

SAXICOLOUS LICHENS FROM FOUR LOCALITIES IN SOUTH WEST GREENLAND

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A total of 147 taxa of saxicolous lichens are reported from four localities in South West Greenland. Many lichens are of particular interest and are very rare in this part of Greenland. The following species are selected as typical examples: *Gyalidea lecideopsis*, *Physcia magnussonii*, *Psorula rufonigra*, *Rhizocarpon eupetraeum*, *R. ferax*, *Rinodina arnoldii*, *R. endophragma*, *R. milvina* and *R. parasitica*. A new combination is made, viz. *Coppinsiella alcarum* (Poelt) E. S. Hansen et S. Y. Kondr. The type of preferred rocky substrate is noted for all listed lichens. The substrate specificity of the lichens is shortly discussed and outlined.

Key words: Ascomycetes, Greenland, saxicolous lichens, taxonomy

INTRODUCTION

The lichen flora of the southernmost part of South West Greenland has previously been investigated with focus on different floristical, ecological and climatic aspects. Most studies deal with both macro- and microlichens and have resulted in checklists with information about the investigated localities and the substrate and habitats of the lichens together with associated species (ALSTRUP 1979, 1986, BRANTH 1892, BRANTH and GRØNLUND 1988, HANSEN 1978, HANSEN and LUND 2003). Dahl collected a rich material of lichens at numerous localities in South West Greenland, but only the macrolichens have so far been published (DAHL 1950). K. HANSEN (1971) concentrated on the ecological and climatic preferences of the macrolichens of South West Greenland. Similar investigations with focus on both macro- and microlichens were executed by E. S. HANSEN (2010a) at five inland and coastal localities in South West Greenland. In his description of the vegetation of Narsarsuaq (STUMBÖCK 1993) included many lichens. E. S. Hansen carried out lichenometrical measurement using, for example, *Pseudephebe minuscula* and *Rhizocarpon geographicum*, in dating of glacial deposits in South West Greenland (HANSEN 2010b, KJÆR *et al.* 2022).

LOCALITIES, GEOLOGY AND CLIMATE

The following four localities were investigated by the author indicated by their numbers (1–4) in the enumeration:

(1) Narsarsuaq (61° 10' N, 45° 26' W). The rocks are composed of Proterozoic granite, gneiss and diorite belonging to the Ketilidian Mobile Belt and in addition nepheline syenite and basalt belonging to the Gardar province (ESCHER and STUART WATT 1976). The mean temperature of the warmest month, July, is 10 °C, while the mean temperature of the coldest month, February is –10 °C according to measurements made by Asiaq/Grønlands Forundersøgelser. The annual precipitation is c. 845 mm (2000). Narsarsuaq is sometimes influenced by strong, Föhn-like winds.

(2) Qagssiarssuk (61° 09' N, 45° 33' W). The bedrock is composed of Proterozoic siliceous rocks like that of Narsarsuaq, but the overlying Gardar rocks, such as sandstones, lavas, basalt and carbonatite. The last-mentioned is an intrusive carbonate rock type associated with alkaline igneous intrusive activity. The climate of Qagssiarssuk is comparable with that of the neighbouring Narsarsuaq.

(3) Narssaq (60° 54' N, 46° 04' W). Like Qagssiarssuk the Proterozoic siliceous bedrock is overlaid by sandstones, lavas and different intrusions composed of syenite, granite and basalt. The Ilímaussaqa intrusion (FERGUSON 1964) is one of the globe's richest rocks as regards minerals with more than 200 different minerals, many of them very rare, such as for example, tugtupit. The occurrence of minerals with uranium, beryllium, lithium, niobium, thorium and zirconium, is of particular importance (SØRENSEN 1981). Narssaq has mean temperature of *ca* 9 °C and *ca* –8 °C in July and February, respectively. The annual precipitation is *ca* 850 mm.

(4) Qaqortoq (60° 43' N, 46° 05' W). The bedrock is composed of Proterozoic granite. It is intersected by basic dykes (ESCHER and STUART WATT 1976). The mean temperature of the warmest month, July, is 8 °C, while the mean temperature of the coldest month, February, is –7 °C. The annual precipitation is *ca* 860 mm. Sea fog commonly occurs at Qaqortoq.

MATERIALS AND METHODS

Lichens were collected from numerous sampling plots below *ca* 300 m a. s. l. near Narsarsuaq, Qagssiarssuk, Narssaq including Kvanefjeld and Qaqarsuaq and Qaqortoq in July 1980. A total of 500 lichen specimens were studied using Zeiss light microscopes and identified by the author. The nomenclature in the list

is presented after NORDIN *et al.* (2011) with some exceptions. The specimens are deposited at the Botanical Museum of the University of Copenhagen (C). The substrate preference was noted for all collected specimens.

RESULTS AND DISCUSSION

Substrate specificity of the lichens and floristical observations of particular interest

Most lichens dealt with in the present paper were found growing on siliceous rocks. Some of these lichens, for example, *Acarospora sinopica*, *Miriquidica atrofulva* and *Tremolecia atrata*, are characterised by specific demands as regards iron contents of the rock substrate. Other lichens are dependent on a more or less rich supply of guano and therefore preferably occur on seepage rocks. This applies to species such as, e.g., *Acarospora fuscata*, *Athallia scopularis*, *Coppinsiella alcarum*, *Melanohalea infumata*, *Physcia dubia*, *P. tenella* var. *marina* and *Polyozosia straminea*. Lichens such as, e.g., *Staurothele clopima* and *S. fissa* are usually found growing on moist rocks near streams and lakes. Two lichens, viz. *Lecanora schwartzii* var. *schwartzii* and *Pleopsidium chlorophanum*, prefer to grow on overhanging rocks. Three species, viz. *Verrucaria ceuthocarpa*, *V. erichsenii* and *Wahlenbergiella mucosa*, were found growing in the littoral zone on seepage rocks. More than forty lichens occur on both siliceous and basaltic rocks. This applies to, e.g. *Acarospora badiofusca*, *Aspicilia cinerea*, *Bellemerea cinereorufescens*, *Calvitimela aglaea*, *Hypogymnia austerodes*, *Lecidea tessellata*, *Orphniospora moriopsis*, *Protoparmelia badia*, *Rhizocarpon eupetraeum* and *Umbilicaria deusta*. Seven species, viz. *Acarospora molybdina*, *Candelariella vitellina*, *Lecanora polytropa*, *Physcia caesia*, *Placynthium asperellum*, *Rhizocarpon geminatum* and *Rusavskia elegans*, appear to have a very wide substrate specificity as they were found growing on both siliceous, basaltic and calcareous rocks. Eight species, viz. *Amandinea cacuminum*, *Dermatocarpon miniatum*, *Lecanora intricata*, *L. marginata*, *Phaeophyscia sciastra*, *Psora globifera*, *Rusavskia sorediata* and *Umbilicaria hyperborea*, were found growing on both siliceous and calcareous rocks many of them influenced by guano. Four species, viz. *Lecanora atromarginata*, *Candelariella arctica*, *Lathagrium undulatum* var. *granulosum* and *Protoparmeliopsis muralis*, occur on both basaltic and calcareous rocks. Six species, viz. *Aspicilia candida*, *Gyalidea lecideopsis*, *Lecidella carpathica*, *Physconia detersa*, *Polyozosia albescens* and *P. dispersa*, were found growing on calcareous rocks, only, most of them at Qagssiarssuk. Lichens such as *Candelariella aurella*, *Physconia detersa* and *Rinodina endophragmia* are

able to grow on smooth lava rocks. Sergey Kondratyuk directed my attention to the possibility that a very low substrate specificity for a lichen sometimes means that it consists of more than one taxa. However, this does not apply to lichens in the present study.

Annotated list of species

The following list represents 148 lichen taxa. Species of particular interest are marked with an asterisk (*) in front of the name. “Ap” and “pe” mean presence of apothecia and perithecia, respectively; “st” means that the specimen is sterile. Annotations are given regarding rocky substrate of the lichens.

Acarospora badiofusca (Nyl.) Th. Fr. – (ap) – 1, 2, 3: on manured siliceous and basaltic rocks.

Acarospora fuscata (Nyl.) Arnold – (ap) – 3: on manured siliceous rocks.

Acarospora molybdina (Wahlenb.) A. Massal. – (ap) – 1, 2, 3, 4: on siliceous, basaltic and calcareous seashore rocks.

Acarospora peliscypha (Wahlenb.) Th. Fr. – (ap) – 3: on siliceous rock.

Acarospora sinopica (Wahlenb.) Körb. – (ap) – 4: on siliceous rock rich in iron.

Amandinea cacuminum (Th. Fr.) H. Mayrhofer et Sheard – (ap) – 2: on manured siliceous and calcareous rocks.

Amandinea coniois (Wahlenb.) M. Choisy ex Scheid. et H. Mayrhofer – (ap) – 1: on siliceous seashore rock.

Amandinea punctata (Hoffm.) Coppins et Scheid. – (ap) – 3: on siliceous rock.

Amygdalaria panaeola (Ach.) Hertel et Brodo – (st) – 1, 4: on siliceous rocks.

Arctoparmelia centrifuga (L.) Hale – (st) – 1: on siliceous rock.

Aspicilia aquatica (Fr.) Körb. – (ap) – 1: on moist siliceous and basaltic rocks.

Aspicilia berntii A. Nordin, Tibell et Owe-Larss. – (ap) – 1, 2, 3, 4: on siliceous rocks.

Aspicilia candida (Anzi) Hue – (ap) – 1: on calcareous rock.

Aspicilia cinerea (L.) Körb. – (ap) – 1, 2: on siliceous and basaltic rocks.

Athallia scopularis (Nyl.) Arup, Frödén et Søchting – (ap) – 1: on manured siliceous rock.

Bellemeria cinereorufescens (Ach.) Clauzade et Cl. Roux – (ap) – 1, 4: on siliceous and basaltic rocks.

Bellemeria subsorediza (Lynge) R. Sant. – (st) – 1: on siliceous rock.

Brodoa oroarctica (Krog) Goward – (st) – 1, 3: on siliceous rocks.

Bryoria fuscescens (Gyeln.) Brodo et D. Hawksw. – (st) – 1: on siliceous rock.

Calvitimela aglaea (Sommerf.) Hafellner – (ap) – 1, 3, 4: on siliceous and basaltic rocks.

Calvitimela armeniaca (DC.) Hafellner – (st) – 3, 4: on siliceous rocks.

Candelariella arctica (Körb.) R. Sant. – (ap) – 1, 2, 3: on basaltic and calcareous seashore rocks.

Candelariella aurella (Hoffm.) Zahlbr. – (ap) – 1, 2: on *Placynthium asperellum* on basaltic and calcareous rocks and rocks composed of lava.

Candelariella coralliza (Nyl.) H. Magn. – (st) – 1: on manured siliceous rocks.

Candelariella vitellina (Hoffm.) Müll. Arg. – (ap) – 1, 2, 3: on siliceous, basaltic and calcareous rocks and rocks composed of lava.

Cetrariella commixta (Nyl.) A. Thell et Kärnefelt – (st) – 1: on siliceous rock.

Circinaria caesiocinerea (Nyl. ex Malbr.) A. Nordin, S. Savić et Tibell – (ap) – 1, 2, 3, 4: on siliceous and basaltic rocks.

Coppinsiella alcarum (Poelt) E. S. Hansen et S. Y. Kondr., *comb. nova* – MycoBank No.: MB 847199 – (basionym: *Caloplaca alcarum* Poelt, Mitt. bot. StSamml., München 11: 25 (1954)) – (ap) – 3: on siliceous seashore rock.

Dermatocarpon miniatum (L.) W. Mann – (st) – 1, 2: on siliceous and calcareous rocks.

Dimelaena oreina (Ach.) Norman – (ap) – 1: on siliceous rock.

Diploschistes scruposus (Schreb.) Norman – (ap) – 1, 2, 3: on siliceous and basaltic rocks and rocks composed of lava.

Ephebe hispidula (Ach.) Horw. – (st) – 1: on siliceous rocks.

Euopsis pulvinata (Schaer.) Vain. – 2: on siliceous rock.

* *Gyalidea lecideopsis* (A. Massal.) Lettau – (ap) – 2: on calcareous rock. – The species has previously been reported from Qaggsiarssuk and Ella Ø in Central East Greenland (E. S. HANSEN 1978).

Hypogymnia austerodes (Nyl.) Räsänen – (st) – 1, 2: on siliceous and basaltic rocks; st

Ionaspis lacustris (With.) Lutzoni – (ap) – 1, 3: on siliceous and basaltic seashore rocks.

Lasallia pennsylvanica (Hoffm.) Llano – (ap) – 1: on siliceous rock.

Lathagrium undulatum (Laurer ex Flot.) var. *granulosum* (Degel.) comb. ined. – (st) – 1, 2, 3: on basaltic and calcareous rocks.

Laundonia flavovirescens (Wulfen) S. Y. Kondr., Lökös et Hur – (ap) – 1: on manured basaltic rocks.

Lecanora argopholis (Ach.) Ach. – (ap) – 1, 2, 3: on siliceous and calcareous rocks.

Lecanora atromarginata (H. Magn.) Hertel et Rambold – (ap) – 1, 2: on basaltic and calcareous rocks.

Lecanora intricata (Ach.) Ach. – (ap) – 1, 2, 3: on siliceous and calcareous rocks and rock composed of lava.

Lecanora leucococca Sommerf. – (ap) – 3, 4: on siliceous rocks.

Lecanora marginata (Schaer.) Hertel et Rambold – (ap) – 1, 2, 3: on siliceous and calcareous rocks.

Lecanora polytropa (Hoffm.) Rabenh. – (ap) – 1, 2, 3, 4: on siliceous, basaltic and calcareous rocks and rock composed of lava.

Lecanora schwartzii (Ach.) Ach. var. *schwartzii* – (ap) – 1, 3: on overhanging siliceous rocks.

Lecidea atrobrunnea (Ramond ex Lam. et DC.) Schaer. – (ap) – 1, 2, 3: on siliceous and basaltic rocks.

Lecidea auriculata Th. Fr. subsp. *auriculata* – (ap) – 3, 4: on siliceous rocks.

Lecidea lapicida (Ach.) Ach. var. *lapicida* – (ap) – 1, 2: on siliceous and basaltic rocks.

Lecidea lapicida (Ach.) Ach. var. *pantherina* (DC.) Ach. – (ap) – 1, 4: on siliceous and basaltic rocks.

Lecidea tessellata Flörke – (ap) – 1, 2, 3, 4: on siliceous and basaltic rocks.

Lecidella carpathica Körb. – (ap) – 2: on calcareous rocks.

Lecidella stigmatea (Ach.) Hertel et Leuckert – (ap) – 4: on siliceous rocks.

Lepraria neglecta (Nyl.) Lettau – 1: on siliceous rock.

Lepraria vouauxii (Hue) R. C. Harris – 1: on basaltic rock.

Leptogium saturninum (Dicks.) Nyl. – (st) – 1, 2: on siliceous rocks.

Lobarina scrobiculata (Scop.) Nyl. ex Cromb. – (st) – 2: on siliceous rocks.

Massalongia carnosa (Dicks.) Körb. – (st) – 1, 4: among mosses on siliceous rocks.

Massjukiella candelaria (L.) S. Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt, Elix, Hur et A. Thell – (ap) – 1, 2, 3: on manured siliceous and basaltic rocks.

Melanelia hepaticum (Ach.) A. Thell – (st) – 1, 2, 3, 4: on siliceous rocks.

Melanohalea infumata (Nyl.) O. Blanco, A. Crespo, Divakar, Essl. D. Hawksw. et Lumbsch – (st) – 3: on manured siliceous rock.

Miriquidica atrofulva (Sommerf.) A. J. Schwab et Rambold – (ap) – 3, 4: on siliceous rocks rich in iron.

Miriquidica garovaglii (Schaer.) Hertel et Rambold – (ap) – 3: on siliceous rocks.

Miriquidica nigroleprosa (Vain.) Hertel et Rambold – (ap) – 1, 3: on siliceous rocks.

Montanelia disjuncta (Erichsen) Divakar, A. Crespo, Wedin et Essl. – (st) – 2, 3: on siliceous rocks.

Myriospora smaragdula (Wahlenb. ex Ach.) Nägeli ex Uloth – (ap) – 1, 2, 3, 4: on siliceous and basaltic rocks and rocks composed of lava.

Nephroma parile (Ach.) Ach. – (st) – 3: on siliceous rock.

Ochrolechia tartarea (L.) A. Massal. – (ap) – 1, 3, 4: on siliceous and basaltic rocks.

Orphniospora moriopsis (A. Massal.) D. Hawksw. – (ap) – 1, 2, 3, 4: on siliceous and basaltic rocks.

Pachypeltis castellana (Räsänen) Søchting, Frödén et Arup – (ap) – 1, 3: on *Placynthium asperellum* on siliceous and basaltic rocks.

Parmelia omphalodes (L.) Ach. – (st) – 2: on siliceous rocks.

Parmelia saxatilis (L.) Ach. – (st) – 1, 2, 3: on siliceous rocks.

Parmelia sulcata Taylor – (st) – 1, 3: on manured siliceous and basaltic rocks.

Phaeophyscia endococcina (Körb.) Moberg – (ap) – 4: on siliceous rock.

Phaeophyscia sciastra (Ach.) Moberg – (st) – 1, 2: on manured siliceous and calcareous rocks.

Phylliscum demangeonii (Moug. et Mont) Nyl. – (ap) – 1, 2, 4: on siliceous rocks.

Physcia caesia (Hoffm.) Fűrnr. – (st) – 1, 2: on calcareous and manured siliceous and basaltic rocks.

Physcia dubia (Hoffm.) Lettau – (ap) – 1, 2, 3: on manured siliceous rocks.

* *Physcia magnussonii* Frey – (ap) – 1: on siliceous rock. – The species grows on nutrient enriched rocks and occurs rather scattered in South West and Central West Greenland (MOBERG and HANSEN 1986).

Physcia tenella (Scop.) DC. var. *marina* (A. Nyl.) Lyngø – (st) – 2: on siliceous seashore rocks.

Physconia detersa (Nyl.) Poelt – (st) – 2: on calcareous rock and rock composed of lava.

Placopsis gelida (L.) Linds. – (st) – 1: on basaltic rock.

Placynthium asperellum (Ach.) Trevis. – (st) – 1, 2, 3, 4: on siliceous, basaltic and calcareous rocks.

Placynthium pannariellum (Nyl.) H. Magn. – (st) – 3: on siliceous rock.

Pleopsidium chlorophanum (Wahlenb.) Zopf – (ap) – 1: on overhanging siliceous rock.

Polychidium muscicola (Sw.) Gray – (st) – 3: on siliceous rock.

Polyzosia albescens (Hoffm.) S. Y. Kondr., Lőkös et Farkas – (ap) – 2: on calcareous rocks.

Polyzosia contractula (Nyl.) S. Y. Kondr., Lőkös et Farkas – (ap) – 1, 2, 3, 4: on siliceous and basaltic seashore rocks.

Polyzosia dispersa (Pers.) S. Y. Kondr., Lőkös et Farkas – (ap) – 2: on calcareous rocks.

Polyzosia straminea (Ach.) S. Y. Kondr., Lőkös et Farkas – (st) – 1, 2, 3: on siliceous seashore rocks.

Porpidia flavicunda (Ach.) Gowan – (ap) – 1: on siliceous and basaltic rocks.

Protoparmelia badia (Hoffm.) Hafellner – (ap) – 1, 2, 3: on siliceous rock and basaltic rocks.

Protoparmeliopsis muralis (Schreb.) M. Choisy – (ap) – 1, 2: on basaltic and calcareous rocks.

Pseudephebe minuscula (Nyl. ex Arnold) Brodo et D. Hawksw. – (st) – 1, 3, 4: on siliceous rocks.

Pseudephebe pubescens (L.) M. Choisy – (st) – 1, 2, 3, 4: on siliceous rocks.

Psora globifera (Ach.) A. Massal. – (ap) – 2: on siliceous and calcareous rocks.

* *Psorula rufonigra* (Tuck.) Gotth. Schneid. – (ap) – 1: on siliceous rock. – The species is known from a few localities in South West and North East Greenland (HANSEN 2004).

Rhizocarpon badioatrum (Flörke ex Spreng.) Th. Fr. – (ap) – 1, 3, 4: on siliceous and basaltic rocks.

Rhizocarpon bolanderi (Tuck.) Herre – (ap) – 1, 3: on siliceous and basaltic rocks.

Rhizocarpon copelandii (Körb.) Th. Fr. – (ap) – 1, 4: on siliceous rocks.

Rhizocarpon disporum (Nägeli ex Hepp) Müll. Arg. – (ap) – 1, 3, 4: on siliceous and basaltic rocks.

* *Rhizocarpon eupetraeum* (Nyl.) Arnold – (ap) – 1: on siliceous and basaltic rocks. – The species is known from a few localities in South West Greenland (HANSEN 1978, 2018).

* *Rhizocarpon ferax* H. Magn. – (ap) – 1: on basaltic rock. – The species is known from a few localities in West and East Greenland (HANSEN 1980). It is similar to *R. lecanorinum*, but differs from this species as regards chemical contents and substrate.

Rhizocarpon geminatum Körb. – (ap) – 1, 2, 3, 4: on siliceous, basaltic and calcareous rocks.

Rhizocarpon geographicum (L.) DC. – (ap) – 1, 2, 3, 4: on siliceous and basaltic rocks.

Rhizocarpon grande (Flörke) Arnold – (ap) – 1, 2, 4: on siliceous and basaltic rocks.

Rhizocarpon inarense (Vain.) Vain. – (ap) – 1, 3, 4: on siliceous and basaltic rocks.

Rhizocarpon intermediellum Räsänen – (ap) – 1, 2: on basaltic and calcareous rocks.

Rhizocarpon jemtlandicum (Malme) Malme – (ap) – 1, 4: on siliceous and basaltic rocks.

Rhizocarpon lavatum (Fr.) Hazsl. – (ap) – 3: on siliceous rock.

Rhizocarpon praebadium (Nyl.) Zahlbr. – (ap) – 1, 2, 3: on siliceous rocks.

Rhizocarpon rittokense (Hellb.) Th. Fr. – (ap) – 1, 3, 4: on siliceous rocks.

Rhizocarpon superficiale (Schaer.) Vain. – (ap) – 1: on siliceous rocks.

Rhizoplaca melanophthalma (DC.) Leuckert et Poelt – (ap) – 1, 2: on manured siliceous and basaltic rocks.

* *Rinodina arnoldii* H. Mayrhofer et Poelt – (ap) – 3: on siliceous rocks. – The species is known from a few localities in the southern half of West Greenland (THOMSON 1997). It was determined by H. Mayrhofer.

* *Rinodina endophragma* Lamb – (ap) – 1, 2: on basaltic rock and rock composed of lava. – The species has previously been reported from a few localities in West Greenland (THOMSON 1997). It was identified by H. Mayrhofer.

* *Rinodina milvina* (Wahlenb.) Th. Fr. – (ap) – 2: on siliceous rock. – The species has previously been reported from a few localities in Central West Greenland (THOMSON 1997). It was determined by H. Mayrhofer.

* *Rinodina parasitica* H. Mayrhofer et Poelt – (ap) – 1: on unidentified crustaceous lichen. – The species is known from a few localities in Central West and South West Greenland (MAYRHOFER and POELT 1979). It was identified by H. Mayrhofer.

Rusavskia elegans (Link) S. Y. Kondr. et Kärnefelt – (ap) – 1, 2, 3, 4: on manured siliceous, basaltic and calcareous rocks.

Rusavskia soreciata (Vain.) S. Y. Kondr. et Kärnefelt – (st) – 2, 3: on manured siliceous and calcareous rocks.

Scytinium lichenoides (L.) Otálora, P. M. Jørg. et Wedin – (st) – 1: on siliceous rocks.

Sphaerophorus fragilis (L.) Pers. – (st) – 1, 4: on siliceous rocks.

- Sporastatia testudinea* (Ach.) A. Massal. – (ap) – 1, 3: on siliceous rocks.
- Staurothele areolata* (Ach.) Lettau – (pe) – 2: on siliceous rock.
- Staurothele clopima* (Wahlenb.) Th. Fr. – (pe) – 1, 3, 4: on moist siliceous rocks.
- Staurothele fissa* (Taylor) Zwackh – (pe) – 3: on moist basaltic rock.
- Stereocaulon glareosum* (Savicz) H. Magn – (st) – 3, 4: on gravel.
- Tremolecia atrata* (Ach.) Hertel – (ap) – 1, 3, 4: on siliceous rocks with limonite crust.
- Umbilicaria arctica* (Ach.) Nyl. – (ap) – 1, 2: on manured siliceous rocks.
- Umbilicaria cinereorufescens* (Schaer.) Frey – (st) – 1: on siliceous rock.
- Umbilicaria cylindrica* (L.) Delise ex Duby var. *delisei* Nyl. – (ap) – 4: on siliceous rocks.
- Umbilicaria deusta* (L.) Baumg. – (st) – 2, 4: on siliceous and basaltic rocks.
- Umbilicaria havaasii* Llano – (st) – 1: on siliceous rock.
- Umbilicaria hyperborea* (Ach.) Hoffm. – (st) – 1, 2, 3, 4: on siliceous and calcareous rocks.
- Umbilicaria polyphylla* (L.) Baumg. – (st) – 1, 3: on siliceous rocks.
- Umbilicaria proboscidea* (L.) Schrad. – (ap) – 1, 3, 4: on siliceous rocks.
- Umbilicaria rigida* (Du Rietz) Frey – (st) – 1, 3: on siliceous rocks.
- Umbilicaria torrefacta* (Lightf.) Schrad. – (ap) – 1, 2, 3, 4: on siliceous rocks.
- Umbilicaria vellea* (L.) Hoffm. – (st) – 1, 2, 3: on siliceous rocks.
- Umbilicaria virginis* Schaer. – (ap) – 1, 3, 4: on siliceous rocks.
- Varicellaria lactea* (L.) I. Schmitt et Lumbsch – (st) – 1: on basaltic rock.
- Verrucaria aethiobola* Wahlenb. – (pe) – 1, 3: on moist siliceous and basaltic seepage rocks.
- Verrucaria ceuthocarpa* Wahlenb. – (pe) – 1: on siliceous, littoral seashore rocks.
- Verrucaria erichsenii* Zschacke – (pe) – 1, 3: on siliceous, littoral seashore rocks.
- Vestergrenopsis isidiata* (Degel.) E. Dahl – (st) – 1, 4: on siliceous rocks.
- Wahlenbergiella mucosa* (Wahlenb.) Gueidan et Thüs – (st) – 1, 3: on siliceous, littoral seashore rocks.
- Xanthoparmelia conspersa* (Ach.) Hale – (st) – 1, 2: on siliceous rocks.

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