

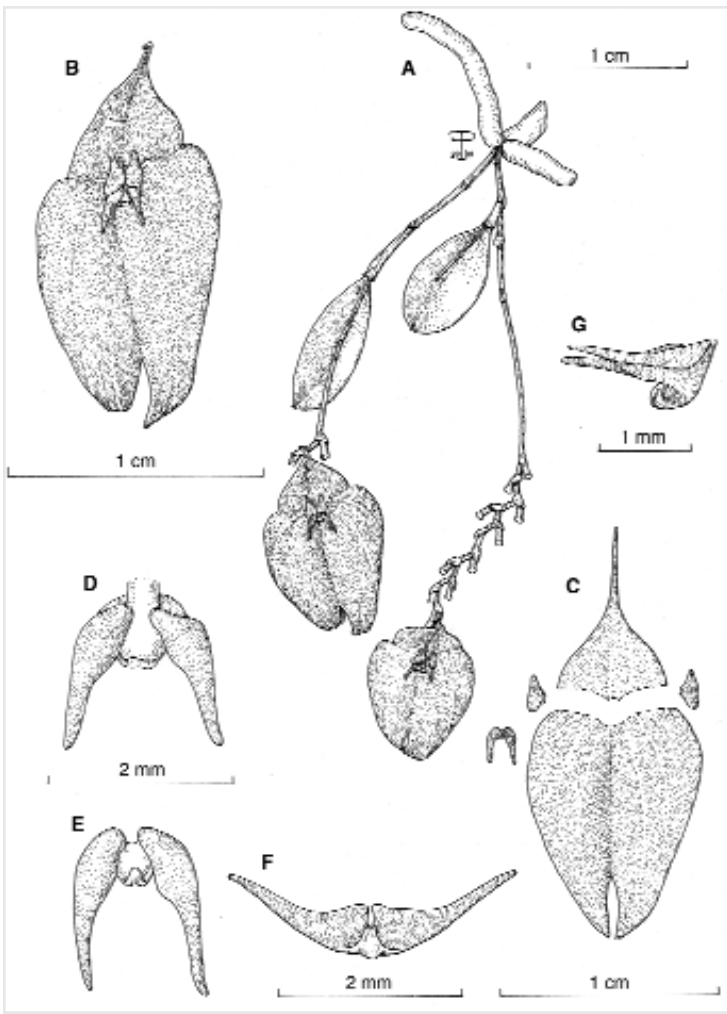
Lepanthes ruberrima Pupulin, sp. nov.

Based on *Lepanthes johnsonii* subsp. *costaricensis* Pupulin, Harvard Pap. Bot. 6(1): 291. 2001.

TYPE: COSTA RICA. Cartago: Orosi, road to the Tapantí National Park, about 1 km before the entrance of the park, 1160 m, epiphytic on a short tree along the roadside, 6 Feb. 2000, F. Pupulin 1979 [holotype, US], apparently lost; neotype designated here: Costa Rica. Cartago: Orosi, Tapantí, Purisil, road to Tapantí National Park, between restaurant Kirí and the entrance of the Park, about 1 km before the entrance, 9°45'50.4"N 83°47'24.4"W, 1245 m, epiphytic on short fence trees along the roadside, premontane wet forest, 20 August 2007, F. Pupulin 6859, M. Pupulin & C. Pupulin (CR). Figs. 11-13.

Ab Lepanthe johnsonii Ames *vaginis ramicaulium glabris, folio distincte brevioris, floribus concoloribus ruberrimis, sepalibus lateralibus connatis in lamina late ovata bifida apicibus acutis, lobis supernis petalorum triangulari-rotundatis distincta.*

Epiphytic, small, caespitose, erect to pendent **herb**, to 2.5 cm tall. **Roots** thick, glabrous, 1.5-1.8 mm in diameter. **Ramicauls** slender, 0.6-1.2 cm long, enclosed by 2-3 glabrous, brown sheaths. **Leaf** thinly coriaceous, elliptic, obtuse, minutely tridenticulate at apex, 7-8 × 4 mm, cuneate at the base into a petiole about 1 mm long. **Inflorescence** 1-2 per growth, produced singly behind the leaf at any new growth season, a loose, distichous, successively few-flowered (to 11 flowers) raceme to 32 mm long; peduncle filiform, to 15 mm long, covered at the base by a tubular sheath; rachis fractiflex. **Floral bracts** widely ovate, 0.8 × 0.7 mm, glabrous; pedicel 1.8 mm long; ovary 1 mm long. **Flowers** large for the genus, with purple sepals, petals red-purple, the lateral lobes of the lip red-purple with yellow apex, and red-purple column. **Dorsal sepal** very broadly triangular-ovate, contracted at the apex into an acuminate tail 4 mm long, 8.5 × 5.5 mm including the tail, 3-veined, connate to the lateral sepals for 2.5 mm. **Lateral sepals** connate for three quarters of their length into a broadly ovate, bifid lamina with acute apices, 11 × 8.5 mm, connate to the dorsal sepal for 2.5 mm. **Petals** transversely bilobed, 0.8 × 1.9 mm, the upper lobes obliquely triangular, 1.2 × 0.6 mm, the lower lobes smaller, semicircular, 0.5 × 0.6 mm. **Lip** 3-lobed, 0.6 × 3.2 mm across the lateral lobes when spread, the lateral blades narrowly triangular-falcate, acute, 1.7 mm × 0.5 mm, appressed



Lepanthes ruberrima Pupulin. A: Habit. B: Flower.

C: Dissected perianth. D: Column and lip from above.

E: Lip in natural position. F: Lip, flattened. G: Lip, lateral view.



Lepanthes ruberrima photographed *in situ* near Tapantí National Park (F. Pupulin 6859).

to the column, the connectives triangular, the appendix oblong, incurved, cleft abaxially from revolute sides, glabrous. **Column** short, winged, 0.8 mm long, the anther subapical, the stigma ventral. **Pollinia** 2, ovoid.

PARATYPE: Costa Rica. Cartago: Orosi, road to the Parque Nacional Tapanti, about 1 km before the entrance of the Park, 1170 m, epiphytic on short trees along the roadside, bordering a pasture, 7 May 2000, F. Pupulin 2409 & *Curso de Orquideología* (USJ!).

DISTRIBUTION. Endemic to Costa Rica.

DERIVATION OF NAME: From the Latin *ruberrimus*, "very red," in allusion to the color of the flower.

Originally described as a subspecies of *Lepanthes johnsonii* Ames (Pupulin 2001), a species ranging from Mexico to Guatemala, *L. ruberrima* is here recognized at specific rank on the basis of consistent morphological differences between the two taxa. The sheaths of the ramicauls of *L. ruberrima* are glabrous (vs. *hispidulous* in *L. johnsonii*), the leaf is distinctly shorter (less than 8 mm vs. more than 10 mm), the lateral sepals form a broadly ovate, bifid lamina with acute apices (vs. lateral sepals with the lobes distinctly caudate), and the petals have the upper lobe triangular-rounded (vs. nar-



Lepanthes ruberrima. Photo of the flowers from F. Pupulin 1979, the plant that served as the holotype of *L. johnsonii* subsp. *costaricensis*.

rowly triangular, acute). Furthermore, the flowers of *L. ruberrima* are completely red-purple, while those of *L. johnsonii* vary from pink to yellow, with the tails of the sepals suffused with rose-purple, the petals usually purple, and the laminae of the lip yellow, flushed with red only at the bases.

In their catalogue of the types preserved at the Herbarium of the University of Costa Rica (USJ), Morales and Villalobos T. (2004) claimed that all the original material of *Lepanthes johnsonii* subsp. *costaricensis* was lost and not deposited at USJ. For this reason, we designate here a neotype for this taxon. However, Morales and Villalobos T. (2004) also indicated that the type specimen of *Trichocentrum estrellense* was not deposited at USJ, but the holotype was misplaced in the herbarium collection and subsequently found there. For this reason, it is possible that the type material of *L. johnsonii* subsp. *costaricensis* will also be found in the future, along with other misplaced sheets.