

New species and new combinations in the genus *Crepidium* (Orchidaceae) from Australasia

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ABSTRACT

Two new combinations in the genus *Crepidium* Blume, *C. pedicellaris* (Rchb. f.) Szlach. & Marg. and *C. retusum* (J.J. Sm.) Szlach. & Marg., are proposed. Four new species, *Crepidium lyroglossum* Szlach. & Marg., *C. sarawakense* Szlach. & Marg., *C. cribbianum* Szlach. & Marg. and *C. ochyreaeanum* Szlach. & Marg., are described and illustrated. Their taxonomic affinities are briefly discussed.

KEY WORDS

Orchidaceae,
Crepidium,
taxonomy,
Australasia.

RÉSUMÉ

Deux nouvelles combinaisons dans le genre *Crepidium* Blume, *C. pedicellaris* (Rchb. f.) Szlach. & Marg. et *C. retusum* (J.J. Sm.) Szlach. & Marg. sont proposées. Quatre nouvelles espèces, *C. lyroglossum* Szlach. & Marg., *C. sarawakense* Szlach. & Marg., *C. cribbianum* Szlach. & Marg. and *C. ochyreaeanum* Szlach. & Marg., sont décrites et illustrées. Leurs affinités taxonomiques sont brièvement discutées.

MOTS CLÉS

Orchidaceae,
Crepidium,
taxonomie,
Australie.

The genus *Crepidium* Blume reestablished recently (SZLACHETKO 1995), includes about 250 species distributed in Australasia. It differs from the genus *Malaxis* Sw.—to which most of its species were classified previously—in the gynostemium structure (Fig. 1). The column part of *Malaxis* s.str. is erect, very short and massive, rostellum exceeds distinctly the anther and does not produce any viscid matter; pollinia are parallel in the anther and their apices are well separated. Unlike this, the column part of

Crepidium is elongate, dorsiventrally flattened, and usually arched; the rostellum is equal in length to the anther and morphologically very similar to both fertile stigma lobes; due to the presence of tiny, sticky caudicles apical parts of pollinia are glued together. At least four other Australasian genera appear to be related to *Crepidium* in respect of the gynostemium structure, but they are easily distinguishable by the lip morphology (SZLACHETKO & MARGOŃSKA, in prep.).

While working with the herbarium materials of Malaxidinae from Australasia we found some specimens which in our opinion represent new species. We describe them below. Two new combinations omitted by SZLACHETKO (1995), are validated here.

***Crepidium pedicellaris* (Rchb. f.) Szlach. & Marg., comb. nov.**

Microstylis pedicellaris Rchb. f., Bot. Centralbl. 28: 345 (1886).—Type: *Beccari s.n.*, Niederl Neu-Guinea (holo-, L).

***Crepidium retusum* (J.J. Sm.) Szlach. & Marg., comb. nov.**

Microstylis retusa J.J. Sm., Bull. Dep. Agr. Ind. Neerl. 19: 29 (1908).—Type: *Veersteg 1399*, Niederl. Neu-Guinea (holo-, L).

***Crepidium lyroglossum* Szlach. & Marg., sp. nov.**

Species haec ad sectionem Pleiodontem pertinens, plerumque C. retuso appropinquat, sed dentibus labelli numeros 6, auriculis lyratis et callo proprio recedit.

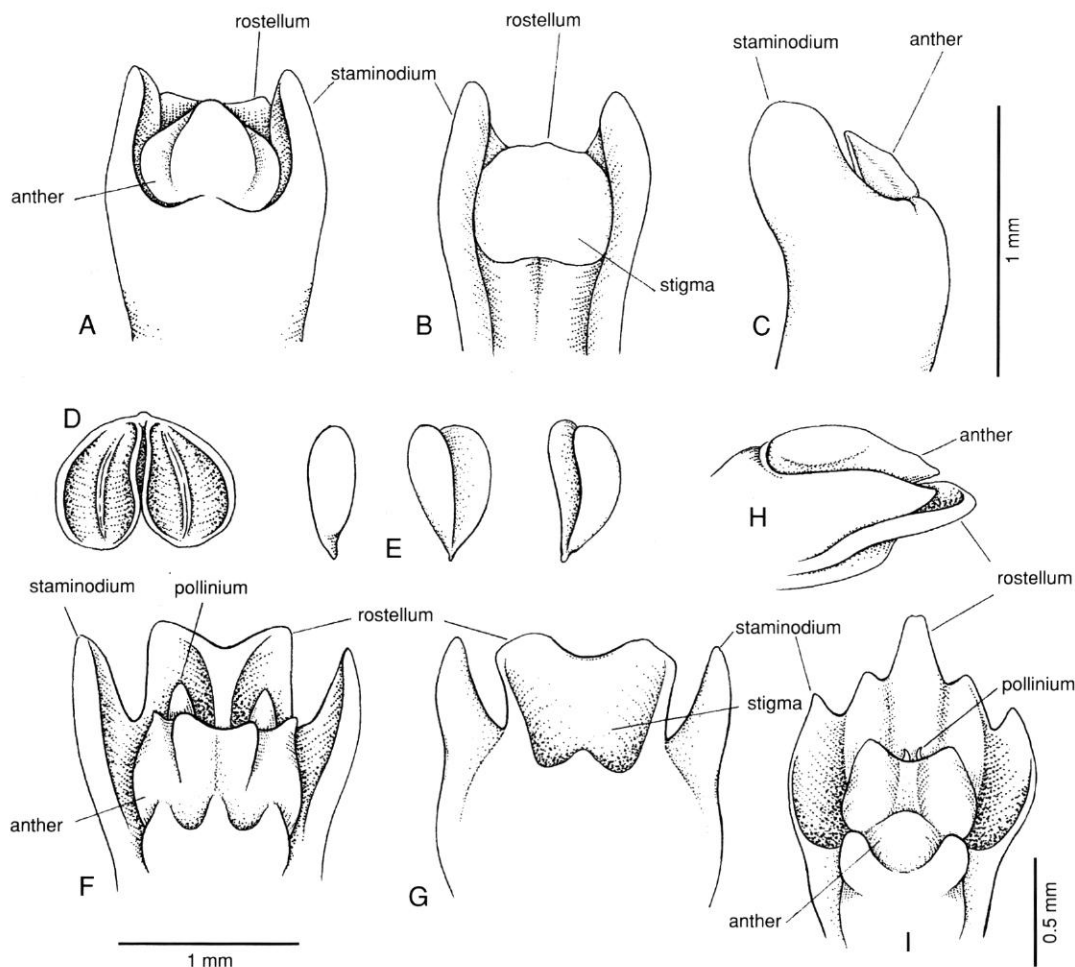


Fig. 1.—A comparison of the gynostemium structure in *Crepidium* Blume (A-E) and *Malaxis* Sw. (F-I): A, F, I, dorsal view; B, G, bottom view; C, H, side view; D, anther; E, pollinaria.

TYPE.—Schmutz 4632, Lesser Sunda Is., Flores, Lengkong, 26 Feb. 1980 (holo-, L).

Terrestrials. Rooted occasionally. Pseudobulbs ca. 13–15 cm long, fusiform to narrowly cylindrical, ascending, internodes several mm long, up to 0.4 cm in diameter. Leaves up to 12; petiole 1.2–2.3 cm long, rather narrow, canaliculate, widening towards the base forming sheath; blade 5.8–7.5 cm long, 1.4–2.8 cm wide, ovate- to broadly lanceolate, acuminate, obscurely asymmetric, more or less undulate along margins. Inflorescence 21–23 cm long, erect, with few longitudinal wings; spike 14–16 cm long, ca. 40- or more-flowered, dense. Flowers non-resupinate, tiny, young flowers green, mature yellow, turned vein-red with yellow points. Floral bracts 3–4 mm long, ovate-lanceolate, acuminate. Pedicel and ovary 3–4 mm long, slender. Dorsal sepal 3 mm long, 1.5 mm wide, oblong-elliptic to oblong-ovate, obtuse, subcucullate, cochleate, thin, delicate, 3-nerved. Petal 3 mm long, 0.8 mm wide, oblong-oblancheolate, widest above the middle, obtuse, single-nerved. Lateral sepals 2.5 mm long, 2 mm wide, elliptic-obovate, slightly asymmetric, cucullate, cochleate, 3-nerved. Lip 4.5 mm long, 4 mm wide, callus foveolate, thin, delicate, at the base of the middle lip lobe; the mid-lobe 2 mm long, 1.6 mm wide, ovate-triangular in outline, distinctly notched at apex up to 0.8 mm; side lobes semi-orbicular, auriculate, with 3 teeth each, teeth narrowly triangular, apiculate, 1–1.3 mm long, auricles 1.5 mm long, lyre-like, obtuse. Gynostemium 1.7 mm long, typical for the genus.—Fig. 2.

ETYMOLOGY.—An allusion to the shape of the lip auricles.

DISTRIBUTION.—Known so far from the type locality only. Collected in forest, ca. 1100 m.

NOTES.—This species appears to be related to *Crepidium retusum* (J.J. Sm.) Szlach. & Marg. of the section *Pleiodon*, but differs from the latter in the lip form. It has 6 teeth on the lip close to the base of the middle lobe, basal lip auricles are lyre-curved. The central lip callus consists of two small foveas near the base of the lip middle lobe.

***Crepidium sarawakense* Szlach. & Marg., sp. nov.**

Species haec ad sectionem Pleiodontem pertinet, C. ripario et C. retuso affinis, sed prior species a nostra lobo centrali semirotundato retusoque dentibus lateralibus ab eo longioribus et sepalis lateralibus concavis, altera petalis apice retusis et dentibus longis distinguitur.

TYPE.—Chai & Seng S-16195, Sarawak, Numpang, Tai Ton, Kuching, 15 Dec. 1965 (holo-, L).

Terrestrials. Pseudobulbs ca. 7–13 cm long, fusiform to narrowly cylindrical, ascending to erect, internodes some to several mm long, 0.2–0.4 cm in diameter. Leaves 4–7; petiole 1.6–2.8 cm long, canaliculate, widening towards the base forming a prominent sheath; blade 3.8–11.4 cm long, 1.9–3.1 cm wide, ovate- to oblong-lanceolate, acuminate, slightly asymmetric. Inflorescence 19–24.5 cm long, erect, with few longitudinal wings; spike 5–7.5 cm long, ca. 30–80-flowered, dense. Flowers small, nonresupinate, buds pale green, petals and stigma yellow. Floral bracts 2–6.5 mm long, triangular or triangular-lanceolate, acute to acuminate. Pedicel and ovary 4.5–5 mm long, slender, erect. Dorsal sepal 3 mm long, 1 mm wide, oblong-elliptic, obtuse, slightly cochleate in the centre, 3-nerved. Petals 2.8 mm long, 0.7 mm wide, ribbon-like to linear-oblancheolate, truncate or slightly notched at apex, slightly falcate, single-nerved. Lateral sepals 2.5 mm long, 1.1–1.2 mm wide, oblong-elliptic to elliptic, asymmetric, distinctly cucullate, cochleate, shortly apiculate, 3-nerved. Lip 4.5 mm long, 2.8 mm wide, central cavity surrounded by prominent rim; the middle lobe 0.7 mm long, 1 mm wide, semi-orbicular, obscurely notched at apex, side lobes obliquely ovate-triangular, auriculate, with 3 teeth of unequal length each, the longest teeth 1 mm long, linear-lanceolate, acute, auricles 1.2–1.5 mm long, obliquely triangular, obtuse. Gynostemium 1.1 mm long, typical for the genus.—Fig. 3.

ETYMOLOGY.—In reference to the place of origin.

DISTRIBUTION.—Known so far from the type locality only. Collected on limestone slope, ca. 450 m.

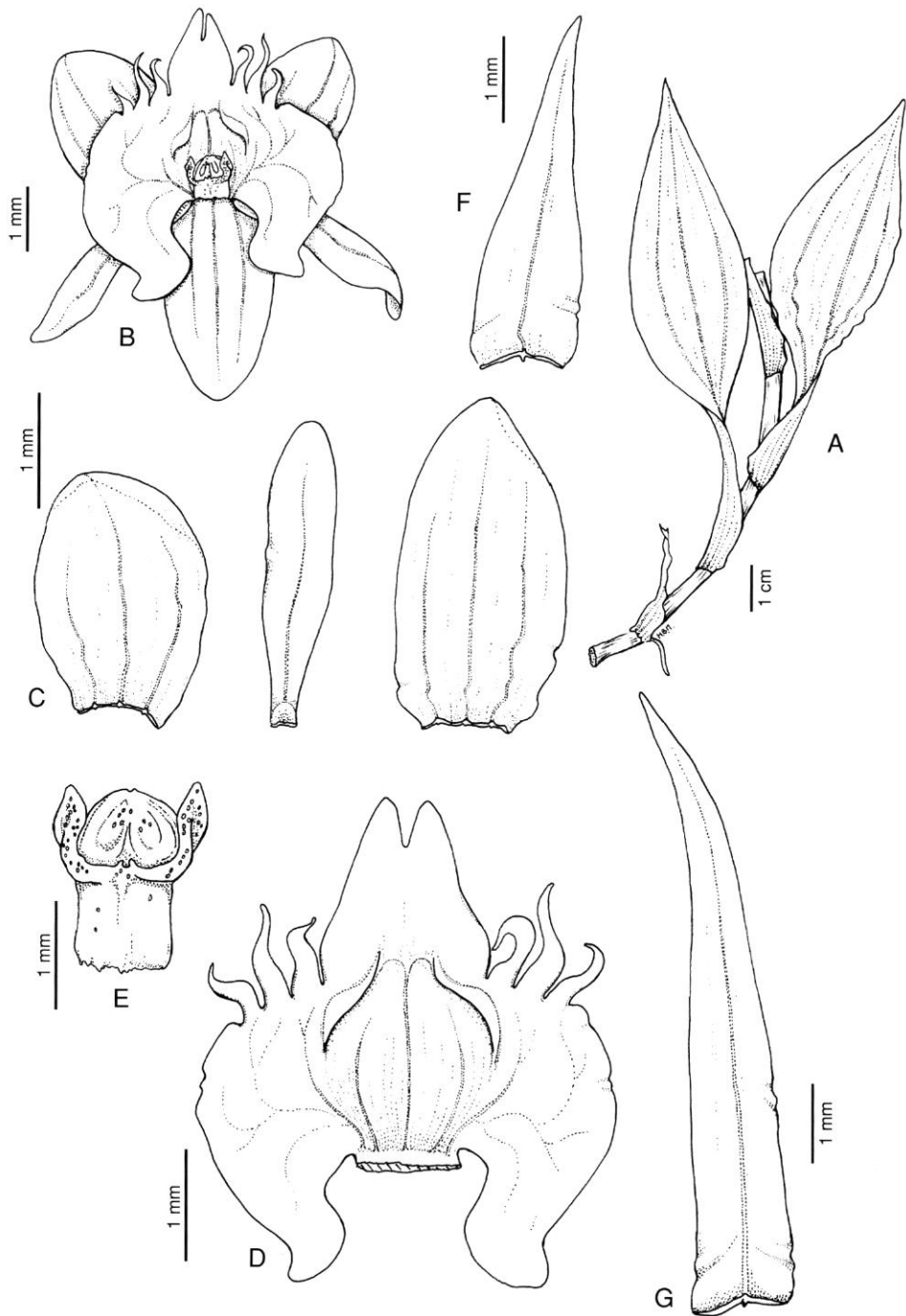


Fig. 2.—*Crepidium lyroglossum* Szlach. & Marg.: **A**, part of the pseudobulb and leaves; **B**, flower; **C**, tepals; **D**, lip; **E**, gynostemium; **F**, **G**, floral bracts. (Holotype, L).

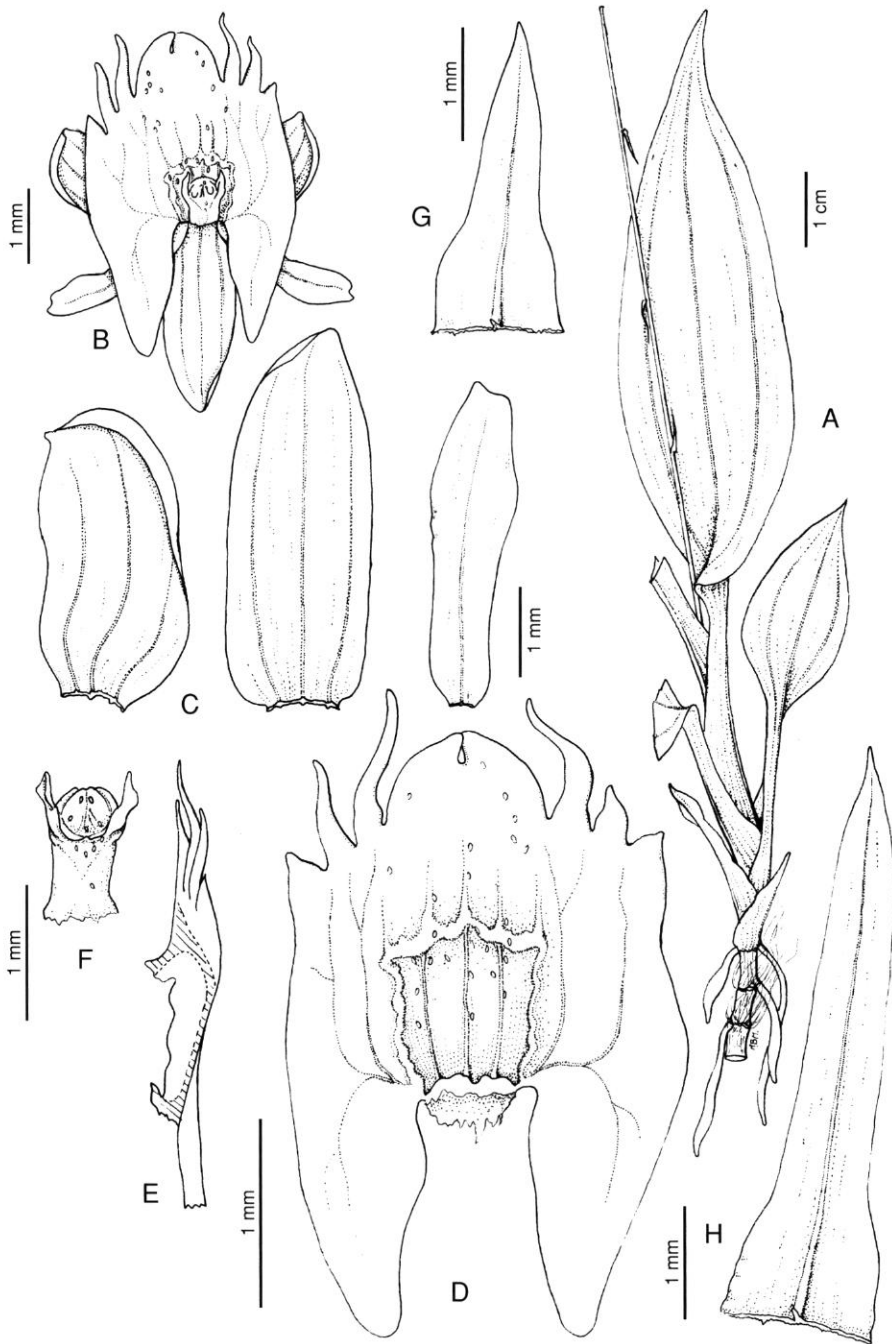


Fig. 3.—*Crepidium sarawakense* Szlach. & Marg.: **A**, habit; **B**, flower; **C**, tepals; **D**, lip; **E**, longitudinal sections of the lip; **F**, gynostemium; **G**, **H**, floral bracts. (Holotype, L).

NOTES.—This species belongs to the section *Pleiodon* and appear to be related to *Crepidium riparium* (J.J. Sm.) Szlach. and *C. retusum*. It differs from the former in having semi-orbicular and obscurely notched lip middle lobe, with longer tooth and in distinctly concave lateral sepals. It is distinguishable from the latter by the long lip tooth and by apically truncate or slightly notched petals.

***Crepidium cribbianum* Szlach. & Marg., sp. nov.**

Species haec ad sectionem Pleiodontem pertinens, a C. leucodonti forma tepalorum et lobis lateralibus labelli brevioribus recedit; a C. commelinifoliae forma et labellum cum tepalo proportionem diversam et a C. taurinae auriculis labelli non imbricatis recedit.

TYPE.—*Chai S-35905*, Sarawak, foot of Apo Dari, Kelabit Highland, Baram District, 17 Nov. 1974 (holo-, L).

Terrestrials. Pseudobulbs 4-8 cm long, erect, slender, fusiform, 0.1-0.32 cm in diameter. Leaves 6-16; petiole 1-1.6 cm long, canaliculate, broadly sheathing basally; blade 2-2.8 cm long, 1-1.25 cm wide, ovate, acuminate, slightly asymmetric. Inflorescence 10-16 cm long, with few longitudinal wings; spike 8-12 cm long, 20-40-flowered, dense towards the apex. Flowers small, non-resupinate, brownish-yellow. Floral bracts up to 5 mm long, oblong-lanceolate to transversely elliptic with triangular apex. Pedicel and ovary 2.5-3.5 mm long, slender. Dorsal sepal 3 mm long, 1.6 mm wide, oblong-obovate, rounded at apex, slightly convex in the centre, 3-nerved. Petals 2.5 mm long, 1 mm wide, oblong-spathulate, slightly asymmetric, truncate, single-nerved. Lateral sepals 2-2.5 mm long, 2 mm wide, more or less broadly and obliquely obovate, rounded at apex, slightly concave, obscurely 3-nerved. Lip 3-3.2 mm long, 3.4 mm wide, central cavity surrounded by obscure rim; the middle lobe 1 mm long, 1.5 mm wide, orbicular-ovate in outline, with two small, obtuse lobules at apex; side lobes obliquely triangular-ovate, auriculate, with single tooth at the base of the mid-lobe, tooth 0.5-0.7 mm long, 0.2 mm

wide, linear-triangular, apiculate, auricles 2 mm long, triangular, obtuse. Gynostemium 0.8 mm long, typical for the genus.—Fig. 4.

ETYMOLOGY.—Named in honour of Dr. Phillip J. CRIBB, an eminent orchidologist.

DISTRIBUTION.—Known so far from the above-mentioned locality only. Collected in primary forest, on slope at 1320 m.

NOTES.—*Crepidium cribbianum* is similar to *C. leucodon* (Schltr.) Szlach., from which it differs by the form of tepals and shorter lip auricles. It is distinguishable from *C. commelinifolium* (Zoll. & Morren) Szlach. by the shape and proportion of lip and tepals, and additionally from *C. taurinum* (Rchb. f.) Szlach. by non-crossing lip auricles.

***Crepidium ochyceanum* Szlach. & Marg., sp. nov.**

Species haec C. melanophyllo similis, sed dentibus labelli apice obtusis, dentibus lateralibus singularibus, auriculis attenuatis et dentibus lobi centralis semiapertis recedit.

TYPE.—*Brass 27056*, Fergusson Is., Mts. between Agamoia and Ailuluai, 9 June 1956 (holo-, L).

Terrestrials. Pseudobulbs ca. 4.5 cm, narrowly cylindrical, erect, internodes 0.23-0.45 mm in diameter. Leaves 3-4; petiole 0.3-0.6 cm long, sheath-like; blade 5.3-8.6 cm long, 2.6-3.8 cm wide, ovate to ovate-cordate, apiculate, slightly asymmetric. Inflorescence 33 cm long, with longitudinal wings; spike 12 cm long, 60-80-flowered, dense towards the apex. Flowers small, nonresupinate, brownish-yellow. Floral bracts 3.5-10.2 mm long, narrowly triangular, acute. Pedicel and ovary 4.5-6.5 mm long, slender, erect. Dorsal sepal 4.5 mm long, 2.1 mm wide, oblong-obovate, obtuse, slightly convex at apex, 3-nerved. Petals 4 mm long, 1 mm wide, linear- or oblong-lanceolate, obscurely falcate or sigmoid, obtuse, single-nerved. Lateral sepals 4 mm long, 2 mm wide, obliquely and oblong obovate, obtuse, cochleate, obscurely 3-nerved. Lip 4-5 mm long, 3.5-4 mm wide, central cavity surrounded by prominent rim; the middle lobe

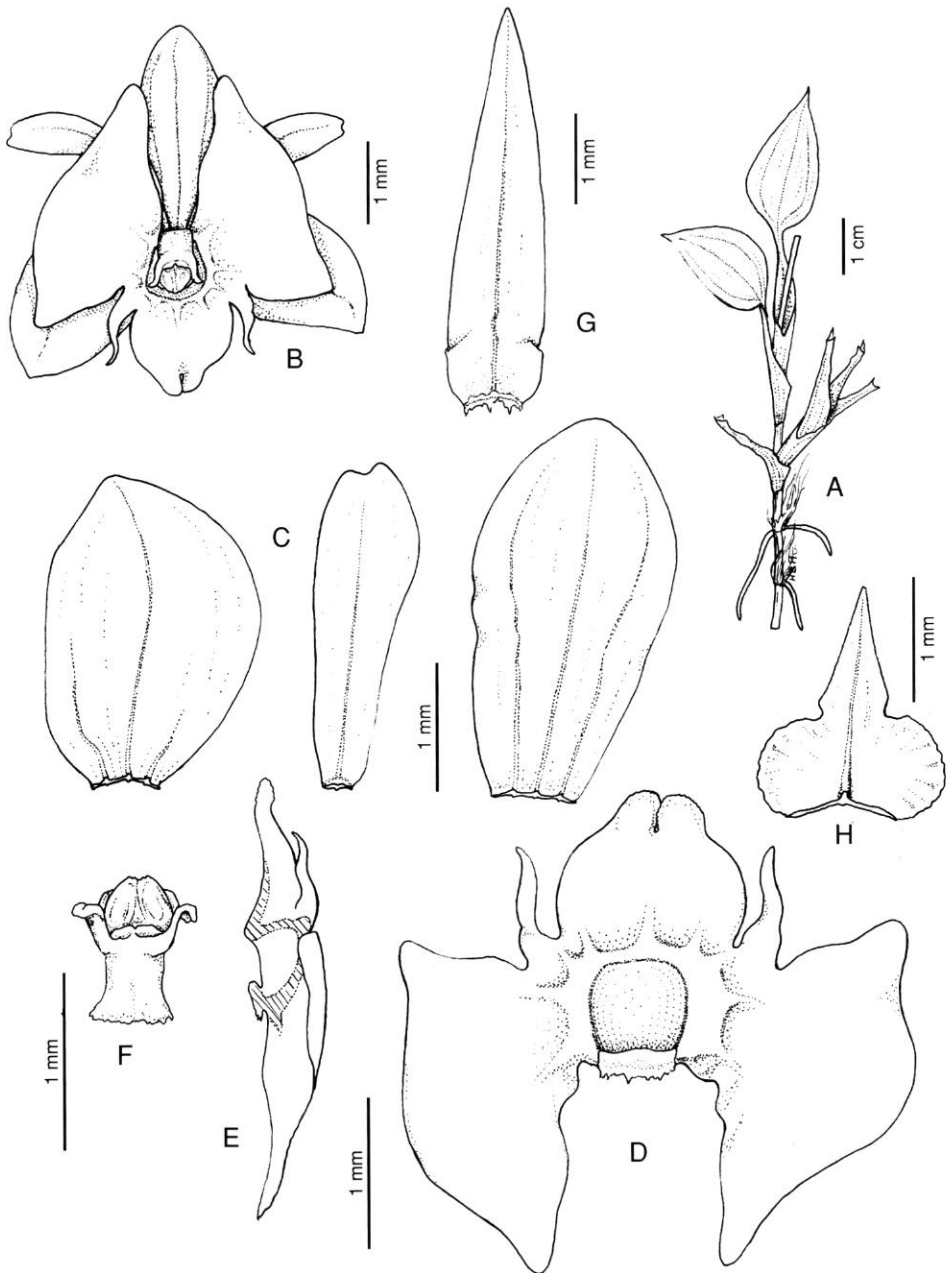


Fig. 4.—*Crepidium cribbianum* Szlach. & Marg.: A, habit; B, flower; C, tepals; D, lip; E, lip, longitudinal section; F, gynostemium; G, H, floral bracts. (Holotype, L).

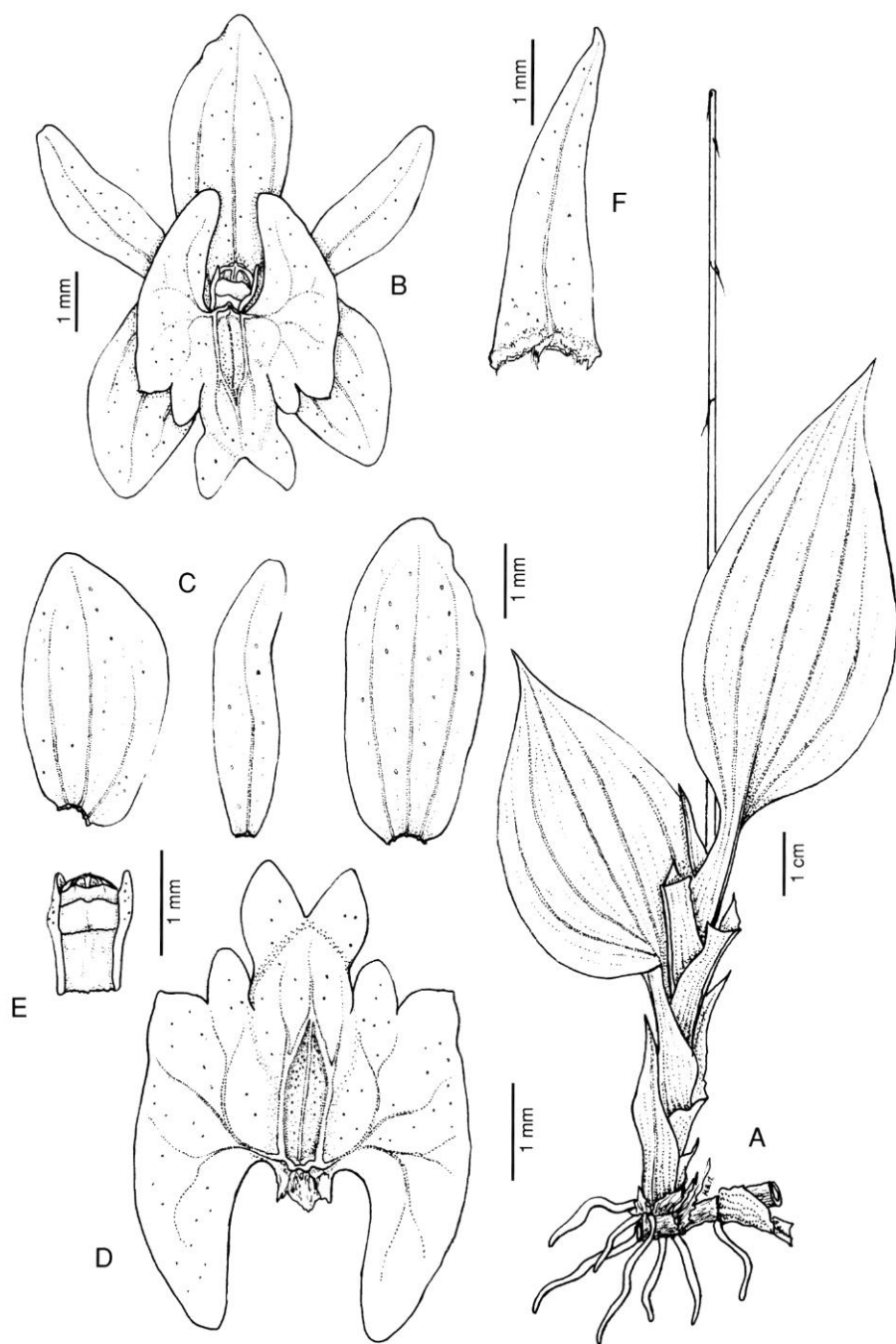


Fig. 5.—*Crepidium ochyreanum* Szlach. & Marg.: A, habit; B, flower; C, tepals; D, lip; E, gynostemium; F, floral bract. (Holotype, L.).

2-2.1 mm long, ca. 1 mm wide, split in the apical half into two divergent, subacute, obliquely ovate lobules; side lobes oblong-ovate-falcate, obtuse, with single tongue-like tooth at each side of the middle lobe, auricles 1 mm long, obliquely ovate-triangular, obtuse. Gynostemium 1.2-1.3 mm long, typical for the genus.— Fig. 5.

ETYMOLOGY.—Dedicated to Prof. Dr. Hab. Ryszard OCHYRA, an eminent Polish bryologist.

DISTRIBUTION.—Known so far from the type locality only. Collected on mossy ground in forest at 900 m.

NOTES.—This entity is similar to *Crepidium melanophyllum* (Schltr.) Szlach., but lobules of the lip mid-lobe are obtuse and divergent, and

auricles narrowed gradually towards apices. There is also a single, obtuse tooth on each side of the middle lobe.

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REFERENCE

SZLACHETKO D.L. 1995.—Systema Orchidaliū. *Fragm. Florist. Geobot.*, Suppl. 3: 1-152.

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