

## A NEW *MASDEVALLIA* (PLEUROTHALLIDINAE) FROM THE HUANUCO REGION IN PERU

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**ABSTRACT.** A new *Masdevallia* from the cloud forests of Huanuco, Peru, is described and illustrated. It is morphologically similar to what is considered to be its closest relatives, the sympatric *Masdevallia fenestralis* and *Masdevallia fenestrellata*, but differs from both by the lack of translucent fenestrations (“window-like” areas) near the base of the sepals, and by the presence of distinct external ridges of the sepals.

**RESUMEN.** Una nueva *Masdevallia* de los bosques nublados de Huánuco, Perú, es descrita e ilustrada. Se compara con las que son consideradas sus parientes más cercanas, las simpátricas *Masdevallia fenestralis* y *Masdevallia fenestrellata*, pero difiere de ambas por la falta de áreas transparentes cerca de la base de los sépalos, y por la presencia de distintivas crestas externas en los sépalos.

**KEYWORDS/ PALABRAS CLAVE:** los Andes, new orchid, nueva orquídea, Perufflora, redescubierta, rediscovered, the Andes

**Introduction.** The taxonomic classification of *Masdevallia* Ruiz & Pav. has been and still is complicated. Before molecular research was available to taxonomists, the classification was based on morphological features. But once the “secrets” of the DNA molecule were revealed, multiple options how to split large orchid genera into smaller entities became available. But regardless how “correct” this remarkable scientific development is, it still leaves plenty of room for subjective preferences in taxonomic treatments. In 2006, the genus *Masdevallia* had grown to include more than 500 species (Luer 2006), classified into numerous subdivisions (Luer 2000a,b, 2001, 2002, 2003). This vast number of species, in combination with newly available molecular evidence (Pridgeon & Chase 2001), encouraged Luer to split the genus into 16 new genera, in addition to the remaining *Masdevallia* (Luer 2006). However, the taxonomic advantages of this division of *Masdevallia* (Luer 2006) are questionable and not recognized by the present and other authors, mainly due to the difficulties in separating the new genera from each other in consistent ways, and

difficulties in identifying to which genus many species belong. Therefore, we favor the previous and more conservative taxonomic treatment of the genus as circumscribed by Luer (2000a,b, 2001, 2002, 2003), for scientific, user-friendly and practical reasons.

The genus *Masdevallia* is currently represented in Peru by approximately 198 recognized species, excluding the one described here (POWO 2023). The origin of the cultivated type specimen of this latter species is from a collecting trip in 2010, to the rich cloud forest east of Monopampa, Huanuco (Fig. 1). Several plants were collected in this area on that occasion and were introduced into cultivation and propagation by Perufflora, an officially authorized plant nursery established for the conservation and commercial utilization of native Peruvian plants, including orchids. When the cultivated *Masdevallia* plant flowered, it was compared to flowering plants recently observed and photographed by the authors along the new road between Monopampa and Pozuzo (Fig. 2–4). The conclusion is that they are the same and represent a new species to science, which is described here.



FIGURE 1. The habitat of *Masdevallia emieliana* in the rich cloud forests of eastern Huanuco. Photo by Stig Dalström.

#### TAXONOMIC TREATMENT

*Masdevallia emieliana* Dalström, Deburghgr. & Ruíz Pérez, *sp. nov.* (Fig. 2, 3, 4, 5).

TYPE: Peru. Region of Huanuco: Province of Pachitea, District of Chaglia, Location: Millpo, along the ancient trail between Monopampa and Pozuzo, exact GPS coordinates for the original collection uncertain, flowered in cultivation 16 Nov, 2022 by Peruflores, S. Dalström 3942 (holotype: USM, accession N° 331222).

DIAGNOSIS: *Masdevallia emieliana* appears to belong to the subgenus *Pygmaeia*, section *Amaluzae*, and seems to be most morphologically similar to *M. fenestralis* Dalström & Ruíz Pérez, and *M. fenestrellata* Dalström & Ruíz Pérez (Dalström & Ruíz Pérez 2015) which are sympatric. The new species differs from both by lacking the basal sepaline translucent fenestrations (“window-like” structures) and by the presence of external sepal-

ine ridges. Although the basic general floral features of this new species are similar to many other *Masdevallia* species in other subgenera, the vegetative habit and the production of a second flower on the threadlike inflorescence, however, are very similar to the above-mentioned sympatric species, which suggests a close relationship.

Epiphytic herb. Plant medium sized for the subgenus, with a creeping rhizome with distant ramicauls *ca.* 2 cm apart, partially enclosed by one 5–6 mm long sheath. *Ramicauls* erect and rather thin, *ca.* 1.2–1.5 mm in diameter, *ca.* 30–35 mm long, enclosed basally by one to three 7–22 mm long tubular sheaths. *Leaf* erect to arching, petiolate, slender, longitudinally furrowed, *ca.* 1.5 mm in diameter and *ca.* 60 mm long, blade basally conduplicate and cuneate, elliptic, with a broad and slightly folded apicule, 35–45 × 14–17 mm. *Inflorescence* erect, very thin and thread-like, *ca.* 1 mm in diameter, with a



FIGURE 2. Author Deburghgraeve inspects a blooming plant of what became *Masdevallia emieliana*. Photo by Stig Dalström.



FIGURE 3. Side view of the flower of *Masdevallia emieliana*. Photo by Stig Dalström.



FIGURE 4. Front view of the flower of *Masdevallia emieliana*. Photo by Stig Dalström.

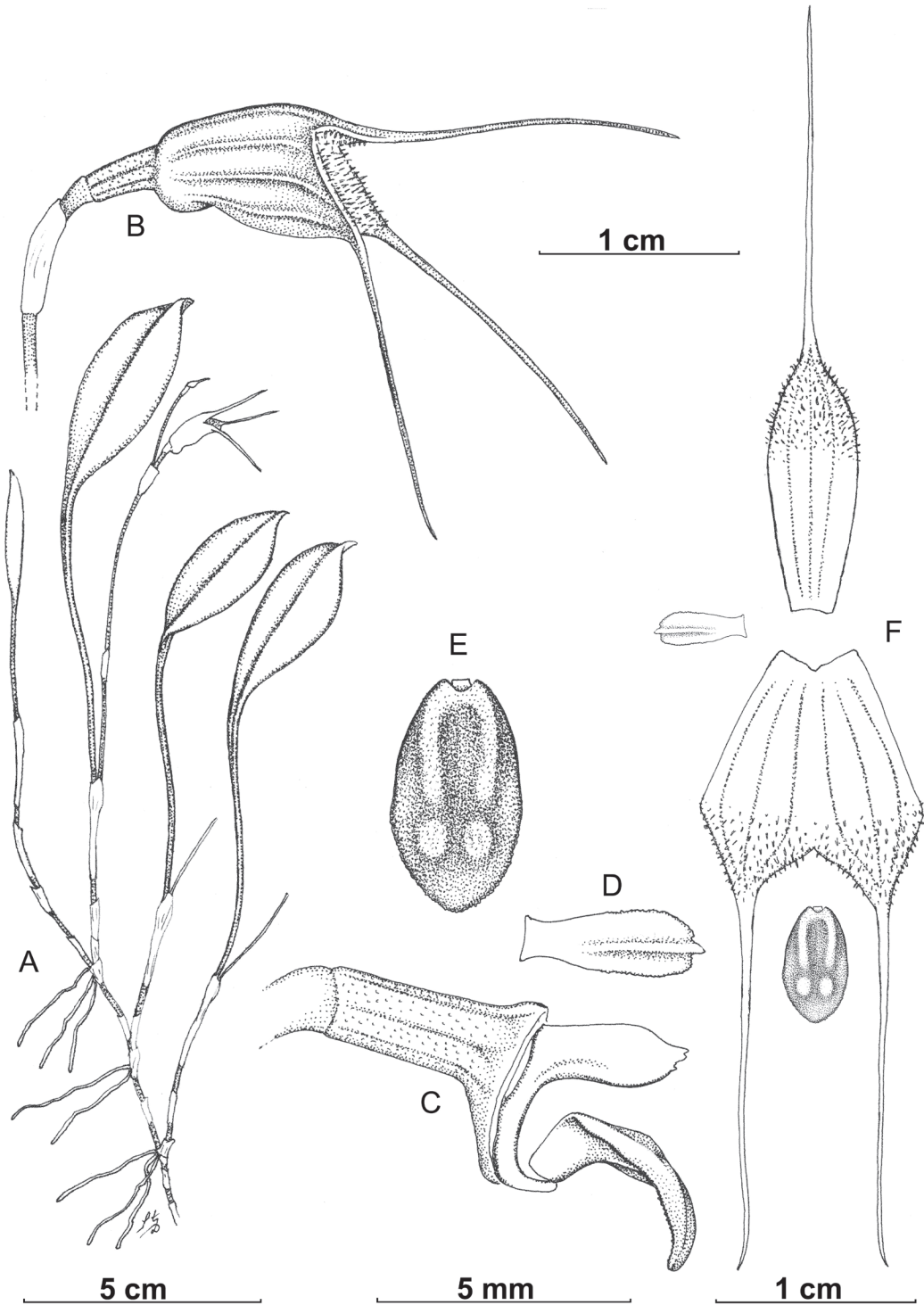


FIGURE 5. *Masdevallia emieliana* Dalström, Deburgh. & Ruiz Pérez. A. Plant habit. B. Flower lateral view. C. Lip, column, and ovary, lateral view. D. Petal, abaxial side. E. Lip, adaxial side. F. Flower dissected. Drawn from the holotype by Stig Dalström.

second successive flower on larger plants (like for the type), with an up to *ca.* 7 cm long peduncle; *peduncular bract* 1, tubular, *ca.* 6–7 mm long; *floral bract* appressed, tubular, 6–7 mm long; *pedicel* excluding the ovary *ca.* 8 mm long; *ovary* shallowly sulcate, smooth, with scattered tiny “fungal pits” (Dalström & Ruíz Pérez 2016), 2.4–2.5 mm long. *Flower* cupulate, forming a *ca.* 10 mm long sepaline cup; *dorsal sepal* whitish with purple irregular stripes along raised fleshy ridges, which follow the veins, internally similarly colored, but without furrows along the veins, apically covered with fine white hairs, *ca.* 13 × 5 mm, connate to the lateral sepals for 7–8 mm, then obtuse and terminated in a whitish, basally purple spotted *ca.* 18 mm long tail; *lateral sepals* similar in texture, hairiness and coloration, connate to the dorsal sepal, then obliquely acute, fused to each other for *ca.* 9–10 mm, and *ca.* 12 × 10 mm when measured combined, with apical, slender, whitish *ca.* 18–19 mm long tails; *petals* whitish, cartilaginous, indistinctly unguiculate with a distinct, longitudinal, central, fleshy ridge emerging from the middle of the petal and ending in a fleshy protruding apicule, *ca.* 3.5 × 0.9–1.0 mm; *lip* whitish with purple center furrow and purplish hue apically, attached to the column foot by a short, strap-like “hinge”, lip lamina basally u-shaped then angled into an elliptic, flat, fleshy lamina, with two parallel longitudinal ridges, emerging from the base and ending near the middle of the lamina, then with a pair of low, fleshy knobs between the end of the ridges and

the obtuse apex of the lamina, *ca.* 4.5 × 2.5 mm; *column* whitish, straight, *ca.* 2.7 mm long, apically indistinctly serrate, with an equally long, curved and apically hook-shaped foot; *antercap* and *pollinia* not seen.

OTHER SPECIMENS EXAMINED: Peru. Huanuco: Millpo, in wet cloud forest along the road between Monopampa and Pozuzo, S 09°48.123'; W 75°42.589', alt. 2622 m, 16 Nov. 2022. Digital images only; Fig. 1–3 (Dalström archives). A few flowering plants were observed and photographed growing epiphytically on mossy branches. No other populations are known.

DISTRIBUTION: *Masdevallia emieliana* is only known in the wild from the wet forests east of Monopampa, Huanuco, Peru.

EPONYMY: This species is named in honor of Emiel Coppens of Nieuwerkerken near Aalst, Belgium, for being a great source of inspiration to the second author.

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