

***DIODONOPSIS RAMIROMEDINAE* (ORCHIDACEAE: PLEUROTHALLIDINAE), A NEW SPECIES FROM COLOMBIA**

LISA THOERLE^{1,3} & RAMIRO MEDINA TREJO²

¹ 23 John Dyer Rd, Little Compton, Rhode Island, USA.

² Sibundoy Valley, Alto Putumayo, Colombia

³ Author for correspondence: lthoerle@cox.net

ABSTRACT. A new species, *Diodonopsis ramiromedinae*, is described, illustrated, and compared with similar species. A brief history of *Masdevallia* sect. *Pygmaeae* and the genus *Diodonopsis* is provided. *Diodonopsis ramiromedinae* is most similar to *D. anachaeta*, but differs by sepals with apices acute or acuminate-triangular vs. narrowly caudate; longer petals with a descending, narrowly linear, rounded basal process vs. with an acute, retrorse basal process; and the larger lip, obovate with the apex very broadly rounded vs. oblong-subpandurate with the apex acute.

KEY WORDS: Colombia, *Diodonopsis*, *Masdevallia*, new species, Pleurothallidinae, section *Pygmaeae*

Introduction. When Carlyle Luer first turned his attentions to subdividing the large and untidy genus *Masdevallia* Ruiz & Pav., he segregated five species into section *Pygmaeae* Luer (Luer 1986). At that time, he speculated that these species might not form a coherent group. In 2000, Luer established the subgenus *Pygmaeia* to accommodate several sections, including section *Pygmaeae* (Luer 2000a). When he treated the section in greater detail, Luer included only three species: *M. erinacea* Rchb.f., *M. anachaeta* Rchb.f., and *M. pygmaea* Kraenzl. (Luer 2000b).

Pridgeon and Chase (2001) transferred Luer's original five species of section *Pygmaeae* into a new genus, *Diodonopsis* Pridgeon & M.W.Chase, but only molecular data of *Masdevallia erinacea* were included into the analysis. The placement of the species in *Diodonopsis* may change with more exhaustive molecular analysis (Oses & Karremans, pers. comm. 2017).

The lip of *Diodonopsis ramiromedinae* Thoele, the proposed species, is partitioned by oblique marginal folds and resembles that found in some members of *Masdevallia* section *Alaticaulis* Kraenzl. However, the combination of the general habit, characteristics of the inflorescence, and the ornamented ovary support its placement in *Diodonopsis*.

TAXONOMIC TREATMENT

Diodonopsis ramiromedinae* Thoele, *sp. nov.

TYPE: Colombia. Putumayo. Km 5 en nueva carretera o Variante San Francisco-Mocoa, margen derecha río Putumayo, alt. 2600 m, collected by R. Medina & M. Suárez, 2 May 2012, and flowered in cultivation by R. Medina, 12 June 2017, *R. Medina 98* (holotype: JAUM!). Fig. 1–2.

DIAGNOSIS: *Diodonopsis ramiromedinae* is most similar to *D. anachaeta*, but differs by sepals with apices acute or acuminate-triangular vs. narrowly caudate; longer petals with a descending, narrowly linear basal process vs. with an acute, retrorse basal process; and the larger lip, obovate and divided into two parts by marginal folds, the hypochile verrucose, the epichile subcircular with radiating lamellae, vs. oblong-subpandurate with the apex acute, and lacking lamellae.

Epiphytic, small, caespitose *herb*; roots 0.5 mm diam. *Ramical* erect to suberect, 3–5 mm long, enclosed by 2 membranous, loose basal sheaths. *Leaf* erect to suberect, coriaceous, petiolate, elliptic-obovate, apex subobtusate, minutely tri-apiculate, base narrowly cuneate into the petiole, 15–20 × 3–5 mm, including the petiole 5–7 mm long. *Inflorescence* erect, from low on the ramical, bearing a single flower and a filament

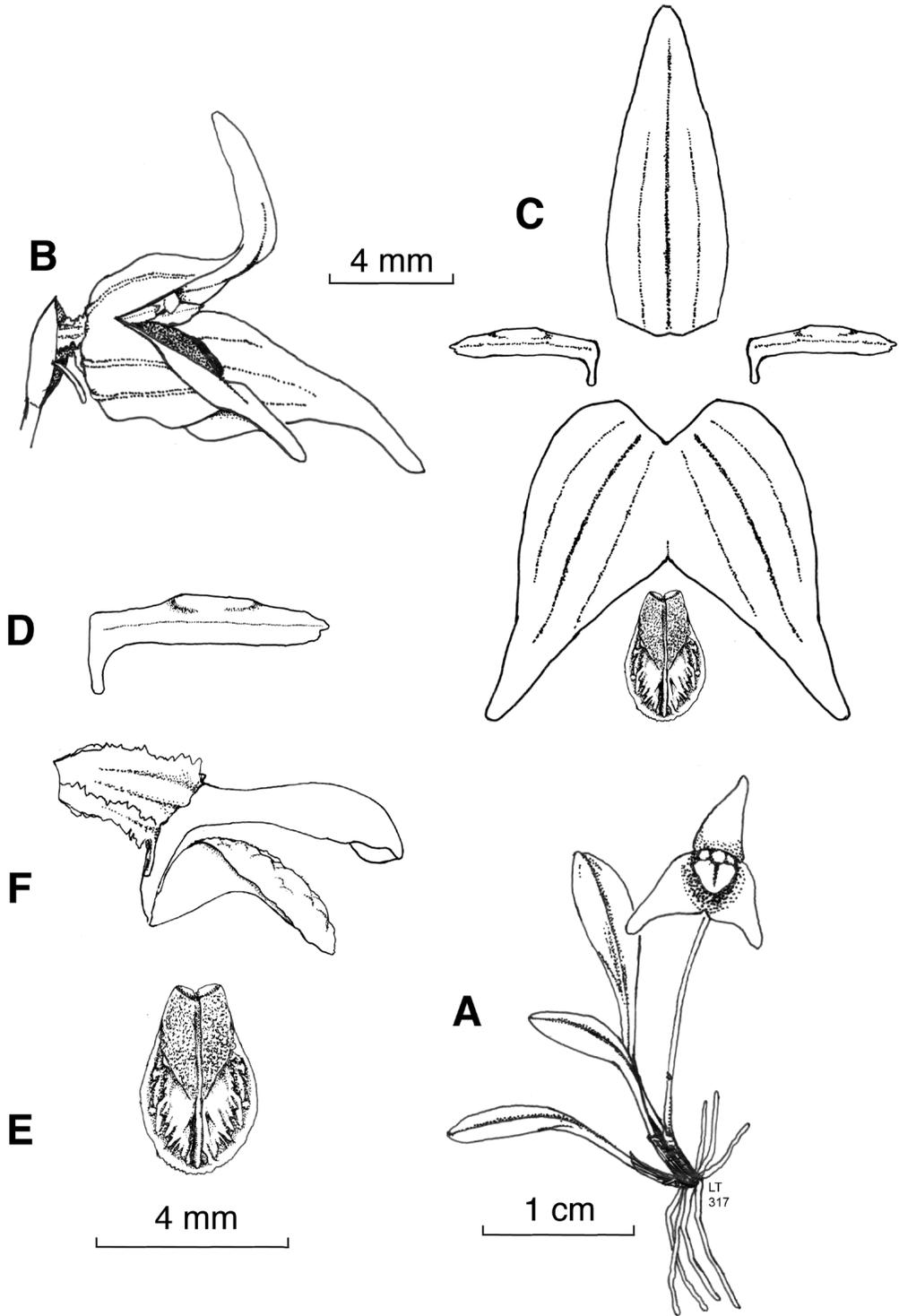


FIGURE 1. *Diodonopsis ramiromedinae* Thoele. A. Plant habit. B. Flower. C. Dissected flower. D. Petal. E. Lip. F. Ovary, column, and lip. Drawn by L. Thoele from the plant that provided the holotype.



FIGURE 2. *Diodonopsis ramiromedinae*. Flowered in cultivation and photographed by R. Medina Trejo from the plant that provided the holotype.

representing a vestigial flower, 2–3 cm long including the terete peduncle 1.8–2.7 cm long; *peduncular bract* 1, very small, low on the peduncle; *floral bract* cucullate, ovate-acuminate, 3–4 mm long; *pedicel* enveloped by floral bract, 2–3 mm long; *ovary* ca. 2 mm long, cristate with margins irregularly and coarsely dentate. *Flower* with sepaline tube ca. 4–5 mm long, free parts above gaping; *sepals* glabrous, entire, dull maroon at base, yellow toward apex, veins thickly carinate on the exterior; *dorsal sepal* ovate-elliptic, acute, with apex thickened, narrowly rounded, 10–12 × 4–5 mm, 3-veined, connate to the lateral sepals for ca. 2.5 mm to form a sepaline tube, the free portion beyond the tube recurved, erect; *lateral sepals* ovate with apices short, thickened, acuminate, ends narrowly rounded, 10–12 × 5 mm, connate 4 mm; *petals* membranous, translucent pale yellow, narrowly oblong-linear with apex minutely erose, apiculate, with a small callus on the middle third of the upper half, the base with a narrowly linear, rounded, descending process ca. 1 mm long, appressed to the column-foot except for a small portion of the apex, blade 5 × 1 mm; *lip* dark red-purple, thickly coriaceous, obovate, with a deep sulcus, divided by oblique marginal folds extending to the middle of the lip into an epichile and hypochile, the hypochile verrucose, the epichile subcircular with minutely denticulate margins and raised, coarse lamellae radiating from the center nearly to the margin, the base truncate, hinged to the extension of the column-foot, 4.0 × 2.5 mm, 3-veined; *column* pale yellow suffused with purple at the apex, semiterete, 4.5 mm long, column-foot 2.25

mm long with a 0.3-mm extension, anther and stigma ventral; *anther cap* pale cream, cucullate; *pollinia* 2, obpyriform.

DISTRIBUTION AND HABITAT: *Diodonopsis ramiromedinae* is known from the type locality and an unspecified area in the eastern Sibundoy Valley, Colombia. The plant grows in humid forest, nestled in moss on thick, horizontal branches at a height of ca. 3 m.

EPONYMY: This species is named in honor of Ramiro Medina Trejo, one of the collectors and the cultivator of this plant, who specializes in the orchids of the Sibundoy Valley.

PHENOLOGY: Collected in flower in May; flowers in cultivation from March to May.

This species is most similar to the more common and widespread *Diodonopsis anachaeta* (Rchb.f.) Pridgeon & M.W.Chase [≡ *Masdevallia anachaeta*] (Fig. 3), but is readily distinguished by floral characteristics. The dorsal sepal of *D. ramiromedinae* is elliptic-ovate, with the apex acute, and the lateral sepals are 5 mm wide, with the short apices bluntly acuminate-triangular; the dorsal sepal of *D. anachaeta* is elliptic with a distinct cauda, and the lateral sepals are 3 mm wide, with narrow, caudate apices. The petals of *D. ramiromedinae* are 5 mm long with a descending, narrowly linear, rounded basal process appressed to the column-foot for most of its ca. 1-mm length; those of *D. anachaeta* are 2 mm long, with an acute, retrorse tooth that is less than 0.5 mm long and free of the column-foot. The lip of the new species is obovate with the apex very broadly rounded, 4.0 × 2.5 mm, divided in two parts by marginal folds that extend to about the middle of the lip, with the hypochile verrucose and the epichile with radiating lamellae. The lip of *D. anachaeta* is oblong-subpandurate with the apex acute, 2.5 × 1 mm, neither completely divided nor heavily textured.

The new species also superficially resembles *Diodonopsis pygmaea* (Rchb.f.) Pridgeon & M.W.Chase [≡ *Masdevallia pygmaea*] (Fig. 4), from which it is distinguished by vegetative and floral characteristics. The leaves of *D. ramiromedinae* are elliptic-obovate, 3–5 mm wide; those of *D. pygmaea* are narrowly linear, 1–2 mm wide. Floral differences include the ovary, irregularly cristate vs. densely muriculate; lateral sepals with acuminate-triangular

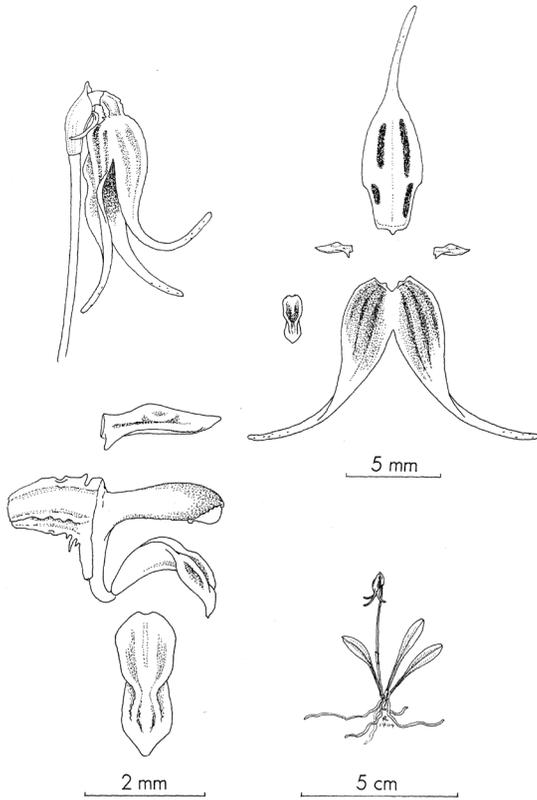


FIGURE 3. *Diodonopsis anachaeta* (Rchb.f.) Pridgeon & M.W.Chase (as *Masdevallia anachaeta* Rchb.f.). Drawn by C. Luer, from *Icones Pleurothallidarum XXI*, Systematics of *Masdevallia*: part two. *Monographs in systematic botany from the Missouri Botanical Garden* 82: 442 (2000). Reproduced with the kind permission of the Missouri Botanical Garden Press, St. Louis.

apices shorter than the blades vs. with well-developed caudae longer than the blades; petals 5 mm rather than 1.5 mm long; and the lip obovate and divided, 4 mm long vs. elliptic-oblong and undivided, 2–2.5 mm long.

ACKNOWLEDGMENTS. This manuscript was prepared for the issue of *Lankesteriana* commemorating the 95th birthday of Carlyle Luer, investigator of the Pleurothallidinae. We thank Adam Karremans of JBL for generously sharing his current research on the phylogenetics of the genus *Masdevallia*, two reviewers whose suggestions improved this paper, and JAUM for accepting the specimen under the amnesty for pre-2014 collected material. We are especially grateful to Carolina Medina, who supports our collaboration in more ways than we can enumerate.

LANKESTERIANA 17(2). 2017. © Universidad de Costa Rica, 2017.

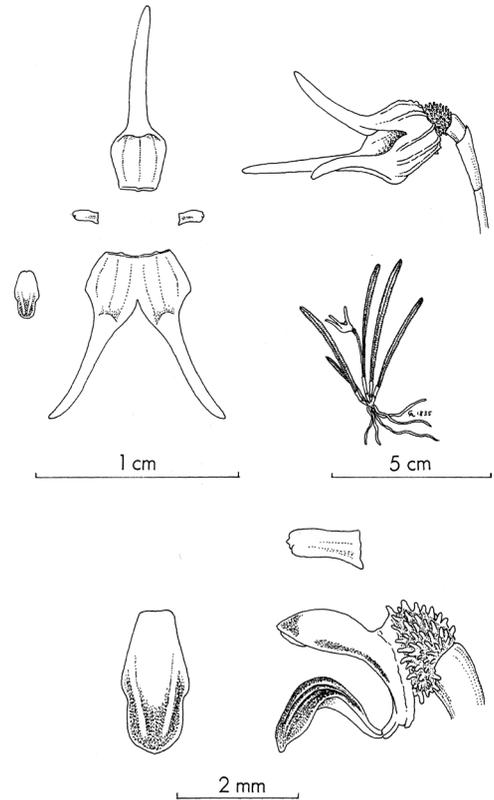


FIGURE 4. *Diodonopsis pygmaea* (Rchb.f.) Pridgeon & M.W.Chase (as *Masdevallia pygmaea* Rchb.f.). Drawn by C. Luer, from *Icones Pleurothallidarum XXI*, Systematics of *Masdevallia*: part two. *Monographs in systematic botany from the Missouri Botanical Garden* 82: 488 (2000). Reproduced with the kind permission of the Missouri Botanical Garden Press, St. Louis.

LITERATURE CITED

- Luer, C. A. (1986). *Icones Pleurothallidarum* 2, Systematics of *Masdevallia* (Orchidaceae). *Monographs in systematic botany from the Missouri Botanical Garden*, 16, 1–63.
- Luer, C. A. (2000a). *Icones Pleurothallidarum* 19, Systematics of *Masdevallia*: part one. *Monographs in systematic botany from the Missouri Botanical Garden*, 77, 1–264.
- Luer, C. A. (2000b). *Icones Pleurothallidarum* 21, Systematics of *Masdevallia*: part two. *Monographs in systematic botany from the Missouri Botanical Garden*, 82, 1–518.
- Pridgeon, A.M. & Chase, M.W., (2001). A phylogenetic reclassification of Pleurothallidinae (Orchidaceae). *Lindleyana*, 16(4), 235–271.