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Dactylospora dobrowolskii sp. nov. and additions to the flora of lichens and lichenicolous fungi of Bunger Oasis, East Antarctica

ABSTRACT: A lichenicolous fungus, *Dactylospora dobrowolskii* Olech et Alstrup, new to science is described. The paper reports on 9 species of lichens and lichenicolous fungi collected in the Bunger Oasis (East Antarctica).

Key words: Antarctic, Bunger Oasis, lichens, lichenicolous fungi, taxonomy, distribution, *Dactylospora dobrowolskii* sp. nov.

Introduction

The material reported here was collected by K. Zieliński and K. Filcek in the Bunger Oasis, East Antarctica, during an expedition to the Polish *A. B. Dobrowolski* Station in 1988/1989 (Filcek and Zieliński 1990). The collection is deposited in Cracov (KRA).

A preliminary botanical report including lichens and mosses from the area was published by Olech (1989). In the meantime more lichens and some lichenicolous fungi have been identified and are now reported.

It is sometimes difficult to find out whether a collection represents a lichen or a lichenicolous fungus. Many lichenicolous fungi were described as lichens, especially in cases where the lichenicolous fungus does not harm the host dramatically. In the present material, however, almost all the collections look severely damaged by the harsh environment, and there would be a greater chance

to describe a lichen as a lichenicolous fungus, if not being aware of the environmental conditions. We believe that further lichenicolous fungi will be possibly found in the material.

List of species

Arthonia rufida (Hue) D. Hawksw. A parasitic fungus found on the thallus of *Umbilicaria decussata* (Vill.) A. Zahlbr. in a valley west of Mys Ostryj, alt. 40 m, on 14 March 1989. The fungus is found as small black apothecia in dead, white parts of the thallus of the host. The species is frequent in Antarctica.

Buellia pulverulenta (Anzi) Jatta. This is a parasitic lichen, which forms its thallus within the thalli of the family Physciaceae, in this case in *Physcia dubia* (Hoffm.) Lettau. Only the apothecia are found freely exposed. It was found on a hill at the northern coast of Figurnoe Lake, SE-facing, alt. 70 m, on 22 February 1989. New to Antarctica.

Caloplaca saxicola (Hoffm.) Nordin. On rocks. A valley southeast of the Bay of Polish Geodesists near the petrel colony, N-facing, alt. 50 m, on 6 April 1989; western coast of the Burevestnik Lake, alt. 70 m, on 14 March 1989; a hill on the northern coast of Figurnoe Lake, SE-facing, alt. 70 m, on 22 February 1989; hill 102.0, southwest of Ptich'e Lake, S-facing, alt. 110 m, on 14 March 1989. New to the Antarctic continent. Also known from South Shetland Islands (Olech 1994).

***Dactylospora dobrowolskii* Olech et Alstrup sp. nov. hoc loco** (Fig. 1a–b). Ascomata ad 0.3 μm diam., convexa, opaca. Subhymenium hyalinum, hymenium circiter 38–45 μm altum, hyalinum. Cellulae apicales paraphysium 5–7 μm crassae, obscure calyptate. Asci 33–36 \times 14–16 μm crassi, 8-sporei, J -. Gelatina hymenialis J + coerulea. Ascosporeae late ellipsoides, 1-septate, haud vel paulum ad septa constrictae, apicibus rotundatis, 13–15 \times 6–8 μm magnae.

Ascomata up to 0.3 μm diameter, convex, black, mat. Subhymenium hyaline, hymenium ca. 38–45 μm high, hyaline. Paraphyses with endcells 5–7 μm broad and dark-capped. Asci 33–36 \times 14–16 μm , 8-spored, J -. Hymenial gel J + blue. Ascospores broadly ellipsoid with rounded ends, 1-septate, not or only slightly constricted at septum, 13–15 \times 8–6 μm .

Holotype: East Antarctica, Bunger Oasis, a hill on the northern coast of Figurnoe Lake, SE-facing, alt. 70 m, on *Caloplaca saxicola* (Hoffm.) Nordin, 22 February 1989, leg. K. Zieliński and K. Filcek (KRA).

Etymology: named in honour of Professor Antoni Bolesław Dobrowolski (1872–1954), geophysicist and glaciologist, who participated in the *Belgica* Antarctic Expedition (1897–99).

Endococcus propinquus (Körber) D. Hawksw. A parasitic fungus which is found usually on crustose lichens of Lecideaceae. In a valley west of Mys Ostryj,

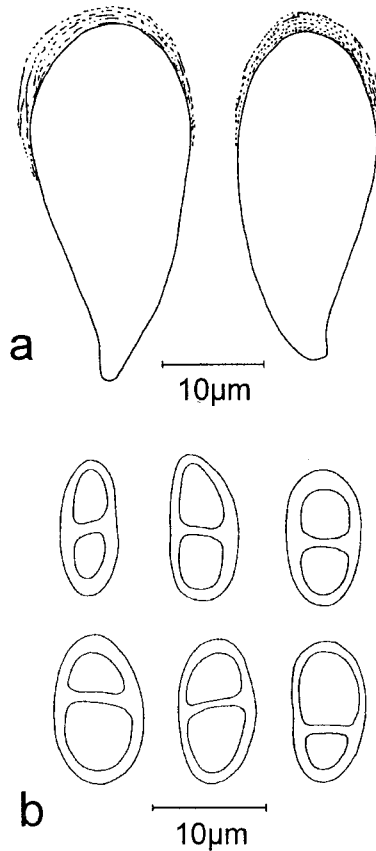


Fig. 1. *Dactylospora dobrowolskii* (holotype) a — asci, b — ascospores.

alt. 30 m, it was found on *Buellia grimmiae* Filson on 3 March 1989. It has a wide distribution in the northern hemisphere and has been reported from Tierra del Fuego. New to Antarctica.

Leprocaulon subalbicans (I. M. Lamb) I. M. Lamb *et* A. M. Ward. On rocks. A hill on the southern coast of Transcription Bay, SW-facing, alt. 60 m, on 16 February 1989; a hill above the creek between Izvilista Bay and Figurnoe Lake, W-facing, alt. 60 m, on 16 February 1989. New to Antarctic continent. Also known from South Shetland Islands (Olech 1994).

Lichenoconium usneae (Anzi) D. Hawksw. A parasitic imperfect fungus (Coleomycetes) of very wide distribution, found on various lichens. On a hill at the northern shore of Figurnoe Lake, SE-facing, alt. 70 m, it was found on *Rhizoplaca melanophthalma* (DC.) Leuckert *et* Poelt, on 22 February 1989. New to Antarctica.

Phaeosporus usneae D. Hawksw. *et* Hafellner. A widespread, parasymbiotic, imperfect fungus, found on many different lichens. It was found in a valley

southeast of the Bay of Polish Geodesists, near the petrel colony, N-facing, alt. 50 m, on *Buellia frigida* (Darb.) Dodge, on 6 April 1989. New to Antarctica.

Ploeopsidium chlorophanum (Wahlenb.) Zopf. On rocks. Between the Burevestnik and Ptich'e Lakes, alt. 60 m, on 30 March 1989.

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Streszczenie

Z materiałów zebranych we wschodniej Antarktydzie, w Oazie Bungera, opisano nowy dla nauki gatunek grzyba *Dactylospora dobrowolskii* Olech et Alstrup *hoc loco*, pasożytniczy na plesze porostu *Caloplaca saxicola* (fig. 1). Podano także stanowiska 9 gatunków porostów i grzybów naporostowych z terenu Oazy Bungera.