

ICONES PLEUROTHALLIDINARUM
(ORCHIDACEAE)

C. A. Luer*

Icones Pleurothallidarum (Illustrations of the Pleurothallidinae) began with the genus *Pleurothallis* in SELBYANA 1. Two other genera, one of them monotypic, are begun in this issue. Eventually several authors will contribute other genera. There are over 2000 species in about 20 genera in the subfamily. Some genera are very small, others are very large. Over 1500 specific epithets have been attributed to *Pleurothallis* and there may be more than 1000 valid species.

The primary purpose of *Icones Pleurothallidarum* is to provide a ready identification of all the pleurothallids.

NEW DISCOVERIES IN ACOSTAEA

ACOSTAEA Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19:283. 1923.

Schlechter described this genus from material sent to him from Costa Rica by Don Guillermo Acosta. Prior to the present report three very similar species had been attributed to *Acostaea*, but a fourth species described from Ecuador in the following text is distinctively different.

KEY TO THE SPECIES OF ACOSTAEA

1. Apex of the lip terminated by 2 conspicuous lateral lobes, with a very small middle lobe.
 2. Callus of the lip glabrous *A. costaricensis*
 - 2a. Callus of the lip puberulent.
 3. Apical lobes of the lip entire *A. pleurothalloides*
 - 3a. Apical lobes of the lip toothed in the sinus *A. colombiana*
- 1a. Apex of the lip terminated by a conspicuous middle lobe, the lateral lobes rounded and erect *A. trilobata*

Acostaea pleurothalloides Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19:285. 1923.

Plant minute, epiphytic, caespitose; roots comparatively thick. Secondary stem 3-5 mm long, partially concealed by 1-2 evanescent sheaths, unifoliate. Leaf narrowly obovate, subacute, tridenticulate, base narrowly cuneate into a channeled petiole nearly as long as the blade, 10-15 mm long including the petiole, 2-3 mm wide. Inflorescence a loosely, few-flowered (2-3) raceme, about twice as long as the leaf; peduncle filamentous, from a node on the secondary stem; flowers large for the plant, yellow, resupinate to nearly erect; floral bract infundibular, 1-2 mm long; pedicel 3 mm long; ovary tripartite, arcuate, less than 1 mm long; dorsal sepal deeply cucullate, 3 mm deep and about 4 mm wide spread out, 3-lobed, mid-lobe short and apiculate, lateral lobes broadly triangular, obtuse, adnate to the lateral sepals, 3-nerved, single-carinate dorsally; lateral sepals yellow flushed with purple at the apex, connate into an elliptical bidentate lamina, 4-5 × 2 mm, 4-nerved, bicarinate externally; petals narrowly triangular, obtuse, 2 × 1 mm, 1-nerved, originating from the lower portion of the column-foot; lip

*The Marie Selby Botanical Gardens

2 X 1 mm, obscurely cuneate, apex trilobed, outer lobes broadly falcate and rounded, middle lobe short, apiculate, base convex, broadly hinged to the column-foot, disc with a flat, ciliated elevation extending from the base into a rounded platform above the middle; column about 2 mm long, broadly winged and cucullate, clinandrium bidentate, foot 3 mm long and concave below the attachment of the column.

ETYMOLOGY: Named for the similarity of the species to the genus *Pleurothallis*.

TYPE: COSTA RICA: ALAJUELA: "Umgebung von San Ramon." G. Acosta s.n. (HOLOTYPE: AMES).

DISTRIBUTION: Costa Rica and Panama.

PANAMA: PANAMA: Cerro Jefe, *F L Stevenson 81974-2* (SEL), flowered in cult. 19 Aug. 1974; Cerro Compano, *F L Stevenson 61775-2* (SEL), flowered in cult. 17 June 1975.

Schlechter described two species (*Acostaea costaricensis*, the type, and *A. pleurothalloides*) from the plants collected by Acosta in the region of San Ramon, Costa Rica. He distinguished the second species by its slightly longer stems, and slightly larger leaves and flowers, all minor features which probably should be included within the variations of the species; a pointed middle lobe of the dorsal sepal, although the drawings show it similarly pointed in both species; a shorter, ciliated callus of the lip; and rounded wings of the column. In the presently illustrated plant from Panama, the rounded callus is similar to that diagramed for *A. costaricensis*, but it is minutely ciliated as in *A. pleurothalloides*. The column-wings are broadly and obtusely triangular, slightly different from either of the columns sketched for Schlechter's species. Therefore, the ciliated callus remains the only character by which the two species may be differentiated. The shapes of the petals are also drawn differently, varying from their descriptions, but one must consider the artist's interpretation and the difficulties encountered when these fragile, membranous, microscopic organs are examined, especially after having been dried and re-expanded. This is the first report of *A. pleurothalloides* from Panama.

Garay distinguishes *A. colombiana* by a pair of minute teeth along the inner margins of the apical lobes of the lip.

All three species are described as having non-resupinate flowers, but I believe that this is not the case. In the drawings of Schlechter's species the flowers of both are depicted as resupinate and the photographs of Garay's plant also show the flowers to be resupinate. In the two living specimens examined by me the flowers were held nearly upright or tilted backward so that the lip and synsepal were lowermost.

The color of the flowers varies from yellow to red-purple.

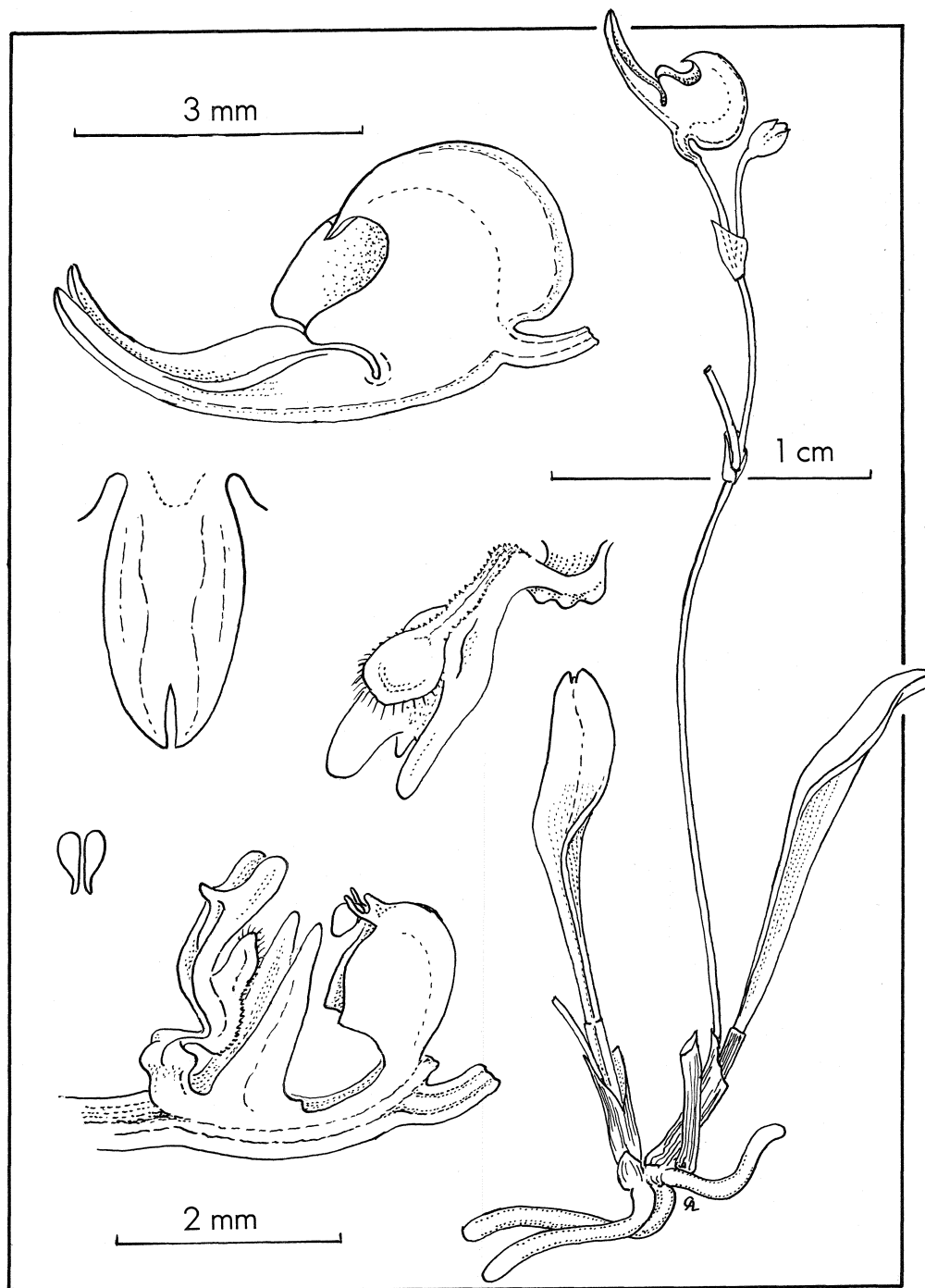


Figure 42. ACOSTAEA PLEUROTHALLOIDES Schltr.

***Acostaea trilobata* Luer, sp. nov.**

Planta pusilla epiphytica caespitosa, caulibus secundariis brevissimis, foliis obovatis obtusis, basin versus anguste cuneatis, inflorescentia pauciflora successiva, flore rubro, sepalo dorsali late ovato cucullato, sepalis lateralibus connatis bidentatis, petalis ventricosis acutis unguiculatis, labello oblongo apice trilobato, callo ovoideo puberulo, columna late alata.

Plant minute, epiphytic, caespitose; roots comparatively thick, white, flexuous. Secondary stem about 2 mm long, mostly concealed by 1-2 ribbed sheaths, unifoliate. Leaf obovate, obtuse to rounded, marginate, tridenticulate, base cuneate into a short channeled petiole, 8-19 mm long including the petiole, 4 mm wide. Inflorescence a lax, few-flowered raceme, slightly longer than the leaf, flowers single, successive, up to 6; peduncle purple, filamentous, from a node on the secondary stem; flowers dark red, resupinate; floral bract brown, infundibular, 1 mm long; pedicel also about 1 mm long; ovary red, 6-winged, arcuate, 1 mm long; dorsal sepal broadly ovate, obtuse, deeply concave, 4 × 4 mm spread out, 3-veined, the veins prominent externally; lateral sepals united into a broadly ovate lamina, 4 × 3 mm, bicarinate, apex obtuse, bidentate, fleshy; petals ovate, acute, labellar margin ventricose, unguiculate, 2 × 1 mm, 1-veined; lip oblong, 2.5 × 1 mm, apex brown, trilobed, lateral lobes thick, rounded, erect, mid-lobe of similar size, ovate, deflexed, base spring-hinged to the column-foot, disc with a thick, ovoid, slightly grooved callus projecting above the middle, purple-ciliate; column white, semi-translucent, broadly winged, the wings oblique and rounded, 2 × 2 mm, with a 1.5 mm concave foot.

ETYMOLOGY: From the Latin *trilobatus*, "three-lobed," referring to the prominently three-lobed apex of the lip.

TYPE: ECUADOR: NAPO: Epiphytic in felled tree 20 km east of Puyo, alt. 500 m, 28 July 1975, C. Luer, G. Luer & Wilhelm 465 (HOLOTYPE: SEL).

DISTRIBUTION: Ecuador.

The habitat of this species, the first of its genus to be discovered in Ecuador, is the mossy sheaths which envelop the highest twigs of rain forest trees of the Oriente. The minute tufts of little obovate leaves resemble those of many dwarf species of *Pleurothallis* which also inhabit the same branches.

The dark red flower, immediately recognized as an *Acostaea*, seems large for the plant. As in the other species, the lip is lowermost and is hinged to the column-foot by a sensitive spring-like mechanism. Any pressure on the back part of the callus immediately causes the lip to snap up into the column between its wings. The petals seem to act as guards. The lip can be forcibly withdrawn to a certain point beyond which it will not flip back, unless again triggered in that direction.

Acostaea trilobata is easily distinguished from the other species of the genus by its ventricose petals and by the three-lobed apex of the lip. The three blunt lobes are of nearly equal size, but the middle lobe, although it is somewhat deflexed, projects beyond the lateral lobes which stand erect between the apical lobe and the callus as a pair of mammillary tuberosities.

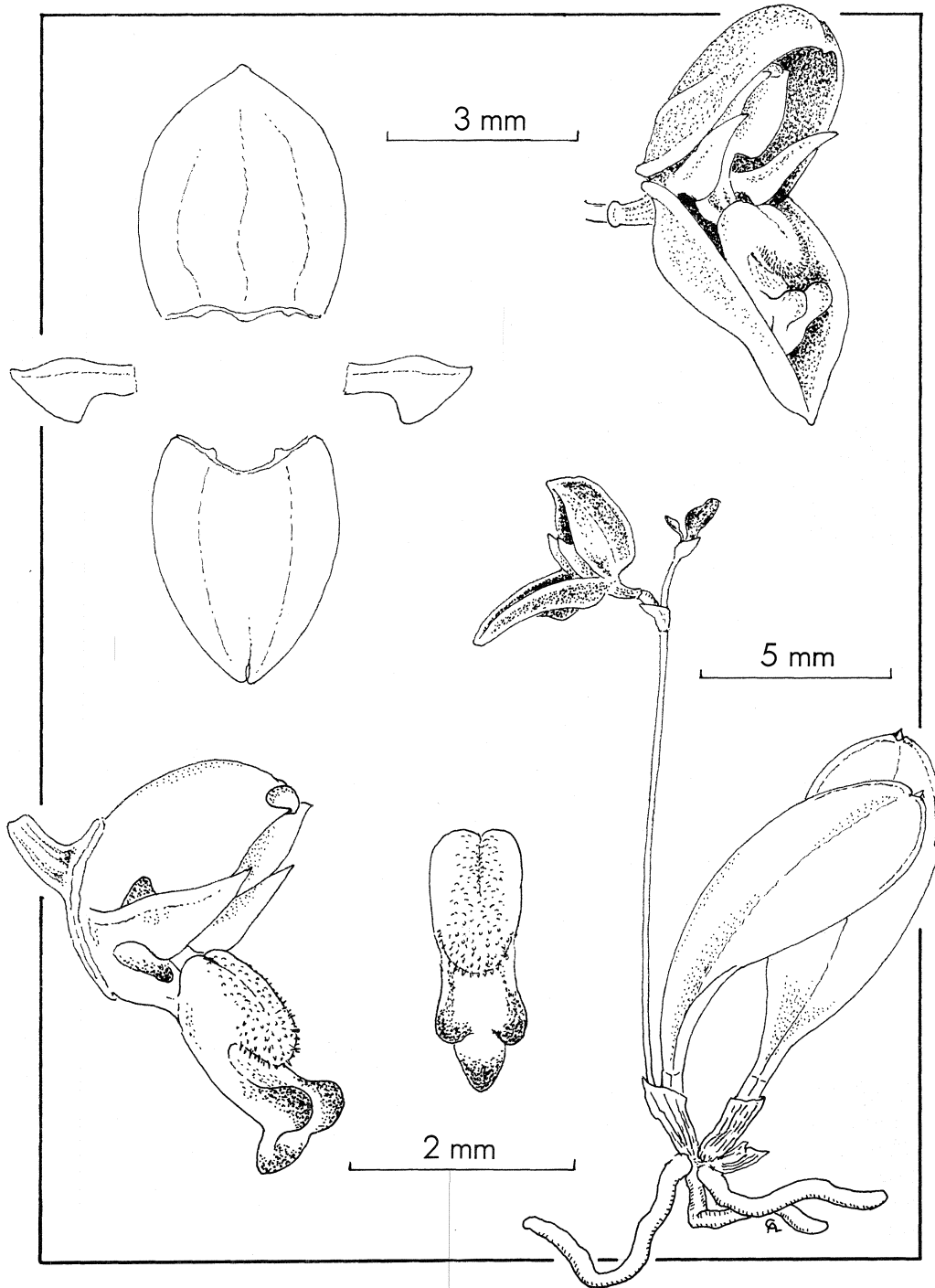


Figure 43. ACOSTAEA TRILOBATA Luer