

Two new combinations and a new subsection in *Crepidium* BL. emend. SZLACH. (Orchidaceae, Malaxidinae)

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Abstract

As part of a taxonomic revision of the paleotropical orchid genus *Crepidium* BL. emend. SZLACH. (Orchidaceae–Malaxidinae), based on morphology and habit, the new subsection *Lowiae* is established. A key to the subsections of section *Commelinodes* (SCHLTR.) SZLACH. is provided. The new combinations for *Crepidium gibbsiae* (J.J.SM.) MARG. and *Crepidium foliosum* (W.KITTREDGE) MARG. are published.

Key words: *Crepidium*, section *Commelinodes*, *Malaxidinae*, *Orchidaceae*, taxonomy

Kurzfassung

Als Teil einer Revision der paleotropischen Gattung *Crepidium* BL. emend. SZLACH. (Orchidaceae–Malaxidinae) wird basierend auf Unterschieden in Morphologie und Habitus eine neue Subsection *Lowiae* beschrieben. Ein Schlüssel zu den Subsektionen der Sektion *Commelinodes* (SCHLTR.) SZLACH. sowie zwei neue Kombinationen *Crepidium gibbsiae* (J.J.SM.) MARG. und *Crepidium foliosum* (W.KITTREDGE) MARG. Werden publiziert.

Introduction

To subtribe Malaxidinae belong more than one thousand taxa. These orchids, at the generic level, are characterized by a distinct diversity in respect to the flower arrangement and the generative as well as the vegetative structures, especially the leaves.

Materials and methods

For the investigations herbarium specimens, spirit collections, living plants, literature data and iconographies have been used which are kept at AAU¹, AMES, B, BM, BO, BP, BR, C, C-GS, E, F, FI, G, GB, GH, HBG, K, L, LINN, MO, P, SEL, SING, TJ, U, UGDA, UPS, US, WAG, WU, W-R, and Z.

Results and discussion

While preparing a taxonomic revision of subtribe Malaxidinae BENTH. & HOOK.f. (Orchidaceae, Malaxideae) we examined various material of the paleotropical genus

1 Abbreviations following Index Herbariorum: <http://sweetgum.nybg.org/ih/>

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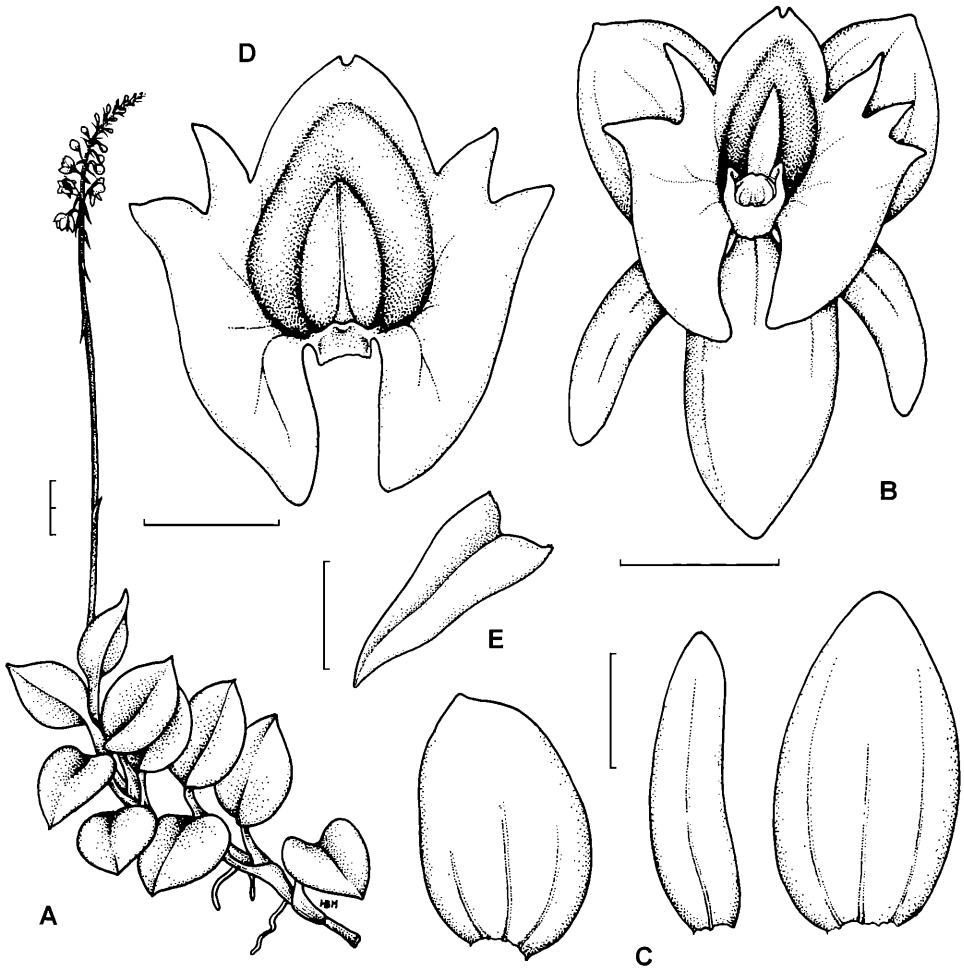


Fig. 1: *Crepidium commelinifolium* (ZOLL. & MORREN) SZLACH., type species of section *Commelinodes* (SCHLTR.) SZLACH.: A) habit, B) flower, C) tepals, D) lip, E) floral bract (drawing from the type).

Crepidium BL. emend. SZLACH. Within the genus three sections exist: *Crepidium*, *Commelinoides* (SCHLTR.) SZLACH. and *Hololobus* (SCHLTR.) MARG. According to the diagnoses (BLUME 1825, SCHLECHTER 1914), the flowers in the two first sections are characterized by lips with distinctly toothed distal margins. The third section embraces species with also a 3-lobed lip but with the distal margins of the lateral lobes always entire, without any teeth.

The orchids of section *Crepidium* have shoots a few centimeters long, erect or slightly swollen at the base only, distinctly pseudobulbous, apically with a cluster of leaves.

The most characteristic features of section *Commelinodes* are the habit: rhizome elongated, well developed, creeping, often branched, multi-nodial, directly continuing into stems; leafy shoot stem-like, elongated, always creeping; leaves distantly positioned along the shoot. Typical representatives of the section, like e.g. *Crepidium commelinifo-*

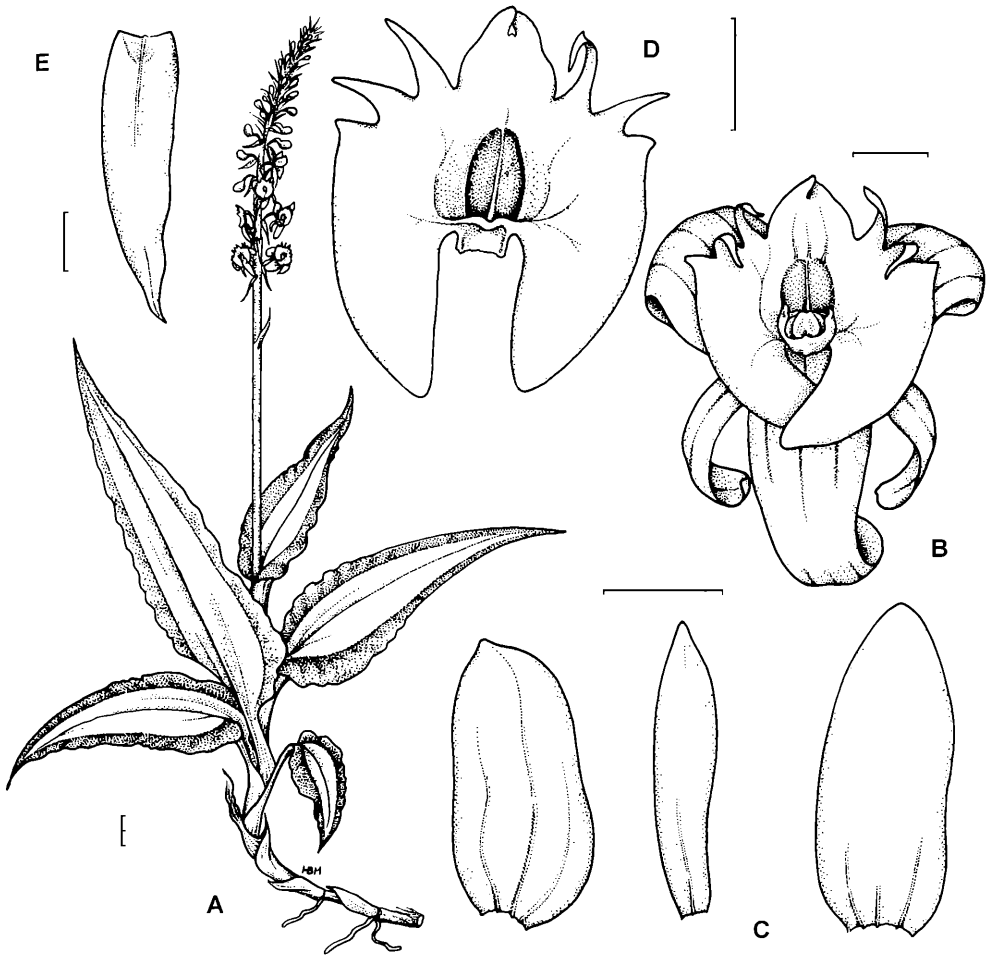


Fig 2: *Crepidium lowii* (E. MORREN) SZLACH., type species of subsection *Lowiae* MARG.: A) habit, B) flower, C) tepals, D) lip, E) floral bract (drawing from a living plant).

lium (ZOLL. & E. MORREN) SZLACH. (the type species of the section), have the stems distinctly elongated and always creeping bearing leaves along the whole length, ascending shortly at their apex only, particularly while forming an inflorescence.

However amongst species belong to the section we recognized a group of taxa with the stems also slender, elongated, never pseudobulbous, but ascending above their creeping and rooting base, even without inflorescence. Their leaves are middle to small sized and arranged only along the whole raising part of the stem. The leaf blades of these orchids are often showily colored red, purple, brown to nearly black, frequently with stripes or spots.

These mentioned features clearly distinguish these species from the rest of the representatives of section *Commelinodes*. Therefore we propose to place them in the new subsection *Lowiae* MARG.

Crepidium BL., Bijdr. Fl. Ned. Ind. 387 (1825) emend. SZLACH., Fragm. Flor. Geobot., Suppl. 3: 123 (1995).

Type species: *Crepidium rheedii* BL.

Section *Commelinodes* (SCHLTR.) SZLACH., Fragm. Flor. Geobot., Suppl. 3: 123. 1995.

Type species: *Crepidium commelinifolium* (ZOLL. & E. MORREN) SZLACH. (\equiv *Microstylis commelinifolia* ZOLL. & E. MORREN) (Fig. 1).

Key to the subsections:

- 1 Rhizome strongly elongated, more than ten to several tens cm long, creeping and often branched, very gently becoming a stem, the stem always elongated and creeping, ascending only at the apex, especially while forming an inflorescence, leaves numerous, relatively small, and roots situated along the whole length of the stem subsect. *Commelinodes*
- 1* Rhizome elongated, a few to more than 10 cm long, creeping and sometimes branched, changing gradually into the leafy stem, stems slender, elongated, ascending above their creeping and rooting base even without inflorescence, leaves many, middle to small sized, situated only at the raising part of the stem subsect.. *Lowiae* subsect.n.

Subsection *Lowiae* MARG., subsect.n.

Rhizoma elongatum prostratumque, sensim in pseudotuberem foliosum transiens; pseudotuber gracile elongatumque, supra partem basalem prostratam radicatamque etiam aut sine floribus; folia multa, media vel parva, in parte adscendenti pseudotuberis sistencia.

Plants usually middle sized, terrestrial, sometimes semi-epiphytic or lithophytic, generally forming more or less numerous and often dispersed colonies. Rhizome elongated, a few to several tens cm long, sometimes branched, becoming a leafy stem. Stem slender, elongated, ascending above their creeping and rooting base, even without inflorescence. Leaves several, arranged only along the raising part of the stem; blade about middle sized, often distinctly oblique, ovate to lanceolate, rarely elliptic to oblong, usually attenuate, acute at the apex, basally rounded to rarely cuneate, (1–) 3 (–5)-veined, entirely to striped coloured. Flowers small to middle sized (mostly 0.4–1 cm in diameter), exceptionally self-fertile. Sepals usually 3-nerved. Dorsal sepal oblong, ovate to obovate. Lateral sepals oblique, ovate, broadly ovate to nearly orbicular. Petals linear, lanceolate, oblanceolate to obovate, (1–) 2 (–3)-nerved. Lip mid-lobe embracing about 1/4 to 1/3 of the lip length, distinctly split at the apex (but sometimes nearly to its base: *Crep. perakense* (RIDL.) SZLACH.), only occasionally entire (*Crep. aschistum* (SEIDENF.) SZLACH), strongly separated from the lateral lobes by indentation or constriction; lateral lobe auricles usually elongated (up to ca. 1/2 of the lamina length: *Crep. perakense*).

Type species: *Crepidium lowii* (E. MORREN) SZLACH. (\equiv *Microstylis lowii* E. MORREN). Fig. 2.

Etymology: An allusion to the type species of the subsection.

Note: The species of this subsection are mainly occurring in SE Asia, rather well represented as preserved collections and because of their often prettily coloured leaves relatively frequent in cultivation.

Among others, about two dozens of species belong to the subsection, e.g., *Crepidium amplexens* (J.J.SM.) SZLACH., *aschistum* (SEIDENF.) SZLACH., *bancanoides* (AMES) SZLACH., *celebicum* (SCHLTR.) SZLACH., *chlorophrys* (RCHB.f.) SZLACH., *clemensii* (J.J.SM.) MARG., *crassidens* (J.J.SM.) MARG. & SZLACH., *fimbriatum* (LAVARACK) SZLACH., *foliosum* (W.KITTREDGE) MARG., *graciliscapum* (AMES & C.SCHWEINF.) SZLACH., *latilabrum* (SCHLTR.) CLEM. & JONES, *lawleri* (LAVARACK & GRAY) SZLACH., *lunatum* (SCHLTR.) CLEM. & JONES, *mariae* MARG. & SZLACH., *mindanaense* (AMES) CLEM. & JONES, *nemoralis* (RIDL.) SZLACH., *lowii* (E. MORREN) SZLACH., *obovatum* (J.J.SM.) SZLACH., *oculatum* (RCHB.f.) SZLACH., *perakense* (RIDL.) SZLACH., *petiolaris* (SCHLTR.) CLEM. & JONES, *reineckeanum* (KRAENZL.) CLEM. & JONES, *ridleyi* (J.J.SM.) SZLACH., *riparium* (J.J.SM.) SZLACH., *woodianum* SZLACH. & MARG., *xanthochilum* (SCHLTR.) SZLACH.

While studying *Crepidium* BL. emend. SZLACH. representatives we found taxa which without any doubt belong to the genus *Crepidium* (Orchidaceae), section *Commelinodes* (SCHLTR.) SZLACH. and the newly proposed subsection *Lowiae*, thus the following new combination is needed:

***Crepidium gibbsiae* (J.J.SM.) MARG. comb.n.**

≡ *Microstylis gibbsiae* J.J.SM., in Gibbs, Phytog. & Fl. Arfak Mts 204. 1917.

Type: Indonesia, New Guinea, track to Ambani, in “korang” forest, 700’, 01.1914. L.S. Gibbs 6192 [holotype BM-000082932!, isotype BO 0071913!].

= *Malaxis gibbsiae* (J.J.SM.) HUNT, Kew Bull. 24: 80. 1970.

Among representatives of the type subsection of *Commelinodes* (SCHLTR.) SZLACH. also one new combination is necessary:

***Crepidium foliosum* (W.KITTREDGE) MARG comb.n.**

≡ *Malaxis foliosa* W.KITTREDGE, Bot. Mus. Leafl. Harvard Univ., 30(2): 96 (1985), nom. nov. (ICBN Art. 11.4, Ex. 9.)

≡ *Microstylis graciliscapa* Schltr., Repert. Spec. Nov. Reg. Veg., Beih. 16: 107 (1919). Type: Ipapua New Guinea, Kaiser-Wilhelms-Land, on the boundary between German and British New Guinea, Waria Distr., A. Kempf s.n. [holotype B+].

= *Crepidium gracillimum* CLEM. & JONES, Lasiathera 1: 36 (1996), nom. superfluum (ICBN 2000., 2006., Art. 11.4, Ex. 11.).

Annotation: Non *Crepidium graciliscapum* (AMES & C.SCHWEINF.) SZLACH., Fragm. Flor. Geobot., Suppl. 3: 126 (1995) (ICBN 2000., 2006., Art. 11.4, Ex.10.) ≡ *Microstylis graciliscapa* (AMES & C.SCHWEINF.) J.J.SM., Bull. Jard. Bot. Buitenz., ser. 3, 11: 119 (1931), nom. illeg. ≡ *Malaxis graciliscapa* AMES & C.SCHWEINF., in Ames Orchidaceae 6: 73 (1920) = *Microstylis subtiliscapa* J.J.SM., Bull. Jard. Bot. Buitenz., ser. 3, 12: 149. 1932. nom. nov.

When W. KITTREDGE transferred *Microstylis graciliscapa* SCHLTR. to *Malaxis* it had to be named *Malaxis foliosa* as the species epithet *graciliscapa* was not available in the genus because of *Malaxis graciliscapa* AMES & C.SCHWEINF. Similarly *Microstylis graciliscapa* SCHLTR. when transferred to *Crepidium* has to be named *foliosum* (W. KITTREDGE) because of the existence of the epithet *graciliscapum* (AMES & C.SCHWEINF.) SZLACH.

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