

Lichens and lichenicolous fungi of Prins Karls Forland (Svalbard Archipelago)

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Abstract

The paper presents data on lichens and lichenicolous fungi for Prins Karls Forland (NW of Svalbard archipelago). For the island, 283 species of lichens and 21 lichenicolous fungi have been identified to date. Seventy species of lichens and 17 lichenicolous fungi are listed for the first time for the study area, of which *Arthonia epipolytropa*, *Gyalecta peziza*, *Lasiosphaeriopsis christiansenii*, *Porpidia rugosa*, and *Sclerococcum protothallinum* are reported for the first time for the Svalbard archipelago. The central part of Prins Karls Forland is the most studied now (157 taxa of investigated group identified). Thus, despite its small area and hard to reach, the territory of Prins Karls Forland has a high diversity of lichens. This is mainly due to the complexity of the geological formation of the territory and the high diversity of rocks. We might expect to find species here that are also typical of more southern Arctic regions considering the geographical location Prins Karls Forland in the western part of the Svalbard archipelago and the influence of the warm Gulf Stream on local microclimate. However, the island's insular position, small area, and strong elongation from north to south, in the absence of deeply incised bays, result in the harsh influence of climatic conditions and, as a result, the wide distribution of species characteristic of the high-latitude Arctic and high-mountain regions.

Key words: lichens, new records, Arctic, distribution, rare species

DOI: 10.5817/CPR2026-1-5

Introduction

Prins Karls Forland is an island located in the west of the Svalbard. It is separated from Western Spitsbergen by the Forland-

sundet Strait. The island extends from north to south, 85 km long and 5–11 km wide, and its area is 615 square kilometers. The

Received May 2, 2026, accepted May 27, 2026.

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Acknowledgements: The study was carried out in the frame of the Avrorin Polar-Alpine Botanical Garden-Institute of the Russian Academy of Sciences research project "Study of Species Diversity and Structural-Functional Features of Plants in Arctic Ecosystems of the Spitsbergen Archipelago" (FMEZ-2025–0063) (work by L. Konoreva), Komarov Botanical Institute of the Russian Academy of Sciences research projects "Flora and taxonomy of algae, lichens and bryophytes of Russia and phytogeographically important regions of the world" no. 121021600184–6 (work by S. Chesnokov).

Prins Karls Forland has a diverse landscape, from alpine peaks over 1000 meters high (the highest elevation is Monacofjellet, a peak reaching 1084 meters), hilly terrain in north and central part of island to flat plain in south. The central mountain range is heavily indented with many gorges, most of which are occupied by glaciers. All glaciers are, however, concentrated on the eastern coast and face the Forland-sundet strait.

The island's rugged terrain is characterized by metamorphic schists, phyllites, and quartzites, with younger Tertiary sandstones and conglomerates present along its eastern coast (Hjelle et al. 1999, Dallmann 2020).

The meteorological station closest to Prins Karls Forland is in Ny-Ålesund, about 50 km to the east. There, mean annual air temperature (MAAT) is -6.2°C and mean annual precipitation (MAP) is 372 mm (Hanssen-Bauer et al. 1990). The climate is probably somewhat warmer at the study site because of open waters all year round in the vicinity of the island (Berthling et al. 1998). These assumptions are confirmed by meteorological measurements over the past 10 years. According to the source Meteoblue^[3], the mean annual temperature in last 10 years in the nearest meteorological station to Prins Karls Forland (Ny-Ålesund) was -5.2°C . The mean annual temperature in last 10 years in Longyerbyen area was -6.3°C . Prins Karls Forland is part of the north Arctic tundra zone (Øvstedal et al. 2009).

The study area is of great interest for lichenological research due to vertical diversity of rocks, macro- and microrelief, and the influence of the Gulf Stream. However, the area is still poorly investigated. There is no list of lichens available for Prins Karls Forland despite two large monographs devoted to lichens of the Svalbard (Elvebakk and Hertel 1996, Øvstedal et al. 2009).

The first collections of lichens from Prins Karls Forland were made by T. Fries in 1868 during the Swedish expedition. These specimens were later studied and published by B. Lynge (Lynge 1924, 1936, 1938). Lynge lists a total of 43 species based on T. Fries' collections. In 1921, Mr. Victor S. Summerhayes collected lichens during the Oxford University expedition to the island. In total, 45 species were identified and published from his collections (Paulson 1923, Summerhayes and Elton 1923). After a long hiatus, M.-F. Andrée obtained new data on the lichens of the Prins Karls Forland during his studies of plant colonization patterns and lichenometry. In his paper (André 1992), 34 lichen species are listed. Van der Wal and co-authors (van der Wal et al. 2001) reported 15 lichen species for Prins Karls Forland in their study of the influence of reindeers on lichen abundance in Svalbard. Six species of lichens were included in a study of tardigrades in lichens (Zawierucha et al. 2017). Fragmentary information on some new records for Prins Karls Forland (in total, 19 lichen species) is given in the monographs by Øvstedal et al. (2009). The most information about the lichens of Prins Karls Forland is available on the website of Svalbard Lichen Database^[1], where 75 taxa are listed. Thus, before our research, 155 species of lichens were known for Prins Karls Forland.

In 2016, lichens of Prins Karls Forland were collected by the first author in the frame of large-scale research conducted by the Avrorin Polar-Alpine Botanical Garden and Institute. After a preliminary study of the specimens, the lichen flora of Prins Karls Forland was supplemented by 65 species (Konoreva and Chesnokov 2023).

The aim of this paper is to summarize all information on the lichens of Prins Karls Forland, supplement the list for the island with original data, and compare with literature data.

Material and Methods

The lichens were collected by the first author in the central part of Prins Karls Forland near Baklia Fault Zone in August 2016 (Fig. 1). All geographical coordinates of the collection sites are given in the coordinate system WGS 1984 (Table 1). The laboratory study aimed to lichen specimens determination was carried out according to the standard technique (Smith et al. 2009) in the Laboratory of Flora and vegetation of the Avrorin Polar-Alpine Botanical Garden and Institute of the Kola Scientific Centre of RAS. For the purpose, a binocular stereoscopic microscope MBS 10, transmitted light microscope Zeiss Primo Star, a standard set of chemical reagents (K – 10% KOH, C – calcium hypochlorite, KC – K is applied, followed by C, Pd – alcohol solution of *p*-paraphenylenediamine, I – Iodine solution) for carrying out color spots reactions for identification of certain groups of lichen substances in

thalli were used. All collected and identified specimens are stored in the herbarium of the Avrorin Polar-Alpine Botanical Garden and Institute of the Kola Scientific Centre of RAS (KPABG). The nomenclature of lichens mainly follows: Lumbsch and Huhndorf (2010), Kondratyuk et al. (2020), Spribille et al. (2020), Westberg et al. (2021, 2024), Chesnokov et al. (2023), Ekman (2023), Hafellner and Grube (2023), and Möller et al. (2025).

The maps showing the lichen species distribution were prepared using GIS Axioma 4.4 program. The geographical names and topographic bases for Fig. 1 are based on the topographic map of Svalbard^[2].

Table presenting the names and coordinated of the localities presented below. Description of the sites presented to Supplementary Materials.

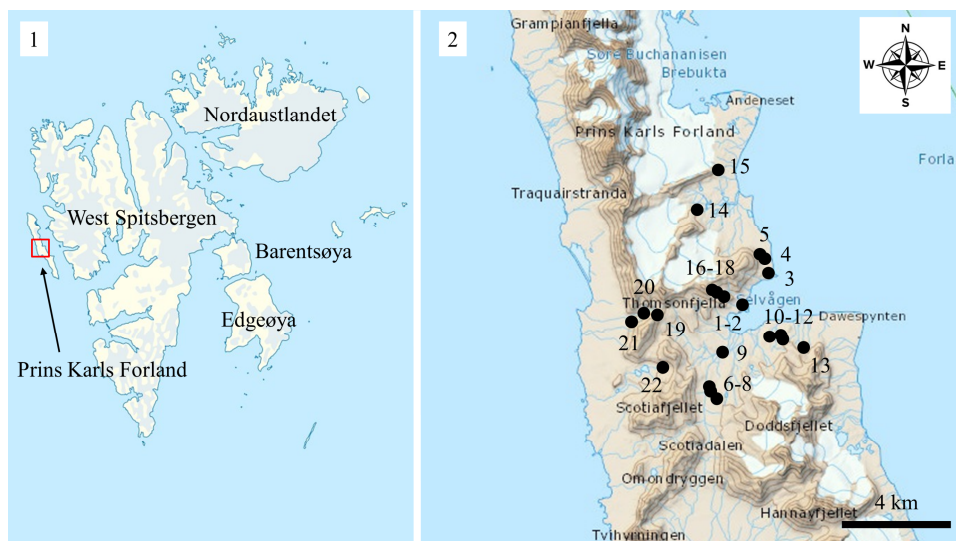


Fig. 1. Study area: 1 – location of Prins Karls Forland, 2 – location of sampling sites.

No.	Localities	Coordinate
1	Selvågen, coast of Kulpen, near Klubben	78°32'56.1"N, 11°14'42.4"E
2	Selvågen, coast of Kulpen, near Klubben	78°32'58"N, 11°15'02.5"E
3	Sørflaket, Sessflya, near Reinhardpynten	78°33'38.7"N, 11°17'21.6"E
4	Sørflaket, Sessflya, near Sesshøgda	78°33'51.8"N, 11°16'45.6"E
5	Sørflaket, Sessflya, near Sesshøgda	78°33'55.1"N, 11°16'21.8"E
6	Scotiadalen, a hill in a river valley	78°31'19.3"N, 11°12'30.9"E
7	Scotiadalen, a hill in a river valley	78°31'13"N, 11°12'42.5"E
8	Scotiadalen, a hill in a river valley, near Baklia	78°31'01.3"N, 11°12'59.7"E
9	Scotiadalen, about 850 m SSW from Kulpen	78°31'53.8"N, 11°13'13.4"E
10	Kulpen, Selvågflya	78°32'15.5"N, 11°17'42.7"E
11	Kulpen, Selvågflya	78°32'20.7"N, 11°19'15.3"E
12	Kulpen, Selvågflya	78°32'17.5"N, 11°19'32"E
13	Fyllittknausen	78°32'05.8"N, 11°22'21.6"E
14	Alfredbreen, near the glacier's ridge	78°34'52.3"N, 11°09'50"E
15	Krokodillen, glacier crossbar	78°35'35.3"N, 11°11'47"E
16	Kulpen, near Thomsonfjella	78°32'53.7"N, 11°13'15"E
17	Kulpen, near Thomsonfjella, at the top of the hill	78°32'54.8"N, 11°12'37.1"E
18	Kulpen, near Thomsonfjella, at the top of the hill	78°32'59.5"N, 11°11'57.6"E
19	Petuniaskaret	78°32'36.8"N, 11°06'13.1"E
20	Petuniaskaret	78°32'39.4"N, 11°05'05.4"E
21	Petuniaskaret, west bank	78°32'32"N, 11°03'50.8"E
22	near the Røyshaugen, pass	78°31'26"N, 11°07'42.5"E

Table 1. List of localities in Prins Karls Forland.

Results

The list of species

The species in the list are given in alphabetical order. The old names of species under which they were mentioned in literary sources are given in brackets. We use the same superscripts for each title and bibliographic citation in order to retain the information about the name, under which the accepted species was published in a particular paper. All available information on lichens of Prins Karls Forland, both original and from literature, has been taken into account. First, the data on new samples are listed. The numbers in the list correspond to the localities presented in the Materials and Methods. Then, previous literature reports are given for species known from Prins Karls Forland. Most collections and field prospectations on Prins Karls Forland was conducted in the northern part of the island (Paulson 1923, Summerhayes and Elton 1923, Lynge 1924, 1936, 1938, André 1992, Elvebakk and Hertel 1996, van der Wal et al. 2001, Øvstedal et al. 2009, Zawierucha et al. 2017, ^[1]). Only a few species were reported from the southern part (van der Wal et al. 2001). Our research was concentrated in the central part of the island (Konoreva and Chesnokov 2023, this paper).

For the species reported for the first time for the Prins Karls Forland nearest localities are cited and also their rarity. We distinguished rare (no more than 5 reports on Svalbard), scattered (6 to 15 reports), and widespread species (more than 15). For rare spe-

cies, all known locations on Svalbard are listed. For the species presented for the first time for Svalbard, brief descriptions, differences from related species and distribution in the world are given.

The following symbols and abbreviations are used: + – a lichenicolous fungus, * – new to Prins Karls Forland, ! – new to Svalbard.

Adelolecia kolaensis (Nyl.) Hertel & Rambold – 10, 12, 15, on stone (Konoreva and Chesnokov 2023).

**Adelolecia pilati* (Hepp) Hertel & Hafellner – 5, on stone. Rare in Svalbard. It is known from Nordenskiöld Land – Russekeila (Øvstedal et al. 2009), Adventfjorden ^[1] and Albert I Land – Raudfjorden, Konglomeratodden (Øvstedal et al. 2009).

**Agonimia gelatinosa* (Ach.) M. Brand & Diederich – 12, 16, on soil and mosses. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017) and Haakon VII Land – Blomstrandhalvøya (Breuss 2017).

**Agonimia tristicula* (Nyl.) Zahlbr. – 12, on soil. Rare in Svalbard. It is known from Nordaustlandet – Nordvika (Øvstedal et al. 2009, ^[1]) and Haakon VII Land – Blomstrandhalvøya (Breuss 2017). Reported for the third time for the archipelago.

Alectoria gowardii Lumbsch – 10, 21, on soil, mosses and plant debris (Konoreva and Chesnokov 2023).

Alectoria nigricans (Ach.) Nyl. – 10, 12, 19, 21, on soil and on soil among stones (Summerhayes and Elton 1923, Lynge 1938, André 1992, van der Wal et al. 2001, ^[1]).

Alectoria ochroleuca (Hoffm.) A. Massal. – on soil (Summerhayes and Elton 1923, van der Wal et al. 2001).

Allantoparmelia alpicola (Th. Fr.) Essl. (syn. ¹*Parmelia alpicola* Th. Fr.) – 2, 3, 10, 12, 14, 19, on stone (¹Paulson 1923, ¹Summerhayes and Elton 1923).

Amandinea coniops (Wahlenb.) M. Choisy ex Scheid. & H. Mayrhofer – on stone ^[1].

**Amygdalaria elegantior* (H. Magn.) Hertel & Brodo – 9, on stone. Rare in Svalbard. It is known from Nordenskiöld Land – Grønfjordfjellet (Konoreva 2011). Reported for the second time for the archipelago.

Amygdalaria panaeola (Ach.) Hertel & Brodo – 10, 12, 15, on stone and soil (Konoreva and Chesnokov 2023).

Arctocetraria andrejevii (Oxner) Kärnefelt & A. Thell – on soil (van der Wal et al. 2001).

Arctomia delicatula Th. Fr. – 1, 7, 20, on soil, mosses and plant debris, on soil on stone (Lynge 1938, Elvebakk and Hertel 1996).

Arctoparmelia centrifuga (L.) Hale – on stone (Elvebakk and Hertel 1996, ^[1]).

Arctoparmelia incurva (Pers.) Hale – on stone ^[1].

+!*Arthonia epipolytropa* Hafellner & Grube – 3, 5, 10, on apothecia of *Lecanora polytropa*. The species was recently described from Austria, Albania, Italy, Norway, Switzerland, USA (Hafellner and Grube 2023) on apothecia of *Lecanora polytropa*. The apothecia of *Arthonia epipolytropa* is characterized by a black with slightly brownish tinge. They develop in the upper part of the hymenium of the host's apothecia and have one-septate ascospores, in which the upper cell is somewhat wider and the lower is somewhat longer. *Arthonia epipolytropa* can be confused with *A. subclemens* Hafellner et al., which also grows on apothecia of *Lecanora polytropa*. However, *A. subclemens* has apothecia immersed in the host hymenium and 1-septate ascospores with the septum closer to the lower end, therefore cells are distinctly unequal (Hafellner and Grube 2023).

**Arthrorhaphis alpina* (Schaer.) R. Sant. – 10, 12, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Kongsfjorden, Ny-Ålesund area (Elvebakk 1984).

Bacidina subfuscata (Nyl.) S. Ekman (syn. ¹*Lecania subfuscata* (Nyl.) S. Ekman) – 8, 12, on soil and stone ^[1].

**Baeomyces carneus* Flörke – 10, on soil. Rare in Svalbard. Most of the species finds belong to Nordenskiöld Land (Urbanavichene and Koroleva 2008, Øvstedal et al. 2009, Zhurbenko and Brackel 2013, Konoreva and Chesnokov 2025) and was once reported for Nordaustlandet (Konoreva and Chesnokov 2021).

Baeomyces rufus (Huds.) Rebt. – 3, 15, on stone ^[1].

Biatora cuprea (Sommerf.) Fr. – 2, 6, on soil ^[1].

Biatora subduplex (Nyl.) Printzen – 1, 3, 6, 7, 10, 11, 12, 16, 20, on soil and plant debris ^[1].

Biatora vernalis (L.) Fr. (syn. ¹*Lecidea vernalis* (L.) Ach.) – 6, 10, 20, 21, on soil, mosses and plant debris (¹Paulson 1923).

**Bilimbia lobulata* (Sommerf.) Hafellner & Coppins – 1, 11, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).

Bilimbia microcarpa (Th. Fr.) Th. Fr. – on soil ^[1].

Blastenia ammiospila (Wahlenb. ex Ach.) Arup et al. – 1, 6, 10, 12, 20, on soil, mosses and plant debris ^[1].

Brodoa intestiniformis (Vill.) Goward (syn. ¹*Parmelia intestiniformis* (Vill.) Ach.) – on stone (¹André 1992).

Brodoa oroarctica (Krog) Goward – on stone (Konoreva and Chesnokov 2023).

**Bryobilimbia hypnorum* (Lib.) Fryday et al. – 11, 12, on soil. A few scattered occurrences. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017) and Haakon VII Land – Blomstrandhalvøya (Breuss 2017).

¹*Bryocaulon divergens* (Ach.) Kärnefelt (syn. ²*Cornicularia divergens* Ach.) – 12, 22, on soil and stone (²Lynge 1938, ²André 1992, ^[1]).

**Bryonora castanea* (Hepp) Poelt – 2, 20, on soil and plant debris. A few scattered occurrences. Most of the closest finds of the species belong to Nordenskiöld Land (Urbanavichene and Koroleva 2008, Øvstedal et al. 2009, Zhurbenko and Brackel 2013, Konoreva and Chesnokov 2025, ^[1]).

Bryonora septentrionalis Holt.-Hartw. – 4, 5, on soil and mosses ^[1].

Bryoplaca tetraspora (Nyl.) Søchting et al. – 1, 4, 17, 20, on plant debris, on soil, mosses, stone and on thallus of *Peltigera canina*. (Konoreva and Chesnokov 2023).

Bryoria chalybeiformis (L.) Brodo & D. Hawksw. – on soil ^[1].

Bryostigma lapidicola (Taylor) S.Y. Kondr. & J.-S. Hur – 3, 16, on soil and stone. (Konoreva and Chesnokov 2023).

¹*Buellia aethalea* (Ach.) Th. Fr. (syn. ²*Buellia sororia* Th. Fr.) – on stone (²Paulson 1923, ²Summerhayes and Elton 1923, ¹Elvebakk and Hertel 1996, ^[1]).

Buellia disciformis (Fr.) Mudd – on driftwood (Paulson 1923).

**Buellia leptocline* (Flot.) A. Massal. – 10, on stone. A few scattered occurrences. The nearest known localities in the Nordenskiöld Land – Tovedalshaugen and Colesdalen (Øvstedal et al. 2009, ^[1]), Festningen ^[1].

Caloplaca cerina (Hedw.) Th. Fr. – on plant debris ^[1].

Calogaya saxicola (Hoffm.) Vondrák (syn. ¹*Caloplaca saxicola* (Hoffm.) Nordin) – on stone ^[1].

Caloplaca stillicidiorum (Vahl) Lyngb. – 16, on mosses and soil on stone (Konoreva and Chesnokov 2023).

**Calvitimela aglaea* (Sommerf.) Hafellner – 12, on stone. A few scattered occurrences. The nearest known localities in the Nordenskiöld Land – Colesdalen (Konoreva and Chesnokov 2025) and Grønfjorden ^[1].

Calvitimela armeniaca (DC.) Hafellner – on stone (Konoreva and Chesnokov 2023).

Calvitimela melaleuca (Sommerf.) R. Sant. – on stone (Konoreva and Chesnokov 2023).

Candelariella arctica (Körb.) R. Sant. – on stone ^[1].

**Candelariella aurella* Hoffm.) Zahlbr. – 17, on stone. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).

**Candelariella borealis* M. Westb. – 2, 3, 4, 14, on soil. Rare in Svalbard. It is known from several localities in Nordaustlandet (Konoreva et al. 2024), Barentsøya (Konoreva and Chesnokov 2022) and Nordenskiöld Land – Colesdalen (Konoreva and Chesnokov 2025).

**Candelariella vitellina* (Hoffm.) Müll. Arg. – 4, 10, on soil and stone. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).

+**Carbonea aggregantula* (Müll. Arg.) Diederich & Triebel – 5, on thallus of *Lecanora polytropa*. Rare in Svalbard. It is known from Albert I Land – Amsterdamøya (Hertel and Ullrich 1976, as *Lecidea vitellinaria* Nyl.), Sallyhamn (Zhurbenko and Brackel 2013), Sørkapp Land (Olech 1990, as *Carbonea vitellinaria* (Nyl.) Hertel), Nordenskiöld Land – Longyearbyen (Zhurbenko and Brackel 2013).

+**Carbonea supersparsa* (Nyl.) Hertel – 3, 5, 6, on thallus of *Lecanora polytropa*. Rare in Svalbard. It is known from Albert I Land – Amsterdamøya (Zhurbenko and Brackel 2013). Reported for the second time for the archipelago.

+*¹*Carbonea vitellinaria* (Nyl.) Hertel (syn. ²*Lecidea vitellinaria* Nyl.) – 2, on thallus of *Candelariella borealis*. Rare in Svalbard. The species has been reported from Hornsund (Fries ²1860, ²1867), Nordaustlandet – Murchisonfjorden (¹Zhurbenko and Brackel 2013), Nordenskiöld Land – Colesdalen (¹Chesnokov et al. 2025), Haakon VII Land – Sverrefjellet (¹Hafellner 2021).

Catapyrenium cinereum (Pers.) Körb. (syn. ¹*Dermatocarpon cinereum* (Pers.) Th. Fr.) – 19, 21, on soil (¹Lyngb. 1938).

Catapyrenium daedaleum (Kremp.) Stein (syn. ¹*Dermatocarpon daedaleum* (Kremp.) Th. Fr.) – 7, on soil (¹Lyngb. 1938).

+*Catillaria stereocaulorum* (Th. Fr.) H. Olivier – on thallus of *Stereocaulon* cf. *rivulorum* (Konoreva and Chesnokov 2023).

+**Cercidospora punctillata* (Nyl.) R. Sant. – 6, on thallus of *Protopannaria pezizoides*. A few scattered occurrences. The nearest known localities in the Nordenskiöld Land (Zhurbenko and Alstrup 2004, Zhurbenko 2009, Zhurbenko and Brackel 2013, Chesnokov et al. 2025)

+*Cercidospora stereocaulorum* (Arnold) Hafellner – 3, 4, 15, 19, on thallus of *Stereocaulon* cf. *alpinum*, *S. arcticum* and *S. vesuvianum*, on soil on stone, LK 17, 35, 119, 158 (Konoreva and Chesnokov 2023).

Cetraria aculeata (Schreb.) Fr. – 2, 21, 22, on soil and stone ^[1].

Cetraria ericetorum Opiz (syn. ¹*Cetraria tenuifolia* (Retz.) R. Howe) – 6, 12, 15, 19, 20, 21, on soil and mosses. (¹Lyngb. 1924).

Cetraria islandica (L.) Ach. – 2, 3, 7, 11, 12, 14, 15, 16, 17, 19, on soil, mosses and stones (Paulson 1923, Summerhayes and Elton 1923, Lyngé 1938, André 1992, van der Wal et al. 2001, ^[1]).

Cetraria muricata (Ach.) Eckfeldt – 12, on soil (van der Wal et al. 2001, ^[1]).

**Cetraria nigricans* Nyl. – 17, on soil. Rare in Svalbard. Until now it was known from several localities on Nordaustlandet (Elvebakk and Hertel 1996, Øvstedal et al. 2009, Konoreva et al. 2019, Konoreva and Chesnokov 2021, ^[1]).

¹*Cetrariella delisei* (Bory ex Schaer.) Kärnefelt & A. Thell (syn. ²*Cetraria delisei* (Bory ex Schaer.) Nyl., ³*C. hiascens* (Fr.) Th. Fr.) – 1, 3, 6, 7, 10, 11, 12, 14, 15, 20, 21, on soil, mosses and stone (³Paulson 1923, ³Summerhayes and Elton 1923, Lyngé ²1924, ²1938, ²André 1992, ²van der Wal et al. 2001, ^[1]).

Cetrariella fastigiata (Delise ex Nyl.) Kärnefelt & A. Thell – on soil (Elvebakk and Hertel 1996, Øvstedal et al. 2009, ^[1]).

Cladonia amaurocraea (Flörke) Schaer. – 2, 3, 6, 7, on soil and mosses (Zawierucha et al. 2017).

¹*Cladonia arbuscula* (Wallr.) Flot. (syn. ²*Cladonia sylvatica* (L.) Hoffm.) – 6, 20, on soil and mosses (²Paulson 1923, ²Summerhayes and Elton 1923, ¹van der Wal et al. 2001, ¹Zawierucha et al. 2017, ^[1]).

Cladonia bellidiflora (Ach.) Schaer. – on soil (Summerhayes and Elton 1923, Lyngé 1938, ^[1]).

**Cladonia borealis* S. Stenroos – 15, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Kaffiøyra (Osyczka 2006).

Cladonia cervicornis (Ach.) Flot. – on soil (Paulson 1923, Summerhayes and Elton 1923, Elvebakk and Hertel 1996).

Cladonia coccifera (L.) Willd. – 3, 7, 12, 14, 19, 20, on soil and stone (Konoreva and Chesnokov 2023).

Cladonia crispata (Ach.) Flot. – on soil (Lyngé 1938, Elvebakk and Hertel 1996).

Cladonia cyanipes (Sommerf.) Nyl. – on soil ^[1].

Cladonia deformis (L.) Hoffm. – on soil (André 1992).

¹*Cladonia furcata* (Huds.) Schrad. (syn. ²*Cladonia furcata* var. *spinosa* (Huds.) Rabenh., ³*C. furcata* var. *surrecta* (Flörke) Vain.) – on soil (^{2,3}Paulson 1923, ¹Summerhayes and Elton 1923).

Cladonia gracilis (L.) Willd. s. lat. – 6, 12, 15, 17, on soil and mosses (Konoreva and Chesnokov 2023).

Cladonia gracilis subsp. *elongata* (Wulfen) Vain. (syn. ¹*Cladonia elongata* (Wulfen) Hoffm.) – on soil (¹Lyngé 1938).

Cladonia lepidota (Ach.) Nyl. – on soil (Paulson 1923, Summerhayes and Elton 1923).

Cladonia macroceras (Delise) Hav. – on soil (Zawierucha et al. 2017).

Cladonia mitis Sandst. – 1, 2, 6, 10, 17, 21, on soil and mosses (Lyngé 1938, André 1992, Zawierucha et al. 2017).

Cladonia pocillum (Ach.) O.J. Rich. – 11, 12, on soil and dead mosses (Konoreva and Chesnokov 2023).

Cladonia pyxidata (L.) Hoffm. – 1, 3, 10, 11, 12, 14, 15, 20, on soil (Paulson 1923, Summerhayes and Elton 1923, André 1992).

Cladonia rangiferina (L.) F. H. Wigg. – 6, on soil (Paulson 1923, Summerhayes and Elton 1923, Lyngé 1938, André 1992, van der Wal et al. 2001, Zawierucha et al. 2017).

Cladonia squamosa Hoffm. – on soil (André 1992, Elvebakk and Hertel 1996).

Cladonia stricta (Nyl.) Nyl. (syn. ¹*Cladonia lepidota* var. *stricta* (Nyl.) Du Rietz) – on soil (¹Lyngé 1938).

- Cladonia stygia* (Fr.) Ruoss – on soil (Øvstedal et al. 2009).
- Cladonia subfurcata* (Nyl.) Arnold – on soil (Øvstedal et al. 2009, ^[1]).
- Cladonia sulphurina* (Michx.) Fr. – on soil (Øvstedal et al. 2009, ^[1]).
- Cladonia uliginosa* (Ahti) Ahti – on soil (Øvstedal et al. 2009).
- Cladonia uncialis* (L.) Weber ex F. H. Wigg. – 6, 17, 22, on soil and stone (Lyngé 1938).
- Dimelaena oreina* (Ach.) Norman – on stone ^[1].
- Diplotomma alboatrum* (Hoffm.) Flot. (syn. ¹*Buellia alboatra* (Hoffm.) Th. Fr., ²*B. epipolia* (Ach.) Mong.) – on stone (²André 1992, ¹Elvebakk and Hertel 1996).
- ¹*Diplotomma lutosum* A. Massal. (syn. ²*Buellia subdispersa* Mig.) – on stone (²Øvstedal et al. 2009, ^[1]).
- Eiglera flavida* (Hepp ex Kremp.) Hafellner – on stone (Konoreva and Chesnokov 2023).
- **Enchylium* cf. *tenax* (Sw.) Gray – 17, on soil. A few scattered occurrences. The nearest known localities in the Oskar II Land – Uversøyra ^[1].
- Enchylium polycarpon* (Hoffm.) Otálora et al. (syn. ¹*Collema polycarpon* Hoffm.) – on stone (¹Lyngé 1938).
- +*Endococcus macrosporus* (Hepp ex Arnold) Nyl. – 21, on the thallus of *Rhizocarpon copelandii* (Konoreva and Chesnokov 2023).
- +*Endococcus propinquus* (Körb.) Trevis. – 3, 4, 6, 10, on the thallus of *Porpidia crustulata*, *P. flavicunda*, *P. melinodes*, *Porpidia* sp., *Rhizocarpon geographicum* (Konoreva and Chesnokov 2023).
- Euopsis granatina* (Sommerf.) Nyl. – 10, 21, on soil and stone (Konoreva and Chesnokov 2023).
- **Euopsis pulvinata* (Schaer.) Vain. – 2, 10, 14, 15, on soil and stone. A few scattered occurrences. The nearest known localities in the Oskar II Land – Kongsfjorden (Lyngé 1938).
- ¹*Flavocetraria cucullata* (Bellardi) Kärnefelt & A. Thell (syn. ²*Cetraria cucullata* (Bellardi) Ach.) – 12, on soil (²Lyngé 1938, ²André 1992, ¹van der Wal et al. 2001, ¹Zawierucha et al. 2017, ^[1]).
- Foveolaria nivalis* (L.) Chesnokov et al. (syn. ¹*Cetraria nivalis* (L.) Ach., ²*Flavocetraria nivalis* (L.) Kärnefelt & A. Thell – 7, 10, 11, 12, 19, 21, on soil among stones, on soil, on mosses and on stone (¹Paulson 1923, ¹Summerhayes and Elton 1923, ¹Lyngé 1938, ¹André 1992, ²van der Wal et al. 2001, ^[1]).
- **Frutidella caesiopatra* (Schaer.) Kalb – 5, on mosses. A few scattered occurrences. The nearest known localities in the Albert I Land – Magdalenefjorden (Fries 1867), Amsterdamøya, Danskøya (Øvstedal et al. 2009).
- Fuscidea austera* (Nyl.) P. James (syn. ¹*Lecanora austera* Nyl.) – on stone (¹Summerhayes and Elton 1923).
- +**Geltingia associata* (Th. Fr.) Alstrup & D. Hawksw. – 19, on thallus of *Ochrolechia frigida*. A few scattered occurrences. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Elvebakk 1984).
- !*Gyalecta peziza* (Mont.) Anzi – 11, on soil. It is characterized by sessile apothecia, strongly constricted at the base, without a thalline margin, up to 2.5 mm in diameter, with a strongly concave, reddish-orange to orange-brown disc, and a thick paler proper margin, simple to sparingly branched in upper part not articulate (without septation) paraphyses, and 3-septate, with parallel septa, hyaline, narrowly ellipsoid ascospores, 12–25 × 4–6 µm (Gagarina 2015). *Gyalecta friesii* Flotow ex Körb. and *G. foveolaris* (Ach.) Schaer. are morphologically very similar to *G. peziza*. However, all three species are clearly distinguished by spore width differences: *G. friesii* – (2.5)3–4(4.5), *G. foveolaris* – (4)5.5–7(9) µm, *G. peziza* – (4)4.5–5.5(6). Additionally, *G. foveolaris* is distin-

guished by apothecia embedded in the substrate, articulate (with septa) paraphyses (Gagarina 2015). It is a mainly arctic-alpine, circumpolar species found on slightly calciferous soil rich in humus, and on terricolous bryophytes. The nearest known localities in the Norway, Sweden, Finland (Westberg *et al.* 2021), Murmansk Region (Gagarina 2015), and Novaya Zemlya archipelago (Kristinsson *et al.* 2010).

Henrica theleodes (Sommerf.) Savić *et al.* – on stone ^[1].

**Hymenelia arctica* (Lynge) Lutzoni – 5, on stone. A few scattered occurrences. The nearest known localities in the Nordenskiöld Land – Colesdalen (Konoreva and Chesnokov 2025).

Hymenelia heteromorpha (Kremp.) Lutzoni – on stone ^[1].

Japewia tornøensis (Nyl.) Tønsberg – 7, 10, 21, on mosses, on soil (Konoreva and Chesnokov 2023).

+!*Lasiosphaeriopsis christiansenii* Alstrup & D. Hawksw. – 3, on thallus of *Porpidia tuberculosa*. Previously *L. christiansenii* was reported on the thallus of *Lecanora polytropa* from Sørkapp Land (Alstrup and Olech 1993). This report seems to belong to *Lasiosphaeriopsis lecanorae* Pérez-Ortega & Halici (Pérez-Ortega and Halici 2008), since the typical host for *L. christiansenii* is *Porpidia tuberculosa* (Alstrup and Hawksworth 1990). *Lasiosphaeriopsis christiansenii* differs from other species of the genus by 4(-5)-spore asci, 3-septate brown ascospores, 26-35 µm in length, and growth on *Porpidia* ssp. (Alstrup and Hawksworth 1990, Pérez-Ortega and Halici 2008). The species is known from Greenland (Alstrup and Hawksworth 1990), Austria (Hafellner 1999), and Island (Svane and Alstrup 2004).

+**Lasiosphaeriopsis lecanorae* Pérez-Ortega & Halici – 5, on thallus of *Lecanora polytropa*. Rare in Svalbard. It was previously known for Sørkapp Land – Sergeijevfjellet (Zhurbenko and Brackel 2013). Reported for the second time for the archipelago.

+**Lasiosphaeriopsis stereocaulicola* (Th. Fr. ex Linds.) O. E. Erikss. & R. Sant. – 3, 14, 19, on thallus of *Stereocaulon arcticum*, *S. vesuvianum*. A few scattered occurrences. The nearest known localities in the Nordenskiöld Land – Colesdalen (Chesnokov *et al.* 2025), Aldegondabreen (Zhurbenko 2010).

Lathagrium cristatum (L.) Otálora *et al.* (syn. ¹*Collema multifidum* (Scop.) Rabenh.) – on stone (¹Lynge 1938).

Lathagrium undulatum (Flot.) Otálora *et al.* (syn. ¹*Collema undulatum* Laurer ex Flat.) – on soil (¹Elvebakk and Hertel 1996).

Lecanora atromarginata (H. Magn.) Hertel & Rambold – on stone ^[1].

Lecanora epibryon (Ach.) Ach. – 1, 3, 10, 12, 20, on soil and on stone (Summerhayes and Elton 1923).

Lecanora marginata (Schaer.) Hertel & Rambold – on stone (Konoreva and Chesnokov 2023).

Lecanora polytropa (Ehrh. ex Hoffm.) Rabenh. (syn. ¹*Lecanora polytropa* f. *alpigena* (Ach.) Schaer.) – 3, 5, 6, 7, 10, 15, 19, 20, 22, on stone (¹Paulson 1923).

Lecanora sulphurea (Hoffm.) Ach. – on stone (Øvstedal *et al.* 2009, ^[1]).

Lecidea auriculata Th. Fr. (syn. ¹*Lecidea auriculata* var. *evoluta* Th. Fr.) – 21, on stone (¹Lynge 1924).

Lecidea confluens (Weber) Ach. – 2, on stone (Paulson 1923, Summerhayes and Elton 1923, ^[1]).

Lecidea ecrustacea (Anzi ex Arnold) Arnold – (Konoreva and Chesnokov 2023).

Lecidea lapicida (Ach.) Ach. (syn. ¹*Lecidea lapicida* var. *declinans* Nyl.) – 6, 12, 22, on stone (¹Paulson 1923, ¹Summerhayes and Elton 1923).

**Lecidea lapicida* var. *pantherina* (Hoffm.) Ach. – 3, 20, on stone. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).

Lecidea lithophila (Ach.) Ach. – on stone (André 1992).

**Lecidea praenubila* Nyl. (syn. ¹*Lecidea paupercula* Th. Fr.) – 12, on stone. A few scattered occurrences. For Svalbard the species was reported from several localities (e.g. ¹Elvebakk and Hertel 1996, ¹Øvstedal et al. 2009). The nearest known localities in the Nordenskiöld Land – Colesdalen (Konoreva and Chesnokov 2025).

**Lecidea ramulosa* Th. Fr. – 9, 20, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Øvstedal et al. 2009, Breuss 2017).

**Lecidea swartzioidea* Nyl. – 3, 15, on stone. A few scattered occurrences. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).

Lecidea syncarpa Zahlbr. – on stone ^[1].

Lecidella anomaloides (A. Massal.) Hertel & H. Kilius (syn. ¹*Lecidea goniophila* sensu H. Magn.) – on stone (¹Paulson 1923).

**Lecidella wulfenii* (Ach.) Körb. – 12, 20, on plant debris, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017), Haakon VII Land – Blomstrandhalvøya (Breuss 2017).

Lecidoma demissum (Rutstr.) Gotth. Schneid. & Hertel – 2, 4, 5, on soil (Konoreva and Chesnokov 2023).

Leciophysma finmarkicum Th. Fr. – 10, 16, 20, on mosses, plant debris, on soil and on stone (Konoreva and Chesnokov 2023).

Leciophysma furfurascens (Nyl.) Gyeln. – on soil ^[1].

Lendemeriella exsecuta (Nyl.) S.Y. Kondr. – on stone (Konoreva and Chesnokov 2023).

**Lendemeriella tornoensis* (H. Magn.) S.Y. Kondr. – 3, 4, 5, 10, on mosses and soil. A few scattered occurrences. The nearest known localities in the Nordenskiöld Land – Colesdalen (Konoreva and Chesnokov 2025), Reindalen (Søchting 1992).

Lepraria gelida Tønsberg & Zhurb. – 11, on soil and mosses (Konoreva and Chesnokov 2023).

¹*Lepraria neglecta* (Nyl.) Lettau (syn. ²*Crocynia neglecta* (Nyl.) Hue) – 4, 5, 6, 7, 12, 15, on soil, on stone and mosses. (²Lynge 1938, ^[1]).

**Leptogium saturninum* (Dicks.) Nyl. – 13, on soil. Rare in Svalbard. The species has been reported from the Nordenskiöld Land – Colesdalen (Konoreva and Chesnokov 2025), James I Land – Blomesletta (Elvebakk 1984, Øvstedal et al. 2009), Haakon VII Land – Siktefjellet (Elvebakk 1984).

Lichenomphalia umbellifera (L.) Redhead et al. – on soil (Konoreva and Chesnokov 2023).

+**Lichenostigma alpinum* (R. Sant., Alstrup & D. Hawksw.) Ertz & Diederich — 2, 12, on thallus of *Ochrolechia frigida*. A few scattered occurrences. The nearest known localities in the Haakon VII Land – Blomstrandhalvøya (Alstrup and Hawksworth 1990).

Lobaria linita (Ach.) Rabenh. – 17, 20, on soil ^[1].

Lopadium coralloideum (Nyl.) Lynge – 3, 12, 20, on soil, on mosses and on soil among stones ^[1].

Lopadium pezizoideum (Ach.) Körb. – 3, 6, 10, 11, 17, 21, on soil, on mosses and plant debris ^[1].

**Massalongia carnosa* (Dicks.) Körb. – 13, on soil. Rare in Svalbard. Before our research, the species was known only from Bünzow Land – Gipsvika (Øvstedal et al. 2009). Previously species reported from Sørkapp Land by Olech (1990). However, during the

revision by Øvstedal et al. (2009), the sample was re-identified as *Placynthium* sp. Reported for the second time for the archipelago.

Megalaria jemtlandica (Th. Fr. & Almq.) Fryday – on mosses (Øvstedal et al. 2009, ^[1]).

**Megaspora verrucosa* (Ach.) L. Arcadia & A. Nordin – 16, 20, on soil and plant debris. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).

Melanelia hepatizon (Ach.) A. Thell (syn. ¹*Cetraria hepatizon* (Ach.) Vain.) – 5, 10, 14, 21, on stone (¹Lynge 1938).

Melanelia stygia (L.) Essl. – 14, 19, on stone and soil (Konoreva and Chesnokov 2023).

+**Merismatium nigritellum* (Nyl.) Vouaux – 3, 7, on thallus of *Micarea incrassata*, *Santessoniella arctophila* and *Tetramelas insignis*. A few scattered occurrences. The nearest known localities in the Nordenskiöld Land (Zhurbenko and Brackel 2013, Chesnokov et al. 2025)

Micarea assimilata (Nyl.) Coppins – 3, 15, 17, 19, 22, on soil and on soil on stones (Konoreva and Chesnokov 2023).

Micarea incrassata Hedl. – 3, 7, 10, 14, 15, on soil (Konoreva and Chesnokov 2023).

Micarea turfosa (A. Massal.) Du Rietz – on soil ^[1].

Miriquidica nigroleprosa (Vain.) Hertel & Rambold – 12, on stone (Konoreva and Chesnokov 2023).

+**Muellerella lichenicola* (Sommerf.) D. Hawksw. – 15, on thallus of *Rhizocarpon intermediellum*. Rare in Svalbard. The species has been reported from the Ny-Friesland – Sorgfjorden, Nordaustlandet – Repøyane (Fries 1867, as *Endococcus pygmaeus* (Körb.) Th. Fr., revised by R. Santesson according to Alstrup and Elvebakk 1996) and Nordenskiöld Land – Colesdalen (Chesnokov et al. 2025).

Myriolecis dispersa (Pers.) Sliwa et al. (syn. ¹*Lecanora galactina* var. *dispersa* (Pers.) Ach.) – on stone (¹Paulson 1923).

Myriolecis thuleana (Poelt) Sliwa et al. (syn. ¹*Arctopeltis thuleana* Poelt) – on stone ^[1].

Myriospora molybdina (Wahlenb.) M. Westb. (syn. ¹*Acarospora molybdina* (Wahlenb.) A. Massal.) – on stone ^[1].

**Myriospora smaragdula* (Wahlenb. ex Ach.) Nägeli ex Uloth – 2, on stone. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).

**Nephroma arcticum* (L.) Torss. – 6, 7, on soil among mosses. A few scattered occurrences. The nearest known localities in the Oskar II Land – Alkepynten (Elvebakk 1984).

Nephroma expallidum (Nyl.) Nyl. – on soil (Øvstedal et al. 2009, ^[1]).

¹*Ochrolechia frigida* (Sw.) Lynge (syn. ²*Lecanora tartarea* var. *frigida* (Sw.) Ach.) – 1–4, 6–8, 10–12, 14–17, 19–22, on soil, on stone and mosses (¹Paulson 1923, ²André 1992).

**Ochrolechia grimmiae* Lynge – 17, 21, on mosses and soil. Widely distributed throughout Svalbard. The nearest known localities in the Haakon VII Land – Fanciullipynen ^[1].

Ochrolechia tartarea (L.) A. Massal. – on stone (Summerhayes and Elton 1923, Lynge 1924).

Ophioparma ventosa (L.) Norman – on stone (Konoreva and Chesnokov 2023).

Orphniospora moriopsis (A. Massal.) D. Hawksw. – 19, on stone (Konoreva and Chesnokov 2023).

Pannaria hookeri (Borrer) Nyl. – 3, 10, on stone and soil (Konoreva and Chesnokov 2023).

Parmelia omphalodes (L.) Ach. – 12, 15, 22, on soil among stones and on stones (Øvstedal et al. 2009).

- Parmelia saxatilis* (L.) Ach. – 10, 12, 15, on soil among stones and on stone (André 1992).
- Parmelia skultii* Hale – on stone ^[1].
- Parmelia sulcata* Taylor – on stone (André 1992).
- Parvoplaca tirolensis* (Zahlbr.) Arup et al. – 10, 12, 16, 17, 20, 21, on plant debris, mosses and soil, on soil on stone ^[1].
- Peltigera aphthosa* (L.) Willd. – 20, on mosses, LK 185 (Summerhayes and Elton 1923).
- Peltigera canina* (L.) Willd. – 6, 7, 13, 17, 20, on soil and mosses (André 1992).
- **Peltigera lepidophora* (Vain.) Bitter – 12, on soil. A few scattered occurrences. The nearest known localities in the Nordenskiöld Land – Kapp Linné (Lyngé 1938).
- **Peltigera leucophlebia* (Nyl.) Gyeln. – 3, 17, 20, on soil and mosses. Widely distributed throughout Svalbard. The nearest known localities in the Nordenskiöld Land (Lyngé 1938, Konoreva and Chesnokov 2025, ^[1]).
- Peltigera lyngae* Gyeln. – 7, 17, on soil, on soil on stone and on mosses (Konoreva and Chesnokov 2023).
- Peltigera malacea* (Ach.) Funck – 2, 3, 6, on soil and mosses (Paulson 1923, Summerhayes and Elton 1923).
- Peltigera rufescens* (Weiss) Humb. – 13, 20, on soil and plant debris ^[1].
- Peltigera scabrosa* Th. Fr. – 6, 7, on soil and mosses ^[1].
- Peltigera venosa* (L.) Hoffm. – on soil (Øvstedal et al. 2009, ^[1]).
- Pertusaria bryontha* (Ach.) Nyl. – on mosses (Øvstedal et al. 2009).
- **Pertusaria oculata* (Dicks.) Th. – 2, 3, 10, 12, on soil and stone. Widely distributed throughout Svalbard. The nearest known localities in the Haakon VII Land – Signehamna, Fanciullipynten ^[1], Nordenskiöld Land – Kapp Linné ^[1].
- Phaeophyscia endococcina* (Körb.) Moberg – on stone ^[1].
- Physcia caesia* (Hoffm.) Fűrnr. – on stone (André 1992).
- Physconia muscigena* (Ach.) Poelt (syn. ¹*Physcia muscigena* (Ach.) Nyl.) – 7, on soil (¹Lyngé 1938).
- **Pilophorus dovrensis* (Nyl.) Timdal, Hertel & Rambold – 3, on stone. A few scattered occurrences. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).
- Placopsis gelida* (L.) Linds. – 3, on stone (Konoreva and Chesnokov 2023).
- **Placynthiella icmalea* (Ach.) Coppins & P. James – 17, on mosses. Rare in Svalbard. The species has been reported from the Edgeøya (Aptroot and Alstrup 1991) and Sørkapp (Øvstedal et al. 2009). Reported for the third time for the archipelago.
- Placynthium asperellum* (Ach.) Trevis. – 6, 8, 10, 12, on stone (Lyngé 1938).
- Placynthium nigrum* (Huds.) Gray – 7, 11, on stone (Konoreva and Chesnokov 2023).
- Poeltinula hochstetteri* (Körb.) E. J. Möller et al. (syn. ¹*Rhizocarpon hochstetteri* (Körb.) Vain.) – 4, 15, 19, on stone (¹Konoreva and Chesnokov 2023).
- Polyblastia cupularis* A. Massal. (syn. ¹*Polyblastia intercedens* (Nyl.) Lönnr.) – on stone (¹Paulson 1923).
- Polyblastia fuscoargillacea* Anzi – 7, 11, on stone (Øvstedal et al. 2009, ^[1]).
- Polyblastia gothica* Th. Fr. – 3, 6, on soil and on soil among mosses (Konoreva and Chesnokov 2023).
- Polyblastia hyperborea* Th. Fr. – on stone ^[1].
- Polyblastia intermedia* Th. Fr. – on stone ^[1].
- **Polyblastia sendtneri* Kremp. – 8, 20, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).
- Polyblastia septentrionalis* Lyngé – on stone (Øvstedal et al. 2009).

Polycauliona candelaria (L.) Frödén et al. (syn. ¹*Xanthoria candelaria* (L.) Th. Fr.) – on stone (¹Lyng 1938).

**Porina mammosa* (Th. Fr.) Vain. – 15, on soil. Rare in Svalbard. It was previously known for Sørkapp Land – Sørkapp (Øvstedal et al. 2009). Reported for the second time for the archipelago.

**Porpidia crustulata* (Ach.) Hertel & Knoph – 3, 6, 8, 19, on stone. Rare in Svalbard. It was previously known for Sørkapp Land (Olech 1990) and Nordenskiöld Land – Colesbukta (Konoreva and Chesnokov 2025). Reported for the third time for the archipelago.

**Porpidia flavicunda* (Ach.) Gowan – 3, 10, 14, 15, on stone. A few scattered occurrences. The nearest known localities in the Oskar II Land – Brøggerhalvøya ^[1].

Porpidia melinodes (Körb.) Gowan & Ahti – 3, 5, 10, 14, 15, 19, on stone and on soil (Konoreva and Chesnokov 2023).

!*Porpidia rugosa* (Taylor) Coppins & Fryday – 19, on stone. Morphologically the species resembles *P. soredizodes* (Lamy ex Nyl.) J. R. Laundon and *P. tuberculosa* (Sm.) Hertel et Knoph. *Porpidia rugosa* differs from both species by thicker, more verrucous thallus with more irregular soralia, and absence of reactions with K, C, P, and I. Moreover, the medulla of *P. tuberculosa* turns blue from iodine, and *P. soredizodes* turns yellow from K and P (Smith et al. 2009). The species is known from Sweden, Norway, Finland (Westberg et al. 2021), Great Britain and Ireland (Smith et al. 2009).

**Porpidia soredizodes* (Lamy ex Nyl.) J. R. Laundon – 4, on stone. Rare in Svalbard. It was previously known for Nordenskiöld Land – Kapp Laila (Øvstedal et al. 2009). Reported for the second time for the archipelago.

Porpidia speirea (Ach.) Kremp. – on stone ^[1].

**Porpidia tuberculosa* (Sm.) Hertel & Knoph – 3, 15, on stone. A few scattered occurrences. The nearest known localities in the Nordenskiöld Land – Bjørndalen (Øvstedal et al. 2009).

**Protoblastenia calva* (Dicks.) Zahlbr. – 10, on stone. A few scattered occurrences. The nearest known localities in the Oskar II Land – Kongsfjorden (Øvstedal et al. 2009).

Protoblastenia rupestris (Scop.) J. Steiner – 8, 10, 11, on limestone (Konoreva and Chesnokov 2023).

**Protoblastenia terricola* (Anzi) Lyng – 20, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).

Protomicarea alpestris (Sommerf.) McCune – 1, on soil and mosses (Konoreva and Chesnokov 2023).

Protopannaria pezizoides (Weber) P. M. Jørg. & S. Ekman – 3, 6, 7, 21, on soil and mosses, on soil on stone (Konoreva and Chesnokov 2023).

Protoparmelia atriseda (Fr.) R. Sant. & V. Wirth s. lat. – on stone (Øvstedal et al. 2009, ^[1]).

Protoparmelia badia (Hoffm.) Hafellner – 1, 10, on stone (Konoreva and Chesnokov 2023).

Protothelenella sphinctrinoidella (Nyl.) H. Mayrhofer & Poelt – on dead mosses (Konoreva and Chesnokov 2023).

Protothelenella sphinctrinoides (Nyl.) H. Mayrhofer & Poelt (syn. ¹*Microglæna sphinctrinoides* (Nyl.) Lönnr.) – 6, 7, on soil (¹Paulson 1923, ¹Summerhayes and Elton 1923).

Pseudephebe minuscula (Nyl. ex Arnold) Brodo & D. Hawksw. – 2, 3, 5, 10, 12, 19, 21, 22, on stone and mosses (André 1992).

Pseudephebe pubescens (L.) M. Choisy – 10, on soil and stone (Konoreva and Chesnokov 2023).

- **Psora rubiformis* (Wahlenb. ex Ach.) Hook. – 11, 12, on soil. A few scattered occurrences. The nearest known localities in the Oskar II Land – Ny-Ålesund area (Hertel 1977).
- Psoroma hypnorum* (Vahl) Gray – 6, 7, 20, on soil (Paulson 1923, Summerhayes and Elton 1923, Lynge 1938, ^[1]).
- Psoroma tenue* var. *boreale* Henssen – 4, on mosses, on soil on stone and plant debris (Konoreva and Chesnokov 2023).
- Rehmia chionea* (Norman) E.J. Möller et al. (syn. ¹*Rhizocarpon chioneum* (Norman) Th. Fr.) – on stone (¹Lynge 1936).
- Rehmia cinereovirens* (Müll. Arg.) E. J. Möller et al. (syn. ¹*Rhizocarpon cinereovirens* (Müll. Arg.) Vain.) – 2, on stone (¹Konoreva and Chesnokov 2023).
- Rehmia umbilicata* (Ramond) E. J. Möller et al. (syn. ¹*Rhizocarpon pseudospeireum* (Th. Fr.) Lynge, ²*R. umbilicatum* (Ram.) Flagey) – 20, on limestone (¹Lynge 1936, ²Øvstedal et al. 2009, ^{2[1]}).
- **Rhexophiale rhexoblephara* (Nyl.) Almq. – 6, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Ny-Ålesund area (Øvstedal et al. 2009).
- Rhizocarpon alpicola* (Fr.) Rabenh. – 2, on stone (Konoreva and Chesnokov 2023).
- Rhizocarpon cinereonigrum* Vain. – 21, on stone (Konoreva and Chesnokov 2023).
- Rhizocarpon copelandii* (Körb.) Th. Fr. – 5, 10, 12, 19, on stone and soil (Konoreva and Chesnokov 2023).
- Rhizocarpon disporum* (Nägeli ex Hepp) Müll. Arg. – on stone (Lynge 1936, ^[1]).
- Rhizocarpon distinctum* Th. Fr. – on stone (Paulson 1923, Lynge 1936, Elvebakk and Hertel 1996).
- **Rhizocarpon eupetraeoides* (Nyl.) Blomb. & Forssell – 10, 12, 19, on stone. Rare on Svalbard. Previously reported from Amsterdamøya (Hertel and Ullrich 1976) and from several localities on Nordaustlandet (Konoreva et al. 2024).
- Rhizocarpon expallescens* Th. Fr. – 2, 3, 15, on stone (Konoreva and Chesnokov 2023).
- Rhizocarpon ferax* H. Magn. – 5, 7, 10, 12, 17, on stone (Konoreva and Chesnokov 2023).
- Rhizocarpon geminatum* Körb. – on stone (Paulson, 1923, Summerhayes and Elton 1923).
- ¹*Rhizocarpon geographicum* (L.) DC. (syn. ²*Rhizocarpon geographicum* var. *atrovirens* (L.) Körb.) – 1, 3, 4, 6, 10, 12, 14, 15, 19, 20, 21, 22, on stone (²Paulson 1923, ¹Summerhayes and Elton 1923, ¹Lynge 1936, ¹André 1992).
- Rhizocarpon grande* (Flörke) Arnold – on stone ^[1].
- Rhizocarpon inarense* (Vain.) Vain. – 2, 10, 19, on stone (Konoreva and Chesnokov 2023).
- **Rhizocarpon intermediellum* Räsänen – 2, 15, on stone. A few scattered occurrences. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).
- **Rhizocarpon jemtlandicum* Malme – 2, 10, 12, 15, on stone. A few scattered occurrences. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).
- **Rhizocarpon polycarpum* (Hepp) Th. Fr. – 7, on stone. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Kongsfjorden (Elvebakk and Hertel 1996).
- Rhizoplaca melanophthalma* (DC.) Leuckert & Poelt (syn. ¹*Lecanora melanophthalma* (DC.) Ramond) – on stone (¹André 1992).
- **Rinodina mniaroea* (Ach.) Körb. – 7, on soil. A few scattered occurrences. The nearest known localities in the Oskar II Land – Ny-Ålesund area ^[1].

**Rinodina mniaroea* var. *cinnamomea* Th. Fr. – 20, on soil. Rare in Svalbard. Reported for the second time for the archipelago. Previously reported from Nordenskiöld Land – Colesdalen (Konoreva and Chesnokov 2025).

Rinodina olivaceobrunnea C.W. Dodge & G.E. Baker – 3, 6, 10, on mosses, plant debris, on soil, and on soil on stone (Konoreva and Chesnokov 2023).

Rinodina roscida (Sommerf.) Arnold – 17, on plant debris and mosses (Konoreva and Chesnokov 2023).

**Rinodina turfacea* (Wahlenb.) Körb. – 6, 7, 20, on soil and plant debris. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).

Rostania ceranisca (Nyl.) Otálora et al. (syn. ¹*Collema arcticum* Lynge) – 1, 3, 6, 7, 8, 11, 12, 16, 20, on plant debris, on soil, mosses and on soil on stone (¹Lynge 1938).

Rusavskia elegans (Link) S. Y. Kondr. & Kärnefelt (syn. ¹*Xanthoria elegans* (Link) Th. Fr.) – 6, 13, 17, on stone (¹André 1992, ¹van der Wal et al. 2001).

**Sagedia zonata* Ach. – 2, 10, on stone. Rare in Svalbard. Previously reported from Nordenskiöld Land – Colesdalen (Konoreva and Chesnokov 2025). Reported for the second time for the archipelago.

**Santessoniella arctophila* (Th. Fr.) Henssen – 7, 20, on soil. A few scattered occurrences. The nearest known localities in the Nordenskiöld Land – Reindalen ^[1].

**Schadonia fecunda* (Th. Fr.) Vězda & Poelt – 6, on soil. Rare in Svalbard. It is known from Albert I Land – Amsterdamøya and Ny-Friesland – Wijdefjorden (Øvstedal et al. 2009).

+**Sclerococcum amygdalariae* (Triebel) Ertz & Diederich (syn. ¹*Dactylospora amygdalariae* Triebel) – 12, 15, on thallus of *Amygdalaria panaeola*. Rare in Svalbard. Previously reported from Oskar II Land – Brøggerhalvøya (¹Triebel 1989). Reported for the second time for the archipelago.

+**Sclerococcum deminutum* (Th. Fr.) Ertz & Diederich – 3, on thallus of *Tetramelas insignis*. Widely distributed throughout Svalbard. The nearest known localities in the Nordenskiöld Land (Zhurbenko and Brackel 2013).

+!*Sclerococcum protothallinum* (Anzi) Ertz & Diederich — 7, on thallus of *Santessoniella arctophila*. The species is characterized by black convex apothecia with a thin exciple, a red-brown hypothecium and 1-septate brown ascospores and growth on representatives of Pannariaceae (Hafellner 1979). The species is known from Italy, Sweden (Hafellner 1979), Finland (Alstrup and Ahti 2007), and India (Joshi et al. 2018). *Scytinium imbricatum* (P. M. Jørg.) Otálora et al. – 12, on soil ^[1].

Scytinium intermedium (Arnold ex Malbr.) Otálora et al. – 1, 12, 20, on soil and plant debris (Konoreva and Chesnokov 2023).

**Scytinium lichenoides* (L.) Otálora et al. – 8, 20, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Haakon VII Land – Blomstrandhalvøya ^[1].

Scytinium pulvinatum (Hoffm.) Otálora et al. (syn. ¹*Leptogium pulvinatum* (Hoffm.) Cromb.) – on soil (¹Lynge 1938).

**Solorina bispora* Nyl. – 1, 11, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).

Solorina crocea (L.) Ach. – 3, on soil and on soil on stone (Paulson 1923, Summerhayes and Elton 1923, Lynge 1924, 1938; van der Wal et al. 2001, Øvstedal et al. 2009, ^[1]).

**Solorina saccata* (L.) Ach. – 12, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Haakon VII Land – Blomstrandhalvøya (Breuss 2017).

**Solorina spongiosa* (Bernh.) Anzi – 13, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Ny Ålesund area ^[1].

- +**Sphaerellothecium minutum* Hafellner – 6, on thallus of *Sphaerophorus globosus*. A few scattered occurrences. The nearest known localities in the Nordenskiöld Land (Zhurbenko and Brackel 2013).
- Sphaerophorus globosus* (Huds.) Vain. – 6, 12, 15, 19, 20, 22, on soil, on stone and mosses (Paulson 1923, Summerhayes and Elton 1923, Lyngé 1924, 1938; André 1992, van der Wal et al. 2001, ^[1]).
- Sporastatia polyspora* (Nyl.) Grummann (syn. ¹*Sporastatia cinerea* (Schaer.) Körb.) – 3, 10, 19, 22, on stone (¹André 1992).
- Sporastatia testudinea* (Ach.) A. Massal. – on stone (Konoreva and Chesnokov 2023).
- **Sporodictyon arcticum* Savić & Tibell – 7, on stone. A few scattered occurrences. The nearest known localities in the Oskar II Land – Brøggerhalvøya (Breuss 2017).
- Sporodictyon terrestre* (Th. Fr.) Savić & Tibell – 1, 12, on stone (Konoreva and Chesnokov 2023).
- **Steinia geophana* (Nyl.) Stein – 4, on soil. A few scattered occurrences. The nearest known localities in the Nordenskiöld Land – near Longyearbyen (Zhurbenko and Brackel 2013).
- Stereocaulon alpinum* Laurer – 10, 15, 17, 19, 20, on soil and mosses (Paulson 1923, Summerhayes and Elton 1923, Lyngé 1938).
- **Stereocaulon arcticum* Lyngé – 1, 3, 4, 14, 15, 17, 19, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Ny-Ålesund ^[1].
- Stereocaulon botryosum* Ach. – 2, 3, 10, 12, 21, on soil and stone (Konoreva and Chesnokov 2023).
- Stereocaulon capitellatum* H. Magn. – on soil (Konoreva and Chesnokov 2023).
- Stereocaulon glareosum* (Savicz) H. Magn. – 3, 6, 15, 20, on soil and dead mosses on stone (Konoreva and Chesnokov 2023).
- Stereocaulon rivulorum* H. Magn. – 10, 15, on soil and stone (Konoreva and Chesnokov 2023).
- Stereocaulon vesuvianum* Pers. (syn. ¹*Stereocaulon denudatum* Flörke, ²*S. denudatum* var. *pulvinatum* (Rabenh.) Flot.) – 3, 10, 15, 19, 21, on soil and stone (¹Paulson 1923, ²Summerhayes and Elton 1923, ¹Lyngé 1924).
- +**Stigmidium peltideae* (Vain.) R. Sant. – 17, on thallus of *Peltigera canina*. A few scattered occurrences. The nearest known localities in the Nordenskiöld Land – Longyearbyen area (Zhurbenko and Brackel 2013).
- **Tetramelas concinnus* (Th. Fr.) Giralt – 15, on stone. Rare in Svalbard. Previously reported from Nordenskiöld Land – Adventdalen, Nathorst Land – Akseløya (Øvstedal et al. 2009), Barentsøya – Frankenhøya (Konoreva and Chesnokov 2022).
- Tetramelas geophilus* (Flörke ex Sommerf.) Norman (syn. ¹*Buellia disciformis* var. *triphragma* (Nyl.) H. Olivier) – 10, on soil (¹Paulson 1923).
- Tetramelas insignis* (Körb.) Kalb (syn. ¹*Buellia disciformis* var. *insignis* (Körb.) Flagey) – 1, 3, 4, 6, 15, 17, 20, 21, on soil, on mosses and plant debris (¹Summerhayes and Elton 1923).
- ¹*Thamnia vermicularis* (Sw.) Schaer. (syn. ²*Cerania vermicularis* (Sw.) Gray) – 5, 11, 12, 17, 21, 22, on soil and mosses (²Paulson 1923, ²Summerhayes and Elton 1923, ¹Lyngé 1938, ¹André 1992, ¹van der Wal et al. 2001).
- Thelidium microsporum* Lyngé – on stone ^[1].
- Thelidium pyrenophorum* (Ach.) Mudd – on stone (Paulson 1923, ^[1]).
- **Thelignya lignyota* (Wahlenb.) P.M. Jørg. & Henssen – 6, on stone. Rare in Svalbard. Previously reported from Hornsund, Sørkapp Land (Elvebakk and Hertel 1996), Heer

Land – Kjellstrømdalen (Øvstedal et al. 2009) and Nordenskiöld Land – Colesdalen (Konoreva and Chesnokov 2025).

**Toensbergia geminipara* (Th. Fr.) T. Sprib. & Resl (syn. ¹*Pertusaria geminipara* (Th. Fr.) C. Knight) – 3, 5, 10, 11, 17, on soil and mosses. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya ^[1].

Toninia squalida (Ach.) A. Massal. – on stone (Elvebakk and Hertel 1996, ^[1]).

**Toniniopsis bagliettoana* (A. Massal. & De Not.) Kistenich & Timdal (syn. ¹*Bacidia bagliettoana* (Massal. & De Not.) Jatta) – 8, 15, 18, 20, on soil. Widely distributed throughout Svalbard. The nearest known localities in the Oskar II Land – Brøggerhalvøya ^[1].

Tremolecia atrata (Ach.) Hertel (syn. ¹*Lecidea dicksonii* (J. F. Gmel.) Ach.) – 2, 3, 5, 10, 15, 19, 22, on stone (¹Lynge 1924).

Umbilicaria aprina Nyl. – on stone ^[1].

¹*Umbilicaria arctica* (Ach.) Nyl. (syn. ²*Gyrophora arctica* Ach.) – on stone (²Lynge 1938, ¹André 1992, ^[1]).

Umbilicaria crustulosa (Ach.) Lamy – on stone (Konoreva and Chesnokov 2023).

¹*Umbilicaria cylindrica* (L.) Delise (syn. ²*Gyrophora cylindrica* (L.) Ach.) – 3, 15, 19, 21, on stone (Lynge ²1924, ²1938, ¹André 1992, ^[1]).

Umbilicaria decussata (Vill.) Zahlbr. – on stone (André 1992).

Umbilicaria hyperborea (Ach.) Hoffm. – 6, 7, 15, 21, on stone (André 1992).

Umbilicaria polyphylla (L.) Baumg. – on stone (van der Wal et al. 2001).

¹*Umbilicaria proboscidea* (L.) Schrad. (syn. ²*Gyrophora proboscidea* (L.) Ach.) – 1, 3, 5, 6, 10, 12, 15, 19, 21, 22, on stone (²Paulson 1923, ²Summerhayes and Elton 1923, ²Lynge 1924, ¹André 1992).

¹*Umbilicaria torrefacta* (Lightf.) Schrad. (syn. ²*Gyrophora torrefacta* (Lightf.) Cromb, ³*Umbilicaria erosa* (Weber) Hoffm.) – 3, 10, 14, on stone (²Lynge 1938, ³André 1992, ^[1]).

Umbilicaria virginis Schaer. – 21, on stone (André 1992, ^[1]).

Verrucaria caerulea DC. – on stone ^[1].

Verrucaria ceuthocarpa Wahlenb. – on stone ^[1].

Verrucaria glaucina auct. non Ach. – on stone (Øvstedal et al. 2009).

Vestergrenopsis elaeina (Wahlenb.) Gyeln. – on stone (Konoreva and Chesnokov 2023).

Xanthoria parietina (L.) Th. Fr. – on stone (Paulson 1923, Summerhayes and Elton 1923).

Xylographa trunciseda (Th. Fr.) Minks ex Redinger – on driftwood (Konoreva and Chesnokov 2023).

Discussion

In total, 283 species of lichens and 21 species of lichenicolous fungi, of which 87 species are listed for the first time for the study region, are included currently in the list for Prins Karls Forland. Among them, *Arthonia epipolytropa*, *Gyalecta peziza*, *Lasiosphaeriopsis christiansenii*, *Porpidia rugosa*, *Sclerococcum protothallinum* reported to the first time for the Svalbard. Sixty-nine species known from

the literature (Paulson 1923, Summerhayes and Elton 1923, Lynge 1924, 1936, 1938; André 1992, Elvebakk and Hertel 1996, van der Wal et al. 2001, Øvstedal et al. 2009, Zawierucha et al. 2017, ^[1]) are confirmed by our original data. In our study, the most studied is the central part, where 157 species have been found; the northern (147) and southern (7) parts are less studied. Currently, the list of lichens

of Prins Karls Forland is the third largest in terms of number of species for the Svalbard archipelago (after the large islands of West Spitsbergen and Nordaustlandet). Prins Karls Forland is significantly smaller (615 km²) than such islands as Edgeøya (5 074 km²) and Barentsøya (1 288 km²) in terms of area. Despite this fact the list of lichens found here is significantly larger than on these islands. According to Aptroot and Alstrup (1991), 119 lichen species are known for Edgeøya, and according to Konoreva and Chesnokov (2022), 211 species are known for Barentsøya. Preliminary, it can be assumed that a much greater diversity of lichen species is observed here than in the northern and eastern parts of the archipelago, as a result of the influence of the warm Gulf Stream. And although it is true that, taking into account data from the last 10 years ^[3], the average annual temperatures in the area of Prints Karls Forland and, for example, in the area of Longyarbyen, differ by almost a degree (−5.2°C and −6.3°C, respectively), this is not the key and only reason for the high diversity of lichens in the studied area. We will also add that there are areas on the archipelago with higher average annual temperatures, such as Hornsund (−4.4°C ^[3]), but their lichen biota currently includes about 120 species (Elvebakk and Hertel 1996, Øvstedal et al. 2009, ^[1]). We can say that it is always difficult to identify taxa, such as *Agonimia gelatinosa*, *Buellia leptocline*, *Candelariella borealis*, *Lecideia lapicida* var. *pantherina*, *L. praenubila*, *Massalongia carnosa*, *Pilophorus dovrensis*, *Placynthiella icmalea*, *Porina mammillosa*, *Porpidia soredizodes*, *Rhizocarpon intermediellum*, *Sagedia zonata*, *Santesoniella arctophila*, *Steinia geophana*, *Thelignya lignyota*, because they are small in size, poorly visible and therefore missed by researchers. In spite of that the above-specified taxa have been found, identified, and added to the list for the first time. This taxa are common for polar deserts, tundra and mountain regions. The same can be

said of reported to the first time lichencolourous fungi, which are generally extremely small and difficult to identify. There are many species that are widespread in the archipelago and in the Arctic as a whole (almost a third – 27) among the taxa reported for this territory to the first time. This rather speaks to the insufficient study of the lichen biota of Prins Karls Forland. Another third of the species discovered in the study area for the first time (31) are scattered occurrences. Twenty-five of the newly identified species are rare on the archipelago. *Amygdalaria elegantior*, *Carbonea super-sparsa*, *Lasiosphaeriopsis lecanorae*, *Massalongia carnosa*, *Porina mammillosa*, *Porpidia soredizodes*, *Rinodina mniaroea* var. *cinnamomea*, *Sagedia zonata*, *Sclerococcum amygdalariæ* are given for the second time for the Svalbard. *Agonimia tristicula*, *Placynthiella icmalea*, *Porpidia crustulata* reported for the third time. There are no foliose or fruticose lichens among the species identified for the first time. All these finds are represented by crustose, difficult to identify taxa, characteristic of arctic and mountainous regions. This can be partly explained by the fact that the research was carried out on the eastern side of the island (see map, Fig. 1), where glaciers are also located, i.e. this area is not directly influenced by the warm current. Perhaps if research is carried out on the western shore of Prins Karls Forland, the list of lichen species will be significantly expanded. However, this part of the island is quite difficult to access for research. In addition, as our previous experience (e.g., Konoreva 2014, Konoreva and Chesnokov 2024, 2025) shows, lichen species typical of more southern areas can be observed in large bays, such as Colesbukta, Billefjorden, and inland fjords protected from strong winds by mountain ranges and intricately indented coastlines. The rather narrow island of Prins Karls Forland, having no such bays, extensioned from north to south for a considerable dis-

tance (85 km), but small in width (5 – 11 km), is subject to the harsh influence of winds from the west and north, and small closed parts are located just along the east coast of the island, closed by the Forlandet mountain range. The high diversity of lichens on Prins Karls Forland can rather be explained by the complex geological history. The island is formed by metamorphic basement rocks (schists, phyllite, quartzites *etc.*). Lower Tertiary sandstones and con-

glomerates are presented as well, mainly in the northern part on the eastern side at the coast. Thus, a number of rare and reported to the first time species of lichens are characteristic of rocks with a high content of available calcium, such as *Amygdalaria elegantior*, *Massalongia carnosa*, *Porina mammillosa*, *Rinodina mniaroea* var. *cinnamomea*, and *Sagedia zonata*.

Conclusion

Thus, Prins Karls Forland, despite its small area, has a high diversity of lichens. This is mainly due to the complexity of the geological formation of the territory and

the high diversity of rocks. The presence of both calcium-containing and silicate rocks determines the presence of lichen species characteristic of both types.

References

- ALSTRUP, V., AHTI, T. (2007): New reports of lichenicolous fungi, mainly from Finland and Russia. *Karstenia*, 47: 1-4.
- ALSTRUP, V., ELVEBAKK, A. (1996): A catalogue of Svalbard plants, fungi, algae and cyanobacteria. Part 5. Fungi III. Lichenicolous fungi. *Norsk Polarinstitutt Skrifter*, 198: 261-270.
- ALSTRUP, V., HAWKSWORTH, D. L. (1990): The lichenicolous fungi of Greenland. *Meddelelser om Grønland. Bioscience*, 31: 1-90.
- ALSTRUP, V., OLECH, M. (1993): Lichenicolous fungi from Spitsbergen. *Polish Polar Research*, 14: 33-42.
- ANDRÉ, F. (1992): Plant colonization and geodynamics of slopes in a polar oceanic environment (Svalbard, 79° N). *Polar Geography and Geology*, 16(4): 329-347.
- APTROOT, A., ALSTRUP, V. (1991): Lichens from Edgeøya, Svalbard. *Graphis Scripta*, 3: 73-75.
- BERTHLING, I., ETZELMÜLLER, B., EIKEN, T. and SOLLID, J. L. (1998): Rock glaciers on Prins Karls Forland, Svalbard. I: internal structure, flow velocity and morphology. *Permafrost and Periglacial Processes*, 9(2): 135-145.
- BREUSS, O. (2017): Flechten aus Spitzbergen im Herbarium des Oberösterreichischen landesmuseums (LI), gesammelt 1975 von Werner Repetzky. *Stappia*, 107: 163-168.
- CHESNOKOV, S. V., DAVYDOV, E. A., KONOREVA, L. A., PROKOPIEV, I. A., PORYADINA, L. N., ZHELUDEVA, E. V., and SHAVARDA, A. L. (2023): The monotypic genus *Flavocetraria* and two new genera: *Cladocetraria* and *Foveolaria*, in the cetrarioid core. *Plant Systematics and Evolution*, 309: 24.
- CHESNOKOV, S. V., KONOREVA, L. A. and ZHURBENKO, M. P. (2025): New records of lichenicolous fungi from the vicinity of Colesbukta Bay (Svalbard Archipelago). *Novosti Sistematiki Nizshikh Rastenii*, 59(2): F9-F16.
- DALLMANN, W. K. (2020): Notes on the geology of Prins Karls Forland: Review and results of geological mapping and investigations in 2012–14. *Norsk Polarinstitutt Rapportserie*, 152: 1-103.

- EKMAN, S. (2023): Four new and two resurrected species of *Bacidina* from Sweden, with notes and a preliminary key to the known Scandinavian species. *Nordic Journal of Botany*, 2023(5): e03846.
- ELVEBAKK, A. (1984): Contributions to the lichen flora and ecology of Svalbard, arctic Norway. *Bryologist*, 87(4): 308-313.
- ELVEBAKK, A., HERTEL, H. (1996): A catalogue of Svalbard plants, fungi, algae and cyanobacteria. Part 6. Lichens. *Norsk Polarinstitutt Skrifter*, 198: 271-359.
- FRIES, T. M. (1860): *Lichenes arctoi Europae Groenlandiaeque hactenus cogniti*. Uppsala, 298 p.
- FRIES, T. M. (1867): Lichenes Spitzbergensis. *Kongl. Svenska Vetenskaps-Akademiens Handlingar, Stockholm*, 7: 1-53.
- GAGARINA, L. V. (2015): Gyalectoid lichens (families Gyalectaceae Stizenb. and Coenogoniaceae (Fr.) Stizenb.) in extratropical Eurasia. St. Petersburg, 240 p. (In Russian).
- HAFELLNER, J. (1979): Karschia. Revision einer Sammelgattung an der Grenze von lichenisierten und nichlichenisierten Ascomyceten. *Nova Hedwigia*, 62: 1-248.
- HAFELLNER, J. (1999): Contributions to a prodromus of the lichenicolous fungi of Austria and neighbouring areas. IV. Three new species and further remarkable records mainly from Styria. *Linzer biologische Beiträge*, 31: 507-532.
- HAFELLNER, J. (2021): *Carbonea tephromelae* in the European Alps and selected distributional data for other *Carbonea* species. *Fritschiana*, 97: 19-34.
- HAFELLNER, J., GRUBE, M. (2023): *Arthonia epipolytropa* and *Arthonia subclemens*, two new lichenicolous species on *Lecanora polytropa*, with a key to the microfungi known on this common species. *The Lichenologist*, 55(5): 241-251.
- HANSEN-BAUER, I., KRISTENSEN SOLÅS, M., and STEFFENSEN, E. L. (1990): *The climate of Spitsbergen*. The Norwegian Meteorological Institute, Oslo, 58 p.
- HERTEL, H. (1977): Bemerkenswerte Flechtenfunde aus dem Gebiet des Kongsfjordes und des Isfjordes (Spitzbergen). *Herzogia*, 4: 367-401.
- HERTEL, H., ULLRICH, H. (1976): Flechten von Amsterdamøya (Svalbard). *Mitteilungen der Botanischen Staatssammlung München*, 12: 417-512.
- HJELLE, A., PIEPOHN, K., SAALMANN, K., OHTA, Y., SALVIGSEN, O., THIEDIG, F., and DALLMANN, W. K. (1999): Geologic map of Svalbard 1: 100 000, sheet A7G Kongsfjorden. *Norsk Polarinstitutt Temakart*, 30.
- JOSHI, Y., TRIPATHI, M., BISHT, K., UPADHYAY, S., KUMAR, V., PAL, N., GAIRA, A., PANT, S., RAWAT, K. S., BISHT, S., BAJPAI, R. and HALDA, J. P. (2018): Further contributions to the documentation of lichenicolous fungi from India. *Kavaka*, 50: 26-33.
- KONDRATYUK, S. Y., LÖKÖS, L., FARKAS, E., KÄRNEFELT, I., THELL, A., YAMAMOTO, Y. and HUR, J.-S. (2020): Three new genera of the Teloschistaceae proved by three gene phylogeny. *Acta Botanica Hungarica*, 62(1-2): 109-136.
- KONOREVA, L. (2011): Five lichen species new to Svalbard. *Graphis Scripta*, 23: 24-26.
- KONOREVA, L. (2014): *Sarcosagium campestre* (Fr.) Poetsch & Schied. – the new lichen species with ephemeroid fruit bodies from Svalbard. In: *Abstracts and Contact list of Polar Ecology Conference*, České Budějovice, Czech Republic, Sept. 2014. České Budějovice, pp. 75–76.
- KONOREVA, L. A., CHESNOKOV, S. V. (2021): Lichens of Innvika Bay, Prins Oscars Land (Nordaustlandet, Svalbard). *Czech Polar Reports*, 11: 253-269.
- KONOREVA, L. A., CHESNOKOV, S. V. (2022): Lichens of the Frankenhavøya Peninsula, Northern of Barentsøya, Svalbard. *Polish Polar Research*, 48(1): 37-68.
- KONOREVA, L. A., CHESNOKOV, S. V. (2023): Addition to the lichen biota of Prins Karls Forland (Svalbard archipelago). *Novosti sistematiki nizshikh rastenii*, 57(2): L7-L14.
- KONOREVA, L. A., CHESNOKOV, S. V. (2025): Lichens in the vicinity of Colesdalen, one of the “hot points” of the Svalbard archipelago. *Czech Polar Reports*, 15(1): 146-166.
- KONOREVA, L. A., CHESNOKOV, S. V. and BOLSHAKOV, S. YU. (2024): Inventory of lichenised and lichenicolous fungi of Nordaustlandet, Svalbard. *Polar Biology*, 47: 639-649.
- KONOREVA, L., KOZHIN, M., CHESNOKOV, S. and HONG, S. G. (2019): Lichens and vascular plants in Duvefjorden area on Nordaustlandet, Svalbard. *Czech Polar Reports*, 9(2): 182-199.

- KRISTINSSON, H., ZHURBENKO, M. P. and HANSEN, E. S. (2010): Panarctic checklist of lichens and lichenicolous fungi. *CAFF Technical Report*, 20: 1-120.
- LUMBSCH, H. T., HUHNDOFF, S. M. (2010): Myconet Volume 14. Part One. Outline of Ascomycota–2009. Part Two. Notes on Ascomycete Systematics. Nos. 4751–5113. *Fieldiana Life and Earth Sciences*, 1: 1-64.
- LYNGE, B. (1924): Lichens from Spitzbergen I. *Resultater av de norske Statsunderstøtte de Spitsbergenekspeditioner*, 5: 1-21.
- LYNGE, B. (1936): The lichen genus *Rhizocarpon* on the west and north coast of Spitsbergen and Nordostlandet (The North East land). *Svensk Botanisk Tidskrift*, 30: 307-323.
- LYNGE, B. (1938): Lichens from the west and north coasts of Spitsbergen and the North-East Land collected by numerous expeditions. I. The macrolichens. *Skrifter Norsk videnskaps-akademi i Oslo. I. Matematisk-naturvidenskabelig klasse*, 6: 1-136.
- MÖLLER, E.J., TIMDAL, E., HAUGAN, R., and BENDIKSBY, M. (2025): Integrative taxonomy and genus delimitation in the Rhizocarpaceae (lichenized Ascomycota). *Fungal Systematics and Evolution*, 16(1): 215-232.
- OLECH, M. (1990): Lichens of the NW Sörkapp Land (Spitsbergen). *Zeszyty Naukowe Uniwersytetu Jagiellonskiego [Prace Botaniczne]*, 21: 197-210.
- OSYCZKA, P. (2006): The lichen genus *Cladonia* (Cladoniaceae, lichenized Ascomycota) from Spitsbergen. *Polish Polar Research*, 27(3): 207-242.
- ØVSTEDAL, D. O., TØNSBERG, T. and ELVEBAKK, A. (2009): The lichen flora of Svalbard. *Sommerfeltia*, 33: 1-393.
- PAULSON, R. (1923): Spitsbergen lichens. *Journal of Botany*, 6: 77-81.
- PÉREZ-ORTEGA, S., HALICI, M. G. (2008): *Lasiosphaeriopsis lecanorae* sp. nov. (Ascomycota, Nitschkiaceae) on *Lecanora polytropa* from Spain with a key to the known species of the genus. *Mycotaxon*, 104: 247-251.
- SMITH, C. W., APTROOT, A., COPPINS, B. J., FLETCHER, A., GILBERT, O. L., JAMES, P. W. and WOLSELEY, P. A. (2009): *The lichen flora of Great Britain and Ireland*. British Lichen Society, London, 1046 p.
- SØCHTING, U. (1992): On the identity and distribution of some Nordic *Caloplaca* species. *Graphis Scripta*, 4: 91-92.
- SPRIBILLE, T., FRYDAY, A. M., PÉREZ-ORTEGA, S., SVENSSON, M., TØNSBERG, T., EKMAN, S., HOLIEN, H., RESL, P., SCHNEIDER, K., STABENTHEINER, E., THÜS, H., VONDRÁK, J., and SHARMAN, L. (2020): Lichens and associated fungi from Glacier Bay National Park, Alaska. *The Lichenologist*, 52(2): 61-181.
- SUMMERHAYES, V. S., ELTON, C. S. (1923): Contributions to the ecology of Spitsbergen and Bear Island. *The Journal of Ecology*, 11: 214-286.
- SVANE, S. J., ALSTRUP, V. (2004): Some lichenicolous fungi from Iceland. *Acta Botanica Islandica*, 14: 53-58.
- TRIEBEL, D. (1989): Lecideicole Ascomyceten. Eine Revision der obligat lichenicolen Ascomyceten auf lecideoiden Flechten. *Bibliotheca Lichenologica*, 35: 1-278.
- URBANAVICHENE, I. N., KOROLEVA, N. E. (2008): Lichens. In: N. E. Koroleva, N. A. Konstantinova, O. A. Belkina, D. A. Davydov, A. Yu. Likhachev, A. N. Savchenko, I. N. Urbanavichene (eds.): *Flora of Vegetation of Grønffjord area (Spitsbergen archipelago)*. K&M, Apatity, pp. 81–92. (In Russian).
- VAN DER WAL, R., BROOKER, R., COOPER, E., and LANGVATN, R. (2001): Differential effects of reindeer on high Arctic lichens. *Journal of Vegetation Science*, 12(5): 705-710.
- WESTBERG, M., MOBERG, R., MYRDAL, M., NORDIN, A. and EKMAN, S. (2021): *Santesson's Checklist of Fennoscandian Lichen-Forming and Lichenicolous Fungi*. Uppsala University, Museum of Evolution, 933 p.
- WESTBERG, M., WEDIN, M. and SVENSSON, M. (2024): *Myriospora molybdina* comb. nov. and the identity of *Acarospora hysgina*. *Nordic Journal of Botany*, 2024(6): e04269.
- ZAWIERUCHA, K., WĘGRZYN, M., OSTROWSKA, M. and WIETRZYK, P. (2017): Tardigrada in Svalbard lichens: Diversity, densities and habitat heterogeneity. *Polar Biology*, 40: 1385-1392.

- ZHURBENKO, M. P. (2009): Lichenicolous fungi and lichens from the Holarctic. Part II. *Opuscula Philolichenum*, 7: 121-186.
- ZHURBENKO, M. P. (2010): Lichenicolous fungi and lichens growing on *Stereocaulon* from the Holarctic, with a key to the known species. *Opuscula Philolichenum*, 8: 9-39.
- ZHURBENKO, M. P., ALSTRUP, V. (2004): Lichenicolous fungi on *Cladonia* mainly from the Arctic. *Acta Universitatis Upsaliensis: Symbolae botanicae Upsalienses*, 34(1): 477-499.
- ZHURBENKO, M. P., BRACKEL, W. V. (2013): Checklist of Lichenicolous Fungi and Lichenicolous Lichens of Svalbard, Including New Species, New Records and Revisions. *Herzogia*, 26(2): 323-359.

Web sources / Other sources

- [1] 'Svalbard Lichen Database' (http://www.nhm2.uio.no/botanisk/nxd/sval_L/sld_e.htm)
- [2] 'TopoSvalbard' (<https://toposvalbard.npolar.no/>)
- [3] 'Meteoblue' (<https://www.meteoblue.com/>)

Supplementary Materials

No.	Localities	Coordinate	Altitude	Communities	Collection date
1	Selvågen, coast of Kulpen, near Klubben	78°32'56.1"N, 11°14'42.4"E	14 m	moist tundra on a slope with <i>Salix polaris</i>	2 VIII 2016
2	Selvågen, coast of Kulpen, near Klubben	78°32'58"N, 11°15'02.5"E	19 m	rock outcrops	2 VIII 2016
3	Sørflaket, Sessflya, near Reinhardpynten	78°33'38.7"N, 11°17'21.6"E	13 m	lichen-grass tundra with shale outcrops on the second terrace	3 VIII 2016
4	Sørflaket, Sessflya, near Sesshøgda	78°33'51.8"N, 11°16'45.6"E	20 m	rocky tundra	3 VIII 2016
5	Sørflaket, Sessflya, near Sesshøgda	78°33'55.1"N, 11°16'21.8"E	40 m	rocky tundra	3 VIII 2016
6	Scotiadalen, a hill in a river valley	78°31'19.3"N, 11°12'30.9"E	44 m	moss-lichen-grass tundra	4 VIII 2016
7	Scotiadalen, a hill in a river valley	78°31'13"N, 11°12'42.5"E	50 m	grass-moss tundra	4 VIII 2016
8	Scotiadalen, a hill in a river valley, near Baklia	78°31'01.3"N, 11°12'59.7"E	72 m	stones on the slope	4 VIII 2016
9	Scotiadalen, about 850 m SSW from Kulpen	78°31'53.8"N, 11°13'13.4"E	15 m	rocks on the river bank with mosses	4 VIII 2016
10	Kulpen, Selvågflya	78°32'15.5"N, 11°17'42.7"E	39 m	rocky outcrops along the stream	6 VIII 2016

11	Kulpen, Selvågflya	78°32'20.7"N, 11°19'15.3"E	37 m	rocky outcrops with <i>Saxifraga</i> sp., <i>Oxyria</i> <i>digyna</i> , mosses and lichens	6 VIII 2016
12	Kulpen, Selvågflya	78°32'17.5"N, 11°19'32"E	59 m	rocks around the lake	6 VIII 2016
13	Fyllittknausen	78°32'05.8"N, 11°22'21.6"E	84 m	under the seashore colony of birds	6 VIII 2016
14	Alfredbreen, near the glacier's ridge	78°34'52.3"N, 11°09'50"E	18 m	a rocky ridge overgrown with mosses and grasses	7 VIII 2016
15	Krokodillen, glacier crossbar	78°35'35.3"N, 11°11'47"E	74 m	<i>Salix polaris</i> -grass tundra	7 VIII 2016
16	Kulpen, near Thomsonfjella	78°32'53.7"N, 11°13'15"E	107 m	moosy tundra with <i>Polygonum viviparum</i> and lichens on a mountain slope	8 VIII 2016
17	Kulpen, near Thomsonfjella, at the top of the hill	78°32'54.8"N, 11°12'37.1"E	214 m	rocky tundra	8 VIII 2016
18	Kulpen, near Thomsonfjella, at the top of the hill	78°32'59.5"N, 11°11'57.6"E	252 m	tundra with <i>Polygonum</i> <i>viviparum</i> , <i>Poa alpina</i> , mosses and lichens	8 VIII 2016
19	Petuniaskaret, between Thomsonfjella and Conquerorfjellet	78°32'36.8"N, 11°06'13.1"E	240 m	rocky tundra with <i>Carex</i> sp.	9 VIII 2016
20	Petuniaskaret, between Thomsonfjella and Conquerorfjellet	78°32'39.4"N, 11°05'05.4"E	125 m	rocks along the stream	9 VIII 2016
21	Petuniaskaret, between Thomsonfjella and Conquerorfjellet, west bank	78°32'32"N, 11°03'50.8"E	92 m	rocks along the stream	9 VIII 2016
22	near the Røyshaugen, pass	78°31'26"N, 11°07'42.5"E	102 m	rocky moss-lichen tundra	11 VIII 2016

Table 1. List of localities in the Prins Karls Forland.