New and noteworthy records of lichens and allied fungi from central European Russia

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Abstract: Muchnik, E. & Konoreva, L. 2017. New and noteworthy records of lichens and allied fungi from central European Russia. – Herzogia **30**: 509–514.

Thirteen lichen and allied fungi taxa are treated, of which one (*Dactylospora microspora*) is recorded for the first time for Russia from Bryansk oblast, two (*Gyalideopsis helvetica* and *Sclerophora amabilis*) are new for the European part of Russia, and two (*Melaspileella proximella* and *Trapeliopsis pseudogranulosa*) are new for central European Russia. Short notes on their characters and distributions are provided.

Zusammenfassung: Muchnik, E. & Konoreva, L. 2017. Neue und bemerkenswerte Funde von Flechten und flechtenbewohnenden Pilzen aus dem zentralen europäischen Russland. – Herzogia **30**: 509–514.

Dreizehn Flechten und flechtenbewohnende Pilzarten werden aus dem europäischen Teil von Russland gemeldet. *Dactylospora microspora* ist neu für Russland aus dem Bryansk oblast, *Gyalideopsis helvetica* und *Sclerophora amabilis* sind neu für den europäischen Teil von Russland, und *Melaspileella proximella* und *Trapeliopsis pseudogranulosa* sind neu für den mittleren Teil vom europäischen Russland. Auf ihre kennzeichnenden Merkmale und ihre Verbreitung wird kurz eingegangen.

Key words: Biodiversity, lichenicolous fungi, lichenised Ascomycota, rare species.

Introduction

Central European Russia covers more than 1,000,000 km^2. According to the Russian administrative division the territory includes 28 constituent entities within the Federation (23 oblasts, four republics and a city, Moscow). From northwest to southeast there is a transition from southern taiga to coniferous-broadleaved forests, broadleaved forests, forest-steppe and steppe. Limestone and sandstone (base-rich siliceous) outcrops occur sporadically throughout the forest-steppe and steppe zones.

Materials and Methods

Lichenological explorations were carried out in 2014–2016 by the first author in several oblasts of central European Russia (Bryansk, Voronezh and the northern part of the Yaroslavl oblast). In addition, a limited new lichen collection from Ryazan' oblast made by L. F. Volosnova and M. V. Kazakova in 2014–2016 was included in this study, as well as several lichen specimens from the south of Yaroslavl oblast collected by G. V. Kondakova.

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Lichens were identified by routine microscopic and laboratory techniques. Characteristic lichen substances of selected specimens were analysed by thin-layer chromatography (TLC) in solvent system A or/and C (methods followed Orange et al. 2001). Reference material was studied at LE (herbarium of V. L. Komarov Botanical Institute of RAS, St.-Petersburg), while TLC-analysis was conducted at the Ural Federal University. General habit and anatomical photographs were taken using Leica cameras mounted on an Olympus SZ51 binocular microscope and Leica M80 microscope. Cited specimens are available at the herbaria LE, RSU (Ryazan' State University), BRSU (Bryansk State University) and YAR (Yaroslavl State University).

Results

The study yielded a large and diverse collection of lichens and allied fungi, including species new for the country and noteworthy records at the provincial (oblast) level that are presented here. We regard species with less than five records in central European Russia as being noteworthy.

Records new to central European Russia (CER) and larger territories

Dactylospora microspora Etayo

Specimen examined: Bryansk oblast, Bryansk city, Nature Monument "Roscha Solovyi", 53°16'4"N, 34°21'59"E, old forest park on the slope to the Desna river, on *Catinaria atropurpurea* (thallus), on bark of linden, 28.09.2014, E. E. Muchnik (BRSU).

This record is new to Russia. *Dactylospora microspora* (Fig. 1) is a lichenicolous fungus living on the thallus of *Catinaria atropurpurea* or *Parmeliella triptophylla*. Ascomata lecideoid, more or less concave to flat, (0.1–)0.3–0.7 mm diameter; asci multispored, with 24–40(–80) ascospores per ascus; ascospores 1-septate, brown, 4–5(–7) × 2–3 µm. The species is otherwise known from Great Britain and Spain (continental part, Navarra; Hawksworth et al. 2010).

Gyalideopsis helvetica van den Boom & Vězda

Specimen examined: Yaroslavl oblast, Lyubimskiy region, 58°23'41"N, 40°38'45"E, Lyubimskoye forestry, 27 quarter, old growth mixed forest with spruce (south taiga), on rotting wood of spruce, 18.08.2016, E. E. Muchnik (LE-L 13591).

The second record for Russia, and new to European Russia. The specimen collected in Yaroslavl oblast is fertile, and asci and ascospores are well developed, but hyphophores were not recorded. *Gyalideopsis helvetica* was recently found in the Asian part (Baikal area) of Russia (Urbanavichene 2015b).

Melaspileella proximella (Nyl.) Ertz & Diederich

Specimen examined: Yaroslavl oblast, Pereslavskiy region, National Park "Plescheevo Ozero", near Chashnitsy village, 56°41'28"N, 38°51'42"E, old-growth oak forest, on branch of maple, 28.07.2016, G. V. Kondakova (LE-L 13595).

New records to CER. The species was previously known from Karelia Republic, northwest European Russia (Räsänen 1939), Murmansk (Urbanavichus et al. 2008), Leningrad (Kuznetsova et al. 2007) and Kaliningrad (Dedkov et al. 2007) oblasts.

Sclerophora amabilis (Tibell) Tibell

Specimen examined: Ryazan' oblast, Spasskiy region, Okskiy Biospheric Nature State Reserve, near Brykin Bor village, 54°42'47"N, 40°38'45"E, alder and oak forest, on wood, 21.12.2014, L. F. Volosnova (LE-L 13589)

New records for European Russia. *Sclerophora amabilis* was recently known only from the Sikhote-Alin' Mountains (Primorskiy region; Tibell 1979, Chabanenko 2002).

Trapeliopsis pseudogranulosa Coppins & P.James

Specimen examined: Yaroslavl oblast, Lyubimskiy region, Naumovskiy Landscape Reserve, 58°20'45"N, 40°47'53"E, Lyubimskoye forestry, 55 qr., old growth mixed forest with spruce (south taiga), on bark of pine, at the base of a trunk, 15.08.2016, E. E. Muchnik (YAR).

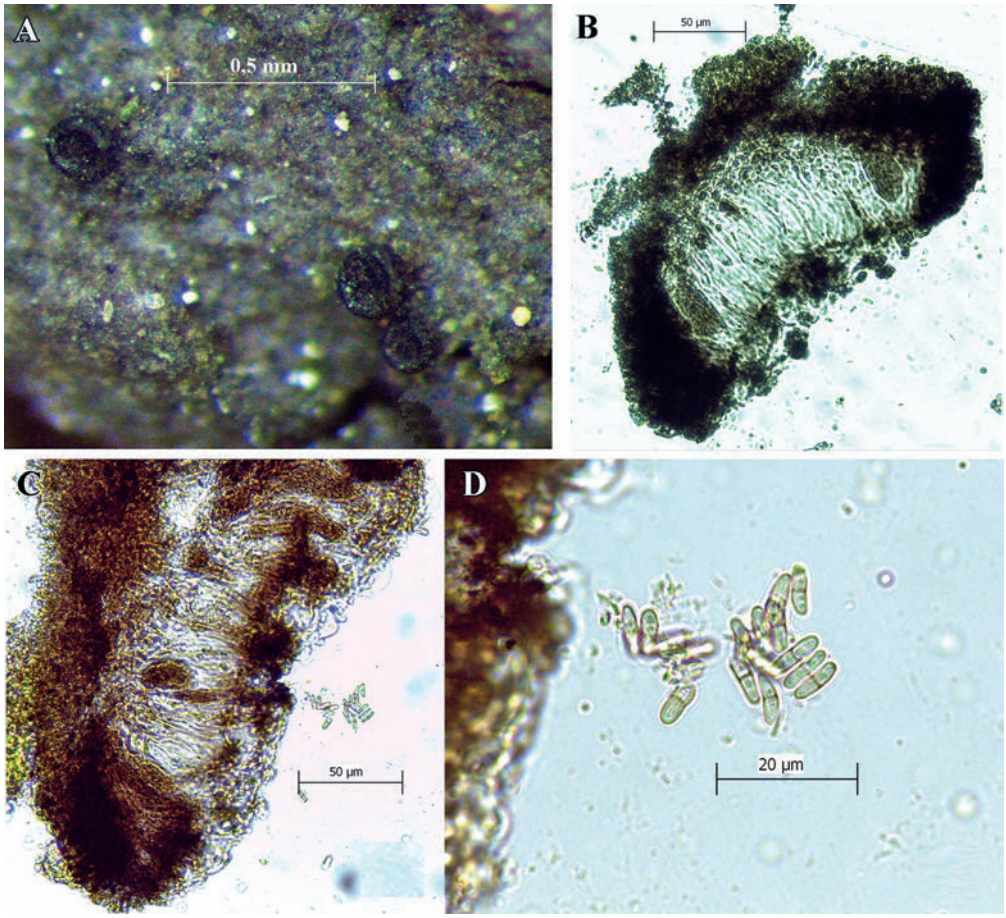

Fig. 1. *Dactylospora microspora*. **A.** Ascomata. **B–C.** Cross section of an ascoma. **D.** Ascospores.

New records to CER. This species was recorded recently in Karelia Republic, northwest European Russia (Fadeeva et al. 2007), Leningrad (Kuznetsova et al. 2007) and Vologda (Muchnik et al. 2009) oblasts. We note that *T. pseudogranulosa* is incorrectly reported from Yaroslavl oblast (Urbanavichene 2015a), since the author refers to an article (Muchnik et al. 2009) in which this species is indicated for the Vologda oblast.

Other rare and interesting records

Alyxoria culmigena (Lib.) Ertz

Specimen examined: Yaroslavl oblast, Lyubimskiy region, 58°24.51"N, 40°41'35"E, near Gusevo village, old growth mixed forest with spruce (south taiga), on dry wood, 17.08.2016, E. E. Muchnik (YAR).

The second record for CER. This species recently was reported as being new to Oryol oblast from a single discovery in "Orlovskoye Polesie" National Park (Muchnik 2016).

Chaenotheca sphaerocephala Nádv.

Specimen examined: Ryazan' oblast, Spasskiy region, Oksky State Nature Biospheric Reserve, Central forestry, 49/50 qr., 54°42'13"N, 40°50'50"E, forest sphagnum bog, on wood of pine, 26.08.2014, L. F. Volosnova (LE-L 13590).

Chaenotheca sphaerocephala is a specialized species of old growth and undisturbed forest communities in northwest European Russia (Himelbrant & Kuznetsova 2009). Recently discovered in CER in the Tsentralno-Lesnoy State Nature Biospheric Reserve, Tver oblast (Notov & Himelbrant 2015).

Cladonia homosekikaica Nuno

Specimen examined: Bryansk oblast, Dyat'kovskiy region, near Pren' station, 53°41'53"N, 34°23'36"E, Dyat'kovskoye forestry, 14/25 quarter., mixed forest, on rotting wood with mosses, 13.08.2015, E. E. Muchnik (BRSU), det. A. G. Paukov and E. E. Muchnik, 03.11.2015, TLC 158-13: homosekikaic acid.

Ahti et al. (2013: 47) note this species on acid soil in heathlands. It is known from CER from Kaluga and Tula oblasts (Gudovicheva et al. 2015) where it grows on rotten wood with moss in various forest types.

Nephroma resupinatum (L.) Ach.

Specimen examined: Yaroslavl oblast, Lyubimskiy region, 58°24.51"N, 40°41'35"E, near Gusevo village, old growth mixed forest with spruce (south taiga), on bark of old aspen, 17.08.2016, E. E. Muchnik (YAR).

Nephroma resupinatum is a specialized species of old-growth and undisturbed forest communities in northwest European Russia (Himelbrant & Kuznetsova 2009). This species recently was reported to Volzhsko-Kamskiy State Nature Biospheric Reserve in the Republic of Tatarstan (Evstigneeva 2007), Kologrivskiy Les State Reserve in Kostroma oblast (Kuznetsova & Skazina 2010) and the Tsentralno-Lesnoy State Nature Biosphere Reserve, Tver oblast (Notov et al. 2011). Our specimen from Yaroslavl oblast is unique for the territory of CER because it was collected outside any protected area.

Opegrapha niveoatra (Borrer) J.R.Laundon

Specimen examined: Yaroslavl oblast, Lyubimskiy region, 58°23'41"N, 40°38'45"E, Lyubimskoye forestry, 27 qr., old growth mixed forest with spruce (south taiga), on bark of alder, 18.08.2016, E. E. Muchnik (YAR).

The species was previously known from Smolensk oblast (Byazrov 1969, as *O. subsidirella*) and the Republic of Tatarstan (Urbanavichus & Urbanavichene 2005). On both occasions the species was found in old-growth mixed forests.

Polysporina simplex (Davies) Vězda

Specimen examined: Voronezh oblast, Anninskiy region, near Verkhny Karachan village, 51°24'56"N, 41°47'23"E, high bank of Sukhoy Karachan river, birch forest, on sandstone, 9.07.2016, E. E. Muchnik (LE-L 13598).

The second record for CER. This species was previously reported from a single discovery in the "Privolzhskaya lesostep" State Nature Reserve, Penza oblast (Andreev 1999).

Pyrenula coryli A.Massal.

Specimens examined: Bryansk oblast, Bryansk city, Nature Monument "Roscha Solovyi", 53°16'4"N, 34°21'59"E, old forest park on the slope to the Desna river, on bark of hazel, 28.09.2014, E. E. Muchnik (BRSU); Ryazan' oblast, Kasimovsky region, near Dan'kovo village, 55°2'11"N, 41°17'49"E, mixed forest, on bark of hazel, 10.05.2015, M. V. Kazakova (RSU).

The species was previously known from the Tver oblast (Himelbrant et al. 2010).

Xyloschistes platytropa (Nyl.) Vain.

Specimen examined: Yaroslavl oblast, Uglichskiy region, near Biological Station of Yaroslavl State University "Uleyma", 57°42′19″N, 38°35′14″E, the bank of Uleyma river, birch forest, on dry wood, 16.06.2016, G.V. Kondakova (LE-L 13593).

The second record for central European Russia.This species was previously reported as new to Moscow oblast (Byazrov 2009).

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