# NOTES ON *LEPTOGIUM* AND *DERMATOCARPON* SPECIES (LICHENIZED ASCOMYCOTA) FROM A BASALT OUTCROP IN MAŁY ŚNIEŻNY KOCIOŁ CIRQUE (KARKONOSZE MTS, POLAND)

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A Tertiary basalt outcrop (so-called 'basalt vein') in Mały Śnieżny Kocioł cirque is one of the best-studied and most lichen-rich places in the Karkonosze Mts. Lichenological research in this area was initiated in the first half of the 19th century. Among the investigators who worked there were Flotow (1850, 1851), Körber (1855, 1865), Stein (1879, 1889), Eitner (1896, 1901, 1911) and Tobolewski (1954).

Work by Grzegorz Wykrota and Józef Kiszka undertaken at the end of the 1960s produced the most complete data on lichens occurring on the basalt vein. Unfortunately, their data never have been published; those results appeared only in the master's thesis of Wykrota (1970).

Among the 164 lichen taxa reported from the basalt vein were *Leptogium lichenoides* (L.) Zahlbr. (Wykrota 1970; Tobolewski 1979) with the only locality in the Polish part of the Karkonosze Mts, and *Dermatocarpon luridum* (With.) J. R. Laundon (Wykrota 1970) known also from a few dispersed sites at various mountain streams (see Kossowska 2006). Lichenological studies of the basalt vein in 2006 did not confirm the presence of either species. However, two other taxa belonging to the same genera were found: *Leptogium imbricatum* P. M. Jørg. and *Dermatocarpon intestiniforme* (Körb.) Hesse. Both species are very rare in Poland, known only from the High Tatras till now. The first species was recorded in Poland for the first time only recently (Flakus 2007). One might suspect that those species had been collected from the basalt vein in the past but were not distinguished or were misidentified. Revision of specimens collected by Kiszka and Wykrota and deposited in the Herbarium of the Pedagogical University in Cracow (KRAP) has confirmed this supposition.

The specimen determined as *Leptogium lichenoides* possesses all the features of *L. imbricatum*, described by Jørgensen in 1994. The main diagnostic character distinguishing the two *Leptogium* species is the thallus cross section: paraplectenchymatous throughout in *L. imbricatum*, and with a distinct cortex layer that covers loose medulla in *L. lichenoides*. In addition, the squamules forming the thallus of *L. imbricatum* are minute, up to 1 mm wide, smooth, with ± entire edges and arranged in an imbricate pattern. In view of this, *Leptogium lichenoides* should be removed from the list of lichens of the Polish Karkonosze Mts (Kossowska 2006).

The thalli of the specimen of the genus *Dermatocarpon* are attached to rock substrate by several secondary holdfasts, slightly pruinose, and with older lobes distinctly downturned. The medulla does not react with JKJ. The latter feature rules out *Dermatocarpon luridum*, whose medulla after treatment of JKJ turns violet. The presence of more than one central holdfast and downturned older lobes are characteristic of *D. intestiniforme*. The question of whether *D. luridum* occurs in the Polish Karkonosze Mts needs further study, including revision of all preserved herbarium materials.

The recent lichenological research at the basalt vein have confirmed the occurrence of another *Dermatocarpon* species – *D. miniatum* (L.) W. Mann,

recorded at this locality by Stein (1879) and Wykrota (1970). It differs from *D. intestiniforme* mainly by the absence of secondary holdfasts in peripheral parts of the thalli (Orange 1998).

LOCATION OF THE SITE. POLAND. KARKONOSZE MTS, Mały Śnieżny Kocioł glacial cirque, on northern slope of main ridge, between Łabski Szczyt and Wielki Szyszak summits – basalt outcrop in western wall of cirque, ATPOL grid square Ea 78, 50°46′59,6″N/15°33′16,6″E.

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