Lewinskya anaglyptodon var. *ochyrarum* (Orthotrichaceae), a new variety of epiphytic moss from Chile

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Lewinskya anaglyptodon var. *ochyrarum* (Orthotrichaceae), a new variety of epiphytic moss from Chile. – Acta Mus. Siles. Sci. Natur., 68: 175-178, 2019.

Abstract: *Lewinskya anaglyptodon* var. *ochyrarum* Plášek, var. nova, is a confirmed record of a new variety from Chile. The new taxon is described and illustrated by macro photos and micro photos from SEM. It is characterized by having double peristome with conspicuous endostome segments which are unknown in the type variety.

Key words: Lewinskya anaglyptodon, Lewinskya rupestris, mosses, new variety, taxonomy, South America

Introduction

The genus *Lewinskya* F.Lara, Garilleti & Goffinet is a widespread moss group, which comprises 70 taxa (66 species and 4 varieties), which are mostly epiphytes, with some being saxicolous (Lara *et al.* 2016). Thirty-two taxa (46% of the total) occur in the Southern Hemisphere. In Chile, 14 taxa of the genus were known until recently (Lewinsky 1987, Müller 2009).

During a bryofloristic survey in the Magallanes Region (Patagonia, Chile) in January 2011 a noteworthy epiphytic moss from the genus *Lewinskya* was collected. Upon closer examination the specimen proved to represent a variety new to science.

Lewinskya anaglyptodon (Cardot & Broth.) F.Lara, Garilleti & Goffinet var. *ochyrarum* Plášek, *var. nova*

TYPE. Chile. XII. Magallanes Region. 43 km NW of Puerto Natales town, edge of Torres del Paine National Park, along a road No. Y-200, GPS: 51°21.21' S, 72°43.10' W, 360 m, 20 Jan 2011, leg. *V. Plášek* (OSTR 3425, holotype)

Plantae usque ad 2 cm altae, foliis erecto-adpressis, lanceolatis, apicis acutis. Capsulae immersae vel emergentes, cylindricae vel obloideo-cylindricae. Stomata phaneropora, in parte inferiore capsulae locata. Peristomium duplex; dentes exostomii 16, sicce recurvati, papillosi; endostomium brevius, constans ex 8 segmentis glabris, biseriatis. Calyptra obloideo-conica, in dimidio superiore dense hirsuta.

Description

Plants green to olive green, up to 20 mm tall. **Stem** sparsely branched, branches up to 8 mm long. **Rhizoids** well developed, pale brown, densely distributed along the stem. Stem **leaves** erect-appressed when dry, spreading when moist, ovate-lanceolate in shape, $2.3-3.3 \times 0.5-0.8$ mm, keeled, long acuminate, sharply acute; margins broadly revolute from base to near apex, entire. **Upper** laminal **cells** isodiametric to short elongate, $(9-)10-12(-13) \times 8-14 \mu m$, fairly thick-walled, with tall 2-3 mostly branched papillae $(3-6 \mu m)$; **basal** laminal **cells** elongate rectangular to rhomboidal, thick-walled, $40-95 \times 10-16 \mu m$, smooth. Alar cells slightly differentiated, forming small auricules with a row of almost quadrate cells along margin. **Costa** ending near apex. **Sexual condition** goniautoicous. **Seta** 0.8-1.5 mm, ochrea up to 1/3 of the seta, **vaginula** haired. **Capsule** immersed to emergent; urn-shaped ovoid to oblong-ovoid, about 2.5 mm long, yellowish brown or pale brown with 8 short furrows, not constricted below the mouth when dry. **Exothecial cells** not or only differentiated in upper part of capsule. **Stomata** superficial, situated in the lower part of the capsule. **Peristome** double. Endostome formed by 8 segments, whitish, erect when dry, smooth on both internal and external side; biseriate (at least at base).

Exostome teeth 16, yellow to light brown, reflexed when dry. Ornamentation of the external side (OPL): roughly papillose; of the internal side (PPL) slightly ornamented with papillae. **Calyptra** conic-oblong, light brown, in the upper part hairy with long hairs. **Lid** with long beak. **Spores** 20-25 μ m, densely papillose. Asexual **reproduction** not observed.



Fig 1-3: *Lewinskya anaglyptodon* var. *ochyrarum.* **1.** Locality where the taxon was collected: vicinity of Puerto Natales town (Chile, Patagonia), sparse forest of *Nothofagus antarctica.* **2.** Capsule with double peristome; white arrows show endostome segments. **3.** Operculate capsule; lid with long beak. Scale bars: 1 mm (2–3). *Photos of the holotype specimen were taken by V. Plášek.*



Fig 4-6: SEM micrographs of *Lewinskya anaglyptodon* var. *ochyrarum*. **4.** View of double peristome **5.** External view of peristome showing OPL/PPL ornamentation of the exostome and PPL ornamentation of the endostome **6.** IPL ornamentation of endostome segment and exostome teeth. Scale bars: 100 μ m (4–6). *Photos of the holotype specimen were taken by V. Plášek.*

Ecology

The new variety was firstly observed growing on the bark of *Nothofagus antarctica* (G. Forst.) Oerst., in the middle part of the trunk, on the northern side, at a height of 165 cm above ground. The population size was about 8 cm², and it was accompanied by *Macrocoma sullivantii* (Müll. Hal.) Grout, *Orthotrichum assimile* Müll. Hal., and *Lewinskya elegantula* (Schimp. ex Mitt.) F.Lara, Garilleti & Goffinet. The phorophyte was a part of a sparse forest community of *Nothofagus* trees, growing along a gravel road.

Etymology

I am pleased to name the variety after my colleagues and friends Ryszard Ochyra and Halina Bednarek-Ochyra, in honor of their taxonomy works.

Discussion

Lewinskya anaglyptodon var. *ochyrarum* is similar to the type variety of *L. anaglyptodon* in terms of many gametophytic and sporophytic characters, but it can be easily distinguished by having double peristome with conspicuous 8 endostome segments which were not described in nominal variety (Lewinsky 1987).

Lewinskya rupestris (Schwägr.) F.Lara, Garilleti & Goffinet, which seems superficially related to *L. anaglyptodon* var. *ochyracea*, can be differentiated from them latter mainly due to the spreading (not reflexed) exostome teeth.

References

Lara F., Garilleti R., Goffinet B., Draper I., Medina R., Vigalondo B. & Mazimpaka, V. (2016): *Lewinskya*, a new genus to accommodate the phaneroporous and monoicous taxa of *Orthotrichum* (Bryophyta, Orthotrichaceae). – Cryptogamie Bryologie 37: 361-382.

Lewinsky J. (1987): *Orthotrichum* Hedw. (Orthotrichaceae) in South America 2. Taxonomic revision of taxa with superficial stomata. – Memoirs of the New York Botanical Garden 45: 326-370.

Müller F. (2009) An updated checklist of the mosses of Chile. – Archive for Bryology 58: 1-124.

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