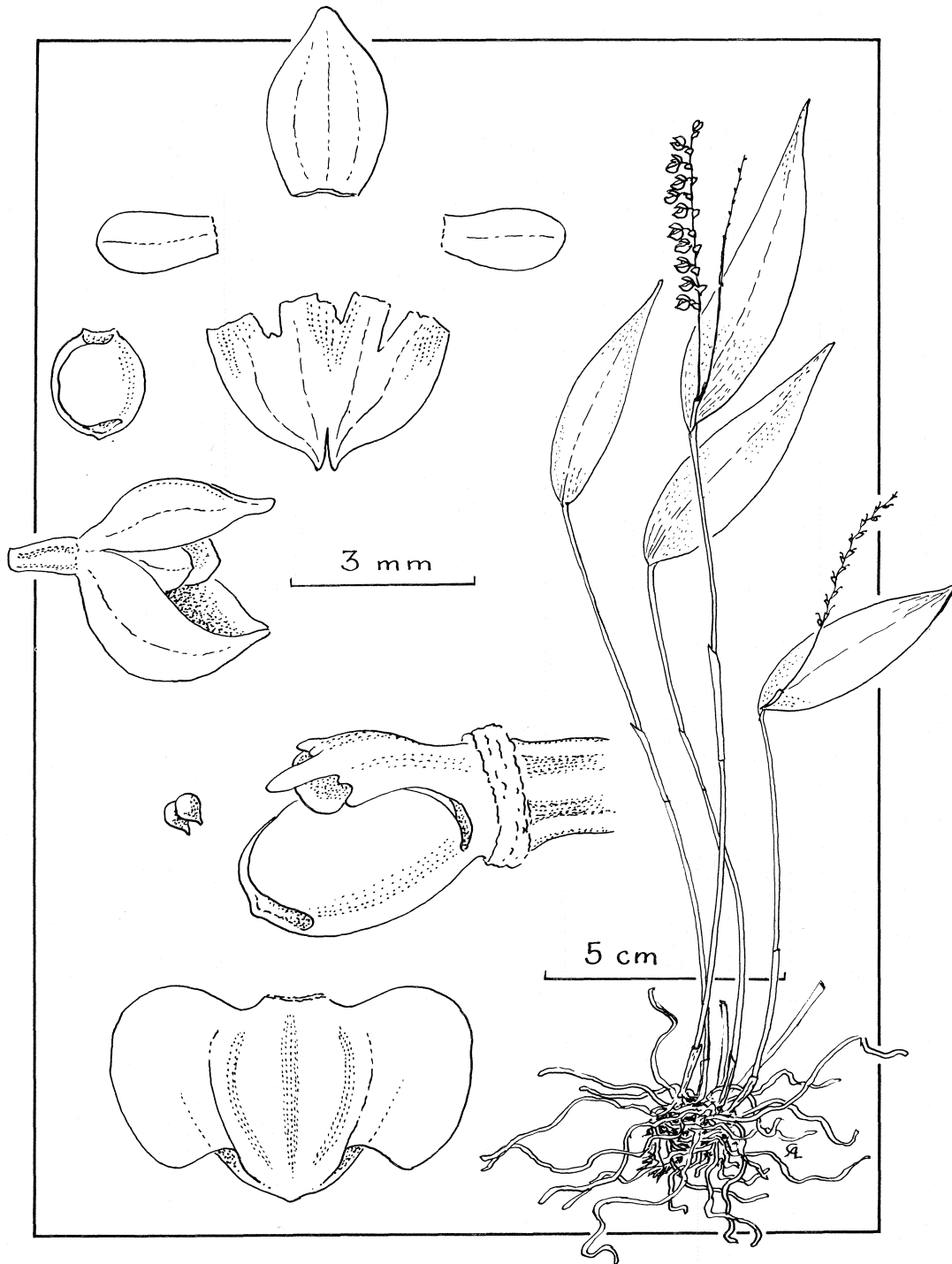
TYPE: "on trees in woods West side of Pichincha" (Ecuador). *Jameson s.n.* HOLOTYPE in K.

DISTRIBUTION: Ecuador

ECUADOR: PICHINCHA: On rock cliff between Quito and Chiriboga, km 25-35, alt. 2400-2800 m, 14 March 1963. *Dodson and Thien 2384 SEL.*

From another of Jameson's collections from Pichincha, Lindley described *Pleurothallis truncata* stating "labello truncato involuto." In his work *Die Orchideenfloren der südamerikanischen Kordillerenstaaten*, III. *Ecuador*, Schlechter reduced his own *P. corazonica* to its synonymy.

The two simple adjectives Lindley used to describe the lip are true and to the point, but much more might be said, and this leads to much more which is unknown. The lip is held deeply within the concavity formed by the markedly concave lamina of the united lateral sepals. It appears as a



PLEUROTHALLIS TRUNCATA Lindl.

thickened disc cleft on one side. Elevation of the top flap, which proves to be a round, "involute" lateral lobe, reveals its partner folded over below. Elevation of this second flap exposes the shallowly concave middle lobe. When spread apart the two lateral lobes, equally as large as the mid-lobe, impart the "truncate" appearance. Lindley compared the lip "to a broad strap, attached by the middle of one side and rolled up."

Whether a pollinator must crawl or probe between the folded lateral lobes, or whether it simply proceeds to the column over them undisturbed, will prove an interesting discovery. Dodson believes that it is almost certain to be hummingbird pollinated.

*Pleurothallis truncata* may be recognized by its slender stem, a slender acuminate leaf and a raceme, about as long as the leaf, of brilliantly orange-colored flowers. The unique lip is described above.