

Some lichenicolous fungi and lichens from Iceland, including *Lichenopeltella uncialicola* sp. nov.

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Abstract: BRACKEL, W. v. 2010. Some lichenicolous fungi and lichens from Iceland, including *Lichenopeltella uncialicola* sp. nov. – Herzogia 23: 93–109.

Records of 57 species of lichenicolous fungi and lichens from Iceland, especially from the Northwest Fjords are presented. *Agonimia globulifera*, *Arthonia phaeophysciae*, *Cercidospora cladoniicola*, *C. decolorella*, *C. parva*, *Clauzadeomyces verrucosus*, *Dacampia rufescentis*, *Echinothecium cladoniae*, *Endococcus macrosporus*, *E. verrucisporus*, *Intralichen lichenicola*, *Lichenocodium usneae*, *Merismatium decolorans*, *Phaeosporobolus usneae*, *Protothelenella santessonii*, *Scutula cladoniicola*, *Skyttea elachistophora*, *Sphaerellothecium cladoniae*, *S. cladoniicola*, *S. minutum*, *S. stereocaulorum*, *Stigmidium gyrophorarum*, *Taeniolella diderichiana*, and *Zwackhiomyces martinianus* are new for Iceland. The muscicolous fungi *Bryochiton microscopicus* and *Julella macrospora* are also new for Iceland. The new species *Lichenopeltella uncialicola* is described.

Zusammenfassung: BRACKEL, W. v. 2010. Einige lichenicole Pilze und Flechten von Island, einschließlich *Lichenopeltella uncialicola* sp. nov. – Herzogia 23: 93–109.

Funde von 57 Arten flechtenbewohnender Pilze und Flechten aus Island, vor allem aus den Nordwestfjorden, werden vorgestellt. *Agonimia globulifera*, *Arthonia phaeophysciae*, *Cercidospora cladoniicola*, *C. decolorella*, *C. parva*, *Clauzadeomyces verrucosus*, *Dacampia rufescentis*, *Echinothecium cladoniae*, *Endococcus macrosporus*, *E. verrucisporus*, *Intralichen lichenicola*, *Lichenocodium usneae*, *Merismatium decolorans*, *Phaeosporobolus usneae*, *Protothelenella santessonii*, *Scutula cladoniicola*, *Skyttea elachistophora*, *Sphaerellothecium cladoniae*, *S. cladoniicola*, *S. minutum*, *S. stereocaulorum*, *Stigmidium gyrophorarum*, *Taeniolella diderichiana* und *Zwackhiomyces martinianus* sind neu für Island. Die muscicolen Pilze *Bryochiton microscopicus* und *Julella macrospora* sind ebenfalls neu für Island. Die neue Art *Lichenopeltella uncialicola* wird beschrieben.

Key words: Biodiversity, muscicolous fungi, Northwest Fjords.

Introduction

According to the checklist of KRISTINSSON & HEIÐMARSSON (2006) there are 738 lichens and 87 lichenicolous fungi known in Iceland. The number of lichens, compared with other regions in Europe, may be due to the comparatively rare occurrence of forests containing very few species of trees (*Betula* spp., *Salix* spp., and some planted conifers). The small number of lichenicolous fungi may result from the limited investigations of this group in Iceland (ORANGE 1990, KRISTINSSON 1999, BERGER 2000, SVANE & ALSTRUP 2004). An excursion of the author to Iceland 2008 added 13 species to the list (BRACKEL in press). Together with the species listed in this paper and some records from the literature, the list now comprises 137 species (see www.ivl-web.de under “downloads”). Considering the enormous areas of nature almost untouched by man and the sheer variety of habitats present, I am sure that this is but a small part of Iceland’s wealth of lichenicolous fungi.

During an excursion to the north western part of Iceland in 2009 I had the opportunity to collect some lichenicolous fungi, lichenized or not, and several lichens occasionally occurring as lichenicolous, overgrowing mostly dead lichens, which are presented here. Included are two species found during the examination of herbarium material from AMNH. Also included are two muscicolous ascomycetes, found by chance in specimens examined under the dissecting microscope. Two species of *Polycoccum* on *Placopsis* spp. will be treated in a separate paper (BRACKEL & BERGER in prep.).

Material and Methods

The specimens were studied macroscopically with a Zeiss stereo microscope at magnifications up to $\times 40$ and microscopically with an Olympus BX 51 microscope fitted with Normarski differential interference contrast optics. Measurements were done using thin hand-cut sections mounted in water, indicated as (minimum–) $\bar{X} - \sigma_x - \bar{X} + \sigma_x$ (–maximum), followed by the number of measurements; when less than 20 measurements were done, they are indicated as minimum–maximum. The specimens are deposited in the herbarium of the author at the private Institut für Vegetationskunde und Landschaftsökologie (hb ivl), the holotype of *Lichenopeltella uncialicola* in M.

Results

Unless otherwise indicated all specimens have been collected by W. & G. von Brackel and identified by the author. Species with an asterisk (*) are new for Iceland.

Abrothallus parmeliarum (Sommerf.) Arnold

Strandasýsla, Gálmaströnd SE Hólmavík, rocks near the coast, on *Parmelia saxatilis*, 65°38'16.3"N/21°31'06.9"W, 15 m, 11.8.2009 (hb ivl 5187).

The species is widely distributed over both hemispheres. It was already mentioned for Iceland from Þingvallavatn on *Parmelia saxatilis* by BERGER (2000). In our specimen the host was co-infected by *Sphaerellothecium reticulatum*.

**Agonimia globulifera* Brand & Diederich

Bolungarvík, near golf course, fixed dunes, on *Peltigera rufescens*, 66°08'40."N/23°14'33.6"W, 5 m, 8.8.2009 (hb ivl 5209).

A lichenized species, growing on soil, rocks, or overgrowing mosses and lichens (SÉRUSIAUX et al. 1999). It was reported from *Peltigera rufescens* by APTROOT et al. (2000) from the Netherlands. In our specimen we did not see any sterile globuli, but with ascospores of 45–50 \times 18–25 μm , c. 40 cells visible in optical section it is clearly distinguished from *A. gelatinosa*.

**Arthonia phaeophysciae* Grube & Matzer

Snæfellsnessýsla, coast between Malarrif and Lóndrangar, lava rocks, on *Phaeophyscia sciastra*, 64°43'57.3"N/23°47'11.3"W, 20 m, 4.8.2009 (hb ivl 4990).

Arthonia phaeophysciae is a common parasite on *Phaeophyscia orbicularis* in Europe; it is also known from other species of the genus *Phaeophyscia* in Europe and South America. The species was separated from *A. epiphyscia* by GRUBE & MATZER (1997). The latter, restricted to hosts of the genus *Physcia*, was found in Iceland on *Physcia caesia* by SVANE & ALSTRUP (2004).

Arthonia stereocaulina (Ohlert) R.Sant.

Vestur-Bardastrandarsýsla, Dynjandisheidi near the crossing of the roads 60 and 63, boulders and open soil, on *Stereocaulon arcticum*, 65°41'27.3"N/23°11'37.2"W, 390 m, 6.8.2009 (hb ivl 5108);

Bolungarvík, Bolafjall W Bolungarvík, heath with bare soil, on *S. arcticum* (coinfected with *Cercidospora stereocaulorum*), 66°10'44.9"N/23°19'59.8"W, 390 m, 7.8.2009 (hb ivl 5146).

This species is growing on hosts of the genus *Stereocaulon*, but was also once reported on *Dactylina* (see ALSTRUP & HAWKSWORTH 1990). It is known from both hemispheres, but records are rare (Chile, France, Greenland, Norway, Poland, Russia, Sweden) (ETAYO & SANCHO 2008, HAFELLNER 1994, ALSTRUP & HAWKSWORTH 1990, SANTESSON et al. 2004, FAŁTYNOWICZ 2003, ZHURBENKO & HAFELLNER 1999). SVANE & ALSTRUP (2004) reported it from Iceland (Rangárvallasýsla) on *Stereocaulon* sp.

***Caloplaca cerina* var. *chloroleuca* (Sm.) Th.Fr.**

Bolungarvík, near golf course, fixed dunes, on *Peltigera rufescens*, 66°08'40.6"N/23°14'33.6"W, 5 m, 8.8.2009 (hb ivl 5167 sub *Rhagadostoma brevisporum*, 5209 sub *Agonimia globulifera*).

This taxon is usually found living as an autonomous lichen on plant debris or above mosses. We found it growing on moribund parts of the thallus of *Peltigera rufescens*; the thallus of *Caloplaca cerina* var. *chloroleuca* was reduced to minute granules at the basal parts of the apothecia. The variety is widely spread over the northern hemisphere.

***Carbonea supersparsa* (Nyl.) Hertel**

Norður-Isafjardarsýsla, between Kaldalón and Drangajökull, bare soil and pebbles in the run-up of the glacier, on *Lecanora polytropa*, 66°06'31.3"N/22°18'03.7"W, 35 m, 10.8.2009 (hb ivl 5174).

This species, widely distributed in the northern hemisphere, was already mentioned for Iceland from Norður-Múlasýsla (ORANGE 1990) and from Suður-Múlasýsla (BRACKEL, in press).

****Cercidospora cladoniicola* Alstrup**

Árnessýsla, N Þingvallavatn E Þingvellir, heath on lava, on *Cladonia arbuscula* var. *squarrosa*, 64°16'11.9"N/21°03'52.1"W, 140 m, 13.8.2009 (hb ivl 5198).

In our specimen we found some differences to the species protologue (ALSTRUP 1997): the ascomatal wall is rather blackish green than brown, the asci are smaller (40–55 × 11 µm vs. 60–65 × 10–11 µm), and also the 3-septate ascospores are smaller (15–17 × 4.5–5 µm vs. 16–20 × 5–6 µm). Our observations fit better the description given by ZHURBENKO & ALSTRUP (2004). Some of the infested parts of the podetia are bleached; our specimen was co-infected with *Sphaerellothecium cladoniicola*.

The species is known from several European countries, mainly from the north (Svalbard, Denmark, Norway, Russia, British Isles, and Germany), living on the podetia of *Cladonia* species but also on *Cladonia pocillum* and *C. symphycharpa* squamules (ZHURBENKO & ALSTRUP 2004, BRACKEL 2007)

****Cercidospora decolorella* (Nyl.) O.E.Erikss. & J.Z.Yue**

Norður-Isafjardarsýsla, between Kaldalón and Drangajökull, bare soil and pebbles in the run-up of the glacier, on moribund *Solorina crocea*, 66°06'31.3"N/22°18'03.7"W, 35 m, 10.8.2009 (hb ivl 5173).

The species is widespread over the northern hemisphere (ZHURBENKO et al. 1995, ZHURBENKO & HAFELLNER 1999, ZHURBENKO 2002, HAWKSWORTH 2003, SANTESSON et al. 2004). In our specimen the ascomata were situated on moribund parts of the thallus of *Solorina crocea*. The measurements of 3–5-septate ascospores were 23–27 × 6–7 µm. *Cercidospora punctillata*, which also lives on *Solorina crocea*, has 3-septate ascospores of 18–20 × 5–6 µm (according to NYLANDER 1884) or 20–23.7 × 5.3–5.9 µm (according to ZOPF 1897) and causes only a decolourisation of the host thallus.

***Cercidospora epipolytropa* (Mudd) Arnold**

Isafjörður, Breiðafell near Tunga, beneath the waterfall, heath, on *Lecanora polytropa*, 66°03'39.3"N/23°12'21.6"W, 40 m, 8.8.2009 (hb ivl 5161).

The species is widespread and common in the northern hemisphere, growing on *Lecanora polytropa* and some related species. It was already known from Iceland (HALLGRIMSSON & EYJÓLFSDÓTTIR 2004).

****Cercidospora parva* Hafellner & Ihlen**

Vestur-Bardastrandarsýsla, Tunguheiði SW Bíldudalur, heath with bare soil near stream, on *Baeomyces rufus*, 65°39'26.3"N/23°39'48.4"W, 175 m, 6.8.2009 (hb ivl 5102).

Cercidospora parva is restricted to species of the genus *Baeomyces*; it is known from the British Isles, Germany, Norway, Russia and Sweden (GILBERT & COPPINS 1992, BRACKEL 2009, IHLEN 1998, ZHURBENKO & SANTESSON 1996).

***Cercidospora stereocaulorum* (Arnold) Hafellner**

Vestur-Bardastrandarsýsla, Tunguheiði SW Bíldudalur, heath with bare soil near stream, on *Stereocaulon* sp., 65°39'26.3"N/23°39'48.4"W, 175 m, 6.8.2009 (hb ivl 5103); Bolungarvík, Bolafjall W Bolungarvík, heath with bare soil, on *S. arcticum*, 66°10'44.9"N/23°19'59.8"W, 390 m, 7.8.2009 (hb ivl 5146 sub *Arthonia stereocaulina*).

Cercidospora stereocaulorum is restricted to species of the genus *Stereocaulon*. The species is known from several countries of the northern hemisphere, mainly from the arctic, boreal and alpine regions; it was already recorded in Iceland, from Skeidarásandur on *Stereocaulon alpinum* (SVANE & ALSTRUP 2004).

****Clauzadeomyces verrucosus* Diederich**

Mýrasýsla, N Borgarnes, small hill near the camping site, open soil with rubbles, on *Placopsis gelida*, 64°33'03.1"N/21°54'30.6"W, 10 m, 1.8.2009 (hb ivl 4973); Snæfellsnessýsla, near Sönghellir on the SE slope of the Snæfellsjökull, on rubble, on *P. gelida*, 64°46'55.5"N/23°40'43.6"W, c. 200 m, 2.8.2009 (hb ivl 4976).

This species was known until now only from three locations in Belgium on *Placopsis lambii* (DIEDERICH 1994).

***Clypeococcum placopsiphilum* Øvst. & D.Hawksw.**

Arnessýsla, SE Hofjökull Glacier, Arnarfellsbrekka, on *Placopsis gelida*, 64°41'09.9"N/18°39'41.9"W, 600–800 m, 21.8.2002, leg. Starri Heiðmarsson, det. W. v. Brackel (ANMH LA-29563).

This rare species was known from the Antarctic islands and from Russia (ØVSTEDAL & HAWKSWORTH 1986, ZHURBENKO 2009) and was reported from Iceland, Skaftafell by BERGER (2000).

***Corticifraga peltigerae* (Nyl.) D.Hawksw. & R.Sant.**

Vestur-Bardastrandarsýsla, coastal plain between Látrabjarg and Hvallátur, fixed dunes, on *Peltigera rufescens*, 65°31'05.6"N/24°28'53.7"W, 5 m, 5.8.2009 (hb ivl 4995).

This species, parasitic on *Peltigera* spp. (and exceptionally on *Solorina* spp.), is distributed over both hemispheres. It was already reported for Iceland from Sudur-Þingeyjarsýsla on *Peltigera rufescens* and *P. lepidophora* (ORANGE 1990, as *Phragmonaevia peltigerae*; HAWKSWORTH & SANTESSON 1990), from Skaftafell on *P. polydactylon* (BERGER 2000), and from Vatnsendi on *P. didactyla*, Þórsmörk on *P. rufescens*, and Fljótsdalshérað on *P. lepidophora* (SVANE & ALSTRUP 2004).

****Dacampia rufescentis* (Vouaux) D.Hawksw.**

Bolungarvík, near golf course, fixed dunes, on *Peltigera rufescens*, 66°08'40.6"N/23°14'33.6"W, 5 m, 8.8.2009 (hb ivl 5166).

The species is known from several countries in Europe (Estonia, France, Great Britain, Norway, Spain, and Sweden) and from Argentina, growing on different species of the genus *Peltigera* (SUIJA et al. 2009, VOUAUX 1913, HAWKSWORTH 2003, SANTESSON et al. 2004, ETAYO & DIEDERICH 1998, WEDIN 1994). In our specimen we found perithecia of 180–275 µm diam., what is in agreement with 180–312 µm diam. given by VOUAUX (1913). MARTÍNEZ (1999) measured diameters of 70–110 µm in material from Spain.

***Dactylospora parellaria* (Nyl.) Arnold**

Arnessýsla, Heiðinhá NW Þórlakshöfn, lava boulders, on *Ochrolechia parella*, 63°52'30.7"N/21°34'12.3"W, 195 m, 14.8.2009 (hb ivl 5182); Strandarsýsla, Gálmaströnd SE Hólmavík, rocks near the coast, on *O. parella*, 65°38'16.3"N/21°31'06.9"W, 15 m, 11.8.2009 (hb ivl 5192).

The species is known from several countries in Europe, North America and Asia, but rarely reported (BRODO 1995, van den BOOM & ETAYO 2000, HAWKSWORTH 2003, HAFELLNER et al. 2004, SANTESSON et al. 2004, KRISTINSSON et al. 2006, BRACKEL 2008). It was already reported from Iceland (KRISTINSSON & HEIDMARSSON 2006).

****Echinothecium cladoniae* Keissl., nom. nud.**

Árnessýsla, N Þingvallavatn E Þingvellir, heath on lava, on *Cladonia arbuscula* var. *squarrosa*, 64°16'11.9"N/21°03'52.1"W, 140 m, 13.8.2009 (hb ivl 5199).

Our specimen fits the descriptions for this fungus (KEISSLER 1930, ETAYO 2002): superficial, small, brown perithecia, c. 50 µm diam., with stiff brown setae, 35–60 × 2–3 µm; perithecia arising from a brown mycelium that forms a net on the host thallus; 8-spored asci, 35–37 × 10 µm; hyaline to pale brown, smooth, 1-septate ascospores, 11–13 × 4–5 µm.

****Endococcus macrosporus* (Arnold) Nyl.**

Strandasýsla, Gálmaströnd SE Hólmavík, rocks near the coast, on *Rhizocarpon geographicum*, 65°38'16.3"N/21°31'06.9"W, 15 m, 11.8.2009 (hb ivl 5184).

This easily recognizable species (the only gall-inducing *Endococcus* on *Rhizocarpon*) is widely distributed over both hemispheres. The specimen of *E. perpusillus* mentioned by HALLGRIMSSON & EYJÓLFSÓTTIR (2004) from Iceland on *R. geographicum* may belong to *E. macrosporus*, as *E. perpusillus* was used as a synonym of *E. macrosporus* (TRIEBEL 1989).

****Endococcus verrucisporus* Alstrup**

Mýrasýsla, N Borgarnes, small hill near the camping site, open soil with rubble, on *Ionaspis lacustris*, 64°33'03.1"N/21°54'30.6"W, 10 m, 1.8.2009 (hb ivl 4973 sub *Clauzadeomyces verrucosus*).

The species is known from several European countries (Belgium, Denmark, France, Great Britain, Norway, Czech Republic), and from Greenland (SÉRUSIAUX et al. 1999, ALSTRUP et al. 1994, HITCH 2000, ALSTRUP 1997, KOCOURKOVÁ & van den BOOM 2005, ALSTRUP et al. 2009), always growing on *Ionaspis lacustris*. In our specimen the ascospores are little smaller than described by ALSTRUP et al. (1994), 9–11 × 5.5–7 µm vs. 10–12 × 6.5–7.5 µm.

***Epilichen glauconigellus* (Nyl.) Hafellner**

Vestur-Bárðastrandarsýsla, Tunguheiði SW Bíldudalur, heath with bare soil near stream, on *Baeomyces rufus*, 65°39'26.3"N/23°39'48.4"W, 175 m, 6.8.2009 (hb ivl 5101).

The species is widely distributed in the northern hemisphere, especially in boreal, arctic and alpine regions (HAFELLNER 1979, ALSTRUP & HAWKSWORTH 1990). It grows on various species of *Baeomyces*. It was already mentioned for Iceland from Suður-Þingeyjarsýsla, Skútustaðir at Myvatn by HAFELLNER (1979) and from Árnessýsla, Þingvellir, Miðfellsland by SVANE & ALSTRUP (2004).

***Epilichen scabrosus* (Ach.) Clem.**

Árnessýsla, N Hveragerði, bare soil near stream, on *Baeomyces rufus*, 64°02'25.8"N/21°13'09.1"W, 250 m, 13.8.2009 (hb ivl 5201).

The species is widely distributed over the northern hemisphere and is known as a parasite of different *Baeomyces* species (HAFELLNER 1979). In an advanced stage it develops an own thallus. It was already mentioned for Iceland by HAFELLNER (1979) from Árnessýsla, Arnarfellsver and by SVANE & ALSTRUP (2004) from Arnarfjöður in Vestur-Ísafjardarsýsla, Valahnjúkur in Rangárvallasýsla, and Búrfellshraun in Suður-Þingeyjarsýsla.

***Intralichen christiansenii* (D.Hawksw.) D.Hawksw. & M.S.Cole**

Norður-Ísafjardarsýsla, Reykjanes, rocks at the coast, on destroyed apothecia of *Xanthoria parietina*, 65°55'46.8"N/22°25'34.3"W, 5 m, 9.8.2009 (hb ivl 5171); Strandasýsla, Gálmaströnd SE Hólmavík, rocks near the coast, on the thallus of *X. parietina*, 65°38'16.3"N/21°31'06.9"W, 15 m, 11.8.2009 (hb ivl 5189).

This species is widespread in the northern hemisphere and also reported from Australasia, infesting the thallus and apothecia of several lichen species. It was already reported for Iceland (as *Bispora chris-*

tiansenii D. Hawksw.) from Vestur-Skaftafellssýsla, Höfðabrekka, on *Catillaria chalybeia* (BERGER 2000). It is overlooked and usually only seen under the microscope. In specimen 5189, the species was mixed with *Intralichen lichenicola*.

**Intralichen lichenicola* (M.S.Christ. & D.Hawksw.) D.Hawksw. & M.S.Cole

Strandasýsla, Drangnes, basaltic rock in meadow, on *Arctoparmelia incurva*, 65°41'21.7"N/21°26'12.3"W, 10 m, 10.8.2009 (hb ivl 5181); Strandasýsla, Gálmaströnd SE Hólmavík, rocks near the coast, on the thallus of *Xanthoria parietina*, 65°38'16.3"N/21°31'06.9"W, 15 m, 11.8.2009 (hb ivl 5189 sub *I. christiansenii*).

This hyphomycete is known from several countries in the northern hemisphere and also from Chile, growing on many different lichen species (HAWKSWORTH 1979, ALSTRUP & HAWKSWORTH 1990, ALSTRUP & ELVEBAKKA 1996, ZHURBENKO 1996, SÉRUSIAUX et al. 1999, HAWKSWORTH & COLE 2002, SANTESSON et al. 2004, van den BOOM & ETAYO 2006, ETAYO & SANCHO 2008). In specimen 5181 the fungus grows on the moribund parts of the thallus but it was not possible to decide whether the fungus is parasitic or saprophytic on decaying parts of thallus. In *Arctoparmelia incurva*, the fungus seems to kill the central parts of the thallus.

**Lichenocodium usneae* (Anzi) D.Hawksw.

Snæfellsnessýsla, Stykkishólmur, hill between golf course and camping site, heath on siliceous rocks, on *Cetraria muricata*, 65°04'16.1"N/22°43'43.5"W, 30 m, 4.8.2009 (hb ivl 4994).

This species grows on several mainly foliose and fruticose lichens, and is distributed over both hemispheres (e.g. HAWKSWORTH 1981, ALSTRUP & HAWKSWORTH 1990, OLECH & ALSTRUP 1996, DIEDERICH 2003, HAWKSWORTH & COLE 2004, HAFELLNER & JOHN 2006, ETAYO & SANCHO 2008).

Lichenopeltella cetrariae (Bres.) Höhn.

Vestur-Bardástrandarsýsla, Tunguheiði SW Bildudalur, heath near stream, on *Cetraria islandica*, 65°39'26.3"N/23°39'48.4"W, 175 m, 6.8.2009 (hb ivl 4996); Mýrasýsla, Surtshellir NE Húsafell, lava boulders and bare soil, on *C. islandica*, 64°47'05.2"N/20°43'17.1"W, 345 m, 12.8.2009 (hb ivl 5193); Árnassýsla, Heiðinhá NW Þórlakshöfn, lava boulders, on *C. islandica*, 63°52'30.7"N/21°34'12.3"W, 195 m, 14.8.2009 (hb ivl 5204).

For notes on this species, especially concerning the doubtful synonymy of *L. cetrariae* and *L. cetrariicola*, see BRACKEL (in press). In all specimens we found 1-septate ascospores, 13–17 × 3–4 µm, with 3 pairs of appendages (vs. two pairs in *L. cetrariicola*, see SPOONER & KIRK 1990). The 4-spored asci measured 25–35 × 8–10 µm, the catathecia 65–105 µm in diameter.

Lichenopeltella cladoniarum E.S.Hansen & Alstrup

Bolungarvík, near golf course, fixed dunes, on *Cladonia arbuscula*, 66°08'40.6"N/23°14'33.6"W, 5 m, 8.8.2009 (hb ivl 5164); Mýrasýsla, Surtshellir NE Húsafell, lava boulders and bare soil, on *C. portentosa*, 64°47'05.2"N/20°43'17.1"W, 345 m, 12.8.2009 (hb ivl 5194 sub *Sphaerellothecium cladoniicola*).

The species is known from a few countries in northern Europe (Iceland, Norway, Sweden) and from Greenland (BERGER 2000, SANTESSON et al. 2004, ALSTRUP et al. 2009). It was already mentioned for Iceland from Mýrasýsla (BERGER 2000).

Lichenopeltella uncialicola Brackel **sp. nov.**

Ascomata catathecia, superficialia, atrobrunnea, dispersa, 40–85 µm diam., 35–40 µm alta, ostiolata. Setae ostiolaris divergentes, brunneae, non-septatae, apice acuta, 15–20 × 2.5–3 µm. Asci 22–26 × 8–9.5 µm, ovoidei ad obclavati, 4-sporei. Ascosporeae (11.5–)12–14.3(–15.5) × 3–3.4(–4) µm, ellipsoideae, hyalinae, 1-septatae, 4-guttulatae, hyalinae, sine setulis. Habitat supra thallum lichenis *Cladonia uncialis*.

Typus: Iceland, Árnassýsla, Heiðinhá NW Þórlakshöfn, lava boulders, on *Cladonia uncialis*, 63°52'30.7"N/21°34'12.3"W, 195 m, W. & G. v. Brackel, 14.8.2009 (M – holotypus, hb ivl 5205 – isotypus).

Vegetative hyphae inside the cortex of the host thallus, pale brown, sparsely branched, 1.5–3 µm wide. **Ascomata** catathecioid, single, ± rounded in surface view, slightly convex, 40–85 µm diam., 35–40 µm high, brown to dark brown, almost black around the ostiole; the upper layer one cell thick, composed of radially arranged brown quadrangular cells, 3–7 × 2–5 µm, K⁺ medium to dark grey; around the ostiole forming a clearly delimited, dark brown collar, 2–3(–4) cells high, of thick-walled cells, 2–6.5 × 2.5–3 µm, the upper ones somewhat attenuated, with some cells of the lower or the middle row extended into a crown of 5–7 divergent but more or less upright setae; ostiole 6–8 µm wide (in mature state, when wet); basal layer one cell thick, composed of radially arranged, pale brown, quadrangular cells, 2–6 × 2–5 µm; ascomatal margin entire, slightly sinuate. **Setae** 15–20 × 2.5–3 µm, dark brown, thick-walled, smooth, acute, non-septate, straight or slightly curved. Paraphyses not observed. **Asci** 4-spored, ovoid to obclavate, 26–33 × 8–10.5 µm. **Ascospores** 1-septate, ellipsoid, hyaline, without setulae, epispore smooth, (11.5–)12–14.3(–15.5) × 3–3.4(–4) µm, l/b (3.4–)3.8–4.7(–5.2) (n=20), 4-guttulate, pseudo-tetrablastic, the upper cell rounded, the lower cell very slightly attenuated.

Host: *Cladonia uncialis*, mainly on the basal parts of the podetia.

Distribution: The species is known only from the type locality in Iceland.

Discussion: Besides the size of the ascomata, asci, and ascospores, and the septation and number (per ascus) of the ascospores, the major diagnostic features in the genus *Lichenopeltella* are the presence and orientation of ostiolar setae, as well as the presence and number of setulae on the ascospores (SPOONER & KIRK 1990, APTROOT et al. 1997, EARLAND-BENNET & HAWKSWORTH 1999). Among the 42 known species of *Lichenopeltella* there are only three with divergent ostiolar setae [*L. peltigericola* (D.Hawksw.) R.Sant., *L. rangiferinae* Brackel, and *L. alpestris* (Sacc.) P.M.Kirk]; contrarily to *L. uncialicola* all of them have ascospores with appendages. Apart from the lack of ascospore setulae, *L. uncialicola* is most similar to *L. peltigericola*, but the latter has bigger asci [25–35(–40) × 9–11 µm vs. 22–26 × 8–9.5 µm] and bigger ascospores [(13.5–)15–22 × 3.5–4.5 µm vs. (11.5–)12–14.3(–15.5) × 3–3.4(–4) µm]. Two other species of *Lichenopeltella* are known from the host genus *Cladonia*: *L. cladoniarum* E.S.Hansen & Alstrup and *L. rangiferinae*. The first is distinguished by the lack of ostiolar setae and 8-spored asci, the second by the presence of ascospore setulae and bigger ascomata. Diederich (in APTROOT et al. 1997) mentioned an undescribed *Lichenopeltella* species on *Cladonia* sp. from Papua New Guinea, which differs in convergent ostiolar setae.

***Lichenosticta alcicornaria* (Linds.) D.Hawksw.**

Vestur-Bardastrandarsýsla, Tunguheiði SW Bíldudalur, heath near stream, on *Cladonia arbuscula* (podetia), 65°39'26.3"N/23°39'48.4"W, 175 m, 6.8.2009 (hb ivl 4997); Bolungarvík, near golf course, fixed dunes, on *C. pyxidata* (top and underside of the basal squamules), 66°08'40.6"N/23°14'33.6"W, 5 m, 8.8.2009 (hb ivl 5170).

This species, living on several *Cladonia* species, was already reported for Iceland from Siglunesá in Vestur-Bardastrandarsýsla (ZHURBENKO & ALSTRUP 2004). In our specimen 5170, conidia measure (4–)4.7–5.8(–6) × (3–)3.3–3.9(–4) µm (n=20), vs. (6–)6.5–10(–11) × (2–)3–4.5(–6) µm in HAWKSWORTH (1981); the conidiogenous cells in this specimen are 5–12 µm long, vs. 4–6 µm in HAWKSWORTH (1981). This author already mentioned “that more than one species might be involved” and this seems very likely. In 1997 we found no measurable conidia. Surely both specimens belong to *L. alcicornaria* in the still used broad sense.

****Merismatium decolorans* (Rehm ex Arnold) Triebel**

Snæfellsnessýsla, between Arnarstapi and Hellnar, heath on lava near the coast, on *Stereocaulon* cf. *alpinum*, 64°45'20.2"N/23°38'21.4"W, 35 m, 3.8.2009 (hb ivl 4977 sub *Scutula stereocaulorum*); Bolungarvík, near golf course, fixed dunes, on *Cladonia pyxidata*, 66°08'40.6"N/23°14'33.6"W, 5 m, 8.8.2009 (hb ivl 5169).

Merismatium decolorans is known from several crustose muscicolous-terricolous lichens (TRIEBEL 1989) and was reported also from *Cladonia pyxidata* (ZHURBENKO & HAFELLNER 1999) and *Lepraria neglecta* (SUIJA et al. 2008). In our specimens the ascospores were mainly 3-septate (very rarely with one or two longitudinal or oblique walls) and measured in 5169: (12–)13.3–16(–17) × (4.5–)4.9–5.6(–6) µm

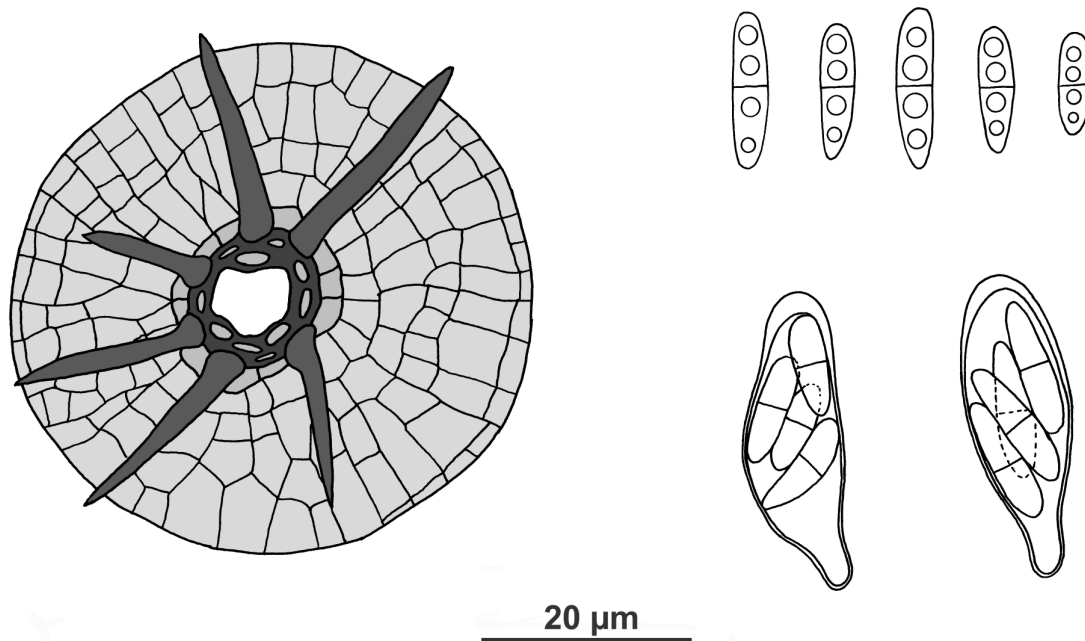


Fig. 1: *Lichenopeltella uncialicola*, holotypus: Ascoma from above, ascospores and asci.

($n=20$) and in 4977: $12.5-15 \times 6 \mu\text{m}$ [vs. $(10.5-13.5-16.5(-17.5)) \times (3.5-4-5.5(-6)) \mu\text{m}$ in TRIEBEL (1989)]. As all other features fit well the description given by TRIEBEL (1989), we attribute also our specimen 4977 to this species, despite the unusual host. ETAYO & SANCHO (2008) report *Merismatium* aff. *nigritellum* on *Stereocaulon* from Chile with 3–5 transversal and 0–2 longitudinal septa, $15-25 \times 6-8.5 \mu\text{m}$, but with much bigger ascomata ($200-260 \mu\text{m}$ diam.). In our specimens the perithecia measured c. $150-200 \mu\text{m}$ in diam.

Merismatium heterophractum (Nyl.) Vouaux

Snæfellsnessýsla, between Arnarstapi and Hellnar, heath on lava near the coast, on *Nephroma laevigatum*, $64^{\circ}45'20.2''\text{N}/23^{\circ}38'21.4''\text{W}$, 35 m, 3.8.2009 (hb ivl 4979).

Merismatium heterophractum usually occurs on crustose lichens belonging to *Biatora*, *Lecanora*, *Lepraria*, and *Lopadium* (e.g. TRIEBEL 1989, SANTESSON et al. 2004, APTROOT et al. 2005, ALSTRUP et al. 2008). There are only few reports on macrolichens: on *Cladonia* sp. from the (sub-)arctic (ZHURBENKO & HAFELLNER 1999, ZHURBENKO & ALSTRUP 2004) and on *Nephroma parile* from Greenland (HANSEN 1998). The size of the ascomata (c. $100 \mu\text{m}$ diam.) and of the ascospores ($10-13 \times 5-6 \mu\text{m}$) fits well the description given by TRIEBEL (1989). The species was already reported for Iceland, from Austur-Húnavatnssýsla (BRACKEL in press).

Muellerella erratica (A.Massal.) Hafellner & V.John

Isafjörður, Breiðafell near Tunga, beneath the waterfall, rocks near the stream, on *Lecidea lapicida*, $66^{\circ}03'39.3''\text{N}/23^{\circ}12'21.6''\text{W}$, 40 m, 8.8.2009 (hb ivl 5150).

This common and widespread species was already known from Iceland [as *Muellerella pygmaea* var. *ventosicola* (Mudd) D. Hawksw.] from Suður-Þingeyjarsýsla, Mýrasýsla, Arnessýsla, Rangárvallasýsla, and Suður-Múlasýsla on other species of *Lecidea* and on *Amygdalaria* and *Porpidia* (TRIEBEL 1989).

Muellerella pygmaea (Körb.) D.Hawksw.

Isafjörður, Breiðafell near Tunga, beneath the waterfall, rocks near the stream, on *Lecidea lapicida*, $66^{\circ}03'39.3''\text{N}/23^{\circ}12'21.6''\text{W}$, 40 m, 8.8.2009 (hb ivl 5160); Strandasýsla, Gálmaströnd SE Hólmavík, rocks near the coast, on *L. lapicida* var. *pantherina*, $65^{\circ}38'16.3''\text{N}/21^{\circ}31'06.9''\text{W}$, 15 m, 11.8.2009 (hb ivl 5186).

This species is known from all over the world on several genera of lichens (*Acarospora*, *Aspicilia*, *Caloplaca*, *Lecidea*, *Xanthoria*), mainly on crustose lichens growing on siliceous rocks (TRIEBEL 1989). In its wider sense it was already mentioned for Iceland by SVANE & ALSTRUP (2004) on *Tephromela atra* from Breiddalsvík, Suður-Múlasýsla (this find may belong to *M. atricola*) and on *Rhizocarpon geographicum* from Vestur-Bardastrandarsýsla, Vatnsfjöður. HEIÐMARSSON (2008) reported it from Strandasýsla without mention of the host.

Phaeospora rimosicola (Leight. ex Mudd) Hepp

Strandasýsla, Gálmaströnd SE Hólmavík, rocks near the coast, on *Rhizocarpon obscuratum*, 65°38'16.3"N/21°31'06.9"W, 15 m, 11.8.2009 (hb ivl 5191; 5185 sub *Phaeosporobolus alpinus*).

The species is widespread in Europe and North America (REHM 1863, LETTAU 1958, HAWKSWORTH 1983, TÜRK & WITTMANN 1987, HAFELLNER 1994, ALSTRUP et al. 1994, BRODO 1995, ZHURBENKO & SANTESSON 1996, SÉRUSIAUX et al. 1999, DIEDERICH & SÉRUSIAUX 2000, KOCOURKOVÁ 2000, SANTESSON et al. 2004, GRÖNER 2009). In Iceland it was found in Suður-Múlasýsla (BRACKEL, in press). In our specimen the ascospores measured (14–)15–17(–17.5) × (5.5–)5.8–6.6(–7) µm (n=20), vs. 16–19 × 5–7 µm according to SÉRUSIAUX et al. (1999).

Phaeosporobolus alpinus R.Sant., Alstrup & D.Hawksw.

Strandasýsla, Gálmaströnd SE Hólmavík, rocks near the coast, on unidentified white crust, 65°38'16.3"N/21°31'06.9"W, 15 m, 11.8.2009 (hb ivl 5185); Mýrasýsla, Surtshellir NE Húsafell, lava boulders and bare soil, on *Ochrolechia frigida*, 64°47'05.2"N/20°43'17.1"W, 345 m, 12.8.2009 (hb ivl 5196b sub *Sphaerellothecium araneosum*); Borgarfjarðarsýsla, SE slope of the Skarðheiði NE Akranes, birch twigs, on *O. szatalaensis*, 64°27'59.3"N/21°31'25.2"W, 100 m, 12.8.2009 (hb ivl 5197).

The species was already reported for Iceland from Austur-Húnavatnssýsla and Suður-Múlasýsla (BRACKEL, in press); see there also for further notes on this species. According to the checklist of KRISTINSSON & HEIÐMARSSON (2006) the host lichen of 5197, *Ochrolechia szatalaensis*, is new to Iceland.

****Phaeosporobolus usneae*** D.Hawksw. & Hafellner

Vestur-Bardastrandarsýsla, Dynjandisheiði near the crossing of the roads 60 and 63, boulders, on *Bryoria chalybeiformis*, 65°41'27.3"N/23°11'37.2"W, 390 m, 6.8.2009 (hb ivl 5141).

A common fungus distributed worldwide on a wide range of foliose and fruticose lichens. It was known from *Bryoria capillaris* and *B. fuscescens* (HAWKSWORTH & HAFELLNER 1986), but *B. chalybeiformis* seems to be a new host.

****Protothelenella santessonii*** H.Mayrhofer

Snæfellsnessýsla, on the SE slope of the Snæfellsjökull, on *Cladoniagracilis*, 64°47'43.3"N/23°41'18.2"W, 480 m, 3.8.2009 (hb ivl 4981); ibidem, on *Cladonia* sp., 64°47'14.7"N/23°41'16.9"W, 340 m, 3.8.2009 (hb ivl 4986); Norður-Isafjarðarsýsla, between Kaldalón and Drangajökull, bare soil and pebbles in the run-up of the glacier, on *Cladonia* sp., 66°06'31.3"N/22°18'03.7"W, 35 m, 10.8.2009 (hb ivl 5178).

This obviously rare species is known from arctic and alpine regions (Canada, Greenland, USA, Russia, Antarctica, and Austria) (ALSTRUP & COLE 1998, HANSEN & ALSTRUP 1995, MAYRHOFFER 1987, ZHURBENKO & HAFELLNER 1999, ALSTRUP & COLE 1998, HAFELLNER 1994). It was described on the squamules of *Cladonia squamosa* (MAYRHOFFER 1987); we found it twice on the basal squamules of *Cladonia* sp. and once on the bleached tips of the podetia of *C. gracilis*. The species is a strong pathogen, bleaching and finally killing the infested squamules and podetia.

Pyrenidium hyalosporum Alstrup, D.Hawksw. & R.Sant.

Borgarfjarðarsýsla, above the Glymur, heath near the river, on *Placopsis gelida*, 64°23,3'34.7"N/21°14'53.1"W, 340 m, 12.8.2009 (hb ivl 5208).

The species is known from boreal-arctic regions (Norway, Greenland, Alaska), from the Alps and from Madeira. It was already noted for Iceland from Vestur-Skaftafellssýsla, Mýrdalur, Dyrhólaey

(SVANE & ALSTRUP 2004). In our specimen we found only immature, 1-septate and small spores, $24\text{--}27 \times 7\text{--}8 \mu\text{m}$. According to ALSTRUP & HAWKSWORTH (1990) they should be (1–)3–4-septate, $(31\text{--})34\text{--}39(\text{--}45) \times (7.5\text{--})10\text{--}12.5(\text{--}14) \mu\text{m}$. All other features, especially the internal beak in the ascus apex, the germ pores in the ascospores, and the type of infection (thallus first grey, then bleached) were in accordance with the description.

Rhagadostoma brevisporum (Nav.-Ros. & Hladun) Nav.-Ros.

Bolungarvík, near golf course, fixed dunes, on *Peltigera rufescens*, $66^{\circ}08'40.6''\text{N}/23^{\circ}14'33.6''\text{W}$, 5 m, 8.8.2009 (hb ivl 5167).

The species is known from several European countries as well as from Greenland (HAFELLNER & TÜRK 1995, NAVARRO-ROSINÉS et al. 1999, SANTESSON et al. 2004, ALSTRUP et al. 2009). It was already reported from Iceland by BERGER (2000) from Rangárvallasýsla, Þórsmörk, on *Nephroma parile*.

Rhagadostoma lichenicola (de Not.) Keissler

Norður-Isafjardarsýsla, between Kaldalón and Drangajökull, bare soil and pebbles in the run-up of the glacier, on *Solorina crocea*, $66^{\circ}06'31.3''\text{N}/22^{\circ}18'03.7''\text{W}$, 35 m, 10.8.2009 (hb ivl 5175).

The species is widespread over the northern hemisphere (e.g. KRISTINSSON et al. 2006). It was already reported for Iceland from Strandasýsla by HEIÐMARSSON (2008) and from Austur-Húnavatnssýsla and Akureyri by HANSEN (2009).

Rinodina olivaceobrunnea C.W.Dodge & G.E.Baker

Bolungarvík, near golf course, fixed dunes, on *Peltigera rufescens* and *Cladonia pyxidata*, $66^{\circ}08'40.6''\text{N}/23^{\circ}14'33.6''\text{W}$, 5 m, 8.8.2009 (hb ivl 5165).

Rinodina olivaceobrunnea is a lichenized species, living on bryophytes, plant debris and moribund lichens. It is widely distributed over both hemispheres (HAFELLNER & MAYRHOFFER 2007). In our specimen the thallus was strongly reduced to a small layer of an algae containing mycelium beneath the apothecia. The apothecia were found in thallus regions damaged by the infection with *Stigmidium peltideae*. Other apothecia were found on plant debris in close neighbourhood of the infected thalli of *Peltigera rufescens* and *Cladonia pyxidata*.

****Scutula cladoniicola*** Alstrup & D.Hawksw.

Vestur-Bárðastrandarsýsla, between Sunnfjall and Trostansfjörður, heath with open soil on NE slope, on *Cladonia monomorpha*, $65^{\circ}36'48.8''\text{N}/23^{\circ}24'06.3''\text{W}$, 15 m, 6.8.2009 (hb ivl 5106).

This easily recognisable species was known only from Greenland and Canada, living on *Cladonia stricta* and *C. rangiferina* (ALSTRUP & HAWKSWORTH 1990, HANSEN & ALSTRUP 1995). New for Europe. *Cladonia monomorpha* is a new host.

Scutula stereocaulorum (Anzi) Körb.

Snæfellsnessýsla, between Arnarstapi and Hellnar, heath on lava near the coast, on *Stereocaulon* cf. *alpinum*, $64^{\circ}45'20.2''\text{N}/23^{\circ}38'21.4''\text{W}$, 35 m, 3.8.2009 (hb ivl 4977).

This species, specific to the genus *Stereocaulon*, is known from several northern countries (British Isles, Canada, Greenland, Norway, Russia), from the Alps (Austria, Italy, Switzerland) and also from Madeira and Chile (HAWKSWORTH 2003, DIEDERICH 2003, ALSTRUP & HAWKSWORTH 1990, ZHURBENKO & HAFELLNER 1999, KESSLER 1930, KALB & HAFELLNER 1992, ETAYO & SANCHO 2008). It was already mentioned for Iceland from Skaftafell by BERGER (2000).

****Skyttea tephromelarum*** Kalb & Hafellner

Strandasýsla, Gálmaströnd SE Hólmavík, rocks near the coast, on *Tephromela atra*, $65^{\circ}38'16.3''\text{N}/21^{\circ}31'06.9''\text{W}$, 15 m, 11.8.2009 (hb ivl 5183).

The species is widely distributed over both hemispheres from the Arctic to the Antarctic Islands [DIEDERICH & ETAYO 2000 (sub *S. elachistophora*), DIEDERICH & ETAYO 2004]. It is confined to host lichens of the genus *Tephromela*.

***Sphaerellothecium araneosum* (Rehm ex Arnold) Zopf**

Snæfellsnessýsla, on the SE slope of the Snæfellsjökull, on *Ochrolechia frigida*, 64°47'43.3"N/23°41'18.2"W, 480 m, 3.8.2009 (hb ivl 4982); Snæfellsnessýsla, Stykkishólmur, hill between golf course and camping site, heath on siliceous rocks, on *O. upsaliensis*, 65°04'16.1"N/22°43'43.5"W, 30 m, 4.8.2009 (hb ivl 4993); Vestur-Bardastrandarsýsla, Dynjandisheiði, near crossing of the roads 60 and 63, on bare soil, on *O. frigida* above mosses, 65°41'27.3"N/23°11'37.2"W, 390 m, 6.8.2009 (hb ivl 5140); Bolungarvík, Bolafjall W Bolungarvík, heath with bare soil, on *O. frigida*, 66°10'44.9"N/23°19'59.8"W, 390 m, 7.8.2009 (hb ivl 5147); Mýrasýsla, Surtshellir NE Húsafell, lava boulders and bare soil, on *O. frigida*, 64°47'05.2"N/20°43'17.1"W, 345 m, 12.8.2009 (hb ivl 5196).

This species was already mentioned for Iceland from Kjosarsýsla by BERGER (2000), from Austur-Húnavatnssýsla, Suður-Múlasýsla, and Árnassýsla by SVANE & ALSTRUP (2004), and from Austur-Húnavatnssýsla by BRACKEL (in press); for further notes see also BRACKEL (in press).

****Sphaerellothecium cladoniae* (Alstrup & Zhurb.) Hafellner**

Vestur-Bardastrandarsýsla, between Sunnfjall and Trostansfjörður, heath with open soil on NE slope, on *Cladonia monomorpha*, 65°36'48.8"N/23°24'06.3"W, 15 m, 6.8.2009 (hb ivl 5105); Norður-Isafjarðarsýsla, between Kaldalón and Drangajökull, bare soil and pebbles in the run-up of the glacier, on *C. pyxidata*, 66°06'31.3"N/22°18'03.7"W, 35 m, 10.8.2009 (hb ivl 5176); ibidem, on *Cladonia* sp. (hb ivl 5178 sub *Protothelenella santessonii*); Norður-Isafjarðarsýsla, between Kaldalón and Drangajökull, lateral moraine, on *Cladonia* sp., 66°05'53.8"N/22°20'26.1"W, 15 m, 10.8.2009 (hb ivl 5180); Árnassýsla, Heiðinhá NW Þórlakshöfn, lava boulders, on *Cladonia* sp., 63°52'30.7"N/21°34'12.3"W, 195 m, 14.8.2009 (hb ivl 5202).

Sphaerellothecium cladoniae may be found growing on several species of *Cladonia* (excl. *Cladina*), mainly on the basal squamules. It is widely distributed over both hemispheres (ZHURBENKO & ALSTRUP 2004).

****Sphaerellothecium cladoniicola* E.S.Hansen & Alstrup**

Vestur-Bardastrandarsýsla, Tunguheiði SW Bíldudalur, heath near stream, on *Cladonia arbuscula*, 65°39'26.3"N/23°39'48.4"W, 175 m, 6.8.2009 (hb ivl 5100); Mýrasýsla, Surtshellir NE Húsafell, lava boulders and bare soil, on *C. portentosa*, 64°47'05.2"N/20°43'17.1"W, 345 m, 12.8.2009 (hb ivl 5194); Árnassýsla, N Þingvallavatn E Þingvellir, heath on lava, on *C. arbuscula* var. *squarrosa*, 64°16'11.9"N/21°03'52.1"W, 140 m, 13.8.2009 (hb ivl 5200).

This species, restricted to *Cladonia* Sect. *Cladina*, is known from arctic and boreal regions of the northern hemisphere (HANSEN & ALSTRUP 1995). Contrary to the description of HANSEN & ALSTRUP (1995), in 5100 we found the ascomata more or less immersed (not entirely superficial) in a necrotic layer on the podetia of the host.

****Sphaerellothecium minutum* Hafellner**

Snæfellsnessýsla, on the SE slope of the Snæfellsjökull, heath on lava, on *Sphaerophorus fragilis*, 64°47'14.7"N/23°41'16.9"W, 340 m, 3.8.2009 (hb ivl 4985); ibidem, on *S. globosus* (hb ivl 4987); Snæfellsnessýsla, coast between Malarrif and Lóndrangar, lava rocks, on *S. globosus*, 64°43'57.3"N/23°47'11.3"W, 20 m, 4.8.2009 (hb ivl 4988); Vestur-Bardastrandarsýsla, Dynjandisheiði near the crossing of the roads 60 and 63, boulders, on *S. fragilis*, 65°41'27.3"N/23°11'37.2"W, 390 m, 6.8.2009 (hb ivl 5109); Mýrasýsla, Surtshellir NE Húsafell, lava boulders and bare soil, on *S. fragilis*, 64°47'05.2"N/20°43'17.1"W, 345 m, 12.8.2009 (hb ivl 5195).

This species is known from the arctic and alpine regions of both hemispheres (HAFELLNER 1993, 1994, WEDIN 1994, ZHURBENKO & HAFELLNER 1999, TRETACH & HAFELLNER 2000, TRIEBEL & SCHOLZ 2001, SANTESSON et al. 2004, ETAYO & SANCHO 2008, ALSTRUP et al. 2009). According to HAFELLNER (1993) it is very common on *Sphaerophorus fragilis*, but occurs also on *S. globosus*. In our specimens (4985 on *S. fragilis* as well as on *S. globosus*, 4987) we found also perithecia with asci and spores longer than in the above mentioned description: Asci up to 32 µm (vs. 20–25 µm) and spores up to 15 µm (vs. 9–13 µm).

Sphaerellothecium parmeliae Diederich & Etayo

Snæfellsnessýsla, coast between Malarrif and Lóndrangar, lava rocks, on *Parmelia saxatilis*, 64°43'57.3"N/23°47'11.3"W, 20 m, 4.8.2009 (hb ivl 4992).

This worldwide distributed species was already reported for Iceland from Austur-Húnavatnssýsla (BRACKEL, in press).

Sphaerellothecium reticulatum (Zopf) Etayo

Strandasýsla, Gálmaströnd SE Hólmavík, rocks near the coast, on *Parmelia saxatilis*, 65°38'16.3"N/21°31'06.9"W, 15 m, 11.8.2009 (hb ivl 5188; 5187 sub *Abrothallus parmeliarum*).

This common species, distributed worldwide, was already noted for Iceland from Austur-Húnavatnssýsla, on *Parmelia sulcata* (BRACKEL in press).

****Sphaerellothecium stereocaulorum*** Zhurb. & Triebel

Vestur-Bardastrandarsýsla, Dynjandisheiði, near the crossing of the roads 60 and 63, boulders, on *Stereocaulon arcticum*, 65°41'27.3"N/23°11'37.2"W, 390 m, 6.8.2009 (hb ivl 5107a).

This recently described species was known until now only from boreal and arctic regions in Norway and Russia (ZHURBENKO & TRIEBEL 2008). It is distinguished from *Sphaerellothecium cladoniae*, which may also grow on *Stereocaulon* species, by the appearance of 2- or 3-septate ascospores mixed with 1-septate ones. In our specimen we found the ascomata somewhat bigger than in the description (30–120 µm vs. 20–50 µm), and the single cells of the vegetative hyphae were bigger (4–10 µm vs. 4–8 µm in diam.). Also the size of the ascospores lies in the upper range of the measurements given in the description [12–14 × 4.5–5.5 µm vs. (9–)10–13(–16) × 3–4.5(–6) µm].

****Stigmatidium gyrophorarum*** (Arnold) D.Hawksw.

Vestur-Bardastrandarsýsla, Dynjandisheiði near the crossing of the roads 60 and 63, boulders, on *Umbilicaria cylindrica*, 65°41'27.3"N/23°11'37.2"W, 390 m, 6.8.2009 (hb ivl 5138).

Stigmatidium gyrophorarum is restricted to hosts of the genus *Umbilicaria*; it is known from several regions of the northern hemisphere (Europe, North America, Asia) (LETTAU 1958, HAFELLNER & SANCHO 1990, KONDRATYUK & KUDRATOV 2002, HAWKSWORTH 2003, SANTESSON et al. 2004, TRIEBEL & CACERES 2004, HALICI et al. 2007, GRONER 2009).

Stigmatidium peltideae (Vain.) R.Sant.

Snæfellsnessýsla, between Arnarstapi and Hellnar, heath on lava near the coast, on *Peltigera praetextata*, 64°45'20.2"N/23°38'21.4"W, 35 m, 3.8.2009 (hb ivl 4980); Isafjörður, Breiðafell near Tunga, beneath the waterfall, heath, on *Peltigera neckeri*, 66°03'39.3"N/23°12'21.6"W, 40 m, 8.8.2009 (hb ivl 5149); Bolungarvík, near golf course, fixed dunes, on *Peltigera canina*, 66°08'40.6"N/23°14'33.6"W, 5 m, 8.8.2009 (hb ivl 5162) and on *P. rufescens* (hb ivl 5165 sub *Rinodina olivaceobrunnea*).

This species is widely distributed over both hemispheres and was already reported for Iceland from Austur-Skaftafellssýsla, Skaftafell, on *Peltigera rufescens* (BERGER 2000), and from Árnessýsla, Þingvellir, on *Peltigera leucophlebia* (SVANE & ALSTRUP 2004).

Stigmatidium pseudopeltideae Cl.Roux & Triebel

Isafjörður, Breiðafell near Tunga, beneath the waterfall, heath, on *Peltigera canina*, 66°03'39.3"N/23°12'21.6"W, 40 m, 8.8.2009 (hb ivl 5148); Norður-Isafjardarsýsla, between Kaldalón and Drangajökull, bare soil and pebbles in the run-up of the glacier, on *Peltigera leucophlebia*, 66°06'31.3"N/22°18'03.7"W, 35 m, 10.8.2009 (hb ivl 5179); Strandasýsla, Gálmaströnd SE Hólmavík, rocks near the coast, on *Peltigera canina*, 65°38'16.3"N/21°31'06.9"W, 15 m, 11.8.2009 (hb ivl 5190).

This species is known from several countries in the northern hemisphere (Austria, Luxembourg, Portugal, Russia, Spain, Switzerland, USA) (ROUX & TRIEBEL 1994, SÉRUSIAUX et al. 1999, ZHURBENKO 1996, MARTÍNEZ 1999, DIEDERICH 2003). It was already reported for Iceland from Austur-Skaftafellssýsla (BRACKEL, in press).

****Taeniolella diderichiana*** Etayo & Calatayud

Arnessýsla, SE Hofjökull Glacier, Arnarfellsbrekka, on *Placopsis gelida*, 600–800 m, 64°41'09.9"N/18°39'41.9"W, 21.8.2002, leg. Starri Heiðmarsson, det. W. v. Brackel (ANMH LA-29563).

This recently described species was known until now from South America and from the Canary Islands (ETAYO & CALATAYUD 2005).

Thelocarpon epibolum Nyl. var. *epibolum*

Norður-Isafjardarsýsla, between Kaldalón and Drangajökull, bare soil and pebbles in the run-up of the glacier, on *Solorina crocea*, 66°06'31.3"N/22°18'03.7"W, 35 m, 10.8.2009 (hb ivl 5175 sub *Rhagadostoma lichenicola*).

This variety was already reported from Iceland by BERGER (2000) from Skaftafell on *Peltigera aphthosa*. In our specimen, *Solorina crocea* was infested and damaged by *Rhagadostoma lichenicola*.

Weddellomyces tartaricola (Linds.) Alstrup & D.Hawksw.

Vestur-Bárðastrandarsýsla, Dynjandisheiði, near crossing of the roads 60 and 63, boulders, on *Ochrolechia frigida* above *Adreaea*, 65°41'27.3"N/23°11'37.2"W, 390 m, 6.8.2009 (hb ivl 5139).

The species was already mentioned for Iceland from Skaftafell by BERGER (2000) and BRACKEL (in press.) from Austur-Húnavatnssýsla, also on *Ochrolechia frigida*. Further records are from Greenland, Scandinavia and the Russian Arctic (ALSTRUP & HAWKSWORTH 1990, SANTESSON et al. 2004, KARATYGIN et al. 2003). In addition to the description given by ALSTRUP & HAWKSWORTH (1990) we found in our specimen that the fungus is forming warts on the host thallus, and the perithecial cavity contains a lot of oil drops, apparently originating from the hamathecial elements. The ascospores measure 20–25 × 7–10 µm [vs. 24–26(–27) × 9–11 µm] and are 1–5-transseptate (vs. 3–5-transeptate), sometimes with 1–2 additional oblique septa.

****Zwackhiomyces martinianus*** (Arnold) Triebel & Grube

Vestur-Bárðastrandarsýsla, Tunguheiði SW Bíldudalur, on pebbles in heath near stream, on *Porpidia crustulata*, 65°39'26.3"N/23°39'48.4"W, 175 m, 6.8.2009 (hb ivl 5104).

The species is restricted to hosts of the genus *Porpidia*; it is known from several European countries, but the northernmost records are from Belgium, Germany, and France (ERTZ et al. 2008, TRIEBEL 1989, GRUBE & HAFELLNER 1990). New for Northern Europe.

Addition: Fungi on bryophytes***Bryochiton microscopicus*** Döbb. & Poelt

Arnessýsla, Heiðinhá NW Þórlakshöfn, lava boulders, on *Gymnomitrium coralloides*, 63°52'30.7"N/21°34'12.3"W, 195 m, 14.8.2009 (hb ivl 5203).

According to DÖBBELER (1978) the species is probably always present on *C. coralloides* and *G. concinnatum* in Europe. Records are from Europe (Austria, British Isles, Finland, Germany, Norway, Romania, Svalbard, and Sweden) and from Japan, Russia, and the USA (DÖBBELER 1978, CANNON et al. 1985). The species is not mentioned for Iceland by HALLGRIMSSON & EYJÓLFSDÓTTIR (2004).

Julella macrospora Döbb.

Vestur-Bárðastrandarsýsla, coastal plain between Látrabjarg and Hvallátur, fixed dunes, on *Tortula ruralis*, 65°31'05.6"N/24°28'53.7"W, 5 m, 5.8.2009 (hb ivl 4995b).

The species is known from Austria, the Czech Republic, and Switzerland (DÖBBELER 1978). It is not mentioned for Iceland by HALLGRIMSSON & EYJÓLFSDÓTTIR (2004).

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