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Short Communication

Additional information on the recently described species, *Lecanora printzenii*

Lecanora printzenii Pérez-Ortega *et al*. represents a new species in the *L. varia* group that was described as one of the "hundred new species of lichenized fungi project" aimed at revealing the potential of undiscovered global diversity (Lumbsch *et al.* 2011). Recent examination of the *L. varia* group has yielded a better understanding of the taxonomy and introduced a number of new taxa (Śliwa & Wetmore 2000; Printzen 2001; Laundon 2003; Martínez & Aragón 2004; de la Rosa *et al.* 2010), as well as establishing a phylogeny of the group (Pérez-Ortega *et al.* 2010). When first described, the species was presented as closely related to *L. varia* (Hoffm.) Ach., *L. burgaziae* I. Martínez & Aragón, and *L. densa* (Śliwa & Wetmore) Printzen, but differing in its lichenicolous habit, the usually melanized apothecial margin and disc, and also its ITS sequence (Lumbsch *et al.* 2011).

A survey of the lichens of the subnival belt in the Tatra Mountains of Poland, conducted by the first author between 2003 and 2006, indicated this area to be an important biodiversity hot-spot in the Carpathians. The study revealed numerous interesting lichenized and lichenicolous fungi from the mountain range (Flakus 2007; Kukwa & Flakus 2009), as well as a new species (Śliwa & Flakus 2011). Along with other valuable collections, a member of the *L. varia* group was found that matched in all characters the recently described *L. printzenii*. Based on this collection, the chemistry of the species is provided by application of thin-layer chromatography, and a second host species is reported for the taxon. Moreover, this new record extends the distribution of the species to the Carpathian Mountains.

Morphology and anatomy of the new voucher specimens were studied using standard techniques, with hand-cut preparations mounted in water or a *c.* 25% solution of potassium hydroxide (K). Tissue measurements were made on material mounted in water, and ascospores in K. Granulations were observed in polarized light (pol). The solubility of granules and/or crystals was tested with K and 65% nitric acid (N). Chemical analyses were carried out using thin-layer chromatography (TLC) on aluminium plates in solvent systems A, B and C, following the techniques of Culberson (1972) and subsequent revisions summarized by Orange *et al.* (2001).

Lecanora printzenii Pérez-Ortega, Vivas & Hafellner

in Lumbsch *et al.* 2011, *Phytotaxa* **18:** 76 (2011).

The species is characterized by a yellowish green thallus composed of convex areoles, and numerous apothecia that are either regular in shape or compressed and irregular. Young apothecia are sessile, always with thick margins, which are greenish to black, shiny, and with a narrow but distinct whitish band on the inner side (near the hymenium). The apothecia soon became constricted at the base and then cup-shaped. Old apothecia are plane, narrowly attached, and with a much thinner margin. Apothecial discs are yellowish green to melanized, and bare to moderately pruinose. It is worth mentioning that the morphology and anatomy of the species are identical to *L. varia*; however, in the case of *L. printzenii*, both apothecial margin and discs soon become black pigmented (for iconography and detailed description see Lumbsch *et al.* 2011).

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Chemistry. In the protologue (Lumbsch *et al.* 2011), the chemistry of the species was characterized by spot test reactions (K−, C−, P+ yellow or P−; tested on the amphithecium). The positive reaction with P could suggest the presence of psoromic acid in addition to usnic acid. The chemical content of the species was examined by us using TLC, and both usnic and psoromic acids were identified as main substances.

Ecology and distribution. This lichenicolous species was previously known to inhabit various species of *Umbilicaria*. However, its hosts range is likely to be broader because one of our collections occurred on *Psorinia conglomerata* (Ach.) Gotth. Schneid.

Lecanora printzenii was previously reported from the mountainous areas of Spain and Austria (Lumbsch *et al.* 2011). In Poland it was recorded in the highest climatic vegetation belt of the Carpathians, located in the crystalline part of the Tatra Mountains. The newly reported localities extend the species distribution to a third mountain range in Europe (Sierra de Francia, the Alps, and now the Carpathians), but it is very likely to occur more widely.

Specimens examined. **Poland:** *Western Carpathians*: High Tatra Mts., Czarny Mięguszowiecki Szczyt Mt., 2409 m, 49°10′58″N, 20°04′03″E, subnival belt, granite area, on *Umbilicaria cylindrica*, *A. Flakus* 788 and on *Psorinia conglomerata*, *A. Flakus* 799 (KRAM); Pośredni Mięguszowiecki Szczyt Mt., SE ridge, 2360 m, 49°11′06″N, 20°03′83″E, subnival belt, granite area, on *Umbilicaria* sp., *A. Flakus* 1231 (KRAM); Żabi Koń Mt., 2291 m, 49°10′43″N, 20°04′48″E, subnival belt, granite area, on *Umbilicaria cylindrica*, *A. Flakus* 5625 (KRAM).

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