

ICONES PLEUROTHALLIDINARUM
(ORCHIDACEAE)
PLEUROTHALLIS OF ECUADOR II

C. A. Luer*

In this second report of the *Pleurothallis* of Ecuador seven species are new to the flora of Ecuador, three being described for the first time.

- Pleurothallis aristata*** Hook., Ann. Mag. Nat. Hist. 1 (2):329, t. 15. 1839.
Pleurothallis urbaniana Rchb.f., Ber. Deutsch. Bot. Ges. 3:279. 1855.
Pleurothallis barberiana Rchb.f., Gard. Chron. 2:6. 1881.
Humboldtia aristata (Hook.) O. Ktze., Rev. Gen. Pl. 2:667. 1891.
Humboldtia barberiana (Rchb.f.) O. Ktze., l. c. 2:667. 1891.
Pleurothallis helenae Fawc. & Rendle, J. Bot. 47:4. 1909.
Pleurothallis dichotoma Ames, Sched. Orch. 6:58. 1923, not Schltr.
Pleurothallis divexa Ames, l. c. 7:20, t. 5. 1924.

Plant epiphytic, minute, caespitose; roots very slender, flexuous. Secondary stem abbreviated, 3-4 mm long, clothed by 1-2 loose scarious sheaths, unifoliate; leaf narrowly obovate, apex obtuse, tridenticulate, base acuminate, petiolate, up to 2 cm long and about 4 mm wide. Inflorescence a few-flowered (3-6) fractiflex raceme exceeding the leaves by twice their height or more, peduncle filiform, from a node on the secondary stem. Flowers yellow-green, striped, suffused and flecked with purple; floral bracts about 1 mm long; pedicels slender, 7-8 mm long; ovary 1 mm long; dorsal sepal ovate and concave below, apex long-attenuate, aristate, 7 X 2 mm, tricarinate; lateral sepals free except toward the base, similar to the dorsal sepal, each 7 X 1.5 mm, bicarinate; petals elliptical, acuminate, ciliate or fimbriate, 3.5 X 1 mm; lip oblong, 2.5 X 1 mm, thick and fleshy, apex rounded, verrucose, margins papillose below the middle, base broadly and shortly unguiculate with minute lateral auricles, disc with a pair of tubercled crests and a well-defined, shiney, oval area between them; column 2 mm long, denticulate, column-foot very short.

ETYMOLOGY: From the Latin *aristatus* (*arista*, "an awn" or "bristle"), "awned" or "long-pointed," referring to the apices of the sepals.

TYPE: Guyana, Demerara.

DISTRIBUTION: West Indies (Jamaica, Haiti, Puerto Rico, Guadeloupe, Dominica, Martinique), Costa Rica, Panama, Colombia, Ecuador, Venezuela, and Guyana.

ECUADOR: ZAMORA-CHINCHIPE: Km. 46 between Loja and Zamora, alt. 1400 m. *Fred Fuchs, Jr. s.n.* SEL 26-74-63, flowered in cult. Nov. 1974.

Pleurothallis aristata is a somewhat variable species widespread in northern tropical America. This is the first report from Ecuador.

The minute plant appears very similar to the many other dwarf species characterized by a dense tuft of tiny narrowly obovate leaves with abbreviated secondary stems. The hair-like fractiflex raceme towers over the little clump of leaves and bears its comparatively large flowers singly in a slow succession.

The flowers are characterized by spreading ovate sepals with long at-

*The Marie Selby Botanical Gardens.

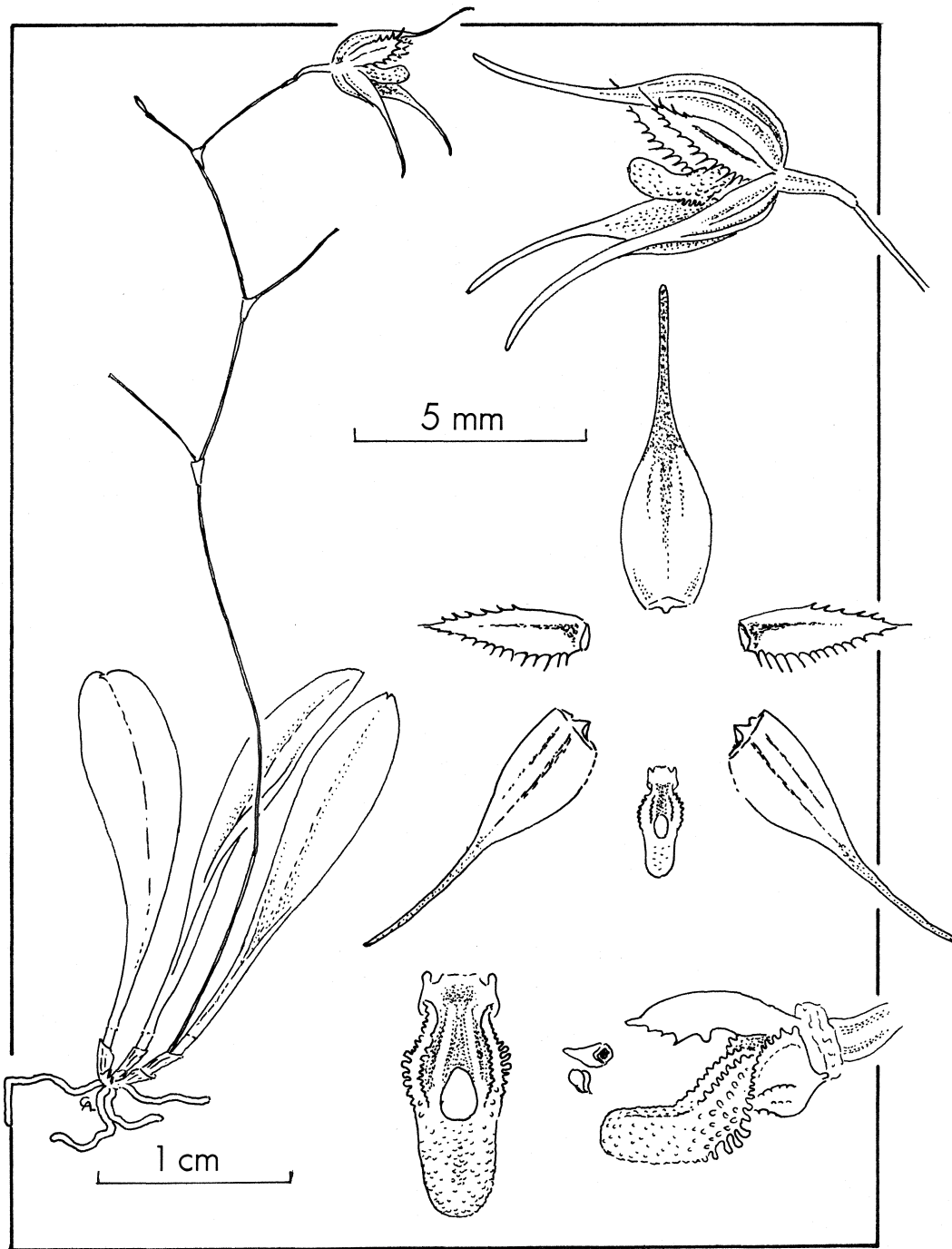


Figure 22. PLEUROTHALLIS ARISTATA Hook.

tenuated apices and ciliated petals. The lip is thick and verrucose with papillary or tubercled crests. Between the latter there is a mirror-like oval patch. In the literature the color is variously described as spotted or striped with purple, to pale green (as *P. helenae* from Jamaica).

Pleurothallis blepharopetala Schltr., Repert. Spec. Nov. Regni Veg. 14:128. 1916.

Plant epiphytic or terrestrial, medium-sized, caespitose; roots slender, flexuous. Secondary stem slender, terete, to 40 cm tall, with tubular sheath below the middle and 1 or 2 more at the base, unifoliate. Leaf erect, narrowly ovate, acuminate, tridentate, base cordate and decurrent on the stem a short distance, 11-16 × 2.5-3.5 cm. Inflorescence fasciculate, 1 to 2 maroon flowers borne simultaneously from a 1.5 cm spathe from the apex of the stem; pedicel 12-15 mm long; floral bract tubular, 5-6 mm long; ovary about 5 mm long; dorsal sepal ovate, acute, 9.5 × 5.5 mm, 3-veined, the veins prominent externally; lateral sepals united into an ovate synsepal, acute, concave basally, 9 × 7 mm, 4-veined, all sepals microscopically papillose internally and minutely verrucose externally with papillae along the veins and margins; petals linear-falcate, oblique, 6 × 1 mm, fleshy, 1-veined, margins serrate-ciliate; lip broadly ovate, cordate, to suborbicular, obtuse, apiculate, 3.5 × 3.5 mm, very thick with a tubercle below the apex, margin denticulate above the middle, slightly concave centrally, long-concave basally below the column toward the attachment to the column-foot. Column stout, 2 × 2 mm with a column-foot 1.5 mm long.

ETYMOLOGY: From the Greek *blepharon*, "eyelid," and *petalon*, "leaf," but now "petal," referring to the prominently ciliate margins of the petals.

TYPE: ECUADOR: PICHINCHA: epiphytic near Canracoto, May 1885. A. Sodiro 10.

DISTRIBUTION: Ecuador.

ECUADOR: PICHINCHA: Terrestrial on a road embankment about 20 km above Tandapi, alt. about 2500 m, 1 March 1975. C. Luer & R. Kent 289 SEL.

This species, first collected 90 years ago by Sodiro and not described until nearly 60 years ago by Schlechter, and except for his list of the orchids of Ecuador in *Die Orchideenfloren der südamerikanischen Kordillerenstaaten* (1921), has not otherwise been mentioned in botanical literature.

Among a group of specimens collected this March in Ecuador, is a distinctive species which fits Schlechter's description of *Pleurothallis blepharopetala*. The plant consists of long slender stems terminated by erect narrowly cordate leaves, not unlike many other species of the section *Macrophyllae-Fasciculatae* Lindl. The moderately sized, maroon flowers are borne one or two at a time from an ancipital spathe between the cordate lobes of leaf. The external surfaces of the dark sepals appears roughened with a multitude of minute warty excrescences, especially along the margins. The edges of the petals are prominently serrate or ciliate, hence Schlechter's epithet. The margins of the thick, bluntly cordate lip are also serrulate.

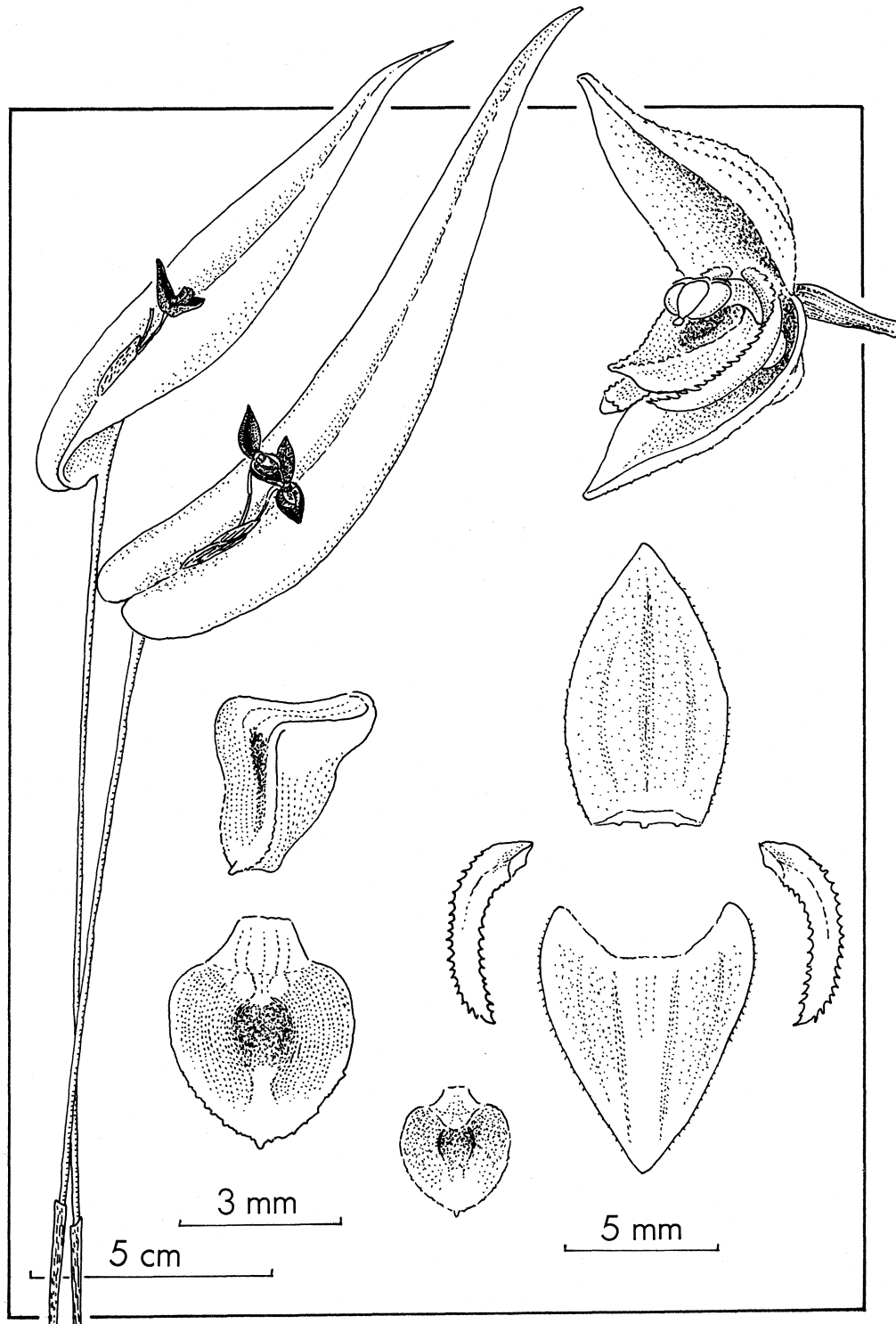


Figure 23. *PLEUROTHALLIS BLEPHAROPETALA* Schltr.

Pleurothallis breviscapa C. Schweinf., Bot. Mus. Leaf. 3:79. 1935.

Pleurothallis rabei Foldats, Acta Bot. Venez. 3:387. 1968.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stem abbreviated, 0.5-2.5 cm long, with 1-2 evanescent sheaths, unifoliate. Leaf coriaceous, narrowly elliptical, apex acute, tridenticulate, base narrowly cuneate to acuminate, gradually petiolate, 2-7 cm × 6-11 mm. Inflorescence a short, few-flowered (1-6) raceme producing small red-brown flowers singly and successively, up to half the length of the leaf; peduncle comparatively stout, from a node on the secondary stem; floral bract tubular, 1-3 mm long; pedicel 3-4 mm long; ovary tripartite, 1 mm long; dorsal sepal narrowly elliptical, acute, 5-6 × 1.5-2.5 mm, fleshy, carinate dorsally, very sparsely pubescent; lateral sepals lightly adherent to partially free, similar to the dorsal sepal, carinate externally; petals oblong-ovate, apex thickened, obtuse to acute, margin ciliate, 2.5 × 3.5 mm; lip more or less oblong, 1.5 × 0.5 mm, apex suborbicular and thickened, middle portion somewhat narrowed with a pair of short, lacerate to ciliate lateral lobes, base narrowly and shortly unguiculate with a pair of pedunculated basal lobes, at the base of the disc a pair of incurved teeth, more or less papillose; column very short, about 1 mm long, clinandrium dentate, column-foot short.

ETYMOLOGY: From the Latin *brevis*, "short," and *scapus*, "scape," in allusion to the short raceme.

TYPE: Guyana: June 1897, *E. F. im Thurn 181*. HOLOTYPE in K.

DISTRIBUTION: Guyana, Venezuela, and Ecuador.

ECUADOR: NAPO: Epiphytic along Rio Payomina near Coca. Alt. 350 m. *F. Fuchs, Jr. s.n.* SEL 26-74-94, flowered in cult. 10 Nov. 1974; province unknown. *F L Stevenson 1-2675-8* SEL, flowered in cult. Jan. 1975.

An excellent account by Dunsterville of the extreme variability of *Pleurothallis breviscapa* is to be found in *The Orchid Review* 77:352, 1969. It is indeed surprising that a species apparently so common in Venezuela and widespread in northern South America had escaped a formal description until that by Schweinfurth in 1935. This species has recently been discovered in Ecuador in the rain forest on the Amazon side of the Andes by Fred Fuchs. F L Stevenson also has collected a plant in Ecuador, but without specific location.

The plant may be recognized by its small size, short secondary stems and a short racemose inflorescence which bears successively a red-brown winged flower with ciliate petals. The apex of the minute lip is rounded, the narrowed middle portion bears a pair of fringed lateral lobes, and the base bears a pair of rounded lobules.

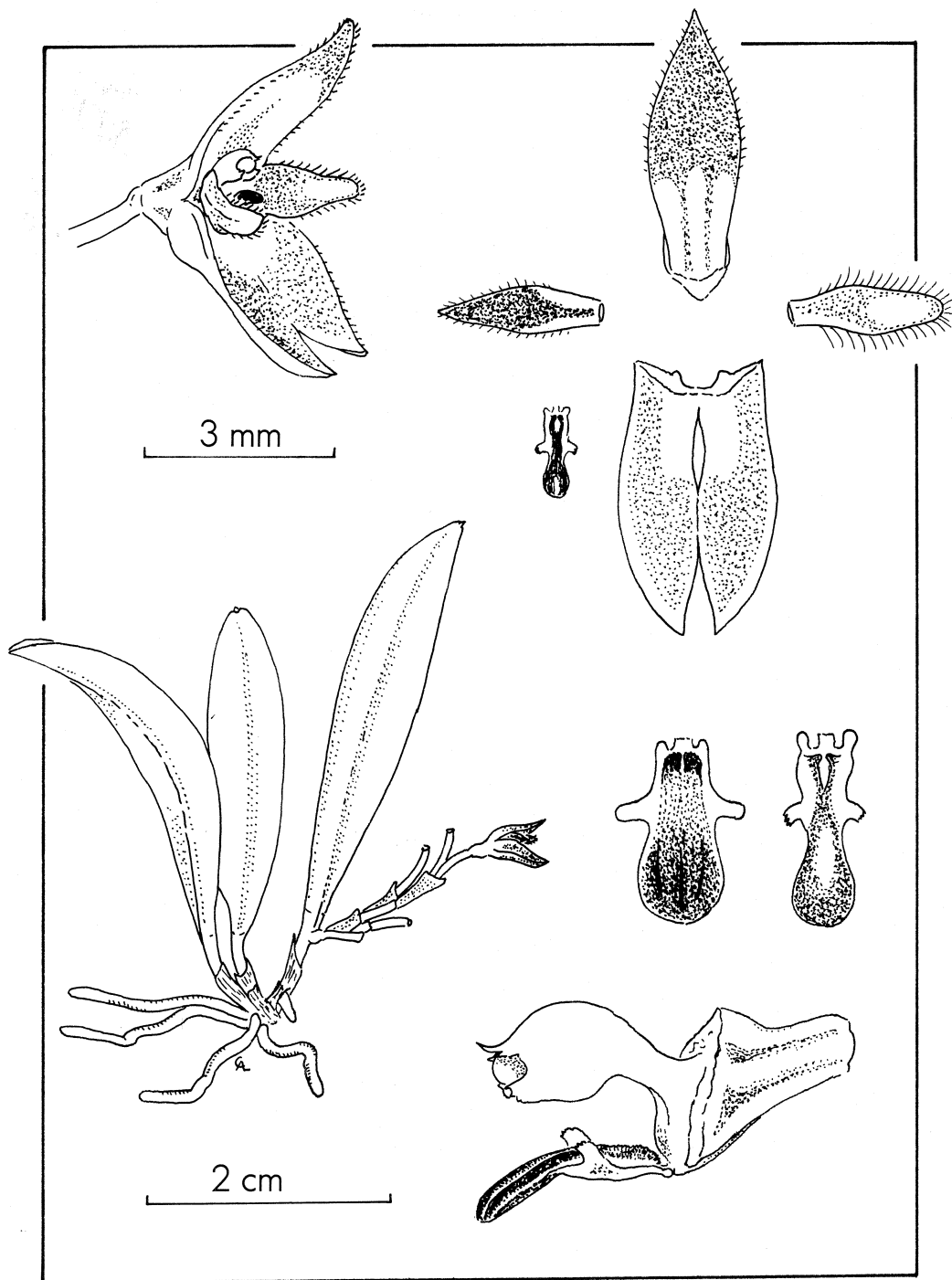


Figure 24. PLEUROTHALLIS BREVISCAPA C. Schweinf.

Pleurothallis deflexa Luer, sp. nov.

Species habitu cum sectione *Macrophyllis-Fasciculatis* Lindl. congruens, folio anguste ovato cordato, flore mediocri purpureo, sepalis ellipticis, petalis subfalciformibus serrulatis, labello subquadrato erecto, lateribus labelli deflexis, apice labelli ascendenti.

Plant medium-sized, terrestrial caespitose; roots slender, flexuous. Secondary stems erect, slender, terete, to 30 cm tall, with a tubular sheath below the middle and another 1 or 2 at the base, unifoliate. Leaf ovate, acuminate, tridentate, base cordate, sessile, 7-11 × 2-3.5 cm. Inflorescence fasciculate, purple flowers appearing singly from a spathe 12-13 mm long from the base of the leaf; floral bract tubular, about 4 mm long; pedicel 4-8 mm long; ovary 4 mm long; dorsal sepal elliptical acute, 12-15 × 4-6 mm, 3-veined, the veins prominent dorsally; lateral sepals united into an ovate synsepal, acute, 10-13 × 7 mm, 4-veined; petals linear-subfalcate, oblique, acute 6-8 × 1 mm, somewhat thickened, 1-veined, margin serrulate; lip brownish, subquadrate, 4 × 4 mm, more or less erect in the natural position, both sides abruptly deflexed above the middle, apex acute and ascending, base concave at the junction with the column-foot, surface minutely verrucose, margins erose; column 2 × 2 mm with a column-foot 1.5 mm long.

ETYMOLOGY: From the Latin *deflexus*, "deflected or bent downwards," referring to the sides of the lip which are abruptly deflexed above the middle.

TYPE: ECUADOR: PICHINCHA: Terrestrial on the road embankment, about km 70 between Quito and Santo Domingo, alt. 2000 m, 10 March 1975. C. Luer & R. Kent 225, HOLOTYPE in SEL.

DISTRIBUTION: Ecuador.

This species occurs terrestrially along roadsides, and also undoubtedly epiphytically, at moderately high elevations. Vegetatively the plant is similar to many others in the section *Macrophyllae-Fasciculatae*: a narrowly ovate, cordate leaf borne at the summit of a long slender stem. The flower is moderate in size and purplish. It is immediately distinguished by its lip which is seen to protrude nearly erectly from the center of the flower. The sides of the lip are folded downward to create a central elevation along the center, and the apex curves upward. The margins are finely erose and the surface is microscopically papular.

The lip with the deflected sides is similar to that of *Pleurothallis jupiter*, page 190, this issue, but the latter is easily distinguished by its flowers of thrice greater size, broad pilose petals, and a rough warty surface of the lip with a tubercle below the apex.

The lip is also similar to that of *P. tonduzii* Schltr. from Costa Rica, but the apex of the lip of the latter is recurved in a fashion similar to the sides of the lip.

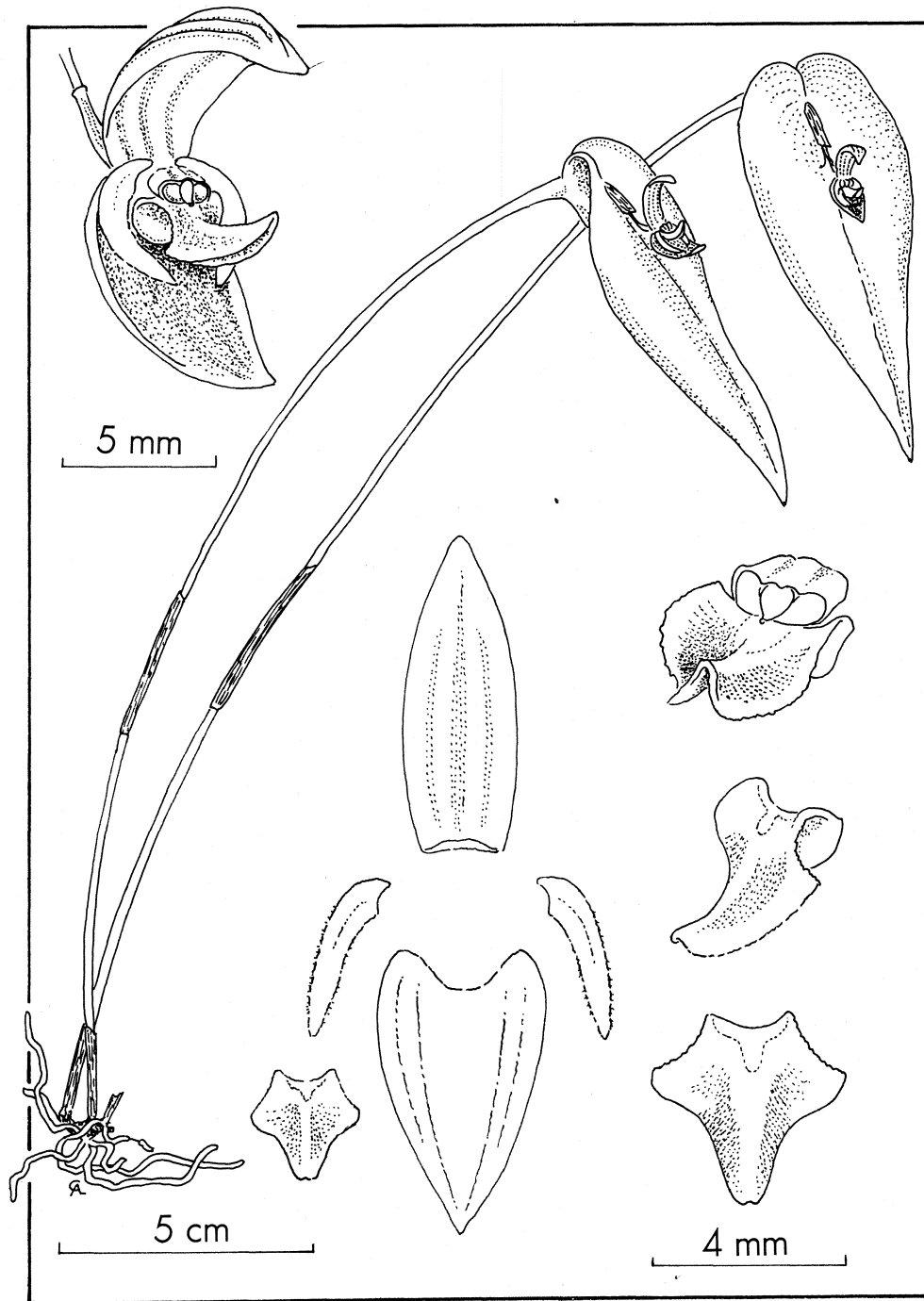


Figure 25. *PLEUROTHALLIS DEFLEXA* Luer

Pleurothallis divaricans Schltr., Repert. Spec. Nov. Regni Veg. 10:387. 1912.

Plant epiphytic, small to medium in size, caespitose; roots numerous, slender, flexuous. Secondary stems slender, terete, 3-15 cm long, with 2 close fitting tubular sheaths, the upper one isolated, monophyllous. Leaf elliptical to very narrowly ovate, apex tapered, acute, tridentate, base cuneate, sessile, 4-8 X 1-2 cm. Inflorescence 1 or 2 slender, weak, many-flowered racemes, longer or shorter than the leaf; flowers very small, subglobose, yellow-green suffused or marked with purple; peduncle from a 1-1.5 cm spathe in the axil of the leaf; floral bract infundibular, 2 mm long; pedicel 2 mm long; ovary about 1.5 mm long; dorsal sepal suborbicular, deeply concave, 2 X 2 mm; lateral sepals united into a synsepal similar to the dorsal sepal; petals obovate, rounded to abruptly apiculate, 1 X 0.5 mm; lip green, transversely rhombic, sides obtusely angled and erect, apex obtuse to bluntly acute and apiculate, base broadly hinged to the column-foot, 1.5 X 1.5 mm; column terete, 1 mm long with a short foot.

ETYMOLOGY: From the Latin *divaricans*, "spreading apart," an adjectival term Schlechter applied to the racemes: "racemis geminis, divaricanti-patentibus . . ."

TYPE: Peru: Chanchamayo: "Auf Kaffeebäumen der Hazienda St. Tereza, Rio Blanco, c. 1400 m. ü. d. M, im Jahre 1906." *E. Köhler s.n.*

DISTRIBUTION: Ecuador and Peru.

ECUADOR: ZAMORA-CHINCHIPE: Between Loja and Zamora. *G. Kennedy s.n.*

SEL 30-74-269, flowered in cult. 13 Jan. 1975; TUNGURAHUA: between Baños and Puyo. *C. Luer & R. Kent. SEL*, flowered in cult. 15 May 1975.

PERU: *Mrs. C. Chowning s.n. SEL*, flowered in cult. Oct. 1974.

Pleurothallis divaricans Schltr. has been known to occur locally in Peru, but recently it has been found twice on the eastern declivity of the Andes to the north. This is the first report of this species from Ecuador.

The plants are usually small with slender terete stems bearing a thin fusiform leaf, often of about the same length. Sometimes dense masses of the single-leaved stems accumulate. One, or occasionally two, slender weak racemes, either shorter than, or up to twice as long as the leaf, bear minute globular flowers. The spherical buds are suffused with brown or purple, but the little flowers are mostly green. The rounded dorsal sepal and synsepal are concave; the petals are broadly obovate, either rounded (Zamora-Chinchiipe) or abruptly apiculate (Tunguragua and Peru); and the green lips are concave, frequently with a small spot of brown or purple just above the abruptly apiculate apex.

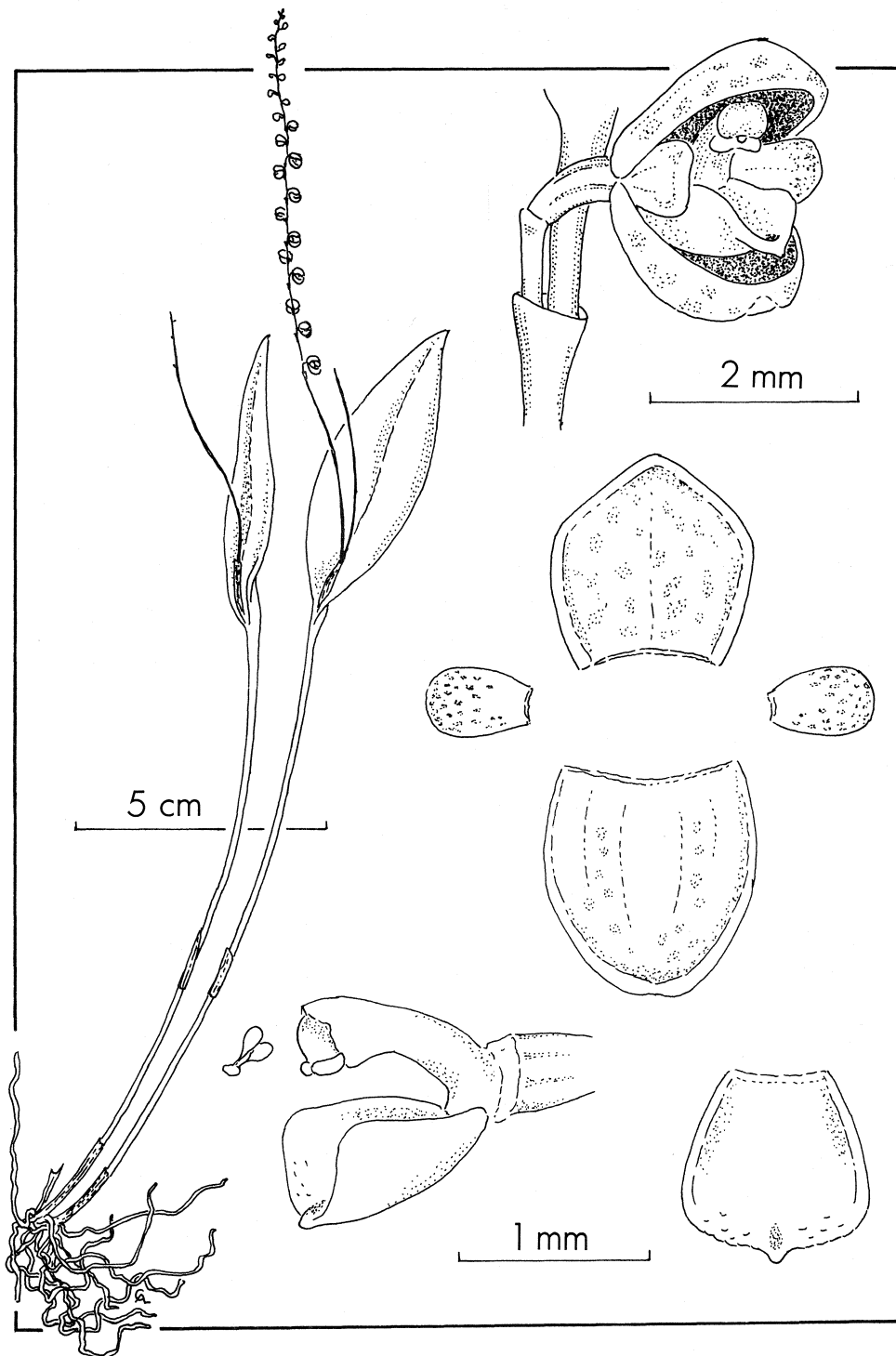


Figure 26. PLEUROTHALLIS DIVARICANS Schltr.

Pleurothallis flexuosa (Poepp. & Endl.) Lindl., Edward's Bot. Reg. 28:misc. 69. 1842.

Specklinia flexuosa Poepp. & Endl., Nov. Gen. Sp. Pl. 1:52. 1835.

Pleurothallis kefersteiniana Rchb.f., Bot. Zeitung (Berlin) 10:673. 1852.

Humboldtia flexuosa (Poepp. & Endl.) O. Ktze., Rev. Gen. Pl. 2:667. 1891.

Humboldtia kefersteiniana (Rchb.f.) O. Ktze., l.c. 2:667. 1891.

Pleurothallis remotiflora C. Schweinf., Amer. Orchid Soc. Bull. 21:108. 1952.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems terete, 1.5-2.5 cm long, mostly concealed by 1-2 tubular sheaths, monophyllous. Leaf coriaceous, narrowly obovate, acute, tridenticulate, base attenuated, petiolate, 5-9 × 1-2 cm. Inflorescence a slender, fractiflex raceme exceeding the leaf in length; flowers (up to 18) bilabiate, yellow-green spotted with purple, produced singly and successively, nonresupinate; peduncle flexuous, from a 2-3 mm spathe at the base of the leaf; floral bract tubular, oblique, 2-3 mm long; pedicel about 5 mm long; ovary about 1.5 mm long; sepals densely villous within, dorsal sepal obovate, obtuse, 6-8 × 2-3 mm, lateral sepals connate to near the apex into a broadly obovate lamina, obtuse, with concavity below the lip, 5 × 4 mm; petals maroon, spatulate, glabrous, smooth internally, verrucose externally, 2.5 × 1.75 mm; lip nastate 3-lobed, 2 × 1 mm, marked with purple, apical lobe obovate, fleshy, verrucose, lateral lobes very broadly truncate, curved, corners acute, erect in the natural position with a parallel keel very near the margins, base unguiculate, thickened above, yellow, granular; column maroon, broadly winged, 2.5 mm long with a short foot.

ETYMOLOGY: From the Latin *flexuosus*, "flexuous" or "zigzag," referring to the characteristic of the rachis.

TYPE: Peru, in trees near Pampyaco, Huánuco. November. *Poeppig 1515*.

DISTRIBUTION: Venezuela, Colombia, Ecuador, and Peru.

ECUADOR: NAPO: Near Puyo? F L Stevenson 1-2475-1 SEL, flowered in cult. Jan. 1975.

This distinctive small species is characterized by its short stem surmounted by a much longer, narrowly obovate leaf. From the base of the leaf an even longer slender inflorescence emerges. The little wooly flowers are borne singly in a slow procession which eventually produces an elongated, prominently zigzag rachis. The gaping flowers are filled with a dense, white, shaggy pubescence. The inner surface of the spatulate petals is shiny and smooth, but a broad, thick, verrucose strip courses along the center of the external surface. The lip is shaped like a blunt arrow-head when spread; the apex is thick and rounded; and the elevated sides are reinforced by intramural lamellae.

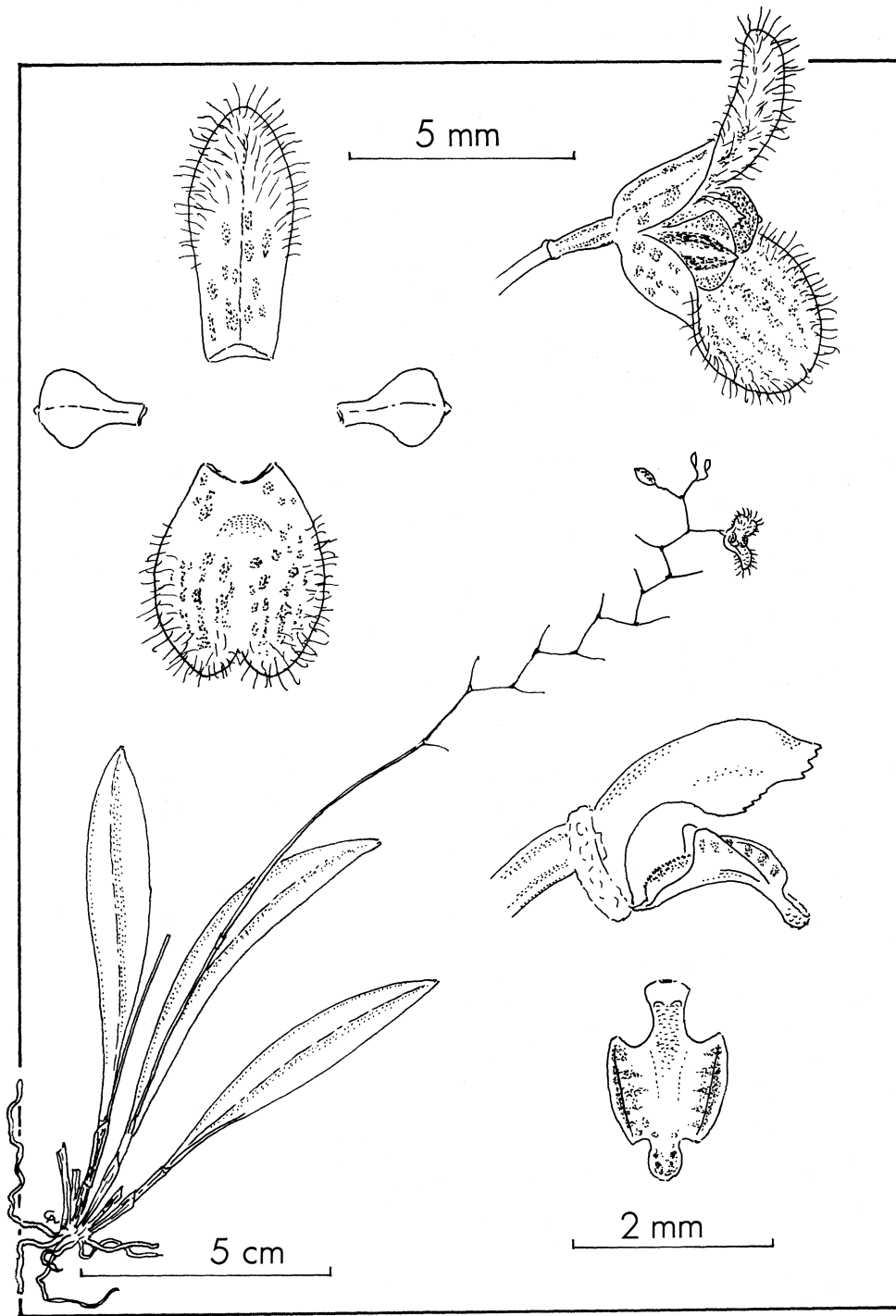


Figure 27. PLEUROTHALLIS FLEXUOSA (Poepp. & Endl.) Lindl.

Pleurothallis gacayana Schltr., Repert. Spec. Nov. Regni Veg. 21:335. 1925.

Pleurothallis cingens Ames & Schweinf., Shed. Orch. 10:23. 1930.

Plant epiphytic to lithophytic, medium sized, erect, caespitose to shortly creeping; roots slender, flexuous. Secondary stem channeled, conduplicate, or 3-winged, flattened laterally, 5-10 cm long, narrow below and 6 mm wide above, monophyllous, enveloped below by a brown tubular sheath. Leaf coriaceous, elliptical, 5-10 × 2-3 cm, apex subacute, base cuneate, long-decurrent on the stem so that the apex of the stem lies 1-3.5 cm above the lowermost junction of the leaf with the stem. Inflorescence a very short, compact, few-flowered (commonly 2) raceme from the apex of the stem near the center of the blade of the leaf; peduncle stout, about 1 cm long, sheathed by a conduplicate spathe also about 1 cm long. Flowers very fleshy, bilabiate, greenish yellow to orange; floral bract infundibular, 3-4 mm long; pedicel stout, about 2 mm long; ovary about 1.5 mm; dorsal sepal fleshy, obovate-spatulate, obtuse, 6 × 2 mm, sparsely puberulent; lateral sepals united into a fleshy, broadly ovate synsepal, obtuse to retuse, 5 × 4 mm, sparsely ciliate; petals obovate, acute, serrulate above the middle, 3 × 1 mm, 1-nerved; lip oblong, with a small semi-orbicular lateral lobe on either side just below the middle, rounded apically and microscopically erose, base minutely auriculate and broadly hinged to the column-foot, disc papillose with a pair of thickened keels near the margins; column slender, 3 mm long, winged apically, with a short thick foot.

ETYMOLOGY: Named for Volcán Gacaya, where the species was discovered.

TYPE: Guatemala: Amatitlán, Forêts de Las Cachiflanas, Volcán de Gacaya, April 1921, *Tonduz 413*.

DISTRIBUTION: Guatemala, Costa Rica, and Ecuador.

ECUADOR: TUNGURAHUA: Lithophytic in an old lava field on Volcán Tunguragua. *H. H. Morgan s.n.* SEL, flowered in cult. Sept. 1974.

This apparently rare and local species was described by Schlechter from a collection by Tonduz from Volcán Gacaya in Guatemala. A collection from Costa Rica was described as *Pleurothallis cingens* by Ames and Schweinfurth. It was recently discovered growing in an old lava field on Volcán Tunguragua in Ecuador by H. H. Morgan, the first record of this species from South America.

Pleurothallis gacayana is one of only a few species which produces its inflorescence from near the middle of the leaf (see *P. circumplexa*, this issue). The secondary stem is deeply sulcate, consisting of two well-defined, flattened sides, the sharp edges separate and free anteriorly, and united posteriorly into a common keel. The sides of the leaf are remarkably decurrent on the stem, so that the apex of the stem terminates well above the base of the leaf, appearing close to the middle of the blade. At this point the few-flowered inflorescence emerges from behind a spathe. The keel from the back of the secondary stem extends up the back of the blade to this level. The line of union of leaf and stem is faintly visible. The margins of the leaf merge into the wings of the stem.

The flowers are very fleshy and greenish, turning orange with age. The petals are finely serrated and the blackish green lip is microscopically verrucose with a pair of indistinct lobes near the middle.

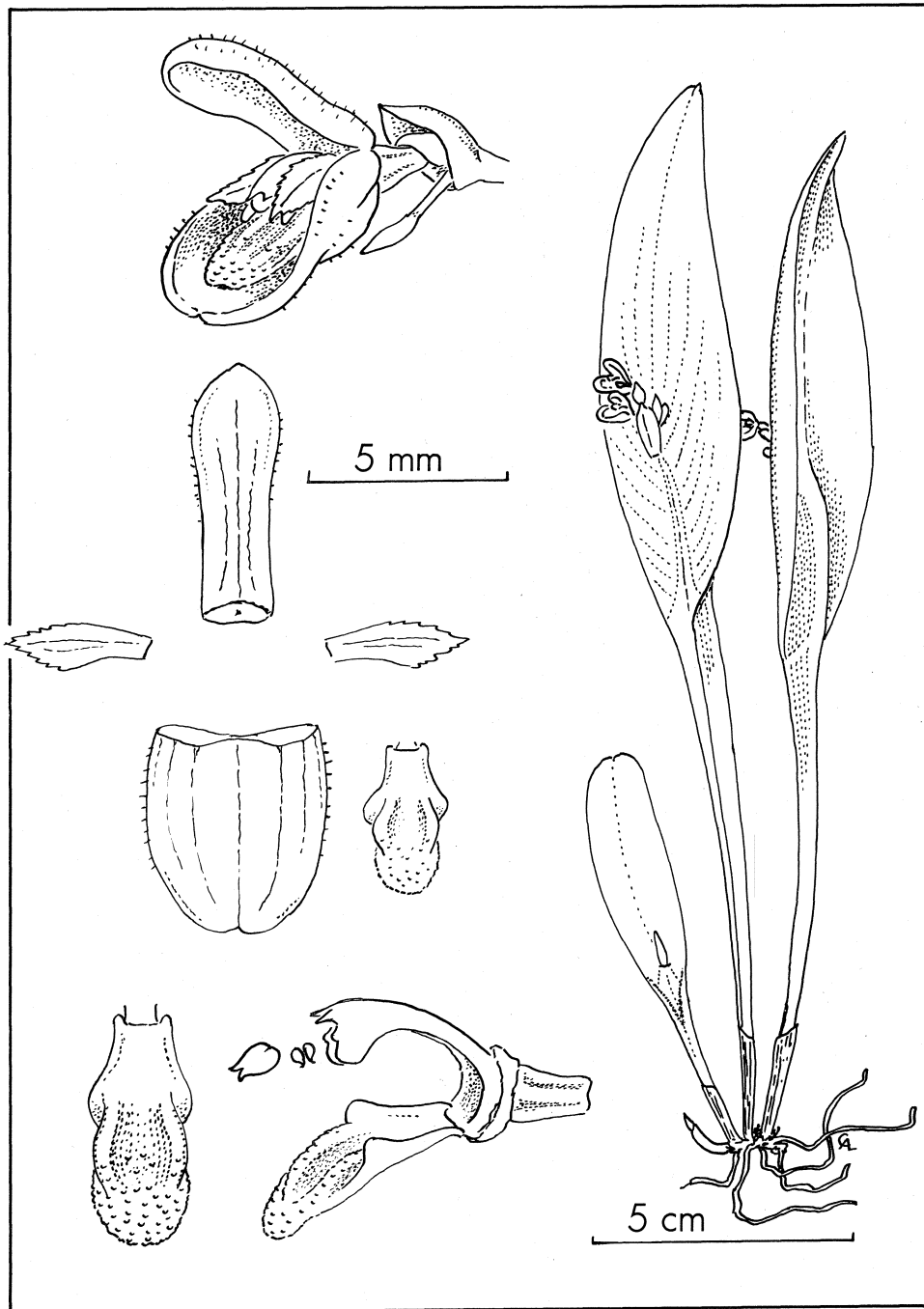


Figure 28. *PLEUROTHALLIS GACAYANA* Schltr.

Pleurothallis imperialis Luer, sp. nov.

Planta et flos grandes pro sectione *Macrophyllis-Fasciculatis* Lindl., folio late cordato, flore hianti specioso, sepalo dorsali et synsepalo late ovatis usque 2.5 cm longis flavovirentibus ad basim purpurascens, petalis late oblongis, labello atropurpureo transverse elliptico profunde convexo obtuso subconoideo circa 5 mm longo et 8 mm lato.

Plant and flower large for the section *Macrophyllae-Fasciculatae*, terrestrial, presumably also epiphytic, caespitose; roots slender, flexuous. Secondary stem erect, slender, terete, to 35 cm tall, with a long tubular sheath below the middle and another basally, unifoliate. Leaf ovate, apex acuminate, tridenticulate, base deeply cordate, sessile, 13-21 × 4-9 cm. Inflorescence fasciculate, single-flowered, from a spathe up to 2 cm long from the base of the leaf; flower showy, yellow-green and purple; floral bract tubular 3.5 mm long; pedicel 25 mm long; ovary sigmoid, 11-12 mm long; dorsal sepal broadly ovate, acute, concave, 26 × 20 mm spread out, 15-veined, yellow-green and rose-purple basally; lateral sepals united into an ovate synsepal, acute, 21 × 16 mm, 12-veined, similar to the dorsal sepal in color; petals oblong, subfalcate, obtuse, 13 × 5 mm, margins microscopically papular, 3-veined, purple-brown; lip dark purple, transversely elliptical, deeply convex, broadly and bluntly conical, 5 mm long and 8 mm across, slightly concave basally with a circular rose-colored patch, broadly hinged to the column-foot; column thick and broad, 2 mm long and 3 mm broad, with a thick column-foot also 2 × 3 mm.

ETYMOLOGY: From the Latin *imperialis*, "pertaining to an emperor," in allusion to the size, beauty, and regal colors of the flower.

TYPE: *ECUADOR*: PICHINCHA: Terrestrial along the roadside near km 85 between Quito and Santo Domingo, alt. 1500 m, 2 March 1975. *C. Luer & R. Kent 300*, HOLOTYPE in SEL; *CARCHI*: Along crest of mountain behind Rio Blanco on railroad from Ibarra to San Lorenzo, km 78, alt. 1400 m, 14 Dec. 1961. *Dodson & Thien 1601* SEL.

DISTRIBUTION: Ecuador.

One plant of this species was found growing terrestrially on a road embankment with several other species of the section *Macrophyllae-Fasciculatae*. The large leaves were not particularly distinctive, but the immense bud suggested that the plant was one which we had not seen before. A few days later the spectacular flower opened. Borne on a long slender pedicel, the flower was held snugly with the synsepal pressed near the center of the huge transverse leaf: a most impressive display. The sepals were chartreuse and suffused with rose-purple toward the base. The dorsal sepal was concave and the lateral margins of the synsepal were recurved. The thick, broad petals were held down to either side of the unique lip which protruded as a purple, transverse, bulbous organ. It was deeply convex and bluntly cone-shaped. Only a pair of stems were sacrificed for the herbarium. Fortunately, the plant is thriving in the cool house at the Marie Selby Botanical Gardens.

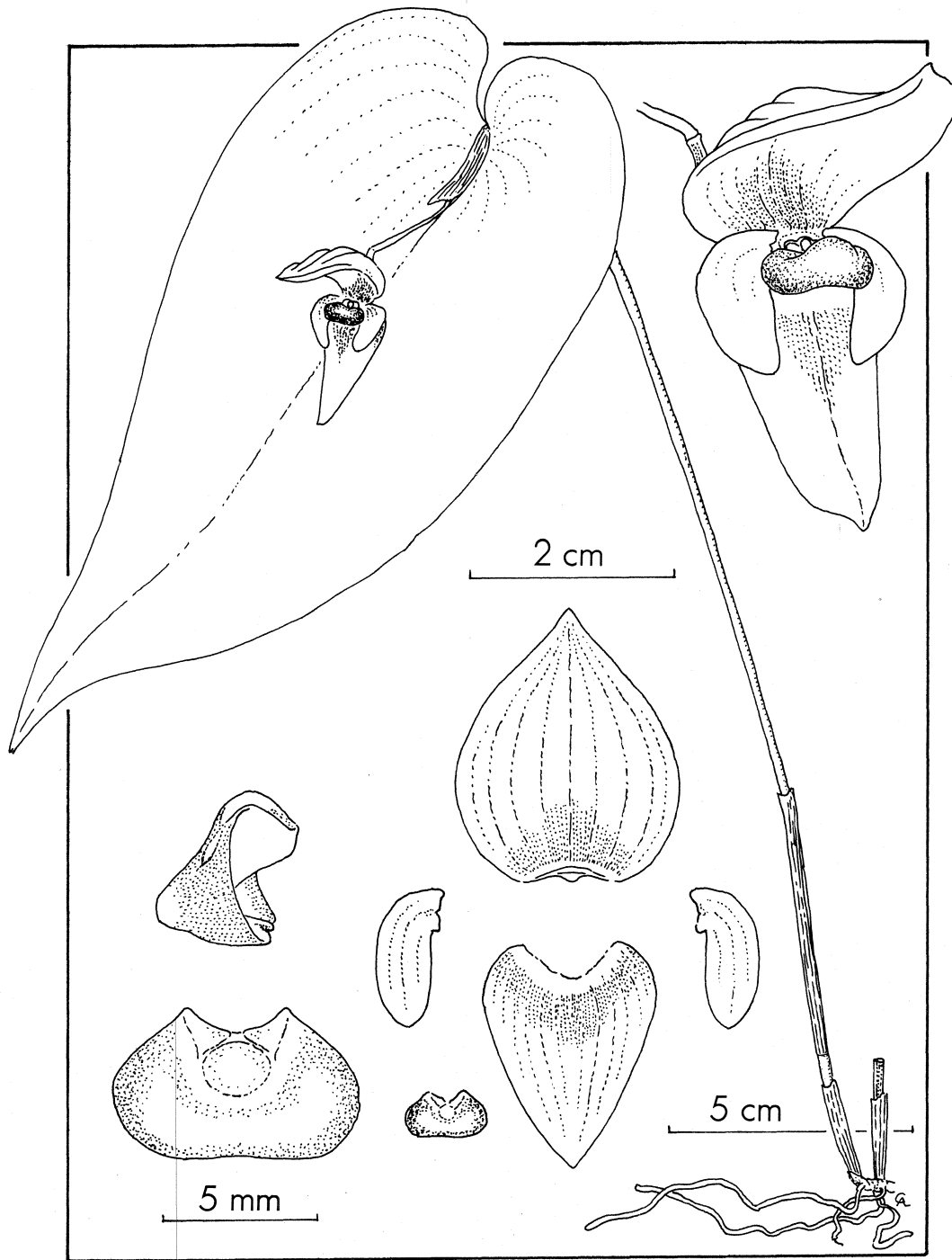


Figure 29. PLEUROTHALLIS IMPERIALIS Luer

Pleurothallis imraei Lindl., Folia Orch. Pleuroth. 9. 1859.

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

Pleurothallis vaginata Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19:197. 1923.

Pleurothallis umbraticola Schltr., Repert. Spec. Nov. Regni Veg. 27-56. 1929.

Plant epiphytic to terrestrial, large, caespitose; roots slender, flexuous. Secondary stems terete, 10-25 cm long, with a slender, loose fitting sheath near the middle and another 1-2 sheaths at the base, unifoliolate. Leaf coriaceous, 10-15 X 4-8 cm, broadly ovate, apex acute to acuminate, tridenticulate, base rounded, abruptly contracted into a flattened petiole 1 to 1.5 cm long. Inflorescence 1 or a few loose racemes of about 5 or 10 flowers, more or less half the length of the leaf; peduncles from a conduplicate spathe about 1 cm long at the base of the leaf-petiole and usually directed up the back of the leaf; flowers bilabiate, yellow-green marked with purple; floral bract infundibular, 3 mm long; pedicel about 4 mm long; ovary curved, also about 4 mm long; sepals fleshy, villous within, dorsal sepal elliptic, acute to obtuse, recurved 6-12 X 2-4 mm, lateral sepals united nearly to the apex, oblong-obovate, obtuse, 6-10 X 4-6.5 mm, forming a mentum with the column-foot and forming another concavity below the lip; petals glabrous, purple, spatulate, slightly apiculate, 3-5 X 1.5-2.5 mm; lip elliptical dilated near the middle with the sides turned up in the natural position, 3-5 X 1.2-2 mm, apex cuneate, obtuse, margins minutely fringed, narrowed below the middle, base minutely auricled and hinged to the column-foot, disc thickened and scabrous basally, with a keel near and parallel to both margins above the middle and becoming papillary toward the apex; column 3-4 mm long with a prominent foot.

ETYMOLOGY: Named in honor of Dr. Imray who collected the plant first described.

TYPE: Dominica. *Imray 1839*, HOLOTYPE in K.

DISTRIBUTION: Costa Rica, Panama, Colombia, Ecuador, Peru, Bolivia, northern Brazil, Venezuela, Guyana, and the Antilles (Dominica, Dominican Republic, Guadeloupe, and Martinique).

ECUADOR: PICHINCHA: *F L Stevenson 1-2575-7* SEL, flowered in cult.

Jan. 1975; terrestrial on road embankment, km 86, Quito to Santo Domingo, 1300 m, Dec. 1972. *C. H.* and *H. C. Dodson 5259* SEL.

Pleurothallis imraei is somewhat variable in its wide distribution in tropical America. The plant may be recognized by its rather large, but somewhat thin, ovate leaf with an acuminate apex and a short distinct petiole below the rounded base. In addition to some basal sheaths, the stem is provided with a single sheath near the middle, as is commonly the case in many species. The upper sheath is sometimes larger and looser than those of the others, which led Schlechter to describe *P. vaginata*.

In the short space provided by the petiole, the racemes are directed up along the back surface of the blade. The flowers of some forms are handsome, but others (from Venezuela) are apparently cleistogamous. Some plants from Ecuador produce gaping flowers vividly colored with purple and with sepals fully a centimeter in length. The long-hairy interiors are a prominent feature. Other plants from Ecuador produce yellow-green flowers only faintly marked with purple, only about half the size, and much less pilose within.

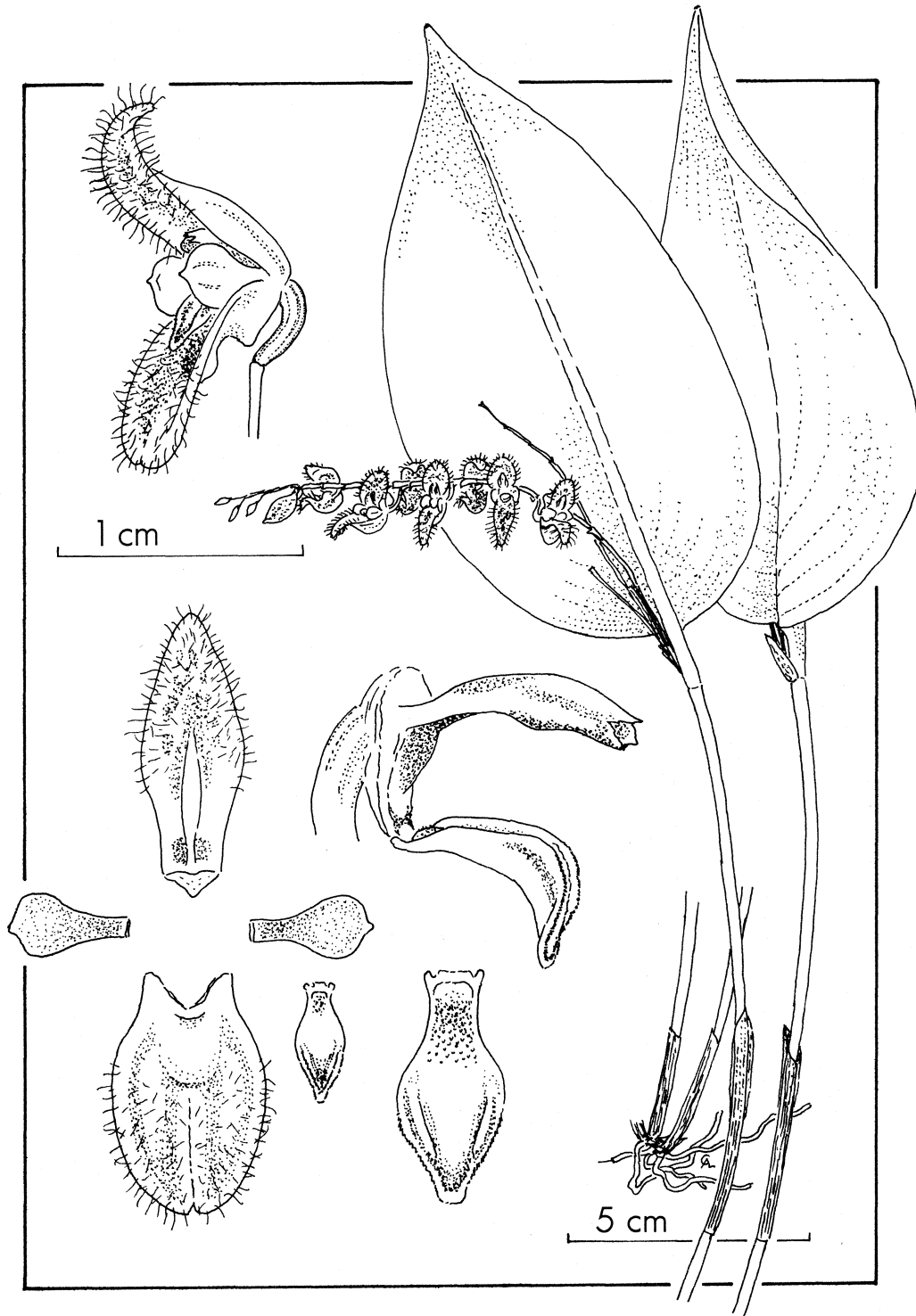


Figure 30. PLEUROTHALLIS IMRAEI Lindl.

***Pleurothallis jupiter* Luer, sp. nov.**

Herba terrestris et probabiliter epiphytica caespitosa, tereticaulibus secundariis gracilibus, folio oblongo acuminato cordato, flore grandissimo pro genere *Pleurothallidi* flavovirenti suffuso rubiginoso, sepalo dorsali ovato acuminato concavo 34 mm longo, synsepalo anguste ovato marginibus revolutis, petalis oblongis piloso-ciliatis, labello subquadrato lateribus deflexis verrucoso-ciliato.

Plant medium sized, terrestrial, caespitose; roots coarse, flexuous. Secondary stem slender, terete, to 35 cm long, with a long tubular sheath near the middle and another 1 or 2 at the base, monophyllous. Leaf oblong, acuminate, tridentate, base cordate, sessile, 10-14 X 2.5-4 cm. Inflorescence fasciculate, a flower, very large for the genus, appearing singly from a narrow spathe up to 15 mm long in the axil of the leaf; floral bract tubular 6-7 mm long; pedicel 20 mm long; ovary sigmoid, 7-8 mm long; dorsal sepal ovate, acuminate, concave below the middle, 34 X 16 mm spread out, 7-veined, the veins prominent dorsally, yellow-green suffused with red-brown; lateral sepals united into a narrowly ovate synsepal, apex acute and bidentate, lateral margins revolute, 30 X 10 mm spread out, 4-veined, bicarinate externally, similar to the dorsal sepal in color; petals oblong, obtuse, subfalcate and curved to meet below the lip, 10 X 3 mm, greenish brown, pilose-ciliate; lip purple-brown, subquadrate, 6 X 5 mm, verrucose and ciliate above the middle, lateral halves abruptly deflexed above the middle, apex convex and apiculate with a conical projection beneath, concave basally at the attachment to the column-foot; column short, 1 X 1.5 mm with a bulbous column-foot.

ETYMOLOGY: From the Latin *Jupiter*, the mythological god of the gods, and the largest planet, in allusion to the immense size of the flower.

TYPE: *ECUADOR*: COTOPAXI: Terrestrial along the roadside above Pilalo between Latacunga and Quevedo, alt. 3200 m near the paramo, 5 March 1975. *C. Luer & R. Kent 291*, HOLOTYPE in SEL; terrestrial, km 95-100 between Quevedo and Latacunga, alt. 2800-3200 m, 14 Feb. 1963. *Dodson & Thien 2258* SEL.

DISTRIBUTION: Ecuador.

This very large-flowered species occurs terrestrially at an altitude of 3200 meters (about 10,000 ft.). Possibly it grows epiphytically in an undetected area nearby. This region, not far from the treeless paramo, is nearly perpetually bathed in a cold mist.

Vegetatively the plant is similar to many others in the section *Macrophyllae-Fasciculatae* Lindl., but the flower is one of the largest in the genus *Pleurothallis*. The reddish yellow dorsal sepal and the synsepal measure 34 and 30 mm in length respectively. Over twenty flowers of *P. jupiter* were examined and all were essentially of the same dimensions. Occasional flowers of *P. ruberrima* Lindl. attain the same size.

The dorsal sepal is deeply concave with an elongated apex turned upward. The synsepal appears very narrow because its edges are rolled under longitudinally; the apex is bifid. The broad pilose petals are curved so that they touch below the lip which is more or less elevated. The sides of the warty lip are sharply deflexed from the middle to either flank of a tubercle under the convex apex. The deflected sides of the lip are similar to those in *P. deflexa*, also described in this issue.

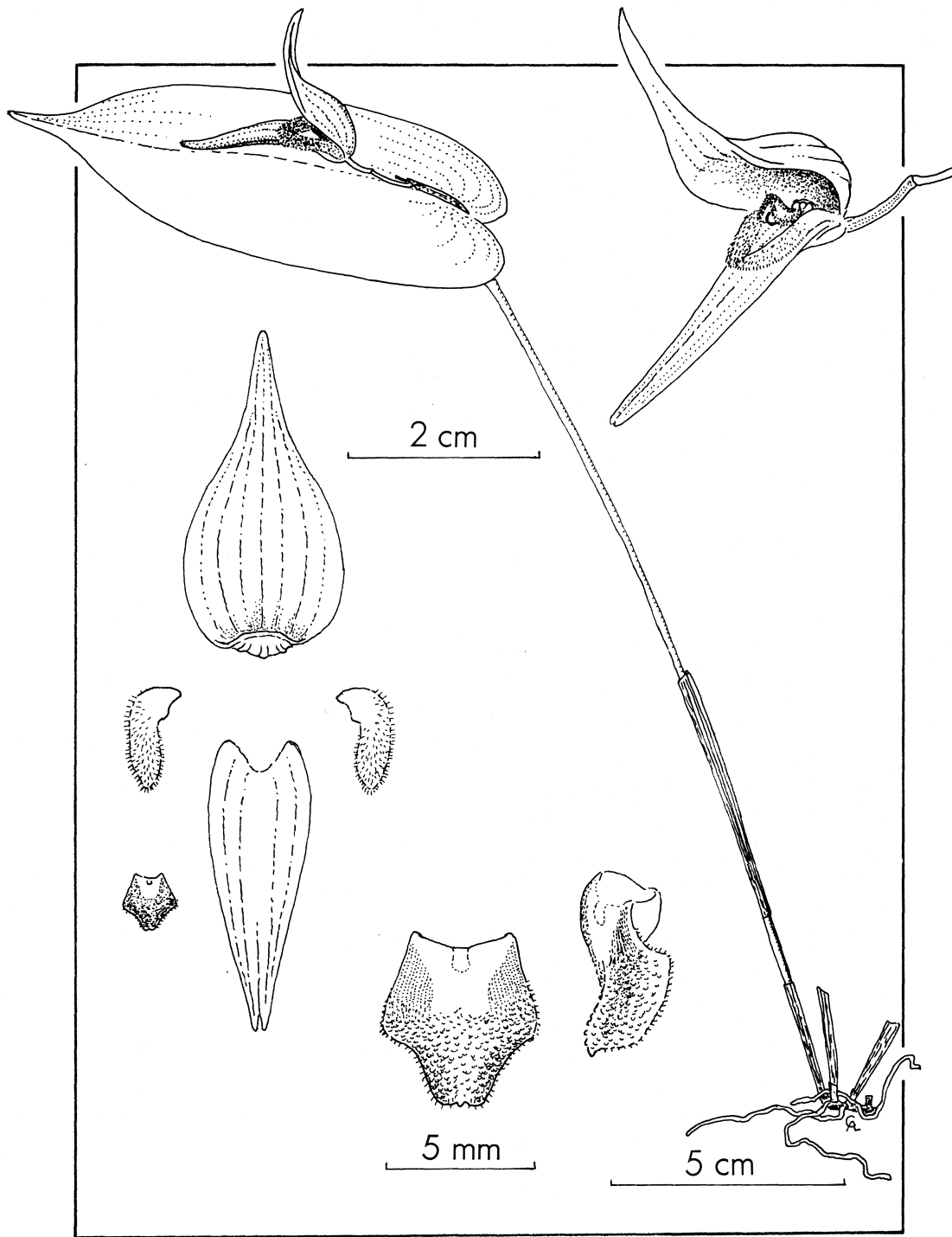


Figure 31. PLEUROTHALLIS JUPITER Luer

Pleurothallis lasioglossa Schltr., Repert. Spec. Nov. Regni Veg. Beih. 8:59. 1921.

Plant small, epiphytic, caespitose, with a short, stout, creeping rhizome; roots slender flexuous. Secondary stems 0.5-1 cm long, concealed by 1-2 tubular sheaths, unifoliate. Leaf coriaceous, elliptical to narrowly obovate, obtuse to acute, tridenticulate, base cuneate, obscurely to narrowly petiolate, 2-5 cm long including the petiole, and 1-2 cm broad. Inflorescence a short (1-2 cm), few (1-5)-flowered raceme; peduncle from a node on the secondary stem. Flowers orange with red-purple petals and lip, produced singly and successively; floral bract scabrous, 2 mm long; pedicel 2-4 mm long; ovary 1.5 mm long; dorsal sepal fleshy, subcarinate, ovate, acute to acuminate, 5 X 2 mm; lateral sepals similar to the dorsal sepal, free to the base where they form a shallow mentum, slightly oblique; petals glabrous, ovate, acuminate-aristate, fleshy, 3.5 X 1 mm; lip oblong, 2.5 X 0.5-1 mm, fleshy, glandular pubescent, with small, erect, triangular lateral lobes just below the middle, apex obtuse, sometimes apiculate, base delicately unguiculate, with a pair of thin white, pedunculated lobules; column 2 mm long, apex denticulate, column-foot short.

ETYMOLOGY: From the Greek *lasios*, "shaggy" or "wooly," and *glossa*, "tongue," referring to the lip of the flower (in an advanced stage of anthesis).

TYPE: Ecuador: Chimborazo: Riobamba, in montibus. *A. Mille s.n.*

DISTRIBUTION: Ecuador.

ECUADOR: AZUAY: Near Cuenca. *Mrs. C. Chowning s.n.* SEL, flowered in cult. Oct. 1974 and Jan. 1975; TUNGURAHUA: epiphytic between Baños and Puyo, alt. 1500 m. *Fred Fuchs, Jr. s.n.* SEL 26-74-113, flowered in cult. Nov. 1974 and Jan. 1975.

Schlechter described *Pleurothallis lasioglossa* from a plant with a single flower which he deemed in a sufficiently preserved state, although it was in an advanced stage of anthesis on developing fruit. Consequently, some differences can be expected to be found in living specimens with fresh flowers. The type specimen was presumably destroyed in Berlin. No information on this species has been published subsequently. I feel reasonably confident that the plants examined and described here from Ecuador are the same as Schlechter's plant.

This species may be recognized by its short secondary stem, obovate, obtuse leaves, a short raceme of successive, small, orange and purple flowers with aristate petals, and a papillose, oblong lip with a minute pair of lateral lobes and a pair of rounded basal lobes.

The plant appears similar to *P. breviscapa* C. Schweinf. from which it differs primarily in the scabrous floral bracts, glabrous flowers, acuminate petals, and minute triangular lateral lobes of the lip. It is more closely related to the Bolivian and Brazilian *P. modesta* (Barb. Rodr.) Cogn. which is distinguished by longer secondary stems, and the absence of lateral lobes of the lip.

Pleurothallis orbicularis (Lindl.) Lindl., Edward's Bot. Reg. 28:misc. 79. 1842.

Specklinia orbicularis Lindl., Edward's Bot. Reg. 24:misc. 31. 1838.

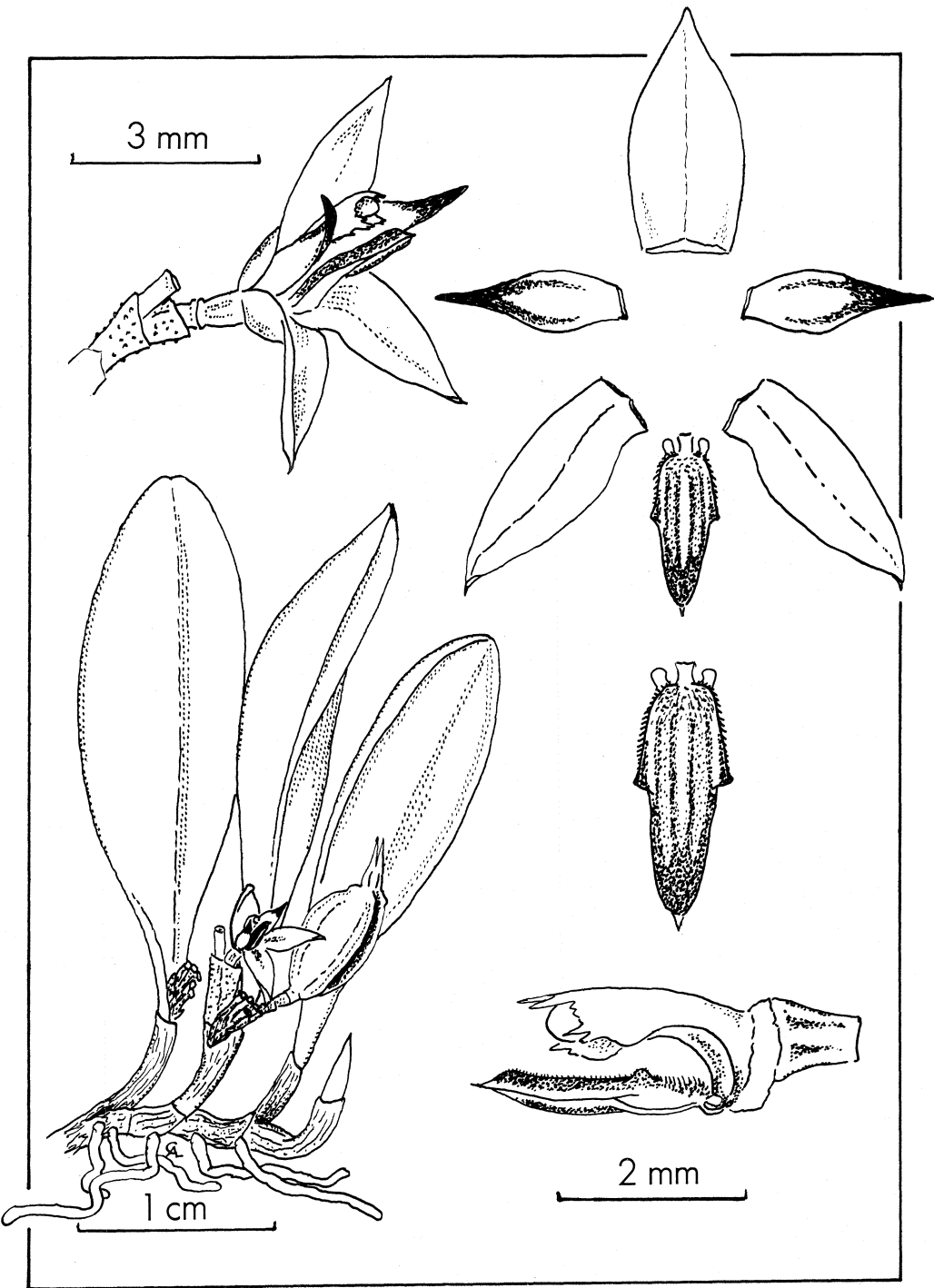


Figure 32. PLEUROTHALLIS LASIOGLOSSA Schltr.

Pleurothallis biflora Focke, Tijdschr. Natuurk. Wetensch. Kunsten 2:197. 1849, not Schltr.

Humboldtia biflora (Focke) O. Ktze., Rev. Gen. Pl. 2:667. 1891.

Humboldtia orbicularis (Lindl.) O. Ktze., l. c. 2:668. 1891.

Pleurothallis trachytheca Lehm. & Krzl., Bot. Jahrb. Syst. 26:444. 1899.

Pleurothallis rotundata C. Schweinf., Bot. Mus. Leaflet. 4:115, 1937.

Plant epiphytic, small, caespitose; roots slender, flexuous. Secondary stems 2.5-5 cm long, concealed by 5-6 imbricating, infundibular, ribbed, ciliated sheaths, unifoliate. Leaf usually dark green, suffused with purple beneath, broadly elliptical to suborbicular, 2.5-3 × 2-2.5 cm, apex rounded, tridentate, base rounded with a distinct 0.5 cm petiole. Inflorescence a short, 2-3 flowered raceme of dark reddish purple flowers which appears behind the leaf; peduncle stout, about 1 cm long, from within the uppermost sheath of the stem; floral bract tubular, about 1 mm long; pedicel 1.5-3 mm long; ovary about 1 mm long; dorsal sepal red, becoming orange near the apex, narrowly oblong, acute 6-7.5 × 1.5 mm; lateral sepals deep purple, narrowly ovate, acute, channeled, united near the middle, forming a mentum at the base, 5.5-7 × 3 mm together; petals greenish white to purple, narrowly oblong, acuminate, margin above the middle finely denticulate, 2.5 × 0.5 mm; lip maroon, narrowly ovate, acute; margins ciliate and revolute, base very shortly unguiculate, with a pair of distinct basal auricles, 9 × 0.8 mm; column 2 mm long, clinandrium denticulate, column-foot concave 0.5 mm long.

ETYMOLOGY: From the Latin *orbicularis* (from dim. of *orbis*, "an orb"), "of a small round or circular form," referring to the shape of the leaf.

TYPE: Guyana, Demerara. HOLOTYPE in K.

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

PANAMA: COCLE: El Valle cloud forest, 15 Aug. 1971. *Wiehler* and *Dressler* 71291a SEL, flowered in cult. July 1974.

ECUADOR: COTOPAXI: Epiphytic in guava tree, km. 38 between Quevedo and Latacunga, alt. 500 m, 5 March 1975. *C. Luer* and *R. Kent* 212 SEL;

PINCHINCHA: epiphytic along Rio Toachi 15 km east of Santo Domingo, alt. 1000 m, 28 February 1975. *C. Luer* and *R. Kent* 212a SEL 15-75-137.

Lindley first recognized this species from British Guiana and distinguished it by the nearly orbicular leaves. Some variations in the size of the flowers seems to exist between the eastern and western parts of its distribution. Forms from northeastern South America are described as having small flowers with sepals between 3 and 5 mm long, while those forms from Central America and Ecuador have sepals between 5 and 7 mm long.

This little species is easily recognized by its rounded leaf borne on a stem clothed by lepanthiform sheaths. Usually only 2 or 3 flowers are produced in a contracted raceme which appears from the purplish backside of the leaf. If two inflorescences appear simultaneously, all 4 to 6 flowers commonly line up side by side in a somewhat transverse row. The fleshy, reddish purple sepals are often tipped with orange. The attenuate-lacerate petals may be colorless or purple. The maroon lip is minutely bilobed at the base and its margins are ciliate.

In Panama *Pleurothallis orbicularis* has been known as *P. rotundata* and in Costa Rica, as *P. trachytheca*. Heller has extended the range into Nicaragua, and it has recently been collected in two locations in Ecuador.

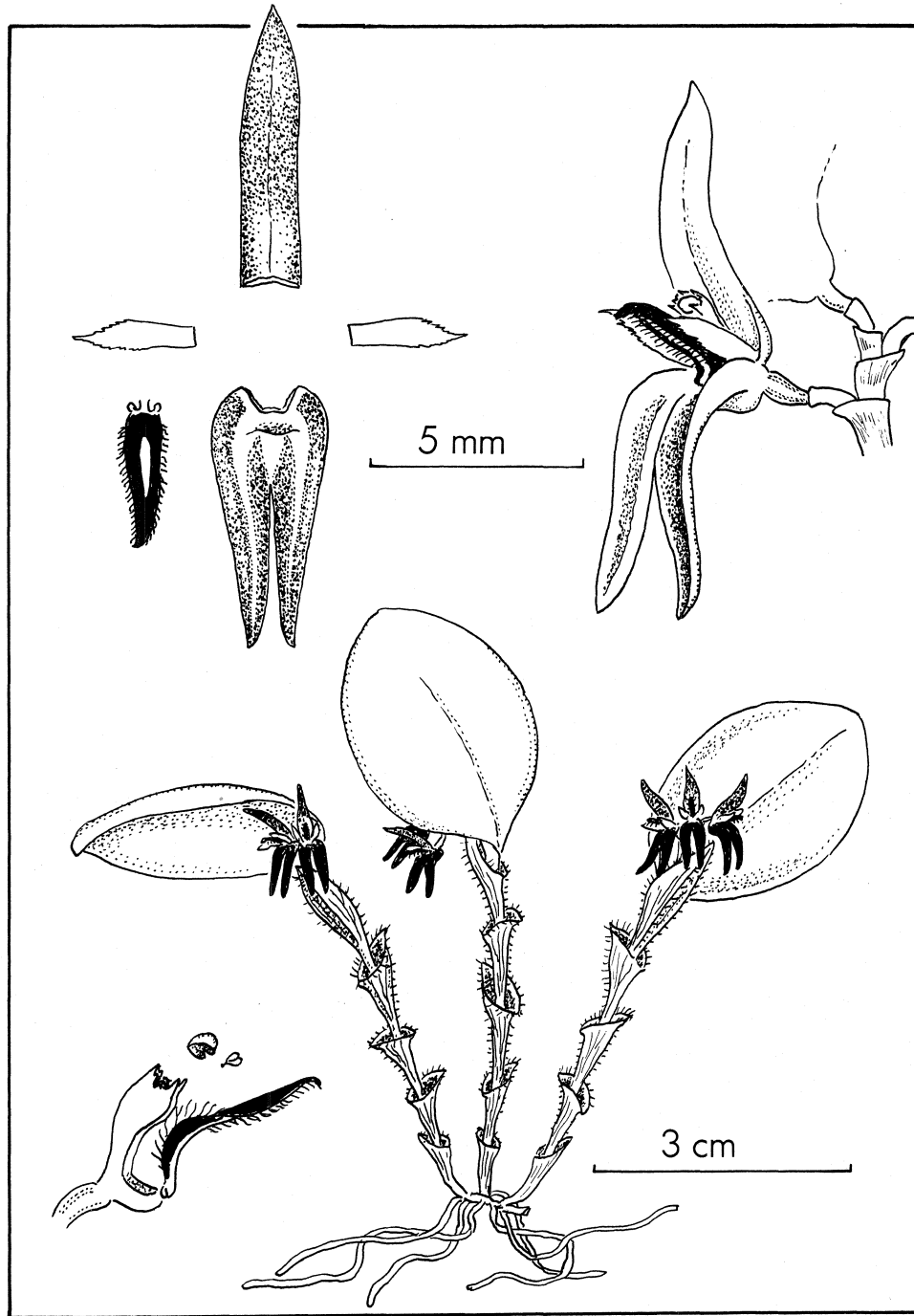


Figure 33. *PLEUROTHALLIS ORBICULARIS* (Lindl.) Lindl.