

Lichenicolous fungi from the Komi Republic of Russia. II

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Abstract: A total of 23 species of lichenicolous fungi is reported from the Komi Republic of Russia, including 10 new to the republic. *Physcia* is a new host genus for *Sphaerellothecium reticulatum*.

Kokkuvõte: Lihhenikoolsed seened Komi Vabariigist, Venemaal. II

Esitatakse andmeid 23 lihhenikoolse seeneliigi kohta Komi Vabariigist, neist 10 liiki on Komile uued. *Physcia* on uus peremees-perekond liigi *Sphaerellothecium reticulatum* jaoks.

INTRODUCTION

Lichenicolous fungi of the Komi Republic of Russia are still scarcely known (Zhurbenko 2004, 2007; Zhurbenko et al. 2012). Herewith we report from its territory 23 species of the fungi, 10 of which are new to the republic.

MATERIAL AND METHODS

The specimens were collected from different localities of the Komi Republic of Russia during the period 1994–2010, and are deposited in herbaria LE-Fungi or UPS. The specimens were examined using Zeiss microscopes Stemi 2000-CS and Axio Imager A1 equipped with Nomarski differential interference contrast optics. Microscopical examination was done in water, 10 % KOH (K), Lugol's iodine directly (I) or after a KOH pre-treatment (K/I) or lactic acid. The length, breadth and length/breadth ratio (l/b) of ascospores are given as: (min–){ \bar{x} –SD}{–{ \bar{x} +SD}{–max}, where min and max are the extreme values, \bar{x} the arithmetic mean, and SD the corresponding standard deviation.

THE SPECIES

Species new to the republic are denoted by an asterisk (*). Abbreviations of collectors' names: J. H. – Janolof Hermansson, T. P. – Tatiana N. Pystina.

ABROTHALLUS PARMELIARUM (Sommerf.) Arnold – Pechoro-Ilychskii Reserve, upper reaches of the Ilych River, 63°03'19"N, 58°37'11"E, alt. 200 m, on thallus of *Parmelia sulcata*, 09.07.2009, T. P. (LE 260623).

ARTHONIA SP. – Luza River basin, Eshtomel Creek, 60°40'69"N, 48°36'44"E, alt. 140 m, on thallus of *Lecanora hypopta*, 17.09.1998, J. H. 9093 (LE 260693). – Epihymenium and hymenium dark to medium blue-green, in K becoming pale greenish grey. Hypothecium dark purplish chestnut. Ascospores oblanceolate to narrowly obovoid, with rounded ends, (1–)3-septate, not or slightly constricted at the septa, (10–)12.5–15.5(–16.5) × (3.5–)4–5.5(–6) μm, l/b = (2.3–)2.5–3.5(–4) (n = 27, in water, K or K/I). The specimen resembles *Arthonia subfuscicola* growing on epiphytic *Lecanora* species, but differs from the latter in the pigmentation of hymenium and epihymenium (Almquist, 1880; Coppins & Aptroot, 2009).

*BRIANCOPPINSIA CYTOSPORA (Vouaux) Diederich, Ertz, Lawrey & van den Boom – Yugyd Va National Park, 3 km W of Orlinaya recreation center, 65°25'31"N, 60°36'54"E, alt. 420 m, on thallus of *Parmeliopsis hyperopta*, 22.07.2010, J. H. 17670 (UPS).

DACAMPYA ENGELIANA (Saut.) A. Massal. – Yugyd Va National Park, Kozhim River, 65°25'39"N, 60°40'19"E, alt. 260 m, on thallus of *Solorina saccata*, 17.07.2010, J. H. 17400 (UPS).

DACTYLOSPORA DEMINUTA (Th. Fr.) Triebel – Yugyd Va National Park, Kozhim River, 65°26'34"N, 60°40'45"E, alt. 350 m, on thallus of *Mycobilia carneoalbida*, 21.07.2010, T. P. (UPS).

*DACTYLOSPORA PARASITICA (Flörke) Zopf – Yugyd Va National Park, Rosomakha Mt., 65°13'06"N, 60°56'34"E, alt. 700 m, on apothecia and thallus of *Ochrolechia upsaliensis*, 29.07.2010, J. H. (UPS); *ibid.*, near Orlinaya recreation center, 65°25'55"N, 60°41'02"E, alt. 300 m, on apothecia and thallus of *Ochrolechia* sp., 17.07.2010, T. P. (UPS).

*ENDOCOCCUS RUGULOSUS Nyl. s. l. – Yugyd Va National Park, Balbanyu River basin, 65°06'09"N, 60°22'21"E, mountain tundra, on thallus of *Rhizocarpon* sp., 01.08.2010, J. H. 17929 (UPS).

*ILLOSPORIOPSIS CHRISTIANSENII (B.L. Brady & D. Hawksw.) D. Hawksw. – Pechoro-Ilychskii Reserve, Ukyudin cabin, 62°47'28"N, 58°42'52"E, on thallus and decayed apothecia of *Physcia aipolia*, 06.07.2009, J. H. 16837a (LE 260613).

ILLOSPORIUM CARNEUM Fr. – Both specimens on lobes of *Peltigera didactyla*. Ezholtz Lake, 17 km SE of Aikino village, 62°05'N, 50°09'E, 21.07.2009, J. H. 17159b (LE 260813b); Yugyd Va National Park, near Sanovozh cabin, 65°20'30"N, 60°42'48"E, alt. 380 m, 23.07.2010, J. H. (UPS).

*INTRALICHEN CHRISTIANSENII (D. Hawksw.) D. Hawksw. & M.S. Cole – Pechoro-Ilychskii Reserve, near Ust-Lyaga cabin, 62°28'N, 58°57'E, alt. 160 m, on apothecia of *Physcia adscendens*, 10.06.2003, J. H. 12640 (UPS).

LICHENOSTICTA ALCICORNARIA (Linds.) D. Hawksw. – Yugyd Va National Park, upper reaches of Kozhim River, 65°15'57"N, 61°00'29"E, alt. 450 m, on basal squamules of *Cladonia* sp., 29.07.2010, J. H. 17855 (UPS).

*LICHENOSTIGMA MAURERI Hafellner – Pechoro-Ilychskii Reserve, near Ust-Lyaga cabin, 62°28'N, 58°58'E, alt. 160 m, on thallus of *Usnea substerilis*, 04.07.2009, J. H. 16830 (UPS).

MUELLERELLA ERRATICA (A. Massal.) Hafellner & V. John – Yugyd Va National Park, near Orlinaya recreation center, 65°25'12"N, 60°41'53"E, alt. 280 m, on apothecia of *Lecanora* sp. growing on calcareous rock, 16.07.2010, J. H. 17292 (UPS).

MUELLERELLA PYGMAEA (Körb.) D. Hawksw. – Yugyd Va National Park, 65°06'14"N, 60°22'51"E, on thallus of *Bellemeria alpina*, 01.08.2010, J. H. 17919 (UPS); *ibid.*, Maldy-Nyrd Range, 65°24'44"N, 60°35'44"E, alt. 650 m, on thallus of *Calvitimela talayana*, 15.07.2010, J. H. 17271 (UPS).

MUELLERELLA VENTOSICOLA (Mudd) D. Hawksw. s. l. – Yugyd Va National Park, near Sanovozh cabin, 65°18'35"N, 60°47'45"E, alt. 650 m, on thallus of *Rhizocarpon geographicum* agg., 05.08.2010, J. H. 18052, 18054 (UPS). – According to Hafellner & Obermayer (2007) the fungus is confined to *Ophioparma ventosa*. However, it has also been frequently reported from *Rhizocarpon* species.

PRONECTRIA ERYTHRINELLA (Nyl.) Lowen – Ezholtz Lake, 17 km SE of Aikino village, 62°05'N, 50°09'E, on thallus of *Peltigera didactyla*, 21.07.2009, J. H. 17159a (LE 260813a).

PRONECTRIA sp. – Pechoro-Ilychskii Reserve, Ukyudin cabin, 62°47'28"N, 58°42'52"E, on thalline margins of apothecia and decayed lobes of *Physcia aipolia*, 06.07.2009, J. H. 16837b (LE 260643). – Ascomata brownish/reddish orange throughout, translucent, pyriform to subglobose, immersed, showing only the ostiole, 75–125 µm diam.; wall orange, not changing colour in K and lactic acid. Asci 45–58 × 7–8 (n = 8, in water), 8-spored. Ascospores hyaline, broadly ellipsoid, ends typically rounded, 1-septate, constricted at the septum, often markedly so, cells equal or not, (5.5–)6–7.5(–8) × (3.5–)4–4.5(–5) µm, 1/b = (1.3–)1.5–1.7(–1.9) (n = 41, in water) [abortive non-septate subglobose spores 3.5–5 µm diam. were also seen in the asci], usually with one large guttule in each cell, wall smooth, diagonally uniseriate in an ascus. The species is similar to *Pronectria fissuriprodians* Etayo, known on *Lobaria pulmonaria*, and *P. subimperspicua* (Speg.) Lowen, known on *Parmelia*, *Physcia* and *Punctelia* (type host) species (Etayo & Diederich, 1996; Rossman et al., 1999; Brackel, 2007). However, the former species differs in having a K+ red ascomatal wall and longer

asci, and the latter in its wider ascomata, the peridium changing colour in K and lactic acid, and slightly wider and verruculose ascospores.

*PROTOHELENELLA CROCEAE (Bagl. & Carestia) Hafellner & H. Mayrhofer – Yugyd Va National Park, Maldy-Nyrd Range, 65°24'44"N, 60°35'44"E, alt. 650 m, low-alpine heath, on thallus of *Solorina crocea*, 15.07.2010, J. H. (UPS). – The fungus was formerly known in Russia only from the Murmansk Region (Mayrhofer, 1987).

SCUTULA MILIARIS (Wallr.) Trevis. – Adak Reserve, 2 km SE of Adak village, 66°29'13"N, 59°37'10"E, on thallus of *Peltigera rufescens*, 28.07.2008, T. P. 16737 (LE 260653).

*SPHAERELLOTHECIUM RETICULATUM (Zopf) Etayo – Yugyd Va National Park, near Orlinaya recreation center, 65°25'14"N, 60°40'39"E, alt. 320 m, on destroyed black apothecia of *Physcia alnophila*, 20.07.2010, J. H. 17525b (UPS). – The species has mostly been reported from the species of *Parmelia* s. str. *Physcia* is a new host genus.

*SPIROGRAPHA FUSISPORELLA (Nyl.) Zahlbr. – Pechoro-Ilychskii Reserve, 2.5 km NNW of Shaitanovka cabin, 62°01'N, 58°06'E, alt. 200 m, on thallus of corticolous *Pertusaria amara*, 13.08.1994, J. H. 4228c (UPS). – The fungus was formerly known in Russia only from the Murmansk Region (Zhurbenko, 2009).

*TAENIOLELLA PHAEOPHYSCIAE D. Hawksw. – Ezholtz Lake, 17 km SE of Aikino village, 62°05'N, 50°09'E, on thallus of *Phaeophyscia hirsuta*, 21.07.2009, J. H. 17158 (LE 260703).

ZWACKHIOMYCES BERENGERIANUS (Arnold) Grube & Triebel – Pechoro-Ilychskii Reserve, near Ust-Lyaga cabin, 62°34'08"N, 59°00'04"E, alt. 165 m, on thallus of muscicolous *Mycobilimbia* sp., 13.07.2009, J. H. 17129 (LE 260773).

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