

A NEW SPECIES OF *MICROCHILUS* (ORCHIDACEAE, GOODYERINAE) FROM PERU

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Abstract. A new species of *Microchilus* C. Presl, *M. leucostictus* Rehb. f. ex Szlach. & Kolan, is described and illustrated based on Peruvian material. The taxonomic affinities of the new entity are briefly discussed.

Key words: biodiversity, Neotropics, *Erythrodes*, taxonomy

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INTRODUCTION

The taxonomic position of subtribe Goodyerinae (Orchidaceae) and the delimitation of genera within it have been a topic of discussion since Schlechter's (1911) proposed classification of Polychondreae. Representatives of Goodyerinae are found in both the Neotropics and Paleotropics but their greatest diversity is observed in tropical Asia (Dressler 1993). The New World species usually have been classified in *Erythrodes* Blume or its later illegitimate synonym *Physurus* A. Rich. ex Lindl., but recent research has completely altered their taxonomic affiliation (Garay 1977; Ormerod 2002). *Erythrodes* is currently recognized as being restricted to the Asian Old World tropics, while its Neotropical species were placed in the genera *Aspidogyne* Garay, *Kreodanthus* Garay, *Ligeophila* Garay, *Platythelys* Garay, and, most of all, *Microchilus* C. Presl. All members of *Physurus* have been variously transferred to *Aspidogyne* or *Microchilus*.

The largest Neotropical genus of Goodyerinae is *Microchilus*, the diversity of which was long unrecognized. Recent studies of the genus by Ormerod (2002, 2005, 2007, 2008, 2009a, b, 2013) resulted in numerous transfers and descriptions of new species. Many taxa are known from single localities or very restricted areas. What is interesting

is that the species are usually well distinguished morphologically, especially when the lip, column, and spur form are considered. These features suggest adaptation to various pollinators as one factor playing a major role in speciation of *Microchilus*. Representatives of *Microchilus* produce decumbent rhizomes that are rooted at the nodes. The petioles of the cauline leaves are expanded basally into infundibuliform sheaths. The resupinate, small, rather delicate flowers are arranged into a pedunculate, spicate or racemose inflorescence. The petals are connivent with the dorsal sepal, forming a hood or tube over the gynostemium. The lip is bipartite, with epichile lobules being commonly reflexed. The lip hypochile is marginally adnate to the sides of the gynostemium, basally formed into a distinct spur of various shapes. The erect gynostemium is an elongate, slender foot. The anther varies from ovate to lanceolate and is biloculate. The pollinia are sectile, sometimes with smooth outer surfaces, and are attached by their inner margins to the upper side of a linear-clavate viscidium. The stigma lobes are ventral, confluent, entire to bilobed, and usually flat. The rostellum is triangular to oblong and the rostellum remnant is deeply bifid.

The gynostemium, especially the pollinarium, is one of the most important characters discrimi-

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nating Neotropical *Microchilus* from Asian *Erythodes*. The latter is characterized by its shallowly bifid rostellum and bipartite pollinia with a single groove.

Microchilus species usually grow as terrestrial plants in lowland and montane forest up to 3000 m a.s.l.; an example is *M. platysepalus* Ormerod (Ormerod & Cribb 2003). The genus embraces ca 135 species distributed from Argentina to Mexico and the Caribbean, with the greatest species diversity observed in northern South America (especially Colombia). Schweinfurth (1958) reported the occurrence of 17 '*Erythodes*' species in Peru but only five of these taxa are currently recognized as belonging in *Microchilus*. The others are classified under *Aspidogyne* (6), *Ligeophila* (4), *Platythelys* (1) and *Kreodanthus* (1). Recent revisions of the genus revealed the existence of 14 new Peruvian species and yielded 2 new records of *Microchilus* (Ormerod 2002, 2005, 2007, 2008, 2009a), bringing the total number of species to 20.

During our examination of orchid specimens deposited in Heinrich G. Reichenbach's herbarium in Vienna we came across distinctive plants identified by Reichenbach as *Physyrus leucostictus*. This name, which was never effectively published (Art. 29.1 ICN, McNeill *et al.* 2012), is here validated in *Microchilus*, with a description and illustration provided, along with notes on its taxonomic affinities.

DESCRIPTION OF THE NEW SPECIES

Microchilus leucostictus Rchb. f. ex Szlach. & Kolan., *sp. nov.* Fig. 1

Species similar to *Microchilus pedrojuanensis* Ormerod but distinguished by having longer leaves, a shorter spur and longer hypochile.

HOLOTYPE: PERU. Cuchero. Jul 1829. *Poeppig s.n.* (W-R).

Plants 25 cm tall, rather delicate. Leaves 6; sheath and petiole to 1.2 cm long; blade to 6 cm long and 1 cm wide, obliquely oblong-lanceolate to narrowly lanceolate, acute, with bright stripe along midvein. Inflorescence 4 cm long, ca 10-flowered, subdense. Flowers small, sepals sparsely glandular-

pubescent. Floral bracts 5–6 mm long, lanceolate to oblong-lanceolate, acute, densely glandular-pubescent. Pedicellate ovary 6 mm long, densely glandular-pubescent. Sepals marginally agglutinate almost to apex. Dorsal sepal 4.3 mm long, 1 mm wide, ligulate-ovate, rounded and thickened at apex, concave in center, 1-nerved. Lateral sepals 4.6 mm long, 1 mm wide, obliquely ligulate to oblong, obtuse thickened at apex, 1-nerved. Petals 4 mm long, 0.9 mm wide, ligulate-oblongate, subacute-obtuse, 1-nerved. Lip hypochile 4 mm long, 1.2 mm wide, rectangular-pandurate in outline, concave at base, thickened along midvein; epichile 0.8 mm long, 3.5 mm wide, transversely ligulate in outline, obscurely 3-lobed, the middle lobe semicircular. Spur 4 mm long, 0.9 mm in diameter, cylindrical-clavate, attenuate towards apex.

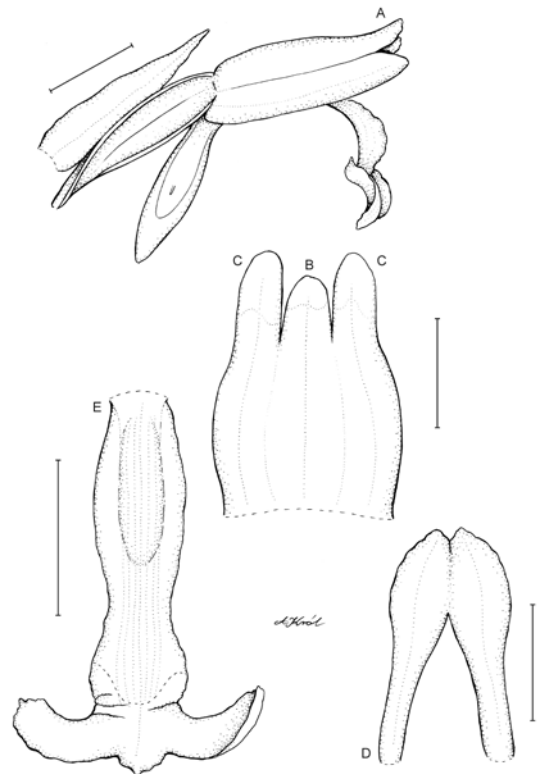


Fig. 1. *Microchilus leucostictus* Rchb. f. ex Szlach. & Kolan., *sp. nov.* – dissected perianth. A – flower – lateral view, B – dorsal sepal, C – lateral sepals, D – petals, E – lip (drawn by Anna Król from holotype). Scale bars = 2 mm.

ETYMOLOGY. From the Classical Greek *leucus*, meaning white or bright, and *stictus*, meaning spotted or marked, presumably in reference to the brightly striped leaves.

DISTRIBUTION. So far this species is known only from the Andean region of central Peru, department of Huanuco, near the Huallaga River.

NOTES. The new species belongs to the *M. arietinus* (Rchb. f. & Warm.) Ormerod complex, a group of ca 17 species distributed from Argentina to Mexico which was first recognized by Ormerod (2005). Within *Microchilus* this group may be recognized by its lanceolate to ovate leaves, often with a whitish to silver median stripe, a subdensely to laxly flowered inflorescence, and flowers with a slender, 3–4 mm long column. The center of diversity is Peru, from where 7 (6 endemic) species have already been reported.

The new species resembles *Microchilus pedrojuanensis* Ormerod (= *M. rojasii* Ormerod) from Paraguay and southern Brazil but differs from it in having longer leaves (blade to 6×1 cm vs $2.5\text{--}4.2 \times 0.7\text{--}1.3$ cm), a shorter spur (4 vs 4.8–5.5 mm) and longer labellum hypochile (4 vs 3.0–3.5 mm). Among the Peruvian species, *M. leucostictus* probably is most closely related to *M. ensicalcar* Ormerod since it has similarly short and narrow leaf blades (to 7×1.4 cm). However, *M. ensicalcar* has larger flowers (sepals 5.5–6.0 mm vs 4.3–4.6 mm), a cuneate-rectangular (vs subpanurate) hypochile, and a longer, ensiform spur (5.5–6.0 vs 4 mm and fusiform).

Two other species similar to *M. leucostictus* are rather widespread taxa: *M. arietinus* known with certainty from Argentina, Brazil and Bolivia, and *M. constrictus* Ormerod from Colombia, Brazil and Peru. Those two taxa differ from *M. leucostictus* in having broader leaves (ca 2 cm wide or more) and in having flowers with narrowly cylindrical-oblongoid (vs fusiform), shorter (3.0–3.5 vs 4 mm) spurs.

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