LEPANTHOPSIS KAYI (PLEUROTHALLIDINAE, ORCHIDACEAE), A NEW SPECIES FROM EASTERN ECUADOR

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Abstract. *Lepanthopsis kayi*, a new species from the Amazonas region in Ecuador, is described, illustrated, compared with similar species, and its generic placement discussed. *Lepanthopsis kayi* is distinguished from all other species in the genus by the combination of ramicauls shorter than the leaf, with glabrous sheaths with the ribs and ostia thickened, and a very congested inflorescence bearing many overlapping, simultaneous flowers arranged in two opposite-facing ranks, the flowers with a proportionally very large, densely pubescent lip, ca. 50 percent longer than the lateral sepals.

Keywords: Amazonas, Ecuador, *Lepanthopsis*, Orchidaceae, *Platystele*, Pleurothallidinae

The genus *Lepanthopsis* (Cogn.) Ames contains ca. 44 species (Karremans, 2016), ranging in distribution from southern Mexico and southern Florida (U.S.A.) to the north, through Central America and the Greater Antilles, and to Brazil and Bolivia in the south. The species are nearly evenly split between the American continents and the Greater Antilles, where many are Hispañola endemics. In this paper, we describe a new species of *Lepanthopsis*, known from the province of Pastaza in the Amazonas natural region of Ecuador. Andreas Kay, noted nature photographer, guided the second author to these plants at Finca Ursula.

Lepanthopsis kayi Thoerle & Cornejo, *sp. nov.* TYPE: ECUADOR. Pastaza: Finca Ursula, 18 km E of Puyo, on a ridge above the Bobonaza River, 650 m, 8 January 2016, *X. Cornejo & H. A. Kay 8738* (Holotype: GUAY), L. Thoerle illustr. 305. Fig. 1–3.

Lepanthopsis kayi is distinguished from all other species in the genus by the combination of the plant with ramicauls shorter than the leaf, with glabrous sheaths with the ribs and ostia thickened, and a very congested inflorescence bearing many overlapping, simultaneous flowers arranged in two opposite-facing ranks, the flowers with a proportionally large, densely pubescent lip, ca. 50 percent longer than the lateral sepals.

Plant small, epiphytic, caespitose, roots slender. *Ramicauls* erect to horizontal, 5–7 mm long; enclosed by 2–3 sheaths with thickened ribs and ostia. *Leaf* erect to horizontal, coriaceous, 15–30 mm long including the petiole ca. 5 mm long, 6–8 mm wide, cuneate below into the petiole. *Inflorescence* a suberect to horizontal, very congested, simultaneously many-flowered raceme, with up to 40 or more flowers with the sepals overlapping, in two opposite-facing ranks, ca. 3.5–5 cm long including the capillary peduncle ca. 2.5–3.5 cm long, with a bract at about the middle, emerging from a node below the apex of the ramicaul; *floral bracts* thin, acuminate, 1–1.25 mm long; *pedicels* 0.75 mm long, bending sharply after emerging from the floral bract; *ovary* ribbed, 0.3 mm long, bent sharply near the base. *Flowers* with sepals and petals translucent yellow-green, glabrous, sepals with external, irregular, red blotches; *sepals* externally carinate, broadly elliptical, obtuse, 1-veined, dorsal sepal 1.25 mm long, 1 mm wide, lateral sepals 1.2 mm long, 0.75 mm wide, connate 0.2 mm; *petals* narrowly elliptical, acute, 1 mm long, 0.2 mm wide; *lip* red with pale yellow margins, thick, densely pubescent, ovate-oblong with apex broadly rounded, basally concave between convex margins, apically convex, 1.75 mm long, 1 mm wide, the base subtruncate, fixed to the base of the column; *column* yellow-green, cucullate, stout, 0.3 mm long, 0.66 mm wide, stigma bilobed, lobes internally flushed with red, anther cap cream, pollinia not observed.

Eponymy: named for Andreas Kay, nature photographer, who discovered this species.

Phenology: observed in flower and in fruit January through June.

Habitat and ecology: *Lepanthopsis kayi* is found as an epiphyte in wet secondary forest, most commonly growing ca. 2 m high on tree trunks in the understory, and also in the upper canopy, favoring shady, windy areas. Plants were observed growing on liana stems of *Strychnos* L. (Loganiaceae), Menispermaceae, *Philodendron* Schott (Araceae), and unidentified dead trees. It is found alone or intermixed with other species of Pleurothallidinae, including *Platystele stenostachya* (Rchb. f.) Garay, *P. ornata* Garay, *Lepanthes ximenae* Luer, *L. deleastes* Luer, *Dryadella gnoma* (Luer) Luer, and *Scaphosepalum rapax* Luer.

Distribution: known only from the type locality, where this species is locally frequent.

Some of the morphological characters of *Lepanthopsis*

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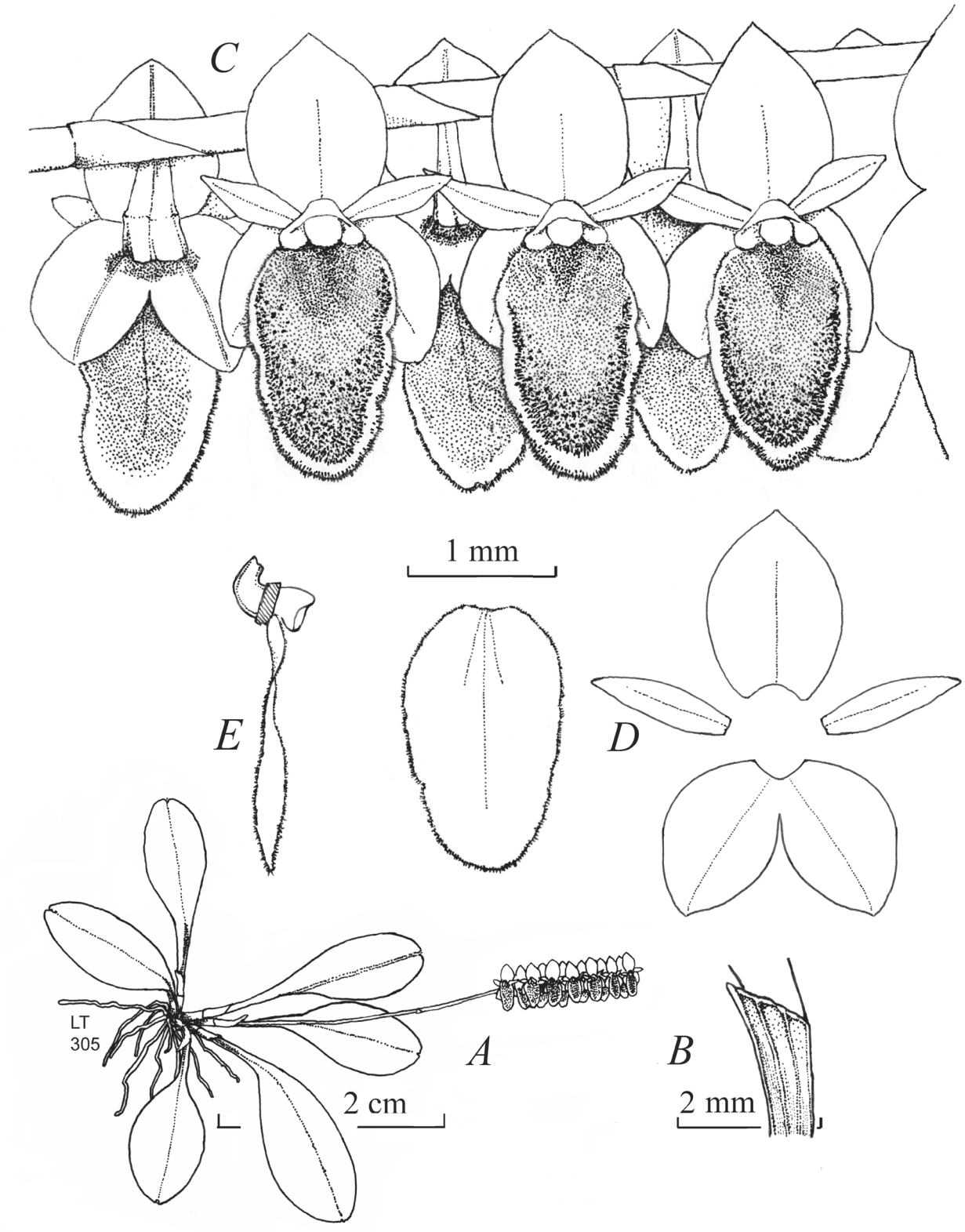

FIGURE 1. *Lepanthopsis kayi* Thoerle & Cornejo. **A**, habit; **B**, detail of a basal sheath; **C**, partial inflorescence; **D**, dissected flower, lip expanded; **E**, ovary, lip, and column, lateral view. Drawing by L. Thoerle, based on the Holotype.

FIGURE 2. *Lepanthopsis kayi* Thoerle & Cornejo. Plant with inflorescence. Photographed *in situ* by Andreas Kay, from the type population.

kayi are intermediate between those associated with the genera *Lepanthopsis* and *Platystele* Schltr. Luer noted that the flowers of the two genera were "very similar to, if not indistinguishable from" one another, distinguishing *Lepanthopsis* by the plant with elongated ramicauls, usually longer than the leaves, with lepanthiform sheaths characterized by ciliate or scabrous ribs and ostia, with the ostia dilated (Luer, 1990, 1991). In spite of the floral similarities, a recent assessment of the phylogenetic relationships within the subtribe Pleurothallidinae places the two genera in different affinities: *Platystele* is part of the *Specklinia* Lindl. affinity; *Lepanthopsis*, the *Lepanthes* Sw. affinity (Karremans, 2016).

The ramicauls of *Lepanthopsis kayi* are much shorter than the leaves, 5–7 mm long vs. the 15–30 mm long leaf, and are clad with glabrous sheaths, but the sheaths of mature growths have the thickened veins and ostia associated with the genus *Lepanthopsis*. While the character of the inflorescence is not uniform in either genus, with some species of *Lepanthopsis*, such as *L. astrophora* (Rchb.f. ex Kraenzl.) Garay, displaying the loose, flexuous raceme commonly associated with species of *Platystele*, while a few species of *Platystele* display the very congested inflorescence more often seen in the genus *Lepanthopsis*. The flowers of the former are arranged either in a dense cylinder, as in *Platystele densiflora* P. Ortiz, or in a raceme that is more or less umbellate, such as *P. dasyglossa* P. Ortiz. No species currently assigned to *Platystele* displays flowers in two opposite-facing ranks. The inflorescence of *L. kayi*, with overlapping flowers arranged in two ranks with most open simultaneously, is characteristic of *Lepanthopsis* sect. *Lepanthopsis*.

There are two similarly vegetatively anomalous species of *Lepanthopsis*. When Stenzel described *Platystele hyalina*, the glabrous sheaths of the ramicauls led to its generic placement, although he noted that the sheaths were ribbed and thickened, as in the genus *Lepanthopsis* (Stenzel, 2002). Recently, Karremans et al. (2016) transferred this species to *Lepanthopsis*, based largely on these sheaths. This species is readily differentiated from *L. kayi* by its lax inflorescence

FIGURE 3. *Lepanthopsis kayi* Thoerle & Cornejo. Detail of inflorescence. Photographed *in situ* by Andreas Kay, from the type population.

(vs. very congested), bearing only 4–12 flowers (vs. up to 40 or more) with a shorter lip, ca. 75 percent of the length of the lateral sepals (vs. ca. 150 percent). Another species with short ramicauls clad in glabrous sheaths, *L. vellozicola* R. C. Mota, F. Barros & Stehmann, was described from a Brazilian collection (Mota et al., 2009). Although this species shares flowers arrayed in 2 opposite-facing ranks, the inflorescence is lax (vs. very congested) and usually shorter, to 37 mm long, bearing 4–8 flowers (vs. 35–50 mm long, with up to 40 flowers) with a lip much smaller than the completely fused lateral sepals (vs. ca. 150 percent of the length of the shallowly connate lateral sepals).

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