

LEPANTHES CARRIZOSANA, A NEW SPECIES OF *LEPANTHES*
(ORCHIDACEAE: PLEUROTHALLIDINAE)
FROM THE SOUTHWESTERN ANDES IN COLOMBIA

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Abstract. A new species of *Lepanthes* from the southwestern Andes of Colombia is described, illustrated and compared with morphologically similar species. The new species was found in two localities in the municipality of San José del Salado, in the department of Valle del Cauca, where several new species have been found and described in the past several years.

Keywords: Colombia, Dagua, *Lepanthes*, Orchidaceae, San José del Salado, Sistemática, Valle del Cauca

Resumen. Se describe, ilustra y compara una nueva especie de *Lepanthes* del suroeste de los Andes occidentales de Colombia con especies morfológicamente similares. La especie nueva fue encontrada en el municipio de San José del Salado en el departamento del Valle del Cauca donde se han encontrado y descrito varias especies nuevas en los últimos años.

Palabras claves: Colombia, Dagua, *Lepanthes*, Orchidaceae, San José del Salado, Sistemática, Valle del Cauca

Lepanthes Sw. is one of the most diverse genera in the Orchidaceae, with more than 1158 species described (Karremans and Vieira, 2020), of which 376 are reported from Colombia (Farfán et al., 2003; Luer and Thoele, 2012; Betancur et al., 2015; Bernal et al. 2016). The Western Cordillera of the Andes is the most diverse region, with Valle del Cauca Department second in diversity after Antioquia. Seven new species of *Lepanthes* have been

described from San José del Salado, a region within the Cauca department (Luer, 2009; Moreno et al., 2017, 2021, 2021, 2022). In 2022, we carried out new expeditions to the mountains of San José del Salado and discovered a new species of *Lepanthes*. Here we describe and illustrate it, provide information about its distribution, and compare it with the most similar species, adding the 377th species of *Lepanthes* to the flora of Colombia.

MATERIALS AND METHODS

The description and drawings were prepared from living specimens and flowers preserved in 70% alcohol. Flowers were dissected, measured, and photographed using Celestron Handheld Digital Microscope Pro. Vegetative structures were measured from dried material and reproductive structures from spirit material. Digital images were taken with a Nikon D610 and a Nikon 105mm f/2.8 macro lens. Sketches from living and preserved specimens were digitized, and the images were used for diagramming a draft composite template in Adobe Photoshop® CS6. A digital

composite line drawing was then made (lines and stippling) in Procreate illustration application for iPad 6th generation tablet computer (Bogarín et al., 2019). The new species was described following the botanical terminology by Beentje (2012) and Stearn (1992). All original descriptions of related species were consulted for detailed comparisons (Luer 1996; Luer and Thoele 2012). Specimens from the following herbaria, AMES, COL, CUV, HUA, JAUM, JBB, VALLE, CAUP and MO (online), were consulted, and no additional material of the new species was found.

TAXONOMIC TREATMENT

Lepanthes carrizosana Gal.-Tar., Zuluaga & J.S.Moreno, *sp. nov.*

TYPE: COLOMBIA, Valle del Cauca, municipality of Dagua, corregimiento de San José del Salado, predio El Almorzadero, 1730 m, 28 August 2022, R. Galindo-Tarazona & D. L. Mora 1586 (Holotype: CUV). Fig. 1–2.

Lepanthes carrizosana is most similar to *Lepanthes darioi* Luer & R.Escobar. It can be distinguished by having a pubescent, obovate, bilaminate lip with cuneate connectives (vs. narrowly ovate lip and oblong connectives), and a small appendix with a pair of minute apical lobes that come from a slightly short pubescent, concave base (vs. broadly

triangular appendix held directly below the stigma).

Plant 4.5–6.8 cm tall, epiphytic, weak, caespitose. *Roots* slender, flexuous 0.7 mm in diameter. *Ramicauls* slender, 2.7–4.0 cm long, suberect, enclosed by 15 lepanthiform sheaths, reducing in size towards the base, furrowed, with a dilated and ciliated ostia, long-acuminate. *Leaves* pendent, 2.5–2.8 × 0.6–0.8 cm, thinly coriaceous, ovate, long-acuminate, the apex emarginate with an abaxial central apiculum, 1.5 mm long, the base cuneate contracted into a petiole 0.5–1 mm long. *Inflorescence* a congested, successively flowered raceme, up to 0.8–1.0 cm long, including the peduncle, borne on top of the leaf by a filiform

We are very grateful to Danny Leandro Mora for his support during the field trips to the areas of San José del Salado where the new and several other species were found. Finally, to Luisa Calderón who helped us dissect and measure the flowers of the new species.

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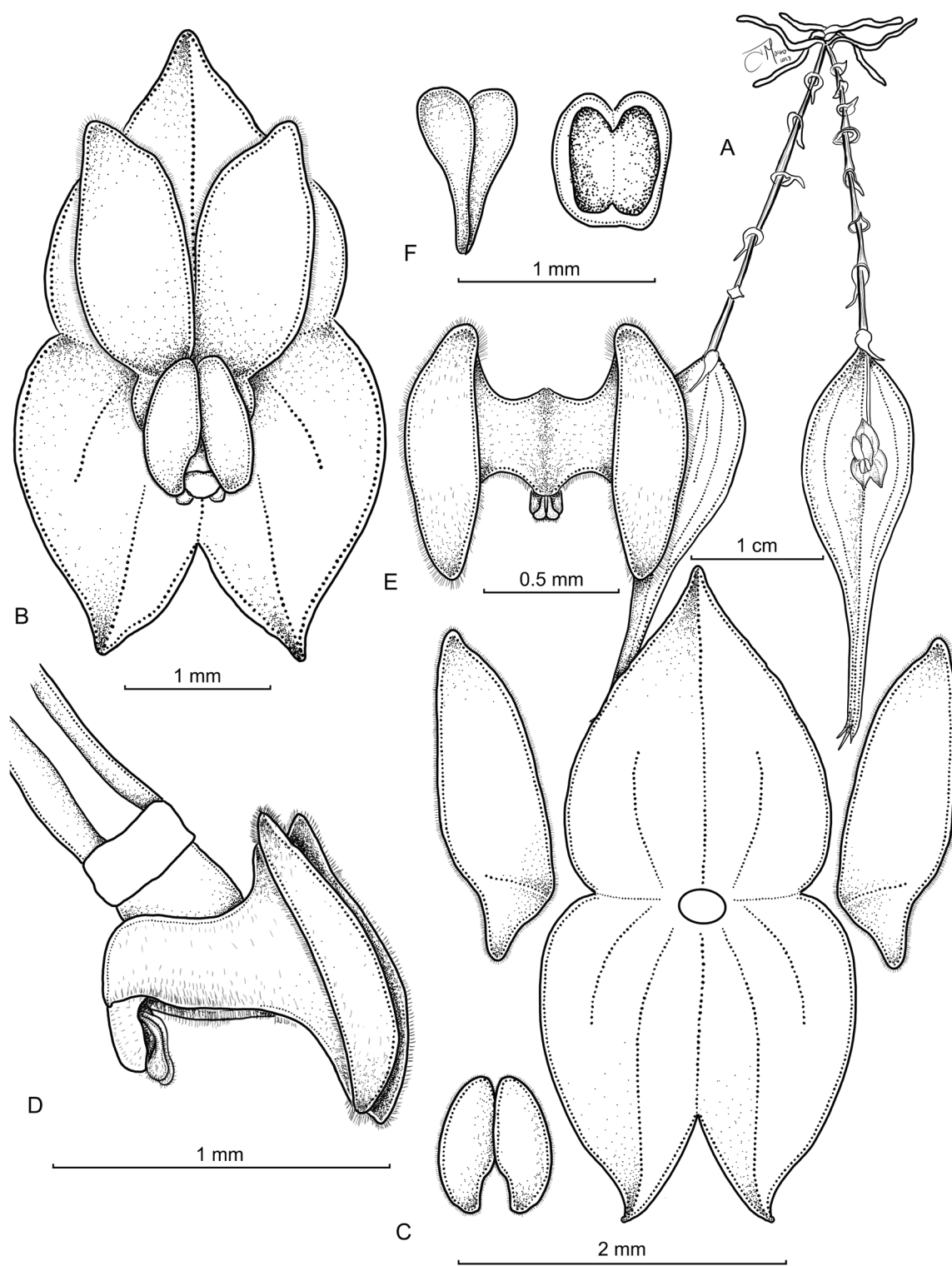


FIGURE 1. *Lepanthes carrizosana* Gal.-Tar., Zuluaga & J.S. Moreno. **A**, Habit and plant; **B**, Flower; **C**, Dissected perianth; **D**, Lip, column and ovary; **E**, Lip expanded; **F**, Pollinia and anther cap. Drawing by J. S. Moreno based on the holotype.

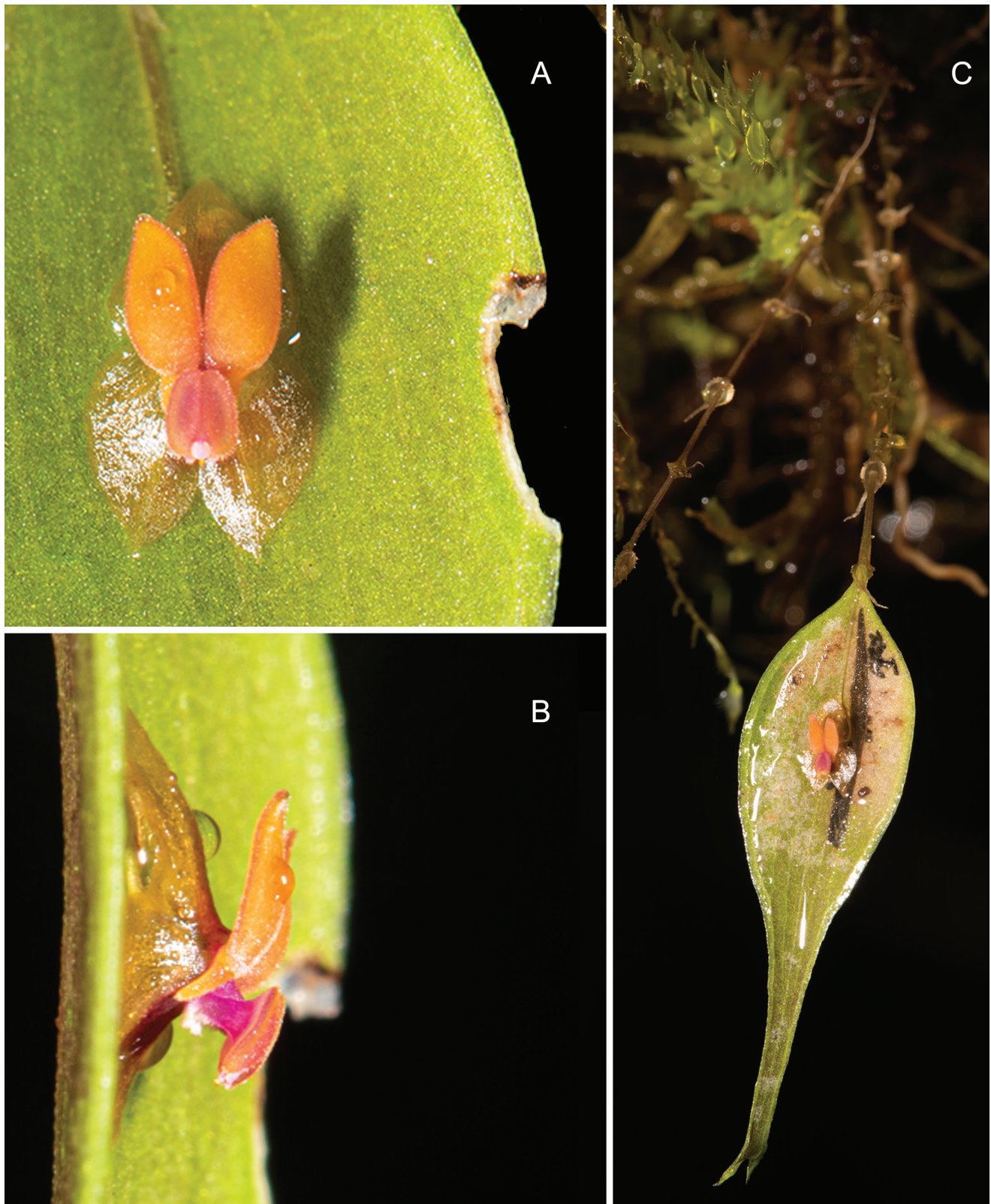


FIGURE 2. In-situ photographs of *Lepanthes carrizosana* Gal.-Tar., Zuluaga & J.S. Moreno. **A**, Flower; **B**, Flower from the side; **C**, Habit and plant. In-situ photographs by R. Galindo-Tarazona.

peduncle, 7.0 mm long; *floral bract*, acuminate, 0.7–0.9 mm long; *pedicel* 1.2–1.5 mm long, terete, persistent, longer than floral bract. *Flower* 7–7.5 mm long, 4–4.2 mm wide. *Ovary* costate, up to 1 mm long. *Sepals* convex, glabrous, similar in size. *Dorsal sepal* ovate-acute, 1.8–2 mm long, 1.3–1.4 mm wide, 3-veined, connate to the lateral sepals for 1.4 mm. *Lateral sepals* ovate, oblique, acute, $1.5\text{--}1.7 \times 0.9\text{--}1.1$ mm, 2-veined, connate for 0.7 mm. *Petals* transversely bilobed, $0.4\text{--}0.5 \times 1.6\text{--}1.8$ mm, the upper lobe much longer than the lower lobe, oblong-ovate, pubescent; the lower lobe short, triangular, acute. *Lip* pubescent, bilaminate, the blades obovate, with rounded ends, the apex of each lobe short pubescent towards the base, $0.7\text{--}0.8 \times 0.4\text{--}0.5$ mm, the connectives short, cuneate, the body thick, rounded, pubescent, connate to the base of the column, the sinus obtuse, the appendix small with a pair of minute apical lobes that are borne from a slightly concave base, short pubescent. *Column* terete, slender, 0.9–1 mm long, the anther dorsal and stigma ventral. *Anther cap* pink, cordate, cucullate, 0.5 mm wide. *Pollinia* two, yellow, pyriform, 0.4 mm long.

Eponymy: The name of the new species honors Julio Carrizosa Umaña, a scientist, environmentalist and thinker with a great vision of the connection between environmental institutionalism and strategies aimed at sustainable development in Colombia. He was the Director of the Institute of Environmental Studies of the National University of Colombia from 1993 to 1998. He currently coordinates the Natural Parks Committee of the Colombian Academy of Exact, Physical, and Natural Sciences. He has been designated a full member of the Colombian Society of Engineers, a full member of the Geographical Society of Colombia, vice president of the Colombian Society of

Ecology in 1978, an honorary member of the Cartographic Society of Colombia and the Association of Fisheries Researchers, president of the Environment Committee of the Pan-American Institute of Geography and History between 1973 and 1976, and corresponding member of the Ecuadorian Institute of Natural Resources.

Conservation status: *Lepanthes carrizosana* is known only from its type locality. Therefore, the species is classified within the IUCN categories as data deficient (DD), because we lack adequate distribution and population information to make an assessment (IUCN Standards and Petitions Subcommittee 2017; IUCN 2023).

Lepanthes carrizosana is a medium size species with small flowers that are borne in a congested raceme above the leaf. The leaves are thin coriaceous, ovate, long-acuminate, the apex emarginate with an abaxial apiculum in the middle. Its petals, which are its most striking feature, have an oblong-ovate upper lobe, much longer than the small triangular lower lobe. It is most easily distinguished by its pubescent, bilaminate lip, with obovate blades and a small, short pubescent appendix with a pair of minute apical lobes that comes from a slightly concave base. The most similar species is *Lepanthes darioi* from the Western Andes of the Department of Antioquia, but its flowers are borne in a congested raceme below the leaves (vs. above the leaves). Also, the leaves are elliptical and obtuse (vs. ovate and long-acuminate) and the lip has narrowly ovate blades at the anterior margins of erect, oblong connectives, with a broad triangular appendix held directly below the *stigma* (vs. small appendix with a pair of minute apical lobes that comes from a slightly concave base, short pubescent).

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