

ICONES PLEUROTHALLIDINARUM

(ORCHIDACEAE)

DRESSLERELLA, A NEW GENUS IN THE PLEUROTHALLIDINAE

Carlyle A. Luer*

Within the cosmopolitan genus *Pleurothallis*, three closely allied species and an additional presently described species are hereby recognized as constituting a well-defined genus within the Pleurothallidinae.

Dresslerella C. Luer, gen. nov.

Plantae parvae vel mediocres epiphyticae caespitosae rosulatae. Caules secundarii foliis breviores vaginis hispidulis obtectis unifoliati. Folia carnosae elliptica marginibus hispidulis apicibus integris. Flores fasciculati singulares ampullares maronini pubescentes e basibus foliorum. Sepala connata concava apicibus libris. Labellum carnosum bilamellatum base unguiculatum callo ornatum. Columna alata, anthera decidua, polliniis quatuor duo amplius duo minimis.

Plants small to medium in size, epiphytic, caespitose, rosetted. Secondary stems with loose, hispidulous sheaths, unifoliate, shorter than the leaves. Leaves fleshy, elliptical, hispidulous along the margins, dark green, suffused with purple, the apices entire. Inflorescences fasciculate, the flowers saccate, maroon, pubescent, short-pedicellate, produced singly from the bases of the leaves. Lateral sepals united into a concave synsepal, the dorsal sepal united to the synsepal from below the middle to near the apex, forming a rigid, hollow, flask-shaped flower. Lip fleshy, oblong-ovate, bilamellate, unguiculate, with a basal callosity. Column winged, anther deciduous, single-celled, pollinia 4: a medial pair of hard, yellow, ovate pollinia, slightly compressed medially, with an additional pair of smaller, ovate pollen masses, one to either side, all connected by a loose, viscid substance.

TYPE: *Pleurothallis pertusa* Dressler.

ETYMOLOGY: Named in honor of Robert L. Dressler of the Smithsonian Tropical Research Institute, a renowned investigator of the flora of Panama as well as the Orchidaceae.

This small genus of the Pleurothallidinae is distributed from Nicaragua to Panama. Three of the four allied species have been treated in *Pleurothallis*, the first having been described in *Cryptophoranthus*. The caespitose plants grow epiphytically as rosettes with characteristic, fleshy, prostrate leaves. The dimensions of pressed leaves can be very misleading because they shrink markedly in width. The velvety, dark green of living leaves is tinged with purple, and beneath, the leaves are intensely suffused with purple. The margins are minutely ciliate and the apices are entire, neither tridentate nor emarginate, which differ from most all other pleurothallids. In addition, the genus may be distinguished by the fleshy, saccate flowers formed by a partial union of the dorsal sepal to the concave, completely united lateral sepals. The dorsal sepal disengages at the apex instead of near the middle as in *Cryptophoranthus*. Finally, the genus is characterized by four pollinia, a large pair flanked by a smaller pollen mass to either side. *Cryptophoranthus* and *Pleurothallis* each possess two pollinia.

*The Marie Selby Botanical Gardens

KEY TO THE SPECIES OF *Dresslerella*

1. Plants relatively small, leaves less than 4 cm long; callus of the lip not acuminate.
 2. Synsepal cymbiform, about 6 mm long; petals about 1 mm wide *D. hispida*
 - 2a. Synsepal scrotiform, about 8 mm long; petals about 2 mm wide *D. powellii*
- 1a. Plants relatively large, mature leaves more than 5 cm long; callus of the lip acuminate.
 3. Dorsal sepal protruding beyond the synsepal; petals linear *D. elvallensis*
 - 3a. Dorsal sepal not protruding beyond the synsepal; petals obtusely angled above the middle *D. pertusa*

***Dresslerella elvallensis* C. Luer, sp. nov.**

Habitu *D. pertusae* (Dressler) C. Luer similis sed differt sepalo dorsali proportione longiore apice synsepali minus vesicario et petalis linearibus.

Plant medium in size, epiphytic, caespitose, rosetted; roots slender, flexuous. Secondary stems terete, 2-3 cm long, concealed by 3-4 loose, imbricating, hispidulous sheaths, unifoliolate. Leaf more or less pendent, thick, coriaceous, dark green suffused with purple, especially beneath, oblong to narrowly elliptical, subacute, the base sessile, rounded, the margins minutely ciliate, 3-7 × 1-2.5 cm. Inflorescence a solitary (rarely 2) flower from the axil of the leaf; floral bract tubular, densely pubescent, brown, 4-5 mm long; pedicel red, sparsely pubescent, 4-5 mm long; ovary purple-brown, densely pubescent, 2.5 mm long; flower fleshy, pubescent, dull yellow, spotted with purple, the spots coalescing toward the apices of the sepals, the sepals united to near the middle; dorsal sepal triangular, narrowly obtuse, 9 × 3 mm; lateral sepals connate into a cymbiform synsepal, 7 × 5 mm incompletely spread; petals narrowly linear, translucent yellowish, 1-veined, 6 × 0.4 mm; lip sagitate, dotted with purple-brown on dull orange, the lateral angles obtuse and erect, the base prominently unguiculate, with a pair of small basal auricles, the claw with an uncinat callus, the blade with a pair of low, thickened calli, 5 × 3 mm; column terete, 5 mm long, with a short foot.

ETYMOLOGY: Named for the town of El Valle de Anton in the Province of Coclé near which the species occurs.

TYPE: PANAMA: COCLÉ: epiphytic in the cloud forest in the hills above El Valle, alt. 1000 m, 6 March 1976, C. Luer, J. Luer, P. Taylor & R. L. Dressler 1079 (HOLOTYPE: SEL); same area, 3 Sept. 1976, C. Luer & H. Butcher 1154 (SEL).

DISTRIBUTION: Panama.

This species is most similar to *Dresslerella pertusa* (Dressler) C. Luer, and without flowers the two cannot be easily distinguished. Vegetatively the average *D. elvallensis* is slightly less robust with narrower leaves, and the flower, less intensely marked with purple, is smaller. At anthesis the proportionately longer dorsal sepal protrudes beyond the united lateral sepals. The concave synsepal is considerably less inflated apically, so that the opening of the flower is larger and longer than that of *D. pertusa*. The petals are

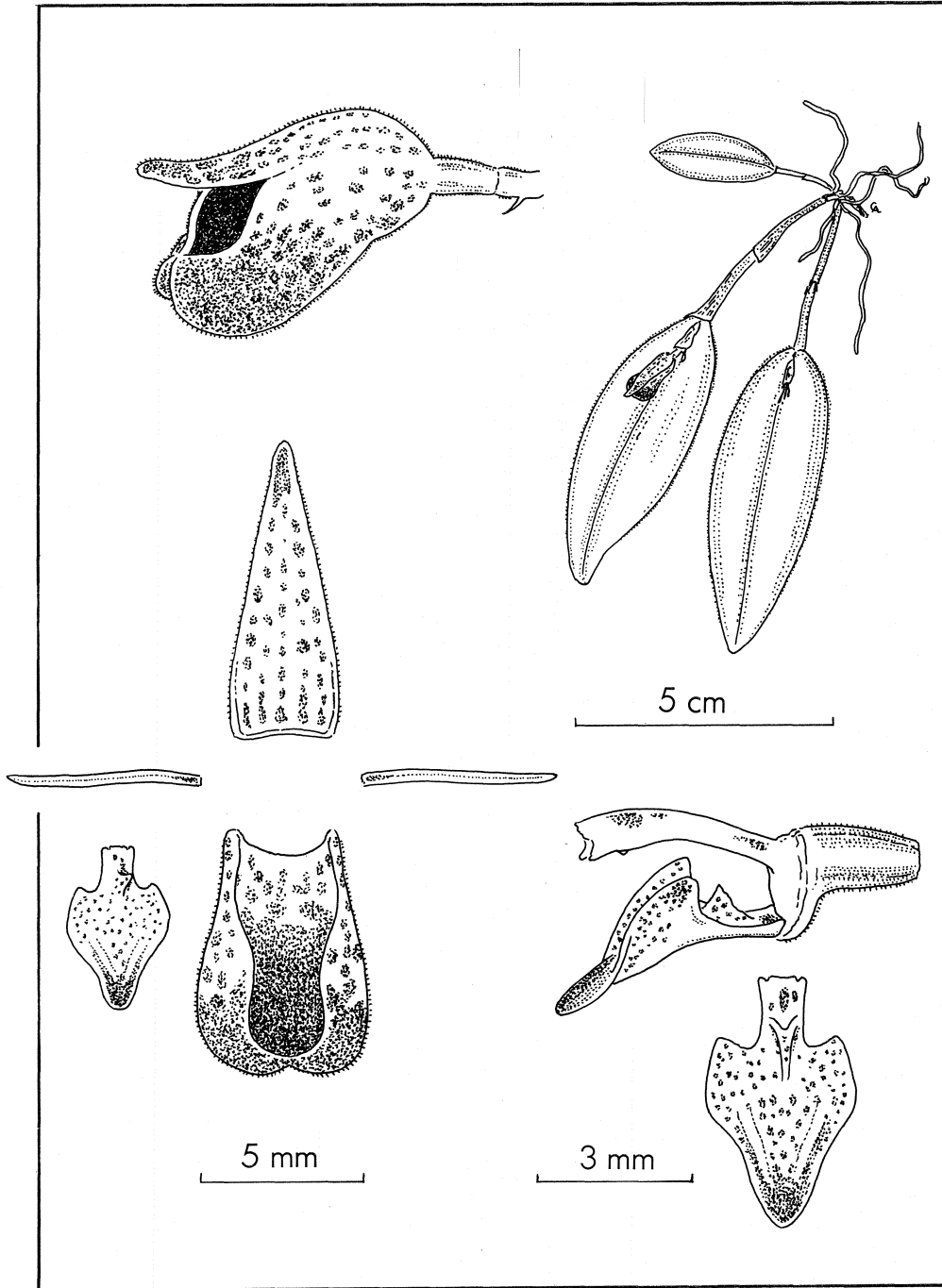


Figure 104. DRESSLERELLA ELVALLENSIS C. A. Luer

narrowly linear without the obtuse angles above the middle. Except for being covered with minute spots of brown, the orange lip is similar to that of *D. pertusa*.

Dresslerella hispida (L. O. Wms.) C. Luer, comb. nov.

Pleurothallis hispida L. O. Wms., Ann. Missouri Bot. Gard. 27:277. 1940.

Plant small, epiphytic, caespitose, rosetted; roots slender, fasciculate, flexuous. Secondary stems short, terete, 5-20 mm long, when young enclosed by 2-3 loose, imbricating, hispidulous, purple-spotted sheaths, unifoliate. Leaf more or less prone on the substrate, thick, coriaceous, dark green, tinged with purple, especially beneath, elliptical, the apex subacute to obtuse, the margins minutely ciliate, the base sessile, rounded, 15-35 × 10-15 mm. Inflorescence fasciculate, the flowers fleshy, maroon, covered with a white pubescence, borne singly (occasionally 2) from the axil of the leaf; floral bract infundibuliform, pubescent, 2-4 mm long; pedicel about 1.5 mm long; ovary shortly pubescent, 1 mm long; dorsal sepal adnate to the synsepal for about a third its length, narrowly ovate, concave, 5-5.5 × 2 mm; lateral sepals united into a concave, scaphoid synsepal, the margins and the apex minimally involute, minutely colliculate within, 5-6 × 4 mm incompletely spread; petals maroon, narrowly obovate, oblique, acute, 4 × 1 mm; lip red-purple, elliptical, thick, fleshy, the margins dilated slightly above the middle, the lateral angles broadly obtuse, below the middle the margins erect and rounded, continuous with a pair of lamellae converging toward the obtuse, minutely verrucose apex, the base unguiculate, minutely biauriculate, with a curved thickened callus which continues forward into minutely verrucose, transverse furrows, 2.5 × 1.3 mm; column pink, broadly winged, 2.5 mm long, with a thick foot 1.5 mm long.

ETYMOLOGY: From the Latin *hispidus*, "covered with erect, coarse hairs," in reference to the hispidulous sheaths and flowers.

TYPE: PANAMA: COCLE: vicinity of El Valle, alt. 800-1000 m, 5 Sept. 1939, Allen 782 (HOLOTYPE: AMES).

DISTRIBUTION: Nicaragua and Panama.

PANAMA: PANAMA: epiphytic on Cerro Azul, alt. ca. 1000 m, 14 July 1964, R. L. Dressler 2919 (SEL), 8 July 1969, R. L. Dressler 3654 (SEL); epiphytic on Cerro Jefe, alt. 1000 m, 2 March 1976, C. Luer, J. Luer & P. Taylor 1012 (SEL), same area, F. L. Stevenson 9575-6 (SEL); COLON: epiphytic, Santa Rita, F. L. Stevenson 112674-4 (SEL).

In his original description of *Pleurothallis hispida*, L. O. Williams was not aware of *Cryptophoranthus powellii* Ames. He later included the latter in the synonymy of *P. hispida* in the Flora of Panama. *Dresslerella hispida*, however, is a different, but closely allied species from higher altitudes. It has been found as far as Chontales Province of Nicaragua by Heller.

This species may be distinguished from *D. powellii* (Ames) C. Luer by the subacute or less obtuse leaves, and considerably smaller flowers with a boat-like synsepal with erect margins only minimally involuted, if at all. The apex is not saccate. Like the lid of a box, the apex of the dorsal sepal separates from the navicular synsepal, and with increasing age, the dorsal sepal contracts and the separation increases to half or two-thirds its length.

The petals are about one millimeter broad. The lip is widest above the middle with broadly obtuse angles. The erect, lower, rounded margins

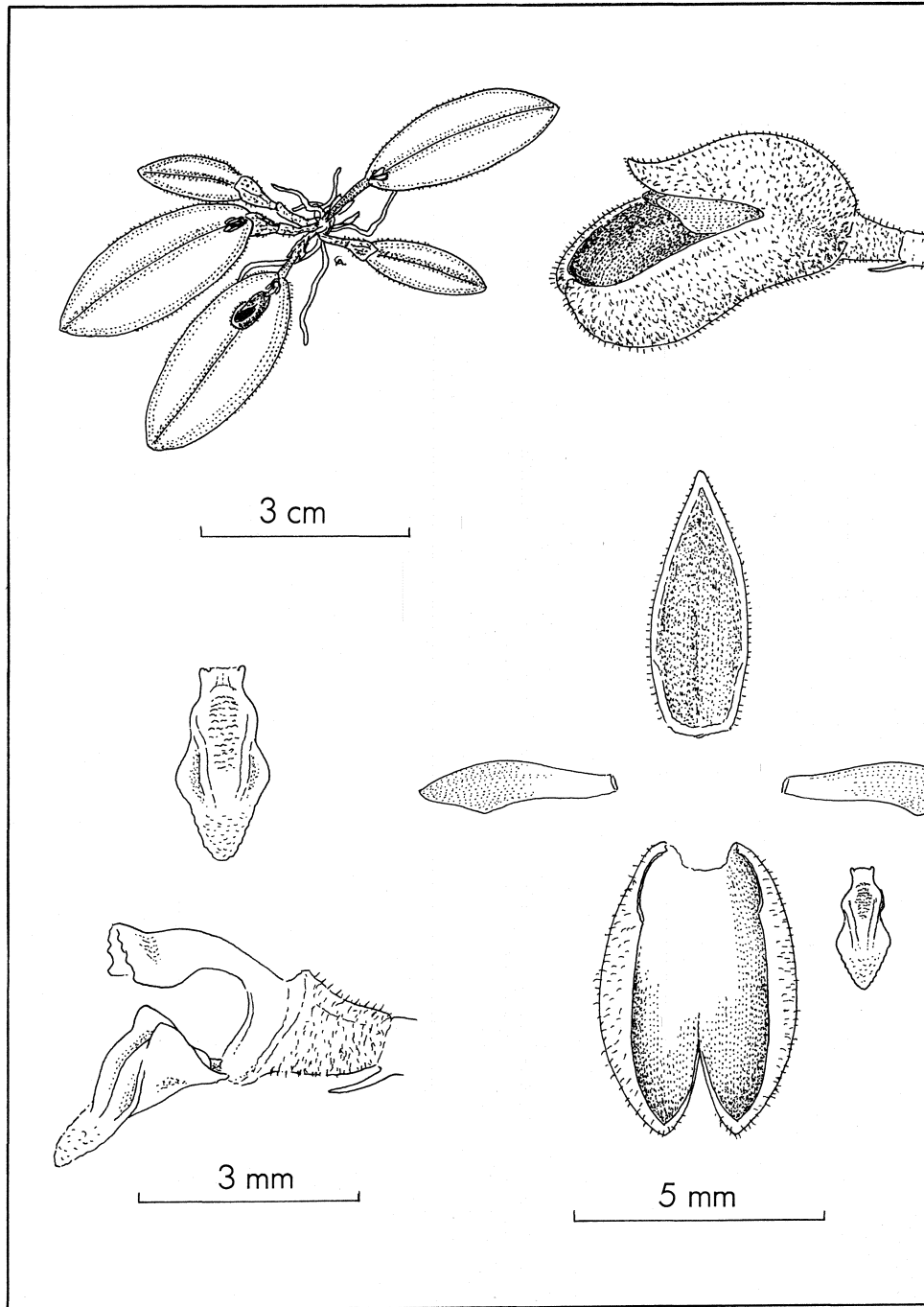


Figure 105. *DRESSLERELLA HISPIDA* (L. O. Wms.) C. A. Luer

cannot be spread without fracturing the thick, central portion of the lip which is continuous with the callus at the base of the short claw.

Dresslerella pertusa (Dressler) C. Luer, comb. nov.

Pleurothallis pertusa Dressler, *Orquideologia* 5:76. 1970.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems terete, 2-4 cm long, concealed by 3-4 loose, imbricating, hispidulous sheaths, unifoliate. Leaf pendent, thick, coriaceous, dark green suffused with purple, especially beneath, oblong to elliptical, subacute to obtuse, the base sessile, rounded, the margins minutely ciliate, 4-10 × 2-3.5 cm. Inflorescence a single (occasionally 2) flower from the axil of the leaf; floral bract tubular, sparsely ciliate, about 3-5 mm long; pedicel 4 mm long; ovary pink, pubescent, 3 mm long; flower fleshy, maroon, covered with white pubescence, the sepals adnate except for the apical 1-2 mm; dorsal sepal oblong, narrowly obtuse, glabrous within, 10-14 × 3.5-5 mm spread; lateral sepals united into a concave, pyriform synsepal, 10-14 × 5-7 mm partially spread; petals glabrous, purple on translucent yellow, narrow and obtusely angled above the middle, the apex acute to acuminate, 6-7 × 0.5-1 mm; lip sagitate, yellow marked with purple, the apex obtuse, the lateral angles obtuse to rounded, the base prominently unguiculate, with a pair of small basal auricles, the claw with an uncinat callus, the blade with a marginal pair of low, thickened calli, 5-7 × 3-4 mm; column maroon, terete, 5 mm long, with a short foot.

ETYMOLOGY: From the Latin *pertusus*, "having a hole or slit," in reference to the minute hole at the apex of the flower.

TYPE: PANAMA: PANAMA: epiphytic on Cerro Jefe, alt. 1000 m, 12 Nov. 1967, R. L. Dressler 3152 (HOLOTYPE: US, ISOTYPE: MO, PMA).

DISTRIBUTION: Panama.

PANAMA: PANAMA: epiphytic on Cerro Jefe, alt. 1000 m, 2 March 1976, C. Luer, J. Luer & P. Taylor 706, 981 (SEL);

Vegetatively this species, endemic in eastern Panama, is very similar to, but considerably larger than the other previously known species of the genus. A prostrate rosette of short-stemmed, thick, oblong leaves radiates from a cluster of roots which are often found growing on a perpendicular tree trunk. The heavy leaves grow more or less pendent; those that originate near the top of the rosette gradually curve downward to the side. The sheaths of the stems are minutely hispid, and the undersurface of the dark green, velvety leaves, held out of sight close to the substrate, is purplish. The margins are minutely ciliate.

Usually produced singly, the short-stemmed flowers lie upon the blade. The pear-shaped flowers are maroon or purple-black and blanketed by a minute, white pubescence. When in full bloom, only the very tip of the dorsal sepal lifts from the inflated, concave synsepal to create a tiny, more or less rounded aperture on top of the rounded apex of the flower. It must be some feat for a minute insect to enter and escape laden with pollinia. Within the cavity of the flower the petals are narrow but dilated and obtusely angled above the middle, and the hastate lip has a hook-shaped callus on its pronounced claw.

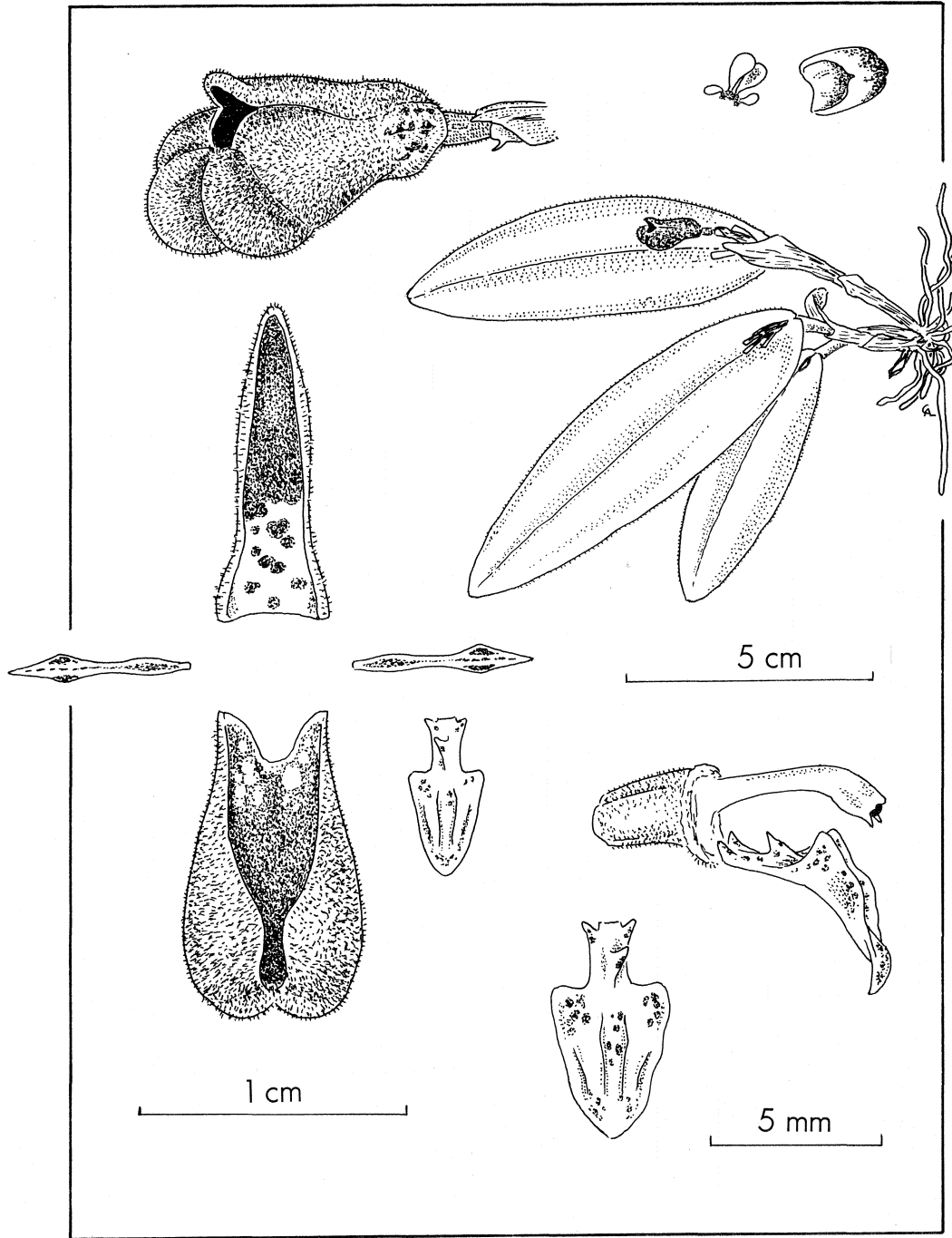


Figure 106. *DRESSLERELLA PERTUSA* (Dressler) C. A. Luer

Dresslerella powellii (Ames) C. Luer, comb. nov.

Cryptophoranthus powellii Ames, Sched. Orchid. 4:8. 1925.

Pleurothallis deceptrix Dressler, Orquideologia 5:78. 1970.

Plant small, epiphytic, caespitose, rosetted; roots slender, fasciculate, flexuous. Secondary stems short, terete, 5-15 mm long, when young concealed by 2-3 loose, imbricating, hispidulous, purple-dotted sheaths, unifoliate. Leaf more or less prone on the substrate, thick, coriaceous, dark green, suffused with purple, especially beneath, oblong to elliptical, the margins minutely ciliate, the apex subacute to obtuse, retuse, the base sessile, rounded, 15-35 × 8-14 mm. Inflorescence fasciculate, the flowers fleshy, maroon, covered with white pubescence, borne singly (occasionally 2) from the axil of the leaf; floral bract infundibuliform, ciliate, 3-4 mm long; pedicel about 1.5 mm long; ovary shortly pubescent, 1 mm long; dorsal sepal adnate to the synsepal for about a third its length, narrowly ovate, concave, 8 × 3 mm; lateral sepals united into a deeply concave, scrotiform synsepal, with margins involute, the apex more or less saccate, shortly pubescent within, 9 × 7 mm incompletely spread; petals maroon, minutely pubescent externally, oblong-obovate, acute, 5.5 × 2 mm; lip red-purple, ovate, thick, fleshy, the margins dilated, rounded, erect below the middle and continuous with a pair of lamellae converging toward the obtuse, minutely verrucose apex, the base unguiculate, very obscurely biauriculate, with an erect, curved, transverse callus, 3.5 × 1.5 mm; column pink, broadly winged, 3 mm long, with a thick foot 2 mm long.

ETYMOLOGY: Named in honor of C. W. Powell who first collected this species.

TYPE: PANAMA: PANAMA: Foothills east of Panamá, sea level, C.W. Powell 278 (HOLOTYPE: AMES)

DISTRIBUTION: Eastern Panama.

PANAMA: PANAMA: epiphytic on felled tree trunks along the Llano-Carti road, alt. 300 m, 3 March 1976, C. Luer, J. Luer, P. Taylor & R. L. Dressler 993 (SEL), flowered in cult. May and June 1976.

Originally described by Ames as *Cryptophoranthus powellii*, this species occurs at low altitudes in the rain forests of eastern Panama where it is apparently endemic. In the Flora of Panama, Williams listed it as a synonym of the closely related and similar *Pleurothallis hispida* L. O. Wms. Dressler later pointed out the differences and transferred *C. powellii* to *Pleurothallis* as *P. deceptrix*, the epithet *powellii* already being occupied.

This species may be differentiated from *Dresslerella hispida* (L. O. Wms.) C. Luer by its more obtuse, retuse leaves, and twice larger flowers with a dilated, sac-like synsepal with involuted margins, especially toward the apex. At first only the apex of the dorsal sepal disengages from the bulbous synsepal, but with time, the separation increases to its maximum, about two-thirds the length of the dorsal sepal which also contracts in length, and the opening of the synsepal expands.

The petals are about two millimeters broad. The lip is widest below the middle with erect, rounded sides. At the base of the short claw there is an erect, curved callus.

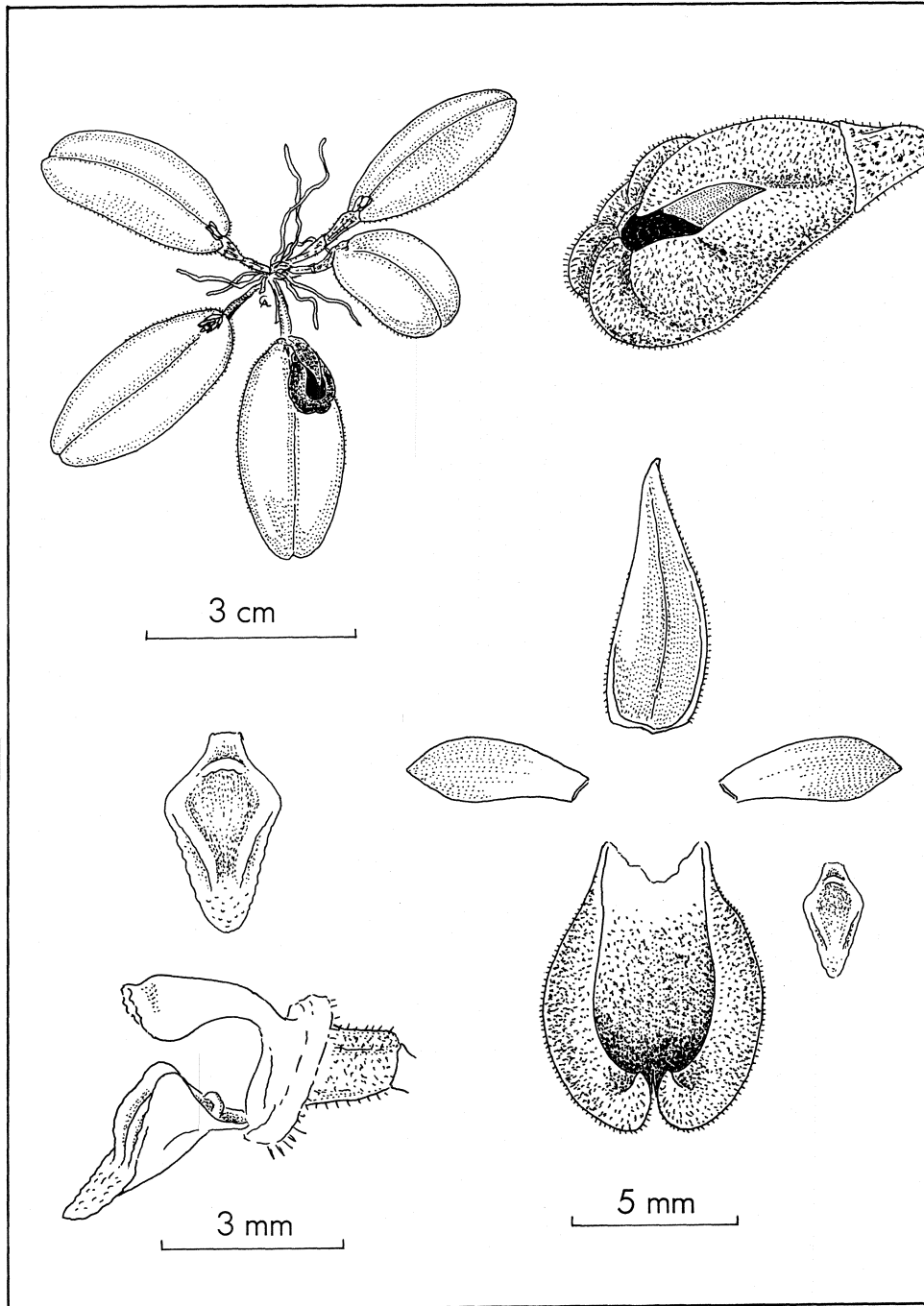


Figure 107. *DRESSLERELLA POWELLII* (Ames) C. A. Luer