



Three new *Lepanthes* species (Pleurothallidinae, Orchidaceae) from Ecuador

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Abstract

The Ecuadorian *Lepanthes calochroma*, *L. peltata*, and *L. spiculifera* are proposed as new species, and are described, illustrated, and compared with the most similar species. A brief history and description of the genus are included. The flowers of *L. calochroma* are similar to those of *L. golbasto*, but the plant is larger and the flowers are brilliantly colored with petals with an upper lobe longer than the lower. The flowers of *L. peltata* have an unusual bladeless lip, resembling that of *L. alticola*, but the latter is distinguished by much larger flowers with long-acuminate sepals. *Lepanthes spiculifera* is distinguished from the similar *L. zettleri* by the unusual blunt-spiculate pedicel bearing smaller flowers with blunt-spiculate sepals, densely pubescent petals, and a lip with long-ciliate margins.

Key words: Epidendreae, Epidendroideae, South America

Introduction

The genus *Lepanthes* Swartz (1799: 85) is one of the largest in the Pleurothallidinae, with more than 800 species known. The genus is most richly and diversely represented in Ecuador and Colombia, each with more than 300 species, with a distribution range from southern Mexico in the north, through Central America and the Antilles, to Bolivia and Brazil in the south (Luer & Thoerle 2010). At the limits of the distribution for the genus, the number and morphological variety of the known species decline.

When Swartz proposed the genus, he gathered together four species from Jamaica with ramicauls with tubular, ribbed sheaths with dilated ostia (Swartz 1799). Lindley described the first species based on an Ecuadorian collection, *Lepanthes monoptera* (Lindley 1834: 10, t. 114) based on a Jameson specimen from near Cuenca. Two years later, he added two more species from Colonel Hall's collections in the valley of Lloa, southwest of Quito: *L. biloba* (Lindley 1836: 356) and *L. mucronata* (Lindley 1836: 356). Between 1850 and 1877, H. G. Reichenbach added about 13 names, all but two based on Jameson specimens from the area of Pichincha. Hooker (1861: t. 5259) added a single name, *L. calodictyon*. Schlechter (1921a) listed a total of 27 Ecuadorian *Lepanthes* species; he had described 9 of them. In the decades between the retirement of these early taxonomic titans and the beginning of C. A. Luer's study of the Pleurothallidinae in the 1970s, only a handful of species typified by Ecuadorian material were proposed. The number of species in the genus attributed to Ecuador has soared in the past four decades, with the current number exceeding 300.

Species of *Lepanthes* are differentiated from several other genera that share these lepanthiform sheaths by the racemose inflorescence, and floral characteristics including the usually transversely bilobed petals and the usually tripartite lip usually with an appendix. Before Luer & Thoerle (2010), *Lepanthes* subsections *Lepanthes* and *Breves* (Luer 1993: 442) Luer (1996: 7) were subdivided into series, based largely on the morphology of the genus in Ecuador. An extensive examination of the genus beyond the borders of Ecuador demonstrated that these series were untenable. Therefore, *L. calochroma* Thoerle & Hirtz and *L. peltata* Thoerle & Hirtz are placed in subsect. *Lepanthes* without further division. *Lepanthes spiculifera* Thoerle & Hirtz, with single-veined lateral sepals, is a member of *Lepanthes* subsect. *Breves*, also without further division.

Materials and methods

The three species were identified as undescribed species by Hirtz, who observed them in cultivation at Ecuagenera, a commercial grower in Gualaceo, Ecuador. In addition to the dried and pressed vegetative material, flowers and

Discussion:—*Lepanthes spiculifera* bears small, mostly yellow flowers appearing singly and sequentially on a gradually lengthening raceme that can eventually reach a length of 13 cm or more. The apex of the pedicel and the ribs of the ovary are blunt-spiculate; blunt-spiculate carinae mark the veins on the exterior of the sepals; the sparsely blunt-spiculate ovate dorsal sepal is concave; the single-veined lateral sepals are narrowly ovate-triangular with notably blunt-spiculate margins; the upper lobe of the pubescent petals is oblong, the lower lobe is obliquely, obtusely triangular; and the lip is pubescent with ciliate margins, cordate, with ill-defined blades embracing the column.

The Venezuelan *Lepanthes zettleri* (Fig. 10), may be the most similar to *L. spiculifera*, with an elongated raceme bearing flowers of a superficially similar shape, with single-veined lateral sepals and a lip with weakly developed blades. *Lepanthes zettleri* lacks the unusual pedicels with a blunt-spiculate apex, and the larger flowers have sepals 4–5 mm long, with smooth margins; glabrous petals; and a subquadrate lip only shortly pubescent.

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