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# НОВОСТИ СИСТЕМАТИКИ НИЗШИХ РАСТЕНИЙ

ТОМ 47

NOVITATES SYSTEMATICAE  
PLANTARUM NON VASCULARIUM

TOMUS XLVII



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THE LICHENS AND ALLIED FUNGI OF THE SMORODINKA  
RIVER VALLEY (LENINGRAD REGION)

ЛИХЕНОФЛОРА ПРОЕКТИРУЕМОГО ЗАКАЗНИКА  
«ДОЛИНА РЕКИ СМОРОДИНКИ»  
(ЛЕНИНГРАДСКАЯ ОБЛАСТЬ)

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Altogether 244 species of lichen-forming, lichenicolous and non-lichenized fungi are reported from the Smorodinka River Valley, a projected protected natural area (Leningrad Region). *Arthonia biatoricola* Ihlen et Owe-Larss. and *Gyalideopsis alnicola* W. J. Noble et Vězda are reported for the first time for Russia, *Fellhaneropsis myrtillicola* (Erichsen) Sérus. et Coppins and *Phaeocalicium flabelliforme* Tibell — for European Russia, *Aspilidea myrinii* (Fr.) Hafellner and *Lepraria borealis* Lohtander et Tønberg are new to the Leningrad Region, *Gregorella humida* (Kullh.) Lumbsch, *Mycoblastus alpinus* (Fr.) Th. Fr. ex Hellb., *Phaeocalicium populneum* (Brond. ex Duby) Alb. Schmidt and *P. praecedens* (Nyl.) Alb. Schmidt are new to the Western Leningrad Region. The nearest to St. Petersburg locality of *Lobaria pulmonaria* (L.) Hoffm. on Karelian Isthmus has been found in the Smorodinka River Valley.

**Keywords:** lichens, new records, Leningrad Region, the Smorodinka River Valley, protected natural area.

На территории проектируемого заказника «Долина реки Смородинки» (Ленинградская область) выявлено 244 вида лишайников и родственных им грибов. *Arthonia biatoricola* Ihlen et Owe-Larss. и *Gyalideopsis alnicola* W. J. Noble et Vězda впервые обнаружены на территории России, *Fellhaneropsis myrtillicola* (Erichsen) Sérus. et Coppins и *Phaeocalicium flabelliforme* Tibell — на территории Европейской России. *Aspilidea myrinii* (Fr.) Hafellner и *Lepraria borealis* Lohtander et Tønberg являются новыми для Ленинградской области, *Gregorella humida* (Kullh.) Lumbsch, *Mycoblastus alpinus* (Fr.) Th. Fr. ex Hellb., *Phaeocalicium populneum* (Brond. ex Duby) Alb. Schmidt и *P. praecedens* (Nyl.) Alb. Schmidt — для западной части Ленинградской области. На территории заказника выявлено ближайшее к Санкт-Петербургу местонахождение *Lobaria pulmonaria* (L.) Hoffm. на Карельском перешейке.

**Ключевые слова:** лишайники, новые находки, Ленинградская область, проектируемый заказник «Долина реки Смородинки».

The Smorodinka River Valley is located in the central part of Karelian Isthmus, on border of Priozersk and Vsevolozhsk districts of the Leningrad Region. The Smorodinka River together with the inflowing brooks has a deeply dissected river valley with steep bank slopes. Two small lakes are also situated in the river valley. The vegetation is represented mostly by spruce [*Picea abies* (L.) Karst.] and mixed forests with spruce, aspen (*Populus tremula* L.) and birch (*Betula pendula* Roth, *B. pubescens* Ehrh.); pine (*Pinus sylvestris* L.) stands are rare and present in upland parts only. On the slopes, especially along the brooks, Norway maple (*Acer platanoides* L.) can be found in mixed forests; on the right (northern) bank in some places the hazel (*Corylus avellana* L.) undergrowth appears as well. The floodplain is mostly covered by grasslands and swamps, with areas of birch, grey alder [*Alnus incana* (L.) Moench] and spruce stands. The upland areas adjacent to the river are covered by managed forests, and on the right bank by meadows in vicinities of former Finnish villages. In Finland the area north of the Smorodinka River belonged to the village Raasuli (now Orekhovo) of the municipality Rautu.

The Smorodinka River (Tungelmanjoki) was a part of the state boundary between the Soviet Union and Finland up to 1940 (Winter War). Probably such a boundary position, as well as the relief characters, is the main reason why this area close to St. Petersburg (40 km north of the city border) still has a relatively intact nature. In the eastern part of the valley, some fragments of old spruce forests still remain. In general on Karelian Isthmus such communities have been destroyed by agriculture and wars. Now the Smorodinka River Valley is projected to become a protected natural area.

The lichens of the Smorodinka River Valley and adjacent territories were never studied before. The only specimen from this area was found in the herbarium of the Botanical Museum of University of Helsinki (H): *Pertusaria amara* (Ach.) Nyl., Smorodinka, in deciduous forest near the bridge, on stem of *Sorbus aucuparia* L., Pentti Alanko, 08.06.2002 (H 8000676). The records of *Cladonia caespiticia*, *Verrucaria dolosa* and several species of lichenicolous fungi were published recently from the area (Pykälä et al., 2012; Himelbrant et al., 2013).

Field studies were carried on in June — August 2011. We investigated the lichen diversity of 21 sample plots (20 × 20 m or within natural limits of plant community) in typical phytocoenoses, and 21 additional samples were taken in different biotopes (additional collecting points). Represen-

tative specimens are mainly deposited in the lichen herbarium of Komarov Botanical Institute RAS (LE). Lichen substances were analyzed by standard techniques of thin-layer chromatography (TLC and HPTLC) using the solvent systems A, B, and C (Orange et al., 2001). WGS 84 system was used for geographical (GPS) coordinates. The lichen nomenclature generally follows Nordin et al. (2011).

Abbreviations and symbols: DH — Dmitry E. Himmelbrant, MK — Martin Kukwa, JM — Jurga Motiejūnaitė, IS — Irina S. Stepanchikova, GT — Gulnara M. Tagirdzhanova, # — lichenicolous fungus, (#) — facultatively lichenicolous fungus, + — non-lichenized saprobic fungus, <sup>s</sup> — habitat specialist, <sup>i</sup> — indicator species (see Andersson et al., 2009 and discussion below).

**Localities. Sample plots:** **1** — right (northern) bank of the Smorodinka River, floodplain, southern shore of Parikanjärvi lake, 60°28'52" N, 30°09'32" E, *Carex* spp. — *Menyanthes trifoliata* L. — *Sphagnum* spp. raised bog with *Betula pubescens* and *Salix* sp. shrubs, IS, 11.06.2011; **2** — right bank, floodplain, between two lakes, 60°29'07" N, 30°09'19" E, spruce forest with feather mosses and *Vaccinium myrtillus* L., IS, 11.06.2011; **3** — right bank, floodplain, northwest of the lakes, 60°29'13" N, 30°08'38" E, grassy swamp with *Salix* spp. shrubs, *Betula* sp. and dead pines, IS, 11.06.2011; **4** — right bank, 60°29'05" N, 30°08'06" E, spruce forest with feather mosses, *Vaccinium myrtillus* and *Sphagnum* spp., IS, 12.06.2011; **5** — right bank, 60°29'07" N, 30°08'08" E, spruce forest with old aspens, IS, 12.06.2011; **6** — left (southern) bank, upland, 60°27'58" N, 30°09'22" E, spruce forest with *Betula* sp., IS and DH, 15.07.2011; **7** — left bank, upper part of the slope, 60°28'36" N, 30°08'58" E, aspen stand with *Vaccinium myrtillus*, IS and DH, 15.07.2011; **8** — left bank, upland, 60°27'16" N, 30°11'35" E, aspen-spruce forest with feather mosses, *Oxalis acetosella* L. and ferns, IS and GT, 23.08.2011; **9** — right bank, floodplain, 60°27'48" N, 30°11'14" E, birch forest with young spruces, IS and GT, 23.08.2011; **10** — right bank, 60°27'47" N, 30°11'05" E, aspen-spruce forest with herbs and boulders, IS and GT, 23.08.2011; **11** — right bank, 60°27'43" N, 30°11'07" E, open spruce forest with sparse *Sorbus aucuparia*, IS and GT, 23.08.2011; **12** — left bank, on slope, 60°27'45" N, 30°10'16" E, spruce forest with ferns, herbs and abundant maple young growth, IS and GT, 24.08.2011; **13** — left bank, floodplain, 60°28'40" N, 30°09'04" E, *Eriophorum vaginatum* L. — *Sphagnum* spp. bog with pines and spruces, IS and GT, 24.08.2011; **14** — left bank, floodplain, 60°27'38" N, 30°11'10" E, spruce forest with *Sphagnum* spp. and *Vaccinium myrtillus*, IS and GT, 25.08.2011; IS and DH, 28.04.2013; **15** — right bank, floodplain,

60°27'30" N, 30°11'27" E, *Equisetum* sp. — *Carex* spp. — *Sphagnum* spp. — grey alder stand with birches and spruces, IS, 27.08.2011; **16** — right bank, 60°27'43" N, 30°11'31" E, birch forest with sparse herbs, mosses and tall young spruce growth, IS, 27.08.2011; **17** — right bank, 60°27'55" N, 30°11'20" E, spruce forest with feather mosses and *Oxalis acetosella*, near the path, IS, 27.08.2011; **18** — right bank, on slope, 60°28'03" N, 30°10'41" E, spruce-birch forest with sparse herbs and abundant hazels, IS, 28.08.2011; **19** — right bank, floodplain, 60°27'54" N, 30°10'26" E, *Salix* sp. shrubs with *Phragmites australis* (Cav.) Trin. ex Steud., *Menyanthes trifoliata* and *Sphagnum* spp., IS, 28.08.2011; **20** — right bank, on slope, 60°28'13" N, 30°10'06" E, aspen forest with spruces, *Betula* sp., *Sorbus aucuparia*, feather mosses, *Oxalis acetosella* and *Vaccinium myrtillus*, IS, 28.08.2011; **21** — right bank, 60°28'34" N, 30°09'48" E, pine forest with abundant young spruce growth, *Sorbus aucuparia*, feather mosses and *Vaccinium myrtillus*, IS, 28.08.2011. **Additional collection points:** **a1** — right bank, southeastern shore of Parikanjärvi lake, 60°28'52" N, 30°09'32" E, raised bog along the lake margin, IS, 11.06.2011; **a2** — right bank, northwestern shore of small lake northeast of Parikanjärvi lake, 60°29'15" N, 30°08'49" E, spruce forest with feather mosses, *Vaccinium myrtillus*, herbs and abundant windfall timber, IS, 11.06.2011; **a3** — left bank, 60°28'15" N, 30°09'03" E, birch-spruce forest, IS, 12.06.2011; **a4** — left bank, 60°27'17" N, 30°11'37" E, fallen *Salix caprea* L. on the path in spruce forest with feather mosses, *Oxalis acetosella* and ferns, IS, 12.06.2011; **a5** — left bank, 60°27'32" N, 30°14'02" E, middle-aged aspen stand, IS, 12.06.2011; **a6** — right bank, floodplain, 60°28'13" N, 30°09'23" E, old birch tree on path in spruce forest near the river, IS and DH, 15.07.2011; **a7** — left bank, on slope, 60°27'33" N, 30°11'06" E, spruce forest with herbs and old barbed wire, IS and GT, 25.08.2011; **a8** — left bank, on slope along the brook flowing into the river, 60°27'30" N, 30°11'03" E, old spruce forest with herbs and ferns, IS and GT, 25.08.2011; **a9** — left bank, 60°27'18" N, 30°12'32" E, stones on the path, IS and GT, 25.08.2011; **a10** — right bank, on slope, 60°27'34" N, 30°11'35" E, logs in deciduous forest, IS, 27.08.2011; **a11** — right bank, 60°28'03" N, 30°10'11" E, boulders in a brook in spruce-birch forest with grey alder, IS, 28.08.2011; **a12** — right bank, on slope, 60°28'22" N, 30°09'55" E, large shrub of *Corylus avellana* on a fern glade in spruce forest, IS, 28.08.2011; **a13** — right bank, 60°29' N, 30°10' E, old granite foundation of the farm building on the margin of the meadow, IS, 28.08.2011; **a14** — right bank, 60°29' N, 30°10' E, ant trail in pine forest, IS, 28.08.2011; **a15** — right bank, upland, 60°29'31" N, 30°09'09" E, small pit in the meadow at the place of the former Finnish

village, IS, 29.08.2011; **a16** — same locality, 60°29'26" N, 30°09'58" E, boulders, IS, 29.08.2011; **a17** — left bank, floodplain, 60°27'38" N, 30°11'10" E, spruce forest, IS and GT, 25.08.2011; **a18** — left bank, slope, 60°27'49" N, 30°10'14" E, spruce forest, IS and GT, 24.08.2011; **a19** — left bank, upland, 60°27'28" N, 30°10'56" E, boulders on a path in a spruce forest, IS and GT, 24.08.2011; **a20** — left bank, lower part of the slope, 60°27'28" N, 30°11'19" E, spruce forest with mosses and herbs, IS and DH, 28.04.2013; **a21** — right bank, upland, 60°28'02" N, 30°11'45" E, along the earth-road, IS and DH, 28.04.2013.

**Absoconditella lignicola** Vězda et Pizut — 4, a2, a10; lignum of fallen coniferous trunks.

**Acarospora fuscata** (Schrad.) Th. Fr. — a16; granite.

<sup>s</sup>**Acrocordia cavata** (Ach.) R. C. Harris — 20; bark of *Populus tremula*.

**Anaptychia ciliaris** (L.) Körb. — 20, a5; bark of *Populus tremula*.

**Anisomeridium polypori** (Ellis et Everh.) M. E. Barr — 7, 12, 20; bark of *Acer platanoides* and *Populus tremula*.

**Arthonia apatetica** (A. Massal.) Th. Fr. — 6, 8, 9, 11, 12, 14, 15, 18, 20; bark of *Acer platanoides*, *Alnus incana*, *Betula* sp. and *Sorbus aucuparia*.

#**A. biatoricola** Ihlen et Owe-Larss. — 2, 6, 8, 14; thalli of *Biatora efflorescens* on bark of *Betula* sp., *Sorbus aucuparia* and *Populus tremula*. New for Russia. This recently described lichenicolous fungus belongs to the *Arthonia radiata* group. For a detailed description see Ihlen et al. (2004). The species was previously known from Norway, Sweden and the USA (Alaska).

**A. didyma** Körb. — 2; bark of *Populus tremula*.

**A. mediella** Nyl. — 11, 14, a8; bark of *Picea abies*.

**A. patellulata** Nyl. — 5; bark of *Populus tremula*.

+**A. punctiformis** Ach. — 5, 6; bark of *Betula* sp. and *Populus tremula*.

**A. radiata** (Pers.) Ach. — 5, 8, 15, 18, 20, 21, a17; bark of *Alnus incana*, *Corylus avellana* and *Sorbus aucuparia*, upturned roots.

**A. ruana** A. Massal. — 9, 10, 14, 15, 17, 20; bark of *Alnus incana* and *Sorbus aucuparia*.

<sup>i</sup>**A. vinosa** Leight. — 12; bark of *Picea abies*.

**Arthrosporium populorum** A. Massal. — 5; bark of *Populus tremula*.

**Aspicilia cinerea** (L.) Körb. — a16; granite.

**Aspilidea myrinii** (Fr.) Hafellner — a16; granite. New for the Leningrad Region.

**Athalia pyracea** (Ach.) Arup, Frödén et Søchting [= *Caloplaca pyracea* (Ach.) Th. Fr.] — 5, 20; bark of *Populus tremula*.

#**Athelia arachnoidea** (Berk.) Jülich — 16; on green algae and crustose lichens on bark of *Betula* sp.

**Bacidia arceutina** (Ach.) Arnold — 7; bark of *Populus tremula*.

**B. bagliettoana** (A. Massal. et De Not.) Jatta — 10; bark of *Populus tremula*.

**B. beckhausii** Körb. — 14; bark of *Populus tremula*.

- B. circumspecta** (Nyl. ex Vain.) Malme — 18; bark of *Sorbus aucuparia*.
- B. subincompta** (Nyl.) Arnold — 2, 5, 7, 8, 10, 12, 18, 20, a3; bark of *Acer platanoides* and *Populus tremula*.
- Bacidina caligans** (Nyl.) Llop et Hlladun — 7, 12; bark of *Sorbus aucuparia*.
- Baeomyces carneus** Flörke — a9, a16; granite.
- B. rufus** (Huds.) Rebent. — a16; granite, soil.
- Biatora efflorescens** (Hedl.) Räsänen — 2, 4–8, 10–14, 16, 18, 20, 21, a12; bark of *Acer platanoides*, *Alnus incana*, *Betula* spp., *Corylus avellana*, *Padus avium* Mill., *Picea abies*, *Populus tremula* and *Sorbus aucuparia*, lignum of *Betula* sp. and *Picea abies*. The thalli contain argopsin, norargopsin and two unidentified yellow pigments (TLC).
- B. fallax** Hepp — 14; bark of *Picea abies*.
- B. helvola** Körb. ex Hellb. — 2, 5, 8, 10–12, 14–16, 18, 21; bark of *Acer platanoides*, *Alnus incana*, *Betula* sp., *Corylus avellana*, *Padus avium*, *Picea abies*, *Populus tremula* and *Sorbus aucuparia*.
- B. ocelliformis** (Nyl.) Arnold — 5, 7–12, 14, 16, 18, 20; bark of various deciduous trees, also bark and lignum of *Picea abies*.
- B. sphaeroidiza** (Vain.) Printzen et Holien — 10, 14; bark of *Alnus incana* and *Picea abies*.
- #Biatoropsis usnearum** Räsänen — 13; thallus of *Usnea substerilis* on bark of *Betula* sp.
- Bilimbia microcarpa** (Th. Fr.) Th. Fr. — 5; bark of *Populus tremula*.
- Bryoria capillaris** (Ach.) Brodo et D. Hawksw. — 2, 4–8, 11–15, 17, 20, a1, a18; bark of *Acer platanoides*, *Betula* sp., *Picea abies*, *Populus tremula* and *Lonicera* sp., lignum of *Picea abies*.
- B. fuscescens** (Gyeln.) Brodo et D. Hawksw. — 1–3, 7, 12–14, a1, a18; bark of *Betula* sp., *Picea abies*, *Populus tremula* and *Salix* sp.
- B. implexa** (Hoffm.) Brodo et D. Hawksw. — 14; bark of *Picea abies*.
- B. subcana** (Nyl. ex Stizenb.) Brodo et D. Hawksw. — 1, 2, 4–8, 10–15, a1; bark of *Alnus incana*, *Betula* sp., *Juniperus communis* L., *Picea abies* and *Populus tremula*. Protected in the Leningrad Region (Red..., 2000).
- Buellia disciformis** (Fr.) Mudd — 20; bark of *Sorbus aucuparia*.
- B. erubescens** Arnold — 9, 18; bark of *Corylus avellana* and *Sorbus aucuparia*.
- B. griseovirens** (Turner et Borrer ex Sm.) Almb. — 2, 3, 5, 7, 8, 10, 11, 14, 18–20, a12; bark of *Alnus incana*, *Betula* spp., *Corylus avellana*, *Padus avium*, *Picea abies*, *Populus tremula* and *Sorbus aucuparia*.
- Calicium glaucellum** Ach. — 3, 12, 13, 21, a8; bark and lignum of *Picea abies* and *Pinus sylvestris*.
- C. trabinellum** (Ach.) Ach. — 3, 10, 12–14, 21, a2; bark, lignum and upturned roots of *Picea abies*, lignum of *Pinus sylvestris*.
- C. viride** Pers. — 5, 14; bark of *Picea abies*.
- Caloplaca cerina** (Hedw.) Th. Fr. — 5, 8; bark of *Populus tremula*.
- Catillaria nigroclavata** (Nyl.) Schuler — 5, 7; bark of *Populus tremula*.

#**Cercidospora epipolytropa** (Mudd) Arnold — a16; thallus of *Lecanora intricata* on granite. Det. JM (Himmelbrant et al., 2013).

**Cetraria sepincola** (Ehrh.) Ach. — 1, 13, 18, a1, a18; bark of *Betula* sp., *Corylus avellana* and *Picea abies*.

<sup>1</sup>**Chaenotheca brachypoda** (Ach.) Tibell — 5, 8, 10, 16; bark of *Sorbus aucuparia*, lignum.

<sup>3</sup>**C. chlorella** (Ach.) Müll. Arg. — 12; lignum of *Picea abies*.

**C. chrysocephala** (Turner ex Ach.) Th. Fr. — 4, 6, 11, 12, 14, a6, a8; bark of *Picea abies*.

**C. ferruginea** (Turner ex Sm.) Mig. — 2, 4–6, 8, 10–14, 16, 20, 21, a8, a17; bark of *Betula* sp., *Picea abies* and *Pinus sylvestris*, lignum of *Juniperus communis*, *Picea abies* and *Pinus sylvestris*, upturned roots.

**C. furfuracea** (L.) Tibell — 3, 14, a6; bark of *Betula* sp., upturned roots.

<sup>3</sup>**C. gracilentia** (Ach.) J. Mattsson et Middelb. — a6; bark of *Betula* sp.

<sup>3</sup>**C. phaeocephala** (Turner) Th. Fr. — 14; bark of *Picea abies*.

<sup>1</sup>**C. stemonea** (Ach.) Müll. Arg. — 12, a6; bark of *Betula* sp., lignum of *Picea abies*.

<sup>3</sup>**C. subroscida** (Eitner) Zahlbr. — 14; bark of *Picea abies*.

**C. trichialis** (Ach.) Th. Fr. — 4–6, 8, 11–15, 21, a2, a8; bark and lignum of *Picea abies*, lignum of *Pinus sylvestris*.

**C. xyloxa** Nádv. — 12, 14; lignum of *Picea abies*.

#**Chaenothecopsis consociata** (Nádv.) Alb. Schmidt — 11, 14, a8; thalli of *Chaenotheca chrysocephala* on bark of *Picea abies*.

<sup>1</sup>#**C. epithallina** Tibell — 6, 21, a2; thalli of *Chaenotheca trichialis* on lignum and bark of conifers.

+**C. pusilla** (Ach.) Alb. Schmidt — 10; lignum.

<sup>1</sup>(#)**C. pusiola** (Ach.) Vain. — 10, 21; lignum of *Pinus sylvestris* and thallus of *Chaenotheca brachypoda* on lignum.

**Circinaria caesiocinerea** (Nyl. ex Malbr.) A. Nordin, S. Savić et Tibell — a16; granite.

**C. gibbosa** (Ach.) A. Nordin, S. Savić et Tibell — a16; granite.

**Cladonia arbuscula** (Wallr.) Flot. subsp. *beringiana* Ahti — 3, 13, a10; old burnt logs, lignum of *Pinus sylvestris* (stump), upturned roots.

**C. bacilliformis** (Nyl.) Glück — 2; bark of *Betula* sp.

**C. botrytes** (K. G. Hagen) Willd. — 3; upturned roots.

**C. caespiticia** (Pers.) Flörke — 13; lignum of *Pinus sylvestris*. Det. JM (Himmelbrant et al., 2013).

**C. carneola** (Fr.) Fr. — 2, 13; bark of *Betula* sp. and *Picea abies*.

**C. cenotea** (Ach.) Schaer. — 2–4, 6–8, 10–15, 17, a17, a18; bark of *Alnus incana*, *Betula* sp., *Picea abies*, *Pinus sylvestris* and *Populus tremula*, lignum of *Picea abies* and *Pinus sylvestris*, upturned roots.

**C. chlorophaea** (Flörke ex Sommerf.) Spreng. s. l. — 2–4, 6–8, 10, 12, 14, 16, 18, 20; bark of *Acer platanoides*, *Alnus incana*, *Betula* sp., *Picea abies* and *Populus tremula*, lignum, upturned roots.



**C. coniocraea** (Flörke) Spreng. — 2–18, 20, 21, a2, a10, a12, a16–18; bark of various trees, lignum, upturned roots and primary soil on boulders.

**C. cornuta** (L.) Hoffm. ssp. **cornuta** — 3, 4, 7, a18; bark of *Betula* sp. and *Populus tremula*, upturned roots.

**C. crispata** (Ach.) Flot. — 3; upturned roots.

**C. deformis** (L.) Hoffm. — 2, 3, 13, a18; bark of *Betula* sp., lignum of *Pinus sylvestris*, upturned roots.

**C. digitata** (L.) Hoffm. — 2–4, 6, 7, 10–14, 16, 20, 21, a10, a17; bark of *Betula* sp., *Picea abies*, *Pinus sylvestris* and *Populus tremula*, lignum of conifers, upturned roots.

**C. fimbriata** (L.) Fr. — 3, 5, 10, 13–16, 21, a16–18; bark of *Betula* sp., *Picea abies*, *Pinus sylvestris*, *Populus tremula*, *Salix* sp. and *Sorbus aucuparia*, lignum of conifers, upturned roots, granite.

**C. gracilis** (L.) Willd. subsp. **turbinata** (Ach.) Ahti — 3, a16; primary soil on boulders, upturned roots.

**C. macilenta** Hoffm. — 3; upturned roots.

**C. ochrochlora** Flörke — 3; upturned roots.

**C. rangiferina** (L.) F. H. Wigg. — 3, 13, a10; old burnt logs, lignum of *Pinus sylvestris* and upturned roots.

**C. rei** Schaer. — 3; upturned roots.

**C. sulphurina** (Michx.) Fr. — 4, 5, 13, 21; bark of *Betula* sp. and *Pinus sylvestris*, lignum of *Picea abies* and *Pinus sylvestris*.

\***Cliostomum leprosum** (Räsänen) Holien et Tønberg — 14, a8; bark of *Picea abies*.

**Coenogonium pineti** (Schrad. ex Ach.) Lücking et Lumbsch — 4, 6, 12, 16, 17, 21, a3, a12; bark of *Betula* sp., *Picea abies*, *Pinus sylvestris* and *Populus tremula*, branches of *Vaccinium myrtillus*, lignum of *Picea abies*, plant debris and soil.

**Collema furfuraceum** (Arnold) Du Rietz — 5; bark of *Populus tremula*. Protected in the Leningrad Region (Red..., 2000).

\***C. occultatum** Bagl. — a3; bark of *Populus tremula*.

#**Cornutispora lichenicola** D. Hawksw. et B. Sutton — a16; thallus of *Parmelia saxatilis* on granite. Det. JM (Himmelbrant et al., 2013).

**Evernia mesomorpha** Nyl. — 13; bark of *Picea abies*.

**E. prunastri** (L.) Ach. — 2, 5, 15; bark of *Picea abies* and *Salix* sp.

**Fellhanera subtilis** (Vězda) Diederich et Serus. — 14, 20; bark (twigs) and needles of *Picea abies*.

**Fellhaneropsis myrtillicola** (Erichsen) Sérus. et Coppins — 14, 20; bark (twigs) and needles of *Picea abies*. New for European Russia. Characterized by grey-green crustose thallus, small greyish or brownish biatorine apothecia, hypothecium green in KOH, 4(6)-celled spores and occurrence on leaves of evergreen plants and twigs of conifers (Handbook..., 2008). Previously known from Russian Caucasus, Europe and Macaronesia (Handbook..., 2008; Nordin et al., 2011).

**Fuscidea arboricola** Coppins et Tønberg — 8; lignum of *Picea abies*. Thallus contains fumarprotocetraric acid.

**F. pusilla** Tønsberg — 2–15, 17–21, a12, a18; bark of *Betula* sp., *Corylus avellana*, *Padus avium*, *Picea abies* and *Sorbus aucuparia*, lignum of conifers. Thalli contain divaricatic acid.

**Graphis scripta** (L.) Ach. — 6, 8, 10, 17, 18, 20, a12, a17; bark of *Alnus incana*, *Corylus avellana*, *Padus avium* and *Sorbus aucuparia*, lignum of *Salix* sp., upturned roots.

**Gregorella humida** (Kullh.) Lumbsch — a15; soil. New for the Western Leningrad Region.

**Gyalideopsis alnicola** W. J. Noble et Vězda — 14; bark of *Picea abies* twigs. New for Russia. The species is closely related to *G. piceicola* (Nyl.) Vězda et Poelt and differs by larger apothecia (up to 0.6 mm in diam.) only. For description see Vězda (1979) and Handbook of lichens of Russia (2008). Previously known from Norway and Canada (British Columbia).

**Gyalelechia flavorubescens** (Huds.) Søchting, Frödén et Arup [= *Caloplaca flavorubescens* (Huds.) J. R. Laundon] — 5, 7, 10, 20; bark of *Populus tremula*.

**Hypocenomyce caradocensis** (Leight. ex Nyl.) P. James et Gotth. Schneid. — 13; lignum of *Pinus sylvestris*.

**H. friesii** (Ach.) P. James et Gotth. Schneid. — 4, 12–14; bark of *Picea abies*, lignum of *Pinus sylvestris*.

**H. scalaris** (Ach.) M. Choisy — 6, 10, 13, 14, 20, 21; bark of *Betula* sp., *Picea abies*, *Pinus sylvestris* and *Lonicera* sp., lignum of *Pinus sylvestris*.

**Hypogymnia physodes** (L.) Nyl. — 1–21, a1, a12, a16–18; bark and lignum of different trees and shrubs, granite, upturned roots.

**H. tubulosa** (Schaer.) Hav. — 1–15, 17–21, a1, a12, a18; bark of different trees and shrubs, lignum of conifers.

**Imshaugia aleurites** (Ach.) S. L. F. Meyer — 13; bark of *Picea abies*.

**Japewia subaurifera** Muhr et Tønsberg — 3, 4, 8, 9, 12, 14, 15, 17; bark of *Betula* sp., *Picea abies* and *Sorbus aucuparia*, lignum of *Picea abies*. Thalli contain secalonic acids.

**Lecania cyrtella** (Ach.) Th. Fr. — 5, 18, 19; bark of *Populus tremula*, *Salix* sp. and *Sorbus aucuparia*.

**L. cyrtellina** (Nyl.) Sandst. — 12; bark of *Acer platanoides*.

**L. naegelii** (Hepp) Diederich et Van den Boom — 5, 8; bark of *Populus tremula*.

**Lecanora allophana** Nyl. — 2, 5, 7, 20; bark of *Populus tremula*.

**L. argentata** (Ach.) Malme — 10; bark of *Padus avium*.

**L. cadubriae** (A. Massal.) Hedl. — a2; lignum of *Picea abies*.

**L. carpinea** (L.) Vain. — 1, 5, 8, 10, 12, 15, 18, 20, 21; bark of *Acer platanoides*, *Alnus incana*, *Populus tremula*, *Salix* sp. and *Sorbus aucuparia*.

**L. chlarotera** Nyl. — 1, 2, 5, 8–10, 12, 15, 18, 19; bark of *Acer platanoides*, *Alnus incana*, *Betula* sp., *Padus avium*, *Picea abies*, *Populus tremula*, *Salix* sp. and *Sorbus aucuparia*.

**L. hagenii** (Ach.) Ach. — 5, 8; bark of *Populus tremula*.

**L. hypopta** (Ach.) Vain. — 13, 19; bark of *Betula* sp., lignum of *Pinus sylvestris*.

**L. intricata** (Ach.) Ach. — a16; granite.

**L. pulicaris** (Pers.) Ach. — 1, 3, 4, 6, 9, 11, 13–15, 17, 19–21, a12; bark of *Alnus incana*, *Betula* sp., *Corylus avellana*, *Picea abies* and *Sorbus aucuparia*.

**L. saxicola** (Pollich) Ach. — a16; granite.

**L. subintricata** (Nyl.) Th. Fr. — 2; lignum of *Picea abies*.

**L. subrugosa** Nyl. — 5, 8, 10; bark of *Populus tremula*.

**L. symmicta** (Ach.) Ach. — 1, 3, 5, 6, 8, 12, 13, 15, 18, 19, a2; bark of *Alnus incana*, *Betula* sp., *Picea abies*, *Populus tremula*, *Salix* sp. and *Sorbus aucuparia*, lignum of *Picea abies*.

**Lecidea erythrophaea** Flörke ex Sommerf. — 7, 8, 10, 12, 14; bark of *Acer platanoides*, *Populus tremula* and *Sorbus aucuparia*.

**L. leprarioides** Tønsberg — 2, 4, 12, 14, a8; bark and lignum of *Picea abies*.

**L. nylanderii** (Anzi) Th. Fr. — 1, 2, 4, 7–10, 12–16, 18, 20, 21, a2, a18; bark of *Alnus incana*, *Betula* sp., *Corylus avellana*, *Picea abies*, *Pinus sylvestris* and *Sorbus aucuparia*, lignum of *Betula* sp., *Picea abies* and *Pinus sylvestris*.

**L. pullata** (Norman) Th. Fr. — 13; bark of *Betula* sp.

**L. turgidula** Fr. — 2–4, 7, 13–15, 17, 21, a2; bark and lignum of conifers.

**Lecidella elaeochroma** (Ach.) M. Choisy — 2, 5, 7, 8, 20; bark of *Populus tremula*.

**Lepraria borealis** Lohtander et Tønsberg — 10; mosses. New for the Leningrad Region. Thallus contains atranorin, jackinic/rangiformic and norjackinic/norrangiformic acids.

**L. eburnea** J. R. Laundon — 17; mosses. Thallus contains alectorialic acid and protocetraric acid.

**L. elobata** Tønsberg — 2, 4, 8–10, 12–14, 16, 17, 20, 21, a9, a13; bark of *Alnus incana*, *Betula* sp., *Picea abies*, *Pinus sylvestris* and *Sorbus aucuparia*, lignum of *Betula* sp. and *Picea abies*, granite.

**L. incana** (L.) Ach. — 2–6, 8, 10–12, 14, 15, 18, 20; bark of *Alnus incana*, *Betula* sp., *Juniperus communis*, *Padus avium*, *Picea abies* and *Sorbus aucuparia*, lignum of *Picea abies*, upturned roots.

**L. jackii** Tønsberg — 2–10, 13–18, 20, 21, a8; bark of *Alnus incana*, *Betula* sp., *Corylus avellana*, *Juniperus communis*, *Picea abies*, *Pinus sylvestris* and *Populus tremula*, lignum of conifers, mosses. Thalli contain atranorin, jackinic/rangiformic and roccellic acids.

**L. lobificans** Nyl. — 6, 7, 10, 12, 18; bark of *Acer platanoides*, *Corylus avellana*, *Picea abies* and *Sorbus aucuparia*, granite.

**L. neglecta** (Nyl.) Lettau — a16; mosses and granite. Thallus contains alectorialic acid.

<sup>1</sup>**Leptogium saturninum** (Dicks.) Nyl. — 7; bark of *Populus tremula*.

<sup>1</sup>**L. teretiusculum** (Wallr.) Arnold — 7, 10, 12; bark of *Acer platanoides* and *Populus tremula*.

+**Leptorhaphis atomaria** (Ach.) Szatala — 3, 10; bark of *Populus tremula*.

- +**L. epidermidis** (Ach.) Th. Fr. — 1, 3, 14, 15, 19, a18; bark of *Betula* sp.
- \***Lobaria pulmonaria** (L.) Hoffm. — 8, a4; bark of *Salix* sp. and *Sorbus aucuparia*. Protected in Russian Federation (Red..., 2008) and the Leningrad Region (Red..., 2000).
- Loxospora elatina** (Ach.) A. Massal. — 2; bark of *Betula* sp. Thallus contains thamnolic and elatinic acids.
- Melanelixia fuliginosa** (Fr. ex Duby) O. Blanco et al. — 15; bark of *Picea abies*.
- Melanohalea exasperata** (De Not.) O. Blanco et al. — 5, 7, 8; bark of *Populus tremula*.
- M. exasperatula** (Nyl.) O. Blanco et al. — 6–8, a12; bark of *Corylus avellana* and *Populus tremula*, twigs of *Picea abies*.
- M. olivacea** (L.) O. Blanco et al. — 1, 3, 5, 10, 15, 20, a1; bark of *Betula* sp., *Padus avium*, *Picea abies*, *Populus tremula* and *Salix* sp.
- Micarea denigrata** (Fr.) Hedl. — 21; bark of *Pinus sylvestris*.
- M. erratica** (Körb.) Hertel, Rambold et Pietschm. — a9, a16; granite.
- M. lithinella** (Nyl.) Hedl. — a13; granite.
- M. melaena** (Nyl.) Hedl. — 6, 13, 14; bark of *Betula* sp., lignum of *Pinus sylvestris*.
- M. misella** (Nyl.) Hedl. — a2, a8; bark and lignum of *Picea abies*.
- M. prasina** Fr. s. l. — 1–12, 15, 16, 18, 20, 21, a12, a14; bark of *Alnus incana*, *Betula* sp., *Corylus avellana*, *Picea abies*, *Populus tremula*, *Salix* sp., *Sorbus aucuparia* and *Vaccinium myrtillus*, lignum of *Picea abies*, soil. One specimen (*Micarea prasina* s. str., 20; bark of *Picea abies*) was analyzed by HPTLC, micareic acid was detected in its thallus.
- M. sylvicola** (Flot.) Vězda et V. Wirth — a7, a9; bark of *Picea abies*, iron.
- +**Microcalicium arenarium** (Hampe ex A. Massal.) Tibell — 12, 14, a17; upturned roots.
- +**M. disseminatum** (Ach.) Vain. — 14, a8; bark of *Picea abies*.
- Montanelia sorediata** (Ach.) Divakar et al. — a16; granite. Protected in the Leningrad Region (Red..., 2000).
- Mycobilimbia carneoalbida** (Müll. Arg.) Printzen — 5, 7, 8, 14, 20; bark of *Populus tremula* and *Sorbus aucuparia*.
- M. epixanthoides** (Nyl.) Vitik. et al. ex. Hafellner et Türk — 2, 5, 7, 8, 10; bark of *Betula* sp., *Populus tremula* and *Sorbus aucuparia*, mosses.
- M. tetramera** (De Not.) Vitik. et al. ex Hafellner et Türk — 7, 10; bark of *Populus tremula*.
- Mycoblastus alpinus** (Fr.) Th. Fr. ex Hellb. — 2; bark of *Betula* sp. Det. MK. Thallus contains atranorin, usnic and planaic acids. New for the Western Leningrad Region.
- M. sanguinarius** (L.) Norman — 2; bark of *Betula* sp.
- +**Mycocalicium subtile** (Pers.) Szatala — 3, 5, 11–14, 17, 21, a2; bark of *Picea abies*, lignum of *Betula* sp., *Picea abies* and *Pinus sylvestris*.
- +**Naetrocymbe rhypona** (Ach.) R. C. Harris — 5; bark of *Populus tremula*.

♂**Nephroma parile** (Ach.) Ach. — a4, a20; bark of *Salix* sp. and *Sorbus aucuparia*.

**Ochrolechia alboflavescens** (Wulfen) Zahlbr. — 12, 14; bark of *Populus tremula*, lignum of *Picea abies*. The specimens contain variolaric, lichesterinic, protolichesterinic acids and unknown substances called microstictoides unknowns (see Kukwa, 2011).

**O. androgyna** (Hoffm.) Arnold s. str. — 7; bark of *Betula* sp., bark of *Populus tremula*. Thallus contains gyrophoric, lecanoric acids and fatty acids called androgyna B-unknowns (see Kukwa, 2011).

**O. bahusiensis** H. Magn. — 4; bark of *Betula* sp. Det. MK. Thallus contains gyrophoric, lecanoric acids and murolic acid complex.

**O. mahuensis** Räsänen — 2, 10, 14, 15; bark of *Alnus incana*, *Betula* sp., *Padus avium* and *Picea abies*. The specimens contain gyrophoric and lecanoric acids.

**O. microstictoides** Räsänen — 2, 4, 12–14, 16; bark of *Betula* sp., bark and lignum of *Picea abies*. The specimens contain variolaric, lichesterinic acids and microstictoides unknowns (see Kukwa, 2011).

**Pachyphiale fagicola** (Hepp) Zwackh — 5, 20; bark of *Populus tremula* and *Sorbus aucuparia*.

**Parmelia saxatilis** (L.) Ach. — a16; granite.

**P. sulcata** Taylor — 1, 2, 4–10, 12, 14, 15, 18, 20, 21, a1, a12; bark of *Acer platanoides*, *Alnus incana*, *Betula* sp., *Corylus avellana*, *Padus avium*, *Picea abies*, *Populus tremula*, *Salix* sp. and *Sorbus aucuparia*.

♂**Parmeliella triptophylla** (Ach.) Müll. Arg. — a3; bark of *Populus tremula*. Protected in the Leningrad Region (Red..., 2000).

**Parmeliopsis ambigua** (Wulfen) Nyl. — 2–21, a1, a17, a18; bark of various trees and shrubs, lignum, upturned roots.

**P. hyperopta** (Ach.) Arnold — 2, 4, 6–8, 10, 12–14, 16, 18, 20, 21, a18; bark of *Betula* sp., *Picea abies*, *Pinus sylvestris* and *Populus tremula*, lignum of *Pinus sylvestris*.

**Peltigera canina** (L.) Willd. — 7, 10; bark of *Populus tremula*, mosses.

**P. neopolydactyla** (Gyeln.) Gyeln. — 12, a8, a19; bark of *Acer platanoides*, granite, primary soil on boulders.

**P. polydactylon** (Neck.) Hoffm. — a6; granite, primary soil on boulders.

**P. praetextata** (Flörke ex Sommerf.) Zopf — 5, 7, 8, 10–12, 15, 20; bark of *Acer platanoides*, *Populus tremula*, *Salix* sp. and *Sorbus aucuparia*, lignum.

+**Peridiothelia fuliguneta** (Norman) D. Hawksw. — a6; bark of *Betula* sp.

**Pertusaria amara** (Ach.) Nyl. — 2, 7, 8, 10, 14; bark of *Populus tremula* and *Sorbus aucuparia*.

**P. carneopallida** (Nyl.) Anzi — 5, 12, 17, 18, 20, 21; bark of *Corylus avellana* and *Sorbus aucuparia*.

**P. pupillaris** (Nyl.) Th. Fr. s. l. — 8, 10, 11, 15, 18, 20; bark of *Alnus incana*, *Corylus avellana*, *Padus avium* and *Sorbus aucuparia*. Thalli contain fumarprotocetraric acid.

+**Phaeocalicium flabelliforme** Tibell — 1; bark of *Betula* sp. dead twigs. New for European Russia. Characterized by compressed apothecia, two-septate brown spores 12–14 × 4–5 μm with weakly pigmented septum and occurrence on thin dead branches of birch in moderately humid habitats (Tibell, 1999; Titov et al., 2004). Rare species previously known from Sweden, North America and Russia (Kamchatka).

+**P. populneum** (Brond. ex Duby) Alb. Schmidt — 5, 20; bark of *Populus tremula* (twigs). New for the Western Leningrad Region.

+**P. praecedens** (Nyl.) Alb. Schmidt — 7; bark of *Populus tremula* (twigs). New for the Western Leningrad Region.

**Phaeophyscia ciliata** (Hoffm.) Moberg — 5, 8; bark of *Populus tremula*.

**P. sciastra** (Ach.) Moberg — 5; bark of *Populus tremula*.

**Phlyctis argena** (Spreng.) Flot. — 2, 5, 7, 8, 10–12, 14, 15, 18, 20, 21, a12; bark of various deciduous trees and *Picea abies*.

**Physcia adscendens** H. Olivier — 5; bark of *Picea abies*.

**P. aipolia** (Ehrh. ex Humb.) Fűrnr. — 2, 5, 7, 8, 15, 20; bark of *Populus tremula*, *Salix* sp. and *Sorbus aucuparia*.

**P. alnophila** (Vain.) Lohtander et al. — 2, 5, 8; bark of *Populus tremula*.

**P. caesia** (Hoffm.) Fűrnr. — a16; granite.

**P. tenella** (Scop.) DC. — 8, 12, 20; bark of *Acer platanoides*, *Populus tremula* and *Sorbus aucuparia*.

**Physconia distorta** (With.) J. R. Laundon — 5, 7; bark of *Populus tremula*.

**Placynthiella dasaea** (Stirt.) Tønsberg — 2, 4, 10, 11, 16–18, 20, 21, a10, a14, a17; bark of *Alnus incana*, *Betula* sp., *Padus avium* and *Picea abies*, lignum and soil.

**P. icmalea** (Ach.) Coppins et P. James — 4, 8, 10, 12, 14, 15, 17, 18, a2, a9, a18; bark of *Betula* sp., *Picea abies*, lignum of *Betula* sp., *Picea abies*, and *Salix* sp., soil and primary soil on boulders.

**P. uliginosa** (Schrad.) Coppins et P. James — 3, 7, a12; bark of *Populus tremula*, plant debris, upturned roots.

**Platismatia glauca** (L.) W. L. Culb. et C. F. Culb. — 1–18, 20, 21, a1, a17, a18; bark of various trees, lignum of *Betula* sp. and conifers.

**Polycauliona polycarpa** (Hoffm.) Frödén, Arup et Søchting [= *Xanthoria polycarpa* (Hoffm.) Th. Fr. ex Rieber] — a21; bark of *Salix* sp.

**Porpidia crustulata** (Ach.) Hertel et Knoph — 16, a9; granite.

**P. macrocarpa** (DC.) Hertel et A. J. Schwab — 10; granite.

**P. soledizodes** (Lamy ex Nyl.) J. R. Laundon — a13; granite. Thallus contains stictic and constictic acids.

**Pseudevernia furfuracea** (L.) Zopf — 2, 4–7, 13, 20, 21, a1; bark of *Picea abies*, *Pinus sylvestris* and *Populus tremula*.

**Psilolechia clavulifera** (Nyl.) Coppins — 12, 14, 21, a17; bark of *Pinus sylvestris*, lignum of *Picea abies*, upturned roots.

**Pycnora leucococca** (R. Sant.) R. Sant. — 7, 9, 20; bark of *Alnus incana*, *Betula* sp. and *Populus tremula*.

**Ramalina farinacea** (L.) Ach. — 8, 20; bark of *Alnus incana* and *Populus tremula*.

**R. fraxinea** (L.) Ach. — 7; bark of *Populus tremula*. Protected in the Leningrad Region (Red..., 2000).

**Rhizocarpon cinereonigrum** Vain. — a16; granite.

**R. distinctum** Th. Fr. — a16; granite.

**R. eupetraeum** (Nyl.) Arnold — a16; granite.

**R. intersitum** Arnold — a10, a16; granite.

**R. lavatum** (Fr.) Hazsl. — a13; granite.

**R. reductum** Th. Fr. — a16; granite.

**Rinodina degeliana** Coppins — 10, 14, 18; bark of *Alnus incana* and *Corylus avellana*.

**R. pyrina** (Ach.) Arnold — 5; bark of *Populus tremula*.

**Ropalospora viridis** (Tønsberg) Tønsberg — 2, 5, 10, 14, 15, 20, 21; bark of *Alnus incana*, *Picea abies*, *Populus tremula* and *Sorbus aucuparia*. Thalli contain perlatolic acid.

+**Sarea difformis** (Fr.) Fr. — 2, 13, 16; resin of *Picea abies*.

**Scolicosporum chlorococcum** (Graewe ex Stenh.) Vězda — 2, 3, 6, 10, 14, 16; bark of *Betula* sp., *Picea abies* and *Sorbus aucuparia*, lignum of *Pinus sylvestris*.

**S. sarothamni** (Vain.) Vězda — 3, 5, 8, 18, 20, 21; bark of *Alnus incana*, *Betula* sp., *Padus avium*, *Populus tremula* and *Sorbus aucuparia*.

**S. umbrinum** (Ach.) Arnold — a16; granite.

**Steinia geophana** (Nyl.) Stein — a15; soil.

+**Stenocybe pullatula** (Ach.) Stein — 3, 10, 15, 18; bark of *Alnus incana* and once *Sorbus aucuparia*.

**Stereocaulon alpinum** Laurer — a16; granite.

**S. saxatile** H. Magn. — a16; granite.

#**Syzygospora** cf. **bachmannii** Diederich et M. S. Christ. — 7; thallus of *Cladonia coniocraea* on bark of *Populus tremula*. Det. JM (Himmelbrant et al., 2013).

#**S. physciacearum** Diederich — 2, 5; thallus of *Physcia aipolia* on bark of *Populus tremula*. Det. JM (Himmelbrant et al., 2013).

**Thelocarpon superellum** Nyl. — 14; lignum of *Picea abies*.

**Trapelia involuta** (Taylor) Hertel — a9; granite.

**T. placodioides** Coppins et P. James — a16; granite.

**Trapeliopsis flexuosa** (Fr.) Coppins et P. James — 1, 3, 13, a1, a2, a10; bark of *Betula* sp., *Pinus sylvestris*, lignum of *Picea abies*, old burnt logs and upturned roots.

#**Tremella cladoniae** Diederich et M. S. Christ. — 2, 4, 9; thalli of *Cladonia coniocraea* on bark of *Betula* spp. Det. MK, JM (Himmelbrant et al., 2013).

#**T. lichenicola** Diederich — 4, 8–10, 12, 14; on thalli of *Violella fucata* on bark of *Alnus incana*, *Betula* sp. and lignum of *Picea abies*.

**Tuckermannopsis chlorophylla** (Willd.) Hale — 2–8, 10–15, 18, 20, 21, a1, a18; bark of *Acer platanoides*, *Betula* sp., *Lonicera* sp., *Picea abies*, *Populus tremula* and *Salix* sp.

**Usnea dasypoga** (Ach.) Nyl. — 2, 12–14; bark of *Picea abies*, lignum of *Pinus sylvestris*.

**U. diplotypus** Vain. — 13, 14; bark of *Picea abies*.

**U. hirta** (L.) F. H. Wigg. — 13; bark of *Picea abies*.

**U. subfloridana** Stirt. — 1, 14; bark of *Betula* sp., *Picea abies* and *Salix* sp.

**U. substerilis** Motyka — 13; bark of *Betula* sp.

**Verrucaria dolosa** Hepp — a13; granite. Det. J. Pykälä (Pykälä et al., 2012).

**Violella fucata** (Stirt.) T. Sprib. — 2, 4, 7–10, 12, 14, 15, 18, 20, 21; bark of *Alnus incana*, *Betula* sp., *Corylus avellana*, *Picea abies*, *Pinus sylvestris* and *Sorbus aucuparia*, lignum of *Picea abies*. Thalli contain atranorin and fumarprotocetraric acid.

**Vulpicida pinastri** (Scop.) J.-E. Mattsson et M. J. Lai — 1, 3–15, 17–21, a1, a2, a17, a18; bark of various trees and lignum of conifers.

**Xanthoparmelia conspersa** (Ach.) Hale — a16; granite.

**Xanthoria parietina** (L.) Th. Fr. — 5, 7, 20; bark of *Populus tremula*.

**Xylographa parallela** (Ach.: Fr.) Fr. — 4; lignum of *Picea abies*.

The list of lichens and allied fungi of the Smorodinka River Valley and adjacent area comprises 244 species, including 218 lichenized, 12 lichenicolous and 14 saprobic fungi related to lichens. *Arthonia biatoricola* and *Gyalideopsis alnicola* are new for Russia, *Fellhaneropsis myrtillicola* and *Phaeocalicium flabelliforme* — for European Russia, *Aspilidea myri-nii* and *Lepraria borealis* — for the Leningrad Region, *Gregorella humida*, *Mycoblastus alpinus*, *Phaeocalicium populneum* and *P. praecedens* are recorded for the first time in the Western Leningrad Region. Six species are protected in the Leningrad Region (Red..., 2000): *Bryoria subcana*, *Collema furfuraceum*, *Lobaria pulmonaria*, *Montanelia soredata*, *Parmeliella triptophylla* and *Ramalina fraxinea*. Among them, *Lobaria pulmonaria* is protected in the whole Russian Federation (Red..., 2008) as well. The locality of *Lobaria pulmonaria* in the Smorodinka River Valley is the nearest to St. Petersburg on Karelian Isthmus and nowadays is the only locality of this widely disappearing species in the central part of Karelian Isthmus.

The lichen diversity of the Smorodinka River Valley is high in comparison to the nearest studied areas: 190 species only are known from Sestroretskaya Lowland, 211 species were recorded in Schuchye Lake protected area and surroundings, and 248 species are included in the preliminary lichen list of Gladyshevsky protected area (Himmelbrant et al., in prep.). Rather high diversity of species on this territory is a result of the landscape characters discussed above. The composition of the lichen flora of the Smorodinka River Valley reflects a relatively undisturbed nature of the investigated area. Unusually rich (especially for the area situated in



surroundings of a big city) is the stated diversity of calicioid lichens and fungi — altogether 25 species (10.2 % of the lichen flora) from the genera *Calicium*, *Chaenotheca*, *Chaenothecopsis*, *Micocalicium*, *Microcalicium*, *Phaeocalicium* and *Stenocybe* were found, including rare species confined to old-growth spruce forests, such as *Chaenotheca phaeocephala* and *C. subroscida*. Nineteen species of lichens and allied fungi found in the Smorodinka River Valley represent strict habitat specialists or indicator species of biologically valuable forests in the southern taiga of the North-Western European Russia (Andersson et al., 2009).

Of 244 species, 178 (73.0 %) were recorded on bark of trees, 66 (27.0 %) on lignum, 39 (16.0 %) on stones, 28 (11.5 %) on upturned roots, only 11 (4.5 %) on soil and plant debris and 11 (4.5 %) are lichenicolous fungi (also several species inhabiting mosses, iron or resin). The richest phorophytes are *Populus tremula* (87 epiphytes, 35.7 % of the lichen flora), *Picea abies* (77 species, 31.6 %) and *Betula* spp. (73 species, 29.9 %). High diversity of spruce and aspen epiphytes reflects the prevalence of spruce forests with aspen in the valley. At the same time, the diversity of epigeic lichens is low, first of all because pine forests are almost missing in the investigated area.

In general, the lichen diversity of the Smorodinka River Valley, as well as the territory itself, is rich and very interesting. This area gives shelter to rare and endangered species and definitely deserves special protection.

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