A new species of Malaxis (Orchidaceae) from Chiriquí, Panama

Marta Kolanowska

Department of Plant Taxonomy and Nature Conservation, University of Gdańsk, ul. Wita Stwosza 59, 80-308 Gdańsk, Poland

KOLANOWSKA, K. (Department of Plant Taxonomy and Nature Conservation, University of Gdańsk, ul. Wita Stwosza 59, 80-308 Gdańsk, Poland). J. Torrey Bot. Soc. 141: 91–94. 2014.—A new species from Panama, Malaxis panamensis, is described and illustrated. So far this orchid is known exclusively from the Panamanian Cordillera Central. Malaxis panamensis seems to be related to M. woodsonii but the species are easily distinguished by the lip form.

Key words: biodiversity, Epidendroideae, Malaxideae, Neotropics.

The orchid genus Malaxis was established in 1788 by Daniel Solander in Olof Schwartz’s “Nova Genera et Species Plantarum seu Prodromus.” In the same paper, the descriptions of two Jamaican new species, M. spicata Sw. and M. umbelliflora Sw. were provided—the former was designated as a type species of Malaxis (Britton and Brown 1913). Thirty years after the genus description, Nuttall (1818), on the basis of the lip form, proposed to divide the species of Malaxis into two groups. All plants with a concave lip were placed by the author in the section Microstylis, which was elevated to the generic rank by Eaton (1822) and typified by M. ophioglossoides (Muhl. ex Willd.) Nutt. ex Eaton. (currently a synonym of M. unifolia Michx.). Until this time, 32 species of Malaxis were known. The representatives of the nominal section were soon transferred to different genera (e.g. Liparis Rich., Hammarbya Kuntze). Microstylis was considered as synonymous with previously published Malaxis.

Pfitzer (1887) still recognized both genera and he placed them in the subtribe Liparidinae together with Calypso Salisb., Corallorrhiza Gagn., Liparis and Oberonia Lindl, and this concept was followed by Schlechter (1915), who transferred Corallorrhiza and Calypso to Corallorrhizinae. Liparidinae was also accepted by Dressler and Dodson (1960); however, they considered Malaxis and Microstylis as synonymic. Dressler reconsidered his classification (Dressler 1981, 1993) and placed Malaxis within tribe Malaxideae, which was recognized as a member of Epidendroideae Lindl. This position of Malaxis in the orchids classification system was confirmed in the subsequent morphological research of Szlachetko (1995) and Szlachetko and Margońska (2002). Those authors, however, recognized a separate subtribe Malaxidinae within which the genus was placed.

Four of about 17 genera included in this cosmopolitan taxon, Crossoglossa Dressler & Dodson, Liparis, Malaxis, and Microstylis, are

Fig. 1. Malaxis panamensis dissected perianth. A – dorsal sepal; B – petal; C – lateral sepal; D – lip. Scale bar – 2 mm. Drawn from the holotype.
found in the Neotropics; however, the generic separateness of the latter two is a topic of ongoing discussion (Ridley 1887, Seidenfaden 1978, Cameron 2005, Szlachetko and Margon’ska 2006) since they are identical in their vegetative characters, similar in flower morphology, and the only clear differences are found in the gynostemium structure (Szlachetko and Margon’ska 2006, Margon’ska 2008).

Both *Malaxis* and *Microstylis* produce cylindrical or pseudobulbous, fleshy stems. Their leaves are usually pleated and the petiole is sheathing at the base. The non-resupinate flowers are arranged in an erect, racemose,
unbranched inflorescence, which is often sub-umbellate in *Malaxis* and elongate in *Microstylis*. While dorsal sepal and petals are free, the fusion of the lateral sepals is sometimes observed. The gynostemia is massive in *Malaxis* and slender in *Microstylis* with the column part vestigial in the former and nearly as long or longer than the anther in the latter. The anther is firmly joined with the gynostemium in *Malaxis* and hardly motile in *Microstylis*. While the representative of *Malaxis* produce two viscidia, only one is in present in *Microstylis* (Szlachetko and Margońska 2006).

The intensification of the studies on *Malaxis* revealed the existence of numerous new species in Central America (Dressler 2003, González Tamayo et al. 2007). In the most recent catalogue of flowering plants of Panama (Correa et al. 2004), ten species of *Malaxis* are listed; however, the occurrence of *M. parthonii* C. Morren in Central America is still unclear as the records of this taxon could actually refer to *M. hitionanthus* (Link, Klotzsch & Otto) Garay & Dunst. Two additional species, *M. brevis* Dressler and *M. rostratula* Dressler, were described in 2003 (Dressler 2003). All of these species were reported from the province of Chiriquí, and several were found just outside this administrative unit. The recent revision of the orchid specimens deposited in the herbarium of the University of Panama revealed the existence of a distinctive *Malaxis* species, which is described here as new.

*Malaxis panamensis* Kolan., sp. nov. (Fig. 1, 2). TYPE: Panama. Ibáñez & al. 3076 AI (Holotype: PMA!).

Species similar to *Malaxis woodsonii* L.O. Williams, from which it differs by the larger lip cavities with undulate margins, the obliquely ovate lateral apical lip teeth that are shorter than the middle tooth and the triangular basal lip auricles.

**Description.** Plant 24–30 cm tall. Pseudo-bulbs 3.54 cm long, covered with scarious sheaths. Leaves two, blade 6.25–13 cm long, cm wide 4.75–12 cm wide, broadly ovate, apex long-acuminate, acute, base somewhat truncate, narrowed into sheathing petiole. Inflorescence 9–11 cm long, terminated by short, dense, many-flowered, subumbellate raceme 1.5–2.7 cm long. Flowers small, non-resupinate, whitish-greenish. Floral bract about 1 mm long, triangular-ovate, acute. Pedicel and ovary 12–14 mm long. Dorsal sepal 4 mm long, 2 mm wide, ovate, rounded, obscurely 3-veined. Petals 3 mm long, 0.2 mm wide, filiform, obtuse, 1-veined. Lateral sepals 3.5 mm long, 1.5 mm wide, obliquely oblong-ovate, rounded, 3-

**Fig. 3.** Localities (spots) of *M. panamensis* in Panama.

**Fig. 4.** Comparison of the lip shapes of *M. panamensis* (A, drawn from holotype) and *M. woodsonii* (B, redrawn from Williams 1939).
veined, sides incurved in the natural position. Lip 3.5 mm long, 4 mm wide, oblong-triangular in outline, apex 3-dentate; the middle tooth oblong, obtuse, longer than the lateral teeth; lateral teeth obliquely ovate, rounded at the apex; lip cavities of almost 3/4 of the whole lip length, oval, divided by prominent ridge and surrounded by narrow rim; basal lip auricles widely spread, triangular, acute. Gynostemium 1 mm long, broadly connate with the lip base, typical for the genus.

**Distribution, Habitat and Ecology.** So far this species is known exclusively from the Caribbean slope of the Panamanian Cordillera Central (Fig. 3). It grows terrestrially in premontane ombrophilous forest between the altitudes of 700 and 1200 m.


**Taxonomic Affinities.** The leaf shape of *Malaxis panamensis* suggests its relationship with *M. woodsonii* described on Costa Rican material. Both species are easily distinguished based on the lip details. While in the new species the lip middle tooth is shorter than the lateral teeth, in *M. woodsonii* it is inconspicuous, exceeded by the prominent lateral projections. Moreover, the basal lip auricles are linear-lanceolate in the latter species, while in *M. panamensis* they are triangular. The comparison of the lip shapes of both species is illustrated in Fig. 4. In the lip form, *M. panamensis* resembles *M. excavata* (Lindl.) Kuntze, which is widely distributed in the Neotropics, but the leaves of this species are ovate-lanceolate to ovate (much longer than wide), the lip cavities are much smaller than in *M. panamensis* (about 1/3–1/2 of the whole lip length), and the middle lip tooth is about twice as long as the lateral teeth.

**Note.** Since the specimens representing the new species were labeled in PMA as *M. woodsonii*, the actual occurrence of this species in Panama should be revised, as the Panamanian *Malaxis* specimens with broadly ovate leaves may actually represent *M. panamensis*.

**Literature Cited**


