

# Svalbard Pyrenomycetes. An annotated checklist

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The list comprises 135 species, six of which are only referred to genus as possibly representing undescribed taxa. Twenty-three species are new to Svalbard. Several species, previously reported from the area but probably or surely in error, are listed in an appendix. Two new combinations are published, viz. *Phaeosphaeria weberi* (Oudem.) L. & K. Holm and *Wettsteinina distincta* (P. Karst.) L. & K. Holm.

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## Introduction

The pyrenomycete flora of Svalbard is by no means unknown. As early as 1872 Karsten published a pioneer paper, based on collections made by members of the Swedish Arctic Expeditions 1861 and 1868. During the years to follow very little was added, but in 1928 there appeared an important comprehensive work by Lind, which still is our main source of information on the subject. Bearing in mind that Lind never visited Svalbard himself, his list is surprisingly rich. It is largely based on finds made by Lind when searching for microfungi on Svalbard plants in the herbaria of Copenhagen and Oslo. This is in many cases a rewarding method, especially for grasses and graminoids which often have dead leaves and culms left; an inspection of such remains can be quite profitable. The method has its limitations, though; host plants like *Salix*, with easily detached leaves, will hardly be represented, nor will old wood, of *Dryas*, for example

It was only recently that mycologists visited Svalbard; the first perhaps was Asbjörn Hagen in 1933. His main interest was rusts, and it was left to Geir Mathiassen, working in the Isfjord area in 1986, to collect pyrenomycetes more exten-

sively. Mathiassen's collections of *Dryas* have been worked up by us (K. & L. Holm 1993).

In the summer of 1988, August 10–20, we had the opportunity to visit Svalbard as participants in the ISAM III (Third International Symposium on Arctic and Alpine Mycology). Our material from those excursions is preserved at UPS and forms the basis of this article. Part of it has recently been described (K. & L. Holm 1993, L. & K. Holm 1993a, 1993b). Lind's records are of course cited, though several are open to doubt and are listed separately. The rather few recent reports are also included, among them in first place the bryophilous species, found by Döbbeler when scrutinizing herbarium samples of mosses and liverworts. A noteworthy contribution to Svalbard mycology is Zabawski's extensive study of fungi isolated from peat, among them several pyrenomycetes. A very complete list of Svalbard fungi is the still unpublished catalogue of Elvebakk, Gjaerum & Sivertsen 1995, which we have had the privilege to consult.

The present checklist includes 135 species, six of which are unnamed and may be undescribed. Powdery mildews, unitunicates, and bitunicates are treated separately in alphabetical order. Taxa not previously reported from

Svalbard are marked with an asterisk. Some often mentioned collecting sites are indicated with figures as follows. 1: Ny-Ålesund, slopes facing the sea, ca. 1 km WNW of the Polar Institute. 2: Bird cliff in front of the eastern Lovénbreen glacier, ca. 6.5 km ESE of Ny-Ålesund. 3: Rocky slope ca. 1.5 km SE of Ny-Ålesund. 4: Blomstrandhalvöya, "London", ca. 5 km NE of Ny-Ålesund. 5: Blomstrandhalvöya, by the small tarns ca. 1 km NE of "London". 6: Sassen, heaths by the bay Gipsvika. 7: Longyearbyen, slopes E of Nybyen. 8: Western slopes of the valley Endalen, ca. 5 km SE of Longyearbyen. 9: Eastern slopes of Endalen. 10: Bolterdalen, slopes of Mt. Breinosa, ca. 12 km SE of Longyearbyen. 11: The mouth of Bolterdalen into Adventdalen. 12: Longyearbyen, slopes near "Gruve 2".

### Erysiphales

#### *Erysiphe graminis* DC.

Syn.: *Blumeria graminis* (DC.) Speer. "On living leaves of *Poa alpina*, *Poa alpigena* x *arctica* and *Catabrosa* (= *Phippsia*) *algida* from Advent Bay, Björndalen, Cape Boheman and Wijde Bay" (Lind 1928). Hagen (1952) reported it from Longyearbyen, on *Phippsia algida*. — Conidial stage only.

#### *Sphaerotheca erigeronis-canadensis* (Lév.) L. Junell

On *Taraxacum arcticum*. — Adventfjorden (Lind 1928), Helvetiadalen (Hagen 1941).

### Unitunicate Pyrenomycetes

#### *Anthostoma polare* K. & L. Holm

On dead wood of *Dryas octopetala*. — 2, 8, Nordenskiöld Land between Foxelva and Janssonhaugen (K. & L. Holm 1993).

#### *Cainiella borealis* Barr

Apparently restricted to *Cassiope tetragona*. — 2, Glaudneset, Longyearbyen (L. Holm 1975). Probably not rare.

#### *Cainiella johansonii* (Rehm) E. Müll.

In leaves of *Dryas octopetala*. — 9, Green Harbour (L. Holm 1979).

#### *Chaetomium* spp.

*C. crispatum* Fuckel, *C. elatum* Schmidt & Kunze, and *C. globosum* Kunze have been isolated from peat from Hornsund (Zabawski 1976).

#### *Chamaeascus arcticus* L. Holm et al.

In dead leaves of *Carex misandra* and *C. rupestris*. — Ny-Ålesund, Glaudneset, 2, 4, 6 (L. & K. Holm 1993a). Probably widespread but easily overlooked.

#### *Coniochaeta ligniaria* (Grev.) Cooke

Reported from peat, Hornsund (Zabawski 1976).

#### *Discostroma hyperborea* (P. Karst.) O. E. Erikss.

In dead leaves of *Cassiope tetragona*. — 2, 7, 10. Probably common.

#### *Glomerella amenti* (Rostr.) Arx & E. Müll.

On catkins of *Salix polaris*. — 9. Reported from Longyeardalen and Kapp Thordsen by Lind (1928). This striking species is hardly common. Described from Norway, Dovre, on catkins of *Salix reticulata*.

#### *Gnomonia dryadis* Auersw.

In twigs and persistent leaf bases of *Dryas octopetala*. — 4, 8 (K. & L. Holm 1993). Common in Lapland and the Alps according to Nogrsek (1990).

#### *Gnomoniella hyparctica* (Lind) Barr

On dead sepals and peduncles of *Cassiope tetragona*. — First reported by Lind (1928) from Green Harbour and Skansen, cf. L. Holm (1975).

It may be rather rare, as we have come across it only once, in a scanty sample from Glaudneset.

*Gnomoniella vagans* Johans.

On petioles and peduncles of *Dryas octopetala*. — 1, 9. Perhaps rare, cf. L. Holm (1979) and Nograsedk (1990).

*Isothea rhytismoides* (Bab. ex Berk.) Fr.

Parasitic in leaves of *Dryas octopetala*. — 4. First mentioned by Wulff (1902) from the Wijdefjorden area. Lind (1928) has records from Bellsund and Isfjorden, and Mathiassen collected it in the Adventfjorden area (K. & L. Holm 1993).

\**Phomatospora dinemasporium* Webster

On dead *Deschampsia alpina*. — 4.

*Phyllachora junci* (Fr.) Fuckel

On *Juncus arcticus*. — Dickson Land, fide Lind (1928). There is no material in C to substantiate the record but it is not improbable.

*Physalospora alpestris* Niessl

In dead leaves of *Carex* spp. — Glaudneset (*C. misandra*), 5 (*C. parallela*) Krossfjorden on *C. misandra* (Lind 1928).

*Physalospora empetri* Rostr.

On *Empetrum hermaphroditum* — Colesbukta, Mimerdalen (Lind 1928). No material in C, but the records seem probable.

*Physalospora hyperborea* Bäumler

In dead leaves of *Cassiope tetragona* — 2, 7. Probably common on this host. Also an accidental find on bark of *Dryas octopetala* (K. & L. Holm 1993). Not reported by Lind, though described on material from Svalbard: "Auf der Insel Spitzbergen gesammelt von A. Gratzl 1892 (Oesterr. Nordpolexpedition)" (Bäumler 1898, p. 439).

\**Pleuroceras helveticum* (Rehm) Barr

In dead leaves of *Salix polaris*. — Ny-Ålesund near the Polar Institute. Kvadehuken (according to material in C, leg. H. Resvoll-Dieset, sub. nom. *Linospora insularis*, det. Lind).

*Podospora vesticola* (Berk & Br.) Mirza & Cain

Isolated from peat from Hornsund (Zabawski 1976, as *Sporormiella vesticola*).

\**Pseudomassaria inconspicua* (Johans.) Barr

On dead leaves of *Saxifraga* spp. — 1, 2, Ny-Ålesund near the Polar Institute; near the "French Huts" (all on *S. oppositifolia*). 6 (on *S. aizoides*).

*Sydowiella dryadis* Vasil. var. *macrospora* Nograsedk

In old wood of *Dryas octopetala*. — Apparently rather common, several finds listed by K. & L. Holm (1993a).

**Bitunicate Pyrenomycetes**

\**Acrosporum erikssonii* Nograsedk

On dead leaves and stems of *Papaver dahlianum*. — 11. Very like *A. compressum* but distinctive in the ascoma anatomy as the peridium is devoid of a gelatinous layer. A probably polyphagous species hitherto known only from the Austrian Alps, on *Silene acaulis* and *Saxifraga caesia*.

*Atopospora betulina* (Fr.) Petr.

On living leaves of *Betula nana*. — Colesbukta and Adventdalen (Lind 1928). Material in C!

*Bricookea sepalarum* (Vleugel) Barr

Generally confined to the inflorescences of *Juncus* spp. but so far not known from Svalbard on this genus; however, it is reported on *Luzula arctica* from Gråhuken (Lind 1928, as *Metasphaeria sepalarum*). The record may be true but there is no material in C to verify it.

*Bryochiton microscopicus* Döbb. & Poelt

On *Gymnomitrium concinnatum* from Barents-öya, Edgeöya and on *G. corallioides* from Amsterdamöya (Döbbeler 1978: 217).

*Bryochiton monascus* Döbb. & Poelt

On *Rhacomitrium lanuginosum*. — Amsterdamöya (Döbbeler 1978: 225).

*Bryochiton perpusillus* Döbb.

On *Polytrichum alpinum* from Amsterdamöya, on *P. hyperboreum* from Longyearbyen and on *Ptilidium ciliare* from Amsterdamöya (Döbbeler 1978: 232).

*Capronia pilosella* (Karst.) E.Müll. et al.

On old wood of *Dryas octopetala*. — Sassen, Mt. Grönsteinfjell (K. & L. Holm 1993, who also report the occurrence of a similar form without setae).

*Capronia polyspora* (Barr) E.Müll. et al.

Apparently most frequent on Ericaceae, cf. B. Eriksson (1974). — On *Cassiope tetragona*: Glauddneset 4, 7, 9. On *Lycopodium selago*: 1, 5 km SE of Ny-Ålesund. On *Dryas* wood: 7; the material is only tentatively referred to here, as it deviates in the naked ascomata, cf. K. & L. Holm (1993).

\**Capronia setosa* (Barr) E.Müll. et al.

On *Saxifraga oppositifolia*. — Kongsfjord area, between Fuglefjell and the "French Huts". Described from Arctic Canada, also on *S. oppositifolia*, and to the best of our knowledge not recorded since.

*Capronia* sp.

On old wood of *Dryas octopetala*. —

by a longitudinal septum. It has been grown in culture by O. Constantinescu, UPSC 2871-72.

*Cilioplea coronata* (Niessl) Munk

On various dicotylous herbs. — Apparently not rare but never(?) in abundance. First reported from Svalbard by L. & K. Holm (1993b) who listed seven finds.

*Clathrospora deflectens* (P.Karst.) O.E.Erikss.

On grasses and sedges. — Described on material from Svalbard, Liefdefjorden, on *Poa alpigena* ("colpodea") and *Trisetum spicatum*. Collected by us on *Carex parallela* (5) and *C. rupestris* (6). Lind (1928: 25 as *Pleospora deflectens*) claimed to have found it on "many different host-plants, monocotyledones as well as dicotyledones", a statement that clearly must refer to some other species, as is also evident from his description. On the other hand his "*Clathrospora punctiformis*" very probably is this species.

\**Clathrospora heterospora* (De Not.) Wehm.

Apparently frequent on *Carex nardina*, as suggested by Lind (1928 as "*C. elynae*"). Also on *Luzula confusa* (5). Further reported on *Eriophorum angustifolium*, *Juncus arcticus* and *Poa alpina* by Lind (l.c.).

*Clathrospora pentamera* (P.Karst.) Berl.

Very common on numerous monocots; we have also found it on *Cerastium alpinum*, *Polygonum viviparum*, and *Lycopodium selago*. Noteworthy are some finds on old wood of *Dryas octopetala* (K. & L. Holm 1993). Lind (1928) listed quite a number of dicotylous hosts.

*Clathrospora planispora* (Ellis) Berl.

We have two samples with a fungus that may represent this species, on *Puccinellia angustata* (6) and on *Eriophorum scheuchzeri* (6). The

*Clathrospora verruculosa* O.E.Erikss.

On *Poa glauca* var. *conferta*. — At Billefjorden (Eriksson 1967a).

*Clathrospora* sp.

A noteworthy form is present in a sample on *Juncus triglumis* (6, *Lundqvist 17398a*). It seems close to *C. planispora* but deviates in the much larger spores, 53–58 x 12–16 µm; it is apparently the same taxon that was reported on *Carex maritima* from Iceland (K. & L. Holm 1984: 9 as *Clathrospora* sp.)

*Didymella distincta* (P.Karst.) O.E.Erikss.

See *Wettsteinina distincta*

*Didymella glacialis* Rehm

On grasses and sedges. — Reported by Lind (1928) on *Poa alpigena* x *alpina* from Billefjorden. Unfortunately no voucher material is in C, but the record is not improbable.

*Didymosphaeria futilis* (Berk. & Br.) Rehm

A polyphagous species, found sparsely on *Dryas* wood. — 4, Mt. Grönstein fjell (K. & L. Holm 1993a).

*Didymosphaeria* sp.

On dead leaves of *Cassiope tetragona*. — 10, very sparsely. Differs from *D. futilis* by broader spores, 13–15 x 8–10 µm.

*Epibryon diaphanum* Döbb.

On *Ptilidium ciliare* — Amsterdamöya (Döbbeler 1979).

*Epibryon polysporum* Döbb.

On *Ptilidium ciliare*. — Amsterdamöya (Döbbeler 1978).

*Epipolaeum absconditum* (Johans.) L.Holm

On dead leaves of *Dryas octopetala*. — 3, Carolinedalen. Probably rather frequent but easily overlooked (K. & L. Holm 1993).

*Gibbera barriae* L. & K.Holm

On *Cassiope hypnoides*. — So far known only from the type locality, at Isfjorden (L. & K. Holm 1980).

*Gibbera latispora* (Barr) L.Holm

On dead leaves of *Cassiope tetragona*. — Glaudneset, 3, 7, 9, probably fairly common. Also found once on *Dryas* leaves, 3, cf. K. & L. Holm (1993). A form with 16-spored asci can be found intermixed.

*\*Guignardia graminicola* (Rostr.) P.Larsen

On various grasses. — *Alopecurus alpinus* (8), *Deschampsia alpina* (5), *Dupontia pelligera* (6), *Festuca rubra* var. *mutica* (11). Probably rather common, often abundant. O. Eriksson (1967c) has reported the occurrence of aberrant forms with more or less frequent 1-septate spores indicating a kinship to or even identity with *Mycosphaerella airicola* Petr. We have not come across such intermediate forms from Svalbard. A *Selenophoma* sp. is often intermixed and may be an anamorph.

*\*Leptosphaeria monotis* Rehm

On dry leaves of *Saxifraga oppositifolia*. — At Kongsfjorden near the "French Huts". Probably far from rare on this host which has not attracted much attention from mycologists. Originally described from the Alps, on *Saxifraga* sp., this species has not been reported since, as far as we know.

*Leptosphaeria weberi* Oudem.

See *Phaeosphaeria weberi*.

*Lophiostoma cf. myriocarpum* Fuckel

On old *Dryas* wood. — Helvetiadalen (K. & L. Holm 1993).

*Lophiostoma winteri* (Sacc.) Wint.

On old *Dryas* wood. — Apparently fairly common (K. & L. Holm 1993).

\**Lophiotrema vagabundum* (Sacc.) Sacc.

On *Luzula confusa* (Ny-Ålesund, near the Polar Institute), *Deschampsia alpina* (4).

*Massarina balnei-ursi* (Rehm) K. & L. Holm

On wood of *Dryas octopetala*. — Four localities listed by K. & L. Holm (1993).

*Massariopsis wulfii* (Lind) Lind

"On *Poa arctica*, *Poa alpigena* x *arctica* and *Puccinellia vahliana* from Cross Bay, Quade Hoek and Nordfjord" (Lind 1928). — We have not found this little known species, of doubtful taxonomic position. In C are two samples: the type (from Greenland) and one from Svalbard, Krossfjorden, *Poa arctica*, leg. H. Resvoll-Dieset.

\**Massariosphaeria cf. grandispora* (Sacc.) Leuchtm.

On *Juncus biglumis*. — 5.

*Melanomma dryadis* Johans.

On *Dryas octopetala* mainly in the flowers. — Probably widespread, cf. K. & L. Holm (1993).

*Microthyrium holmiae* Nograsedk

On old *Dryas* leaves. — 1, cf. K. & L. Holm (1993).

\**Microthyrium microscopicum* Desm. subsp. *arctoalpinum* Nograsedk

*Carex misandra*. — Gludneset.

*Montagnula spinosella* (Rehm) Crivelli

On various monocots. — Ny-Ålesund (*Luzula confusa*, *Colpodium vahlianum*). 2 (*Carex misandra*). Endalen (*Deschampsia caespitosa*). Cf. L. & K. Holm (1993b).

\**Mycosphaerella arthopyrenioides* (Auersw.) Lindau

On *Papaver dahlianum*. — 9, 10. Probably widespread. The determination is somewhat tentative but our material matches well the original description and figure.

*Mycosphaerella cassiopes* Barr

On *Cassiope tetragona*, mainly on the peduncles. — Common and probably coextensive with its host. Reported by Lind (1928) as *M. inconspicua*.

## "Mycosphaerella cerastii (Rabenh.) Magn."

Reported by Karsten (as *Sphaerella cerastii* Fuckel) on *Cerastium alpinum* from Nørskøyane. His material (UPS) consists of two small leaves with sclerotia of *Ramularia albo-rosella* (Desm.) Gjaerum, det. E. Gunnerbeck. As far as is known, this *Ramularia* is not associated with a *Mycosphaerella* (E.G. viva voce).

*Mycosphaerella confinis* (Karst.) Dearn.

On *Braya purpurascens*, *Draba subcapitata*, *Draba wahlenbergii*, probably also on other Cruciferae. — At Krossfjorden, Kongsfjorden, Adventfjorden, Wijdefjorden. Lind (1928, 1934) reported it from many hosts, apparently partly referring to *M. densa*.

*Mycosphaerella densa* (Rostr.) Lind

On *Arenaria pseudofrigida*. — Apparently frequent on this host and perhaps confined to it, though reported also on other plants by i.a. Lind (1928).

\**Mycosphaerella equiseti* (Fuckel) Schröt.

On *Equisetum scirpoides*. — 9.

*\*Mycosphaerella equiseticola* Bond.-Mont.

On *Equisetum scirpoides*. — 9.

*Mycosphaerella halophila* (Bomm., Rouss. & Sacc.) O.E.Erikss.

On *Honkenya peploides*. — Adventfjorden, 9.VIII.1882 Nathorst (UPS). This fungus has mostly been referred to *M. tassiana*. The host is rare on Svalbard (Rønning 1979).

*\*Mycosphaerella lycopodii* (Peck) House

On *Lycopodium selago*. — 3, 7.

*Mycosphaerella maculiformis* (Pers.) Schröt.

“On dead leaves of *Betula nana*, Coles Bay” (Lind 1928). — The record has not been verified but is not improbable.

*Mycosphaerella minor* (P.Karst.) Johans.

Frequent on various dicots.

*Mycosphaerella octopetalae* Oudem.

On *Dryas* leaves, probably coextensive with the host.

*Mycosphaerella pedicularidis* (P.Karst.) Lind

On *Pedicularis hirsuta* and *P. dasyantha*, apparently common.

*Mycosphaerella perexigua* (P.Karst.) Johans.

Very common on *Juncus biglumis*, also seen on *Carex misandra* and *Luzula confusa*.

*Mycosphaerella polaris* (P.Karst.) Lindau sensu auct. non sensu orig.

On dead leaves of *Salix polaris*. — 9, 10, 12. Reported by Lind from Bellsund, Wijdefjorden and Sörkapp. Probably frequent. The taxonomic confusion involved will be dealt with separately.

*Mycosphaerella pusilla* (Auersw.) Johans.

On *Carex* spp. — Isfjorden (Lind 1928). A poorly known species, maybe *M. recutita*.

*Mycosphaerella ranunculi* (P.Karst.) Lind

On leaves and stems of *Ranunculus nivalis* and *R. sulphureus*. — According to Lind (1928) common on Svalbard, which seems to be true.

*Mycosphaerella recutita* (Fr.) Johans.

On various monocots, frequent. — Lind (1928) as *M. wichuriana*. Possibly identical with *M. minor* on dicots?

*Mycosphaerella stellarinearum* (Rabenh.) Johans.

Reported by Karsten (1872) on *Stellaria longipes* s. lat. and *S. humifusa*. According to von Arx (1949) it is identical with *M. tassiana*, which actually seems probable as that species is very frequent on *Stellaria* on Svalbard, especially *S. longipes*.

*Mycosphaerella taraxaci* (P.Karst.) Dearn.

On dead, and living leaves of *Taraxacum arcticum*. — Common, according to Lind (1928), which seems to be true. We have found it on most herbarium specimens of the host with still attached dead leaves (UPS).

*Mycosphaerella tassiana* (De Not.) Johans.

Almost omnivorous and very common. — According to Lind (1928) “it is never found on the more robust and thick-skinned plants such as *Dryas*, *Betula nana*, *Salix*, *Vaccinium*, *Empetrum*”, which seems to be true.

*Mycosphaerella vivipari* (G.Winter) Lind

On dead leaves of *Polygonum viviparum*. — According to Lind (1928) “found along the whole of the western shores of Spitsbergen from Sörkapp to Cross Bay”. Hardly common, though, as not collected by us (but found in two samples from the Isfjorden area, leg. *Asplund*, UPS).

*Mycosphaerella* sp.

On leaves of *Cassiope tetragona*. — 7. This probably new species has been reported from Scandinavia, on the same host (L. Holm 1975).

*Othia dryadis* K. & L. Holm & Nogrased

On old wood of *Dryas octopetala*. — 2, Isfjord area (K. & L. Holm 1993). Scanty and obviously not common.

*Phaeosphaeria caricinella* (P. Karst.) O. E. Erikss.

On various monocots. — The type is from Nordfjorden area on *Carex saxatilis*; we have found it twice: Ny-Ålesund, near the airfield (*Colpodium vahlianum*), 4 (*Eriophorum scheuchzeri*). Lind (1928) reported it on several hosts "from over all the western and northern coasts of Spitsbergen...".

*Phaeosphaeria consobrina* (P. Karst.) O. E. Erikss.

On *Carex* spp. — The type is from the Nordfjord area on *Carex saxatilis*. Found by us once, on *Carex parallela* (5). Lind reported it on these sedges "from several localities in the Ice Fjord".

*Phaeosphaeria culmorum* (Auersw.) Leuchtm.

On *Luzula* cf. *confusa*. — Ny-Ålesund. The determination is tentative.

*Phaeosphaeria equiseti* (P. Karst.) L. & K. Holm

On *Equisetum* spp. — Ny-Ålesund, near the Polar Institute, on *E. arvense*. 9. on *E. scirpoides*. According to Lind (1928) "On *Equisetum scirpoides* and *E. variegatum* from several localities from Recherche Bay up to Wijde Bay". This seems probable though the material seen by Lind might have included *P. lindii*.

*Phaeosphaeria herpotrichoides* (De Not.) L. Holm

On monocots, esp. grasses. — Found by us in

five samples, three of which may belong to Eriksson's "form 5a" (= *P. ovei* Shoem. & Babcock). Ny-Ålesund (*Colpodium vahlianum*), 6 (*Dupontia pelligera*), 7 (*Alopecurus alpinus*). The other two samples represent another form, with strongly brown spores with septation 2, 3–1–4. They are from the same site, 5 (*Deschampsia alpina* and *Luzula confusa*).

*Phaeosphaeria insignis* (P. Karst.) L. Holm

On several grasses. — Reported by Karsten from the areas of "Advent Bay, Kingsbay, Lommebay et Liefdebay", and apparently fairly common.

*\*Phaeosphaeria juncina* (Auersw.) L. Holm

On *Luzula confusa*. — Ny-Ålesund.

*Phaeosphaeria lindii* (L. & K. Holm) Leuchtm.

On *Equisetum arvense* (Ny-Ålesund) and on *E. scirpoides* (9). Most remarkable is a find on old *Dryas* fruits (K. & L. Holm 1993a). Some of Lind's reports of *P. equiseti* may refer to this species, and certainly one from Bellsund, cf. L. & K. Holm (1981).

*\*Phaeosphaeria marcyensis* (Peck) L. & K. Holm

On leaves of *Lycopodium selago*. — 3, 7.

*Phaeosphaeria microscopica* (P. Karst.) O. E. Erikss.

On various monocots. — Described on material from Svalbard and according to Lind (1928) seen "from all the places visited from Sörkapplundet up to Wijde Bay and Lomme Bay".

*Phaeosphaeria nigrans* (Rob. ex Desm.) L. Holm

"On *Festuca ovina*, Klaas Billen Bay and on *Carex parallela*, Dickson Bay" (Lind, 1928) as *Leptosphaeria culmicola*. — There is no voucher material in C, but the records are not improbable.



*Phaeosphaeria silenes-acaulis* (De Not.)  
L.Holm

On dead leaves of *Silenes acaulis*. — Ny-Ålesund. Probably common, but few reliable records.

*Phaeosphaeria stellariae* (Rostr.) Leuchtm.

On dead leaves of *Stellaria longipes* coll. — 7, 9. Probably common, by Lind (1928) included in *P. silenes-acaulis*.

*Phaeosphaeria vagans* (Niessl) O.E.Erikss.

On various monocots, mainly grasses. — 6 (*Dupontia pelligera* and *Eriophorum scheuchzeri*). Brennevinsfjorden (*Phippsia algida*), fide Lind (1928).

*Phaeosphaeria weberi* (Oudem.) L. & K.Holm, comb. nova

Basionym: *Leptosphaeria weberi* Oudem. (1885, p. 156). On overwintered leaves of *Ranunculus* spp. — Found by us in two samples: Green Harbour, *R. sulphureus*, leg. Asplund (UPS); 9 (*R. pygmaeus*). Reported by Lind (1928) "on *Ranunculus pygmaeus* from Sörkapplandet, Cape Boheman and Cape Thordsen". There is no material in C to confirm these records, but they are quite probable. The species is very like *P. stellariae* but perhaps distinguishable by more guttulate spores. Described from Novaya Zemlya and also known from Arctic Canada (Barr 1959, Shoemaker 1984).

*Pleospora androsaces* Fuckel

On dead *Silene acaulis*. — 6. Rare? Lind's many records on other hosts are certainly erroneous, cf. L. & K. Holm (1993b).

*Pleospora arctica* P.Karst.

Very common on grasses, less frequent on other monocots, rare on dicots (L. & K. Holm 1993b).

*Pleospora ascodedicata* K. & L.Holm & Nogrased

On old *Dryas* wood. — 2, 5 (L. & K. Holm 1993b).

*Pleospora comata* Niessl s. lat.

On several dicots. — Apparently widespread. (L. & K. Holm 1993b).

*Pleospora glacialis* Niessl

On *Cerastium* spp. — Probably rather common. Also on *Oxyria digyna* (L. & K. Holm 1993b).

*Pleospora helvetica* Niessl

Very common on many dicots, also found on *Lycopodium selago* (7) and *Luzula arctica* (2), cf. L. & K. Holm (1993b).

*Pleospora penicillus* (Schmidt ex Fr.) Fuckel

Common on numerous dicots (also *Dryas* wood, rare on monocots (L. & K. Holm 1993b).

*Pleospora spetsbergensis* K. & L.Holm

On *Dryas* wood. — Probably rather common, K. & L. Holm (1993b).

*Pleospora wulfii* Lind

On *Stellaria longipes* coll. — Probably not rare, but so far known from three samples only: Wijdefjorden, Longyearbyen, Endalen, cf. L. & K. Holm (1993b).

*Pyrenophora raetica* (E.Müll.) Crivelli

On various grasses. — Known from Svalbard on *Phippsia algida*, *Poa* spp. and *Puccinellia angustata* (L. & K. Holm 1993b).

*Pyrenophora schroeteri* Barr

On *Hierochloë alpina*. — Colesbukta (Lind 1928, as "*Pleoporara macrospora*"). We have searched in vain (as Nannfeldt earlier) for the species in the Svalbard material of *Hierochloë alpina* in UPS. Lind (l.c.) also claimed to have found the species on *Arctophila fulva* from Sörkapplandet.

*Pyrenophora subalpina* (E.Müll.) Crivelli

On various grasses, also found on *Juncus biglumis*. — Known from Liefdefjorden, Lommefjorden, Longyearbyen and Endalen (L. & K. Holm 1993b).

*Ronnigeria arctica* (Oudem.) Petr.

"On *Potentilla pulchella*. Treurenberg Bay" Lind (1928). We have examined the collection cited by Lind (C) without finding this fungus, which, however, is likely to occur on Svalbard.

*Schizothyrium* sp.

On *Saxifraga oppositifolia*. — Ny-Ålesund.

*Scleroplella hyperborea* (Fuckel) L.Holm

Common on *Cassiope tetragona*, once found on *Dryas* leaves (9).

*Sporormiella americana* (Griff.) Ahmed & Cain

On droppings of ?goose. — Woodfjorden (Reid 1979).

*Sporormiella polymera* (Cain) Ahmed & Cain

Isolated from peat from Hornsund (Zabawski 1976).

*Sporormiella teretispora* Ahmed & Cain

As the preceding species.

*Stomiopeltis dryadis* (Rehm) L.Holm

On *Dryas* leaves. — Probably widespread, cf. K. & L. Holm (1993).

\**Taphrophila argyllensis* Scheuer

On *Deschampsia alpina*. — 9, confirm. C. Scheuer. Hitherto known from the type collection only, from Scotland on *D. cespitosa* (Scheuer 1991).

\**Trichothyrina salicis* J.P.Ellis

On dead leaves of *Salix reticulata*, mainly the under side, Ny-Ålesund, det. J.P. Ellis. The species was so far known only from England, on *Salix atrocinerea*. A very similar, perhaps identical form on *Saxifraga oppositifolia* from the same locality.

*Trichothyrina* sp.

On *Silene acaulis*, Ny-Ålesund. — A quite characteristic species with large thyrsothecia, up to 0.3 mm with fimbriate margin.

\**Venturia oxyriae* (Rostr.) Sacc.

On *Oxyria digyna*. — Ny-Ålesund, 7, 12.

*Venturia polygoni-vivipari* v. Arx

On overwintered *Polygonum viviparum*. — Obviously common. Lind's records of "*Mycosphaerella polygonorum* (Criée) Lind" certainly refer to this species.

*Venturia potentillae* (Wallr.) Cooke sensu Barr

On *Potentilla pulchella*. — 6. Reported by Lind (1928) from Bellsund, Adventdalen and Billefjorden as "*Coleroa circinans*".

*Venturia subcutanea* Dearn.

On dead leaves of *Salix polaris* and *S. reticulata*. — Common. One sample on *Betula nana* (8) probably also is this species, anyway not *V. ditricha*.

*Wentomyces dryadis* K. & L.Holm

On dead leaves of *Dryas octopetala* (10); also sparsely on *Cassiope tetragona* (2, 4). Rare? (K. & L. Holm 1993).

*Wettsteinina andromedae* (Auersw.) Barr

On *Cassiope tetragona*, rather common.

*Wettsteinina distincta* (P.Karst.) L. & K.Holm, comb. nova

Syn.: *Sphaerella distincta* P.Karst. 1872: 107. On grasses. — Lind (1928) reported it "from many places", on *Phippsia algida*, *P. concinna*, *Puccinellia angustata* and *Colpodium vahlianum* (type host). Hardly common as not found by us. *Wettsteinina magnifica* Shoemaker & Babcock (1987: 384) is probably a synonym of this species. It was described on material from Arctic Canada, on *Poa* sp. and *Puccinellia angustata*.

*Wettsteinina dryadis* (Rostr.) Petr.

On *Dryas octopetala*, fairly common.

*Wettsteinina eucarpa* (P.Karst.) E.Müll. & v. Arx

On *Polygonum viviparum*. — Apparently rather common. Lind (1928) claims to have found it on *Pedicularis hirsuta*.

*Wettsteinina macrotheca* (Rostr.) E.Müll.

"On *Carex pulla* and *Carex subspathacea* from Bell Sound and Kings Bay" (Lind 1928). Not seen by us, but the records are very probable.

\**Wettsteinina junci* Shoem. & Babc.

On *Juncus* spp. — Glaudneset (*J. biglumis*), 5 (*J. biglumis*). Hitherto known only by the type from Canada, NWT, on *J. castaneus*.

\**Wettsteinina salicicola* Nogrased

On leaves of *Salix reticulata*. — Ny-Ålesund. First find of this species from the Arctic, previously known from Swedish Lapland and the Austrian Alps.

\**Wettsteinina savilei* Shoem. & Babc.

On *Carex misandra* (2, Glaudneset) and *Juncus biglumis* (5). — So far known only from the type collection from Arctic Canada, NWT, on *Carex misandra*.

### Doubtful records in Lind (1928)

*Clathrospora punctiformis* (Niessl) Berl.

Probably identical with *C. deflectens*, cf. Eriksson (1967a).

*Coleroa circinans* (Moug.) G.Winter

Apparently identical with *Venturia potentillae*.

*Didymosphaeria dryadis* Berl. & Vogl.

Probably *Wettsteinina dryadis*, cf. L. Holm (1979).

*Leptosphaeria algida* Rostr.

This is a poorly known member of the *Phaeosphaeria eustoma* group, reported on *Phippsia*. No material in C to substantiate the records.

*Leptosphaeria arundinacea* (Sow.) Sacc.

"On *Poa abbreviata*, Gips Bay". A highly improbable record as the species is confined to *Phragmites*. No material in C.

*Leptosphaeria coniothyrium* (Fuckel) Sacc.

"On leaves of *Salix polaris*, Sassen Bay". A most improbable record; the species is generally found on *Rubus canes*. No material in C.

*Leptosphaeria graminum* Sacc.

"On *Poa alpigena* x *alpina*. Olsokflyan". No material of this poorly known taxon in C.

*Linospora insularis* Johans.

Probably *Pleuroceras helveticum* (Rehm) Barr.

*Mycosphaerella eriophila* (Niessl) Lindau

"On *Erigeron unalaschkensis*, Advent Bay and Alkhornet". — No relevant material in C. The evidence for the determination seems weak; anyway the species was referred to *M. tassiana* by von Arx (1949).

*Mycosphaerella polygonorum* (Criée) Lind

See *Venturia subcutanea*.

*Pleospora dianthi* (Ces.) Berl.

"On *Melandrium affine* and *apetalum* from the Ice Fjord". — There are three samples from Svalbard under this name, det. Lind, in C, two of which contain an identifiable fungus: 1. "Klaas Billen Bay, *Melandrium affine*, 19.7.1908 H. Resvoll-Dieset" — this is *Cilioplea coronata*. 2. "Advent Bay, *M. apetalum*, 21.8.1908 H. Resvoll-Dieset" — this is *Pleospora comata*. According to Wehmeyer (1961) *P. dianthi* is identical with *P. phaeocomoides* (Berk. & Br.) Wint.

*Pleospora discors* (Dur. & Mont.) Ces. & De Not.

"Found on many species of Monocotyledones." — As demonstrated by Eriksson (1967a) Lind's concept of *P. discors* was erroneous and referred to *P. arctica*.

*Pleospora herbarum* (Fr.) Rabenh.

Lind reported the species on numerous hosts. We believe, in fact, that his material represented *P. helvetica* with reduced setae.

*Pleospora infectoria* Fuckel

"Very common on many different host-plants..." — Lind apparently had in mind forms of *P. penicillus* with reduced bristles.

*Pleospora junci* Pass. & Beltr.

Lind identified this species with *P. spinosella* Rehm (which is incorrect, fide Wehmeyer 1961) and recorded it on *Juncus* and *Luzula*. There is one pertinent sample in C: Bellsound, July 1838, *Juncus biglumis*, leg. J. Vahl, det. Lind. — This is *P. helvetica*. As mentioned earlier in this paper, *Montagnula* (identical with *Pleospora*) *spinosella* does occur on Svalbard.

*Pleospora media* Niessl

"On *Cerastium alpinum*. Bell Sound". — Lind

later (1934) synonymized *P. media* with *P. infectoria*, in his sense probably identical with *P. penicillus*.

*Pleospora scirpicola* (DC.) P. Karst

The species is unlikely to occur on the host plants indicated (*Eriophorum angustifolium*, *Juncus arcticus*, *Festuca* spp.). There are two samples in C under this name, det. Lind: Coles Bay, *Festuca ovina*, 7.8.1908 H. Resvoll. — Greenbay, *Festuca rubra*, 21.7.1915 Asplund. We have found *Pleospora arctica* in both, but no *P. scirpicola*.

*Pyrenophora cerastii* (Oudem.) Lind

According to Lind a polyphagous species; in his sense probably identical with *Pleospora helvetica*.

*Pyrenophora chrysozona* (Niessl) Sacc.

An ambiguous name, in Lind's sense apparently *Pleospora helvetica*.

*Pyrenophora filicina* Lind

"On *Cystopteris fragilis*, Bell Sound". — "Lind's spore description suggests *P. helvetica*. The species must remain in doubt" (Wehmeyer 1961). No material in C.

*Pyrenophora hispida* (Niessl) Sacc.

"On *Melandrium affine* and *apetalum* at different places in the Ice Fjord" (Lind 1928). The description suggests *Pleospora helvetica*, which is conspecific with *P. hispida*, fide Crivelli (1983).

*Pyrenophora paucitricha* (Fuckel) Berl & Vogl.

"On dead leaves of *Salix polaris* and *Salix reticulata* from all places visited". — There are two samples from Svalbard, on *Salix polaris*, in C, both determined to this species by Lind. Both are very poor and did not yield anything when scrutinized by us. *P. paucitricha* is a doubtful taxon according to Wehmeyer (1961).

*Pyrenophora setigera* (Niessl) Sacc.

Recorded on a few hosts, i.a. *Saxifraga*

*oppositifolia*. A sample in UPS on this host has been referred to *P. setigera* by Lind. It is *P. penicillus*.

*Pyrenophora wichuriana* (Schröt.) Sacc.

"On *Carex pulla*, Advent Bay". — No material in C. Schröter's fungus may have been *P. penicillus*, fide Wehmeyer (1961).

*Venturia chlorospora* (Ces.) P.Karst.

The records apparently refer to *V. subcutanea*.

*Venturia ditricha* (Fr.) P.Karst.

"On dead leaves of *Betula nana*. Coles Bay". — Maybe *V. subcutanea*. No material in C.

*Venturia petasitidis* (Fuckel) Sacc.

"On leaves of *Petasites frigidus*, Cape Thorsen and Longyearbyen". We have also found a *Venturia* sp. on *Petasites frigidus*, but it is certainly not *V. petasitidis*, which is a *Gibbera* or *Epipolaeum* according to Müller & von Arx (1962).

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