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A New *Pleurothallis* from Colombia, with a Note on *Ancipitia* and *Colombiana* (Orchidaceae: Pleurothallidinae)

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***Abstract*—**A new species of *Pleurothallis* from Valle del Cauca, Colombia, is described and illustrated. *Pleurothallis ottocari* is similar to the Ecuadorian *P. scoparum*, but differs in the widely elliptic leaf, the smaller flowers, the incurved dorsal sepal, the purplish-tinted petals, which are conspicuously curved downwards above the middle, and the basally sub-truncate lip. Brief comments are given as to the reason for not using the generic names *Ancipitia* and *Colombiana*, to which the new species would otherwise belong.

***Keywords*—**New species, *Pleurothallis ottocari*, Valle del Cauca.

Colombia is one of the most biologically diverse countries worldwide. Unfortunately, the increase in knowledge of that diversity has been below expectations and a large effort is still needed in order to get a better perspective of its current state (Calderón et al. 2002). The accelerated rate of human impact on the natural ecosystems makes that knowledge of diversity essential for conservation efforts (Salinas and Betancur 2005). The Valle del Cauca occupies just under 2% of the territory of Colombia, but with several hundred species it is one of the richest areas in orchid species diversity in the world (Kolanowska and Szlachetko 2012). Located in the south-western part of the country, it is an area of great ecosystem complexity derived from the Central and Western mountain ranges, producing high endemism in its flora. During a field inventory of Orchidaceae diversity in Valle del Cauca an undescribed species belonging to subtribe Pleurothallidinae was discovered and is described here (Figs. 1, 2).

The new species is only the ninth of a group of species closely related to *Pleurothallis scoparum* Rchb. f., and allocated to *Pleurothallis* subgen. *Scopula* Luer (Luer 1989). Species of *Pl*. subgen. *Scopula* are easily recognized by "the tuft of single-flowered peduncles emerging near the apex of the leaf from the median sulcus," a feature that also precipitated their generic recognition as *Colombiana* Ospina (Ospina 1974). However, aside from the aberrant emergence position of the inflorescence, plant and flower morphology are very similar to other species of *Pleurothallis* R. Br. (in the sense of its type *Pleurothallis ruscifolia* (Jacq.) R. Br.), and especially species of *Pleurothallis* subgen. *Ancipitia* Luer (Luer 1989), a close relationship that is confirmed by DNA data (Pridgeon et al. 2001; Karremans et al. 2013; Wilson et al. 2013).

Luer (1989) noted that the inflorescence of *Pl*. subgen. *Scopula* "suggests some relationship with subgen. *Ancipitia*," and in turn about *Pl*. subgen. *Ancipitia* that "the leaves are ovate and sessile, sometimes decurrent on the ramicaul, which suggests some relationship with subgen. *Scopula* which is very similar florally," but maintained that the "ancipitous ramicaul distinguishes subgen. *Ancipitia*." He would later segregate both from *Pleurothallis*, elevating the subgenus to generic level as *Ancipitia* (Luer) Luer, and recognizing the generic name *Colombiana* for the species of subgen. *Scopula* (Luer 2004).

Colombiana and *Ancipitia*, although recognized by Luer (2004, 2006, 2011), have otherwise received little support as distinct genera (Pridgeon et al. 2001; Pridgeon 2005). The authors of the present paper agree that species of *Ancipitia* and *Colombiana* are closely related to each other, in fact find that the morphological differences among the members of *Ancipitia* are greater than between some species of *Ancipitia* and the species of *Colombiana*. The ancipitous ramicaul used as a diagnostic feature for *Ancipitia* is however lost in species such as *Pleurothallis eumecocaulon* Schltr. and *P. instar* Luer. Meanwhile, *Pleurothallis inornata* Luer & Hirtz and *Pleurothallis dubbeldamiana* Karremans & Rincón-Useche, placed in *Ancipitia* as well (Luer 2004; 2011), do not share the brush-like inflorescence made of long pedicels, and the long lanceolate sepals and petals with a relatively small lip, typical of most other species of both *Ancipitia* and *Colombiana*.

The unclear generic and subgeneric delimitations among the segregates of *Pleurothallis* was suggested by Karremans and Muñoz (2011) when describing *Pleurothallis silvae-pacis* Karremans, a species with some *Ancipitia*-like features. Likewise we consider that species of *Ancipitia* and *Colombiana* are likely to be interrelated, and as currently defined are also difficult to distinguish from species of *Pleurothallis*, and therefore prefer to use the latter in a more conservative approach. A thorough phylogenetic study of this group coupling DNA data with a morphological analysis might help establish the relationships among these species.

Materials and Methods

This study was conducted between 2012 and 2014 in Valle del Cauca, Colombia. The plants were preserved in alcohol prior to drying the plants. Individual plants were photographed, illustrated, and preserved as herbarium specimens deposited at COL (holotype) and VALLE (paratype). Phenology data was recorded in the field. Morphological studies were carried out using a Zeiss DV4 stereomicroscope provided by each herbarium. The new species was described and illustrated by composite line-drawings from the preserved material. Images were diagrammed using Adobe Photoshop®. The distribution map was produced using ArcGIS.

Taxonomic Treatment

Pleurothallis ottocari Rodr.-Martínez, Rincón-Useche & Karremans, sp. nov.—TYPE: COLOMBIA. Valle del Cauca: Dagua, San José del Salado, remnant cloud forests at 1,850 m elevation, temperature 20°C. March 3, 2014, L. Rodríguez-Martínez & C. Rincón-Useche 057 (holotype: COL!).

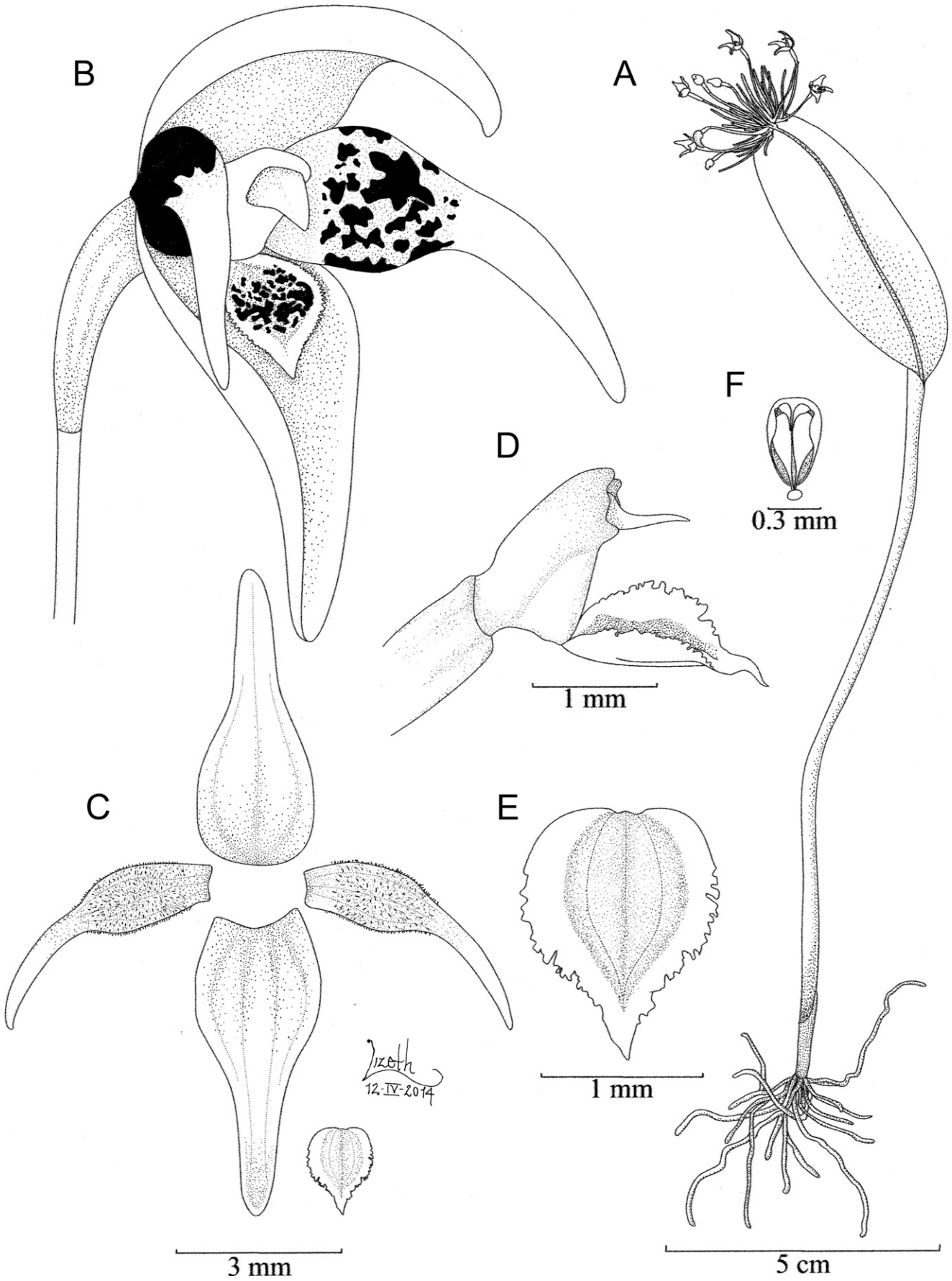

FIG. 1. Pleurothallis ottocarii *Pleurothallis ottocarii* Rodr.-Martínez, Rincón-Useche & Karremans. A. Habit. B. Flower. C. Dissected perianth. D. Column and lip, lateral view. E. Lip details. F. Anther. Drawings by Lizeth Martínez-Rodríguez from the holotype (L. Rodríguez-Martínez & C. Rincón-Useche 016).

FIG. 2. *Pleurothallis ottocarii* Rodr.-Martínez, Rincón-Useche & Karremans photographed in situ by Cristian Rincón-Useche (L. Rodríguez Martínez & C. Rincón-Useche 057). A & B show different angles of the inflorescence.

Pleurothallis ottocarii is similar to *P. scoparum* but can be recognized by the widely elliptic (vs. narrowly-elliptic) leaves, the immaculate white (vs. white to pinkish with purple spots) sepals, which are shorter and narrower, the dorsal is 5 × 2 mm (vs. 8–9 × 3 mm) and the synsepal is 4.6 × 2.3 mm (vs. 7–9 × 3 mm). The dorsal sepal has an incurved apex (vs. apex not incurved). The petals are white with large dark-purple spots on the basal half (vs. many small pinkish dots) and are shorter and narrower (4.5 × 1.3 vs. 7–8 × 2 mm), they are strongly curved downward especially above the middle (vs. almost horizontal). The lip is suborbicular (vs. ovate), denticulate-serrulate (vs. fimbriate) and smaller, 1.5–1.6 × 1.2 mm (vs. 2.5 × 2.0 mm).

Plant epiphytic, herbaceous, erect, up to 35 cm tall; roots flexuous, thin, 0.3–0.5 mm diameter, densely fasciculate. Ramicaul erect, thin, cylindrical, up to 14–23 cm long, covered by tubular papyraceous bracts close to the base; leaf sub-erect, sessile, coriaceous, broadly-elliptic, 5–10 × 2.5–3.5 cm. Inflorescence a fascicle of successive, single-flowered peduncles, up to 7 cm long, born close to the apex of the leaf; peduncle 5–10 cm long, pedicels 40–80, persistent, 1.6–2.3 cm long, floral bracts 4, 2.1–5.8 mm long; ovary 4.8 mm long; flowers translucent white, with dark purple spots and stains, successive, up to at least 7 open at once; sepals immaculate white, the dorsal one semi-erect, 3-veined, 4.7–5.1 × 1.8–2.1 mm; lateral sepals fully fused into a synsepal, concave, narrow towards the apex, 4-veined, 4.6–5.0 × 2.2–2.4 mm; petals white, heavily tainted with dark purple below the middle, conspicuously curved above the middle, basally hispid, 4.0–4.5 × 1.0–1.2 mm; lip white, heavily spotted with dark-purple in the middle, articulate to the column foot, sub-orbicular, thickened in the middle with a central depression, margin dentate-serrate, apiculate, 1.3–1.6 × 0.7–1.2 mm, column white with a pinkish suffusion apically, cylindrical, slightly arched above, with a short column foot, 1.3–1.9 × 0.8 mm. Anther and stigma apical; rostellum conspicuous, erect, triangular; pollinia 2, narrowly ovoid, joint by a bubble-like viscidium. Figure 1.

***Distribution and Ecology*—**It is known only from two collections from around the mountains of San José del

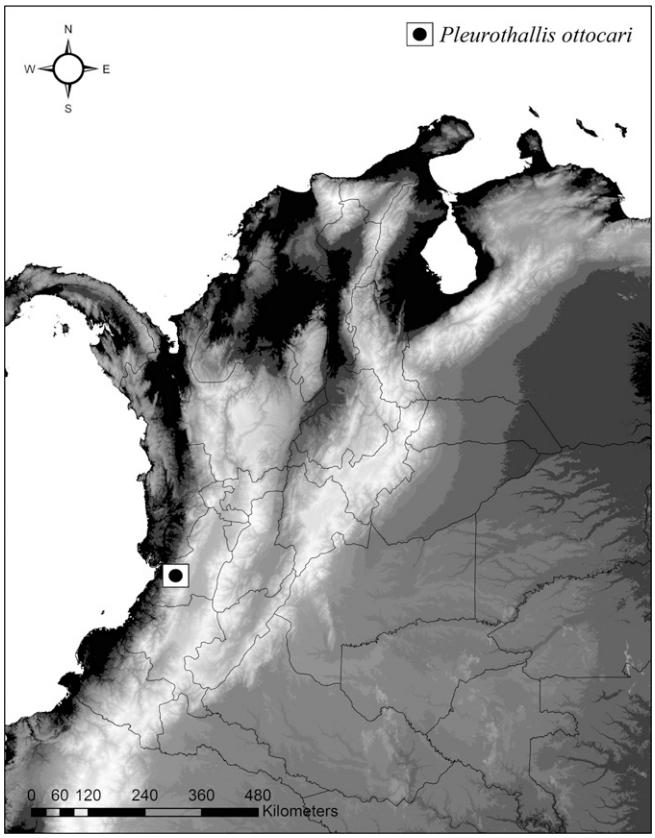

FIG. 3. Distribution map of *Pleurothallis ottocarii* Rodr.-Martínez, Rincón-Useche & Karremans in Colombia.

Salado, Dagua municipality, in the Valle del Cauca, Colombia (Fig. 3), at elevations around 1,850 m. It is found as an epiphyte in the cloud forests on the occidental mountain range. Both specimens were found growing on Tibouchina sp. (Melastomataceae).

***Eponymy*—**The name honors professor Ottocar Reina Barth, who allowed access to the type locality and who has promoted conservation efforts of the orchids of Valle del Cauca.

***Additional Specimens Examined*—**COLOMBIA. Valle del Cauca: Dagua, San José del Salado, remnant cloud forests at 1,850 m elevation, temperature 20°C. September 21, 2012. L. Rodríguez-Martínez & C. Rincón-Useche 016 (paratype: VALLE!).

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