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NEW COMBINATIONS FOR *MYRIOLECIS ZOSTERAE* (ASCOMYCOTA, LICHENIZED FUNGI) VARIETIES AND A NEW RECORD OF THE SPECIES FOR POLAND

Lucyna Śliwa

Abstract. Two new combinations for *Myriolecis zosterae* (Ach.) Śliwa, Zhao Xin & Lumbsch varieties are proposed: *M. zosterae* var. *beringii* (Nyl.) Śliwa and *M. zosterae* var. *palanderi* (Vain.) Śliwa. Additionally, *M. zosterae* var. *zosterae* is reported for the first time from Poland. The species is briefly discussed and its known distribution in Poland illustrated.

Key words: nomenclature, lichenized *Ascomycota*, Lecanoraceae, new record, Poland

Lucyna Śliwa, Department of Lichenology, W. Szafer Institute of Botany, Polish Academy of Sciences, Lubicz 46, 31-512 Kraków, Poland; e-mail: l.sliwa@botany.pl

Introduction

Myriolecis zosterae (Ach.) Śliwa, Zhao Xin & Lumbsch is representative of a genus that includes lichen species most common on calciferous rocks and bark. The majority of species have a crustose and often inconspicuous thallus, and apothecia with a pale margin. The species either contain chlorinated xanthones, often accompanied by depsidones, or lack secondary metabolites. The genus has a worldwide distribution but is most diverse in temperate to Arctic-alpine regions of the Northern Hemisphere (Zhao *et al*. 2016). Previously, most species were placed in the *Lecanora dispersa* group as defined by Śliwa (2007) and Śliwa *et al.* (2012). Most recently, however, they have been shown to form a clade separate from *Lecanora* sensu stricto (Zhao *et al*. 2016). The oldest available generic name in the group was *Myriolecis* Clements; it was resurrected to accommodate the species of this clade. Consequently, 30 new combinations were proposed to cover all taxa at species rank designated to *L. dispersa* gr. (Zhao *et al*. 2016). Among the species, *M. zosterae* has a long and complicated taxonomic and nomenclatural history revealed in research by Brodo (1976), Brodo and Vitikainen (1984), Brodo *et al*. (2001) and Laundon (2003). The latter author provided a precise circumscription of *M. zosterae* type variation, accepted in the later study by Śliwa (2007). However, because of the considerable morphological variability of the species, when taking into account extra-European material it became very difficult to keep such a clear species concept. To cover this variability, delimitation of two infraspecific taxa was proposed: *L. zosterae* var. *beringii* (Nyl.) Śliwa and *L. zosterae* var. *palanderi* (Vain.) Śliwa (Śliwa 2007). Transferring these two remaining varieties of the species to *Myriolecis* is still necessary, and therefore the new combinations are proposed below.

Of all known species of the genus *Myriolecis,* eleven have been reported from Poland up to the present time: *M. agardhiana*, *M. albescens*, *M. crenulata*, *M. dispersa*, *M. hagenii*, *M. persimilis, M. pruinosa, M. reuteri, M. salina*, *M. sambuci* and *M. semipallida* (for authorities citatations see Zhao *et al*. 2016). All of them were confirmed during my revision of material available in Polish herbaria. Additionally, *Myriolecis zosterae* var. *zosterae* was found to occur in the country, and this novel record is reported here as well.

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Material and methods

The material from the following Polish herbaria was revised: GPN, LBL, LOD, KRA, KRAM, KRAP, KTC, WRSL. Morphology and anatomy were studied by standard techniques, with preparations mounted in water or *ca* 25% solution of potassium hydroxide (KOH). Tissues were measured in water, ascospores in KOH, and granulation was observed in polarized light (pol). The solubility of granules and/or crystals was tested with KOH and 65% nitric acid (HNO_3). Lichen substances were studied by thin-layer chromatography (TLC) using the methods of Culberson and Kristinsson (1970) and Orange *et al.* (2001).

New combinations

Myriolecis zosterae (Ach.) Śliwa, Zhao Xin & Lumbsch var. ***beringii*** (Nyl.) Śliwa, ***comb. nov.***

MycoBank no.: MB 821599

Basionym: *Lecanora beringii* Nyl. [= '*Lecanora behringii* Nyl.'], Flora **68**: 439. 1885. – Lectotype (selected by I. M. Brodo in 1993 and formalized by Śliwa in 2007): [Russia] 'Ins. Behringii, *E. Almqvist* (Exped. Vega)' (H-Nyl 26134!).

≡ *Lecanora zosterae* var. *beringii* (Nyl.) Śliwa, Polish Bot. J. **52**(1): 60. 2007.

= *Lecanora turbinata* Poelt & Leuckert, Biblioth. Lichenol. **58**: 327. 1995. – Holotype: [Austria] 'Dachstein-Gruppe, Steiermark / Ober-Osterreich: Gipfel des Hohen Dachstein, Kalk, 290 m, 29.7.1990, *leg. J. Poelt*' (GZU!).

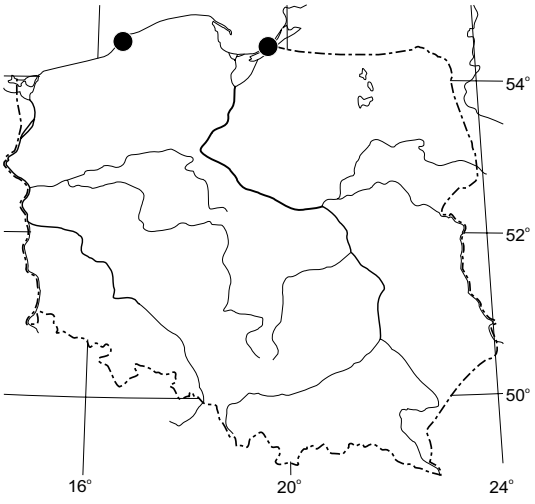

Fig. 1. Known distribution of *Myriolecis zosterae* (Ach.) Śliwa, Zhao Xin & Lumbsch var. *zosterae* in Poland.

Myriolecis zosterae (Ach.) Śliwa, Zhao Xin & Lumbsch var. ***palanderi*** (Vain.) Śliwa, ***comb. nov.***

MycoBank no.: MB 821600

Basionym: *Lecanora palanderi* Vain., Arkiv Bot. **8**(4): 48. 1909. – Holotype: [Russia, Siberia] 'Ad lignum in peninsula Jinretlen' (from the protologue), *Wainio* (TUR).

≡ *Lecanora zosterae* var. *palanderi* (Vain.) Śliwa, Polish Bot. J. **52**(1): 62. 2007.

New country record

Myriolecis zosterae (Ach.) Śliwa, Zhao Xin & Lumbsch var. ***zosterae*** Fig. 1

Flora **59**: 577. 1876. – *Lecanora subfusca* [var.] *zosterae* Ach., Syn. Meth. Lich.: 158. 1814. – Lectotype (designated by Brodo & Vitikainen, Mycotaxon **21**: 296. 1984): [Sweden] 'Suecia' (H-ACH 1147A).

The type variety of this species is characterized by its large peltate apothecia (0.6–1.6 mm diam.) with a brown or, more usually, orange-brown to reddish and epruinose disc, which becomes sinuous and concave when old, and with a whitish or grey involute margin. It has an amphithecial cortex which is distinctly delimited and clearly thickened at the base, and an epithecium which is not at all granular. The species lacks any lichen products. For a detailed description and pictures see Śliwa (2007).

Myriolecis zosterae is most similar to *M. hagenii* (Ach.) Śliwa, Zhao Xin & Lumbsch. The latter differs in having small, sessile apothecia up to 0.8 mm diam., with a plane disc which is usually pruinose.

Habitat. On wood, detritus, other organic substrata; described and often noted as occurring on the eelgrass *Zostera*.

Distribution. It is a widespread taxon with a heterogennous distribution, known from Europe, Asia and North America, including Greenland. In Poland it was recorded in Western and Central Pomerania (Fig. 1).

Specimens examined. Poland. Pomerania. Koszalin district, spit of Kopań lake, wooden piles drilled into the seabed, 19 July 1986, *W. Fałtynowicz* (UGDA L-2908, KRAM), Vistula Spit, Piaski village, area of GUM near Vistula Lagoon, at branch no. 10, on wood, 16 May 1981, *E. Budzbon* (UGDA L-2157).

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References

Brodo I. M. 1976. Lichenes Canadenses Exsiccati: Fascicle II. *Bryologist* **79**(4): 385–405.

Brodo I. M. & Vitikainen O. 1984. The typification of *Lecanora subfusca* (L.) Ach., its varieties, and some of its related taxa published before 1850. *Mycotaxon* **21**: 281–298.

Brodo I. M., Duran Sharnoff S. & Sharnoff S. 2001. *Lichens of North America*. Yale University Press, New Haven & London.

Culberson C. F. & Kristinsson H. 1970. A standardized method for the identification of lichen products. *J. Chromatogr.* **46**: 85–93.

Laundon J. R. 2003. The status of *Lecanora zosterae* in the British Isles. *Lichenologist* **35**(2): 97–10.

Orange A., James P. W. & White F. J. 2001. *Microchemical methods for the identification of lichens.* British Lichen Society, London.

Śliwa L. 2007. A revision of the *Lecanora dispersa* complex in North America. *Polish Bot. J.* **52**: 1–70.

Śliwa L., Miądlikowska J., Redelings B. D., Molnar K. & Lutzoni F. 2012. Are widespread morphospecies from the *Lecanora dispersa* group (lichenized Lecanoromycetes, Pezizomycotina) monophyletic? *Bryologist* **115**: 265–277.

Zhao X., Leavitt S. D., Zhao Z. T., Zhang L. L., Arup U., Grube M., Pérez-Ortega S., Printzen C., Śliwa L., Kraichak E., Divakar P. K., Crespo A. & Lumbsch H. T. [‘2015’] 2016. Towards a revised generic classification of lecanoroid lichens (Lecanoraceae, Ascomycota) based on molecular, morphological and chemical evidence. *Fungal Diversity* **78**: 293–304.