Additions to the ascomycetous flora of the Canadian North

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22 species of discomycetous fungi are reported from the timberline regions of Labrador, Québec, Manitoba and Northwest Territories (Mackenzie District), Canada. Dasyscyphys leucostomus Rehm, Poculum firmum (Pers.: Fr) Dumont and Fimaria coprina Eckblad are new to North America. Other interesting records are Geopyxis cf. vulcanalis (Peck) Sacc. and Gloeotinia granigena (Quehl.) T. Schumacher. The taxonomic status of Geopyxis majalis Fr. is discussed. The material includes possibly undescribed taxa of Dasyscyphella and Hyalopeziza.

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While collecting seed material in Canada for the timberline arboretum, situated near Kevo Subarctic Research Station in northernmost Finland (cf. Kallio 1979), the author collected some fungi from Churchill, Manitoba (58°46'N, 94°10'W) and Yellowknife, N.W.T. (62°27'N, 114°21'W). Churchill is situated at the timberline while the town of Yellowknife lies ca. 150 kilometres SW of it. Part of the present collections date back to earlier Kevo expeditions, which were arranged, e.g., to the regions of Schefferville, Québec-Newfoundland (54°49'N, 66°48'W) and Fort Chimo, Québec (58°06'N, 68°24'W). Part of these earlier collections have been studied by Huhtinen (1982). The working methods are similar to that study with the addition of observations using ultraviolet light (Desaga MinUVIS, 254 and 366 nm). Also the ideas of Kohn and Kort (1975) and Nannfeldt (1976) have been followed. Observations and drawings are made from dried material. Unless otherwise stated the mountant used is lactophenol (with or without cotton blue) or Melzer's reagent.

Although the material includes some undescribed taxa, only a description in English is presented. The collections are mostly too sparse to make a good type. Being solitary and devoid of striking differences to existing species, they must await further collections to enlighten their range of variation.

List of species

Pyrenomycetes

Claviceps nigricans Tul.

N.W.T. Yellowknife, town area, shore of Back Bay, on fruits of Eleocharis palustris, 170 m, 31.VIII.1981 Huhtinen 81/144b.

The collection shows sclerotial stage only.

Discomycetes

Pezizales

Pezizaceae

Peziza sp. — Fig. 6

N.W.T. Yellowknife, town area, moist ground, pond margin with Typha latifolia and Carex aquatilis, 200 m, 31.VIII.1981 Huhtinen 81/169.

Apothecia scattered, sessile, shallowly cup-shaped, with dark brown flanks and blackish, marginate disc up to 1 cm in diam when fresh, no violaceous or olivaceous tinge present. When dried, disc black, medullary excipulum brown and ectal excipulum black. Ectal excipulum of textura angularis — textura globulosa, walls slightly thickened, forming low, pyramidal pustules on the flanks. Medullary excipulum ca. 200 μm thick, of textura intricata; when unrevived material is sectioned it results in structure close to textura epidermoidea; dark brown, inflated cells are frequent in medullary excipulum. Subhymenium very laborious to delimit, consisting of few layers of roundish cells. Hymenium 360 μm thick. Asci 13 μm wide, clearly I+ without KOH-pretreatment, staining diffuse, mainly in the uppermost 20 μm with strongest reaction in extreme apex, base without croziers. Spores uniseriate, ellipsoid, 18—19 × 8—10 μm, first with two equal guttules (in lactophenol), later multiguttulate (then most often 19 × 9.5 μm). Ornamentation up to 1 μm high, consisting of small warts intermixed with short, irregular ridges, the largest warts appearing at spore ends, where the persistent perispore is most clearly observable. Paraphyses straight, septate, 2—5 μm wide, their apices brown in mass, colour not encrusted.

The apothecia appeared as those of Peziza brunneotreata Desm. in the field. The descriptions of Rehm (1896), Boudier (1905—1910, Pl. 298),
Velenovský (1934) and Seaver (1961a) show a rather wide concept in this species. In a narrower sense *P. brunnneatra* is somewhat different from present collection. Dennis (1968), after studying Desmazières's original material, described the spores as broadly ellipsoid, warted and totally filled with small oil globules. These features also characterize Le Gal's (1941, Fig. 19) concept. A very similar description is given by Svrček (1976) under the conspecific *Plectaria paludicola* (Boud.) Vel. var. *marginata* Vel. The macroscopically close *Peziza alaskana* Cash has been shown to have reticulate spore ornamentation (Cash 1954, Pfister 1979), thus being clearly different. I consider the present species to be very close to *P. brunnneatra* due to the multiguttulate, warty spores, similar colouring, and habitat. But it differs by elliptical spores.

**Helvellaceae**

*Helvelia palustris* Peck


This species was earlier reported from the Schefferville area (Huhtinen 1982). Both collections are in accordance with Weber's (1972) description.

**Pyronemataceae**

*Fimaria coprina* Eckblad

— Fig. 7

Que. Schefferville, SE end of John Lake, on bird dung, 570 m, 31.VIII.1979 Huhtinen & Kosonen.

Apothecia gregarious, up to 4 mm in diam when dry, cupulate when young, later becoming disoid with a 0 to 80-μm-raised sterile margin, often with a constricted base. Flanks uneven, hairy, dark brown; disc reddish brown when dry; flesh thick, pure white. Ectal excipulum 80—100 μm thick, brown, of textura angularis, covered with dark brown, encrusted hyphae running along the surface; anchoring hyphae halyine, flexuous, walls slightly thickened; at the margin the structure is close to textura prismatica with cells parallel to the surface. Medullary excipulum 300—800 μm thick, of textura intricata, hyphae 4—5 μm wide to inflated, some deep staining in cotton blue, the cyanophilous matter concentrated on the inner wall. Subhymenium of tightly packed textura intricata, ca. 20 μm thick, contrasting strongly to the medullary excipulum due to its strong colouring in cotton blue. Hymenium 120 μm thick. Asci cylindrical, ca. 120 × 10 μm, I-. Spores ellipsoid, 10—12 × 6—7 μm, smooth, showing no loosing layers in heated lactophenol, one de Bary bubble typical in lactophenol and Melzer's reagent, disappearing in gently heated water after which the spores appear as one-guttulate, the cyanophilous perispore is of temporary type lacking in mature, aguttulate spores. Paraphyses straight, 1.5—2.0 μm wide below, apex often 0.5—1.0 μm wider, also often inflated just below the uppermost septum, apically broad to pale brown, branched or not.

The genus *Fimaria* now embraces twelve species (Brummen 1962, Svrček & Kubicka 1965, Eckblad 1968, Svrček & Moravec 1969, Jeng & Krug 1977, Torre & Calonge 1978, Graddon 1980). Out of these *F. coprina* was found to be closest to present collection and the examination of the holotype showed these collections to be conspecific. The only difference to Eckblad's (1968) material lies in its often lighter flanks. The difference in substrate is noteworthy; the type collection comes from paper mixed with human feces. *Fimaria coprina* was previously only known from the type collection.

**Geopyxis** cf. *vulcanalis* (Peck) Sacc. — Fig. 1

*Man.* Churchill, roadside with loamy gravel 200 m S of Northern Studies Centre, with small bryophytes only, e.g. *Pohlia cl. annotina*, 15 m, 24.VIII.1981 Huhtinen 81/125.

Apothecia in dense clusters, first cupulate, then strongly flattened, disoid, rather fleshy, partly deformed by mutual pressure, up to 17 mm in diam when dried, disc reddish orange when fresh with a lighter, crenulate margin. Stipe short, clearly defined, ca. 5 × 2 mm, totally immersed to the substrate. In dry material the flanks are dull yellow and much lighter than hymenium, smooth to unaided eye, minutely scurfy under hand lens. Ectal excipulum of irregular textura globulosa, ca. 50 μm thick; at margin, between the hymenium and ectal layer, a thick layer of brownish textura prismatica can be observed. The lighter, crenulate margin is composed of tightly packed textura intricata, not infrequently intermixed with algae. Medullary excipulum of textura intricata, ca. 500 μm thick. Subhymenium 30 μm thick, brownish; hymenium 200 μm thick. Asci 190—200 × 10 μm, I-, with prominent croziers. Spores ellipsoid with tapering ends, 15—18 × 7.0—7.5 μm, acyanophilous when mature, i.e. the perispore is of temporary type, last observable at spore ends, surface may be delicately wrinkled (× 1500) in well revived spores too, appearing as smooth with lower magnification, young spores devoid of any ornamentation, devoid of guttules, with a frequent de Bary bubble in some developmental stage, present in lactophenol and Melzer's reagent but disappearing in heated water. The number of nuclei not determined; after KOH-pretreatment and acetocarmine staining spores and cells of paraphyses reveal several scattered, strongly staining granules each. In the same disc paraphyses range from cylindrical to apically irregular ones, the cylindrical ones dominate, 1.5—2.0 μm wide below.

In the field this collection was momentarily considered as *Aleuria*, because there were at least 60 bright-coloured, flattened apothecia deformed by mutual pressure. The roadside was sparsely vegetated and only small bryophytes were abundant. Neither the substrate nor the bryophyte flora showed any traces of presence of charcoal.

The reddish-orange disc colour would suggest affinity to *Geopyxis majalis* Fr. However, after sectioning the Australasian collection of *G. majalis* listed by Rifai (1968), I can confirm Rifai's view that this species has clearly different ectal excipulum from that of present material and *G. carbonaria* (Alb. & Schw.: Fr.) Sacc. The layer of prismatic cells perpendicular to the surface is even more conspicuous than in Rifai's Fig. 182. The outermost cell layer is composed of thick-walled cells similar to both taxa mentioned above. Toward the base of the
apotheceum the excipulum is covered by 5 μm wide, contorted, hyaline, and septate hyphae. *G. majalis* represents a species clearly separate from *G. carbonaria*. Its colouring together with substrate adds further proof to this view, although also *G. carbonaria* grows on non-pyrophilous sites (cf. Petersen 1970; also one personal collection on marine clay from Poste-de-la-Baieine, Québec).

Svrček (1979) deals with two species of *Geopyxis*, i.e., *G. flavidula* Vel. (*Alp. Hönnel*) and *G. foetida* Vel. The latter species is excluded from close relationship to present material due to the slender stipe, up to 10 mm long, dextrinoid excipulum and finely warted young spores. Due to its short stipe and strong flattening *G. flavidula* looks much alike present material, but it has a yellow disc and a very thin excipulum, being fragile according to Vele­

The material is well characterized by its small asci and spores and by the substrate. The only deviating feature from Rifai’s (1968) and Pfister’s (1976) description is the lack of strong branching in paraphyses.

*Scutellinia kerguelensis* (Berk..) Kuntze aff. — Fig. 2

*N. W. T. Yellowknife, town area, shore of Back Bay, on moist silt/fine sand with Juncus alpinoarticulatus, Triglochin palustre, Eleocharis palustris and E. acicularis, 170 m, 31.VIII.1981 Huhtinen 81/144.

Apothece scattered, discoid, broadly sessile, up to 8 mm in diam when fresh, disc orange when fresh, shining yellow under UV-light when dried. Hairs concentrated to disc margin, 300—400 (—500) μm, base 20—40 μm wide, mostly simple, one third of them forked, hairs brown for their whole length, stiff, thick-walled, mostly 4—6 -septate; the scattered superficial hairs cylindrical, light brown, ca. 40—60 × 18—20 μm, 1—2-septate. Spores 18—21 × 12—14 μm, elliptical, length/breadth 1.5—1.6, very delicately ornamented, when mature filled with small guttules, outer spore layers not separating in heated lactophenol, eventually totally acyanophilous, but the cyanophilous perispore present to rather late age, wall 1 μm thick. Ornamentation consisting of 0.1—0.3 μm high, discrete to confluent, irregular warts, maximally 1.5 μm wide. Paraphyses subcapitate, apices up to 13 μm wide.

*S. kerguelensis* is here interpreted as a taxon with also some basally forked hairs. There is a notable difference either in spore ornamentation or hair length to *S. ampullacea* (Limm.) Kuntze and *S. subhirtella* Svrček. They both have typically much coarser warts (cf. Kullman 1982). The same is true also with *S. pseudoumbrarum* Moravec (Dennis 1980). *S. subcervorum* Svrček has smaller and more elongate spores (Svrček 1971) although the present collection shows similar deviation from typical *S. kerguelensis* with very broad spores (Le Gal 1953). In all, it is often difficult, in spite of the many recent treatments, to place a single collection.

Because of the scant material the value of UV-observations is uncertain. Bright yellow colour was also present in *S. cepii* and *S. cf. ampullacea* of the earlier material (Huhtinen 1982).

*Scutellinia trechispora* (Berk. & Br.) Lamb. — Fig. 3


—Man. Churchill, Northern Studies Centre, ditch with standing water, on soil mixed with litter of Carex aquatilla var.
Trichophaea hemisphaerioides (Mout.) Gradd.

Nfld. 6 S. across, branches with superficial brown hairs varying light grey. Excipulum of textura angulans-textura length and shape. The more stiff ones up to aquatilis, fresh, disc orange, colour same in dried material (ornamentation excluded), filled with small guttules.

Huhtinen 81/106.

The longer hairs, walls I tapering to a pointed apex, basal cell inflated, more slender, 2-3 ~m wide, thinner-walled, blunt hairs, 200-300 ~m in height. Spores globose, smooth, 13-14 ~m in diam.

The combination of charcoal as substrate, globose spores and setose, brown hairs clearly delimit this species. The lack of dimorphism in hairs suggests affinity to T. hemisphaerioides, if this dimorphism really holds for T. abundans. Also the only slightly widened paraphysis apices show affinity to this species. Although the earlier descriptions state the spores smooth for both species, they are not smooth at least in T. hemisphaerioides (cf. Breitenbach & Krárnzlin 1981). Present material shows very minute warts in cotton blue. However, in 5 % KOH the spores are totally smooth, either because of the destruction of the possible, acyanophilous ornamentation or because of the swelling effect of that mountant.

Helotiales
Geoglossaceae

Spathularia flavida Pers.: Fr. — Fig. 14


The collection from Labrador City closely resembles the material cited in Huhtinen (1982). The apothecia in the other collection are similar in shape to Spathularia rufa Sw. but bright yellow hymenial colour and lighter, smooth stipe refer the collection to the species above.

Spathularia rufa Sw.


This collection, together with the earlier ones, is in accordance with, e.g., Maas Geesteranus’s (1972) concept. This collection was also confirmed by Mrs. E. Ohenoja, Lic. Phil.

Sclerotiniaceae

Gloeotinia granigena (Quél.) T. Schumacher

Que. Fort Chimo, village area, on a fallen grass Caryopsis in a ditch, 15 m, 26.VII.1967 Kankainen.

Apothecia clearly stipitate, disc 1.5 mm in diam when dried, dark brown and marginate, margin and uppermost part of the flanks concordant with the disc. Stipe 1.5 ~0.3 mm when dried, light brown, concordant with the lower parts of the flanks. Ectal excipulum of parallel, thin-walled hyphae, measuring 20—30 ~5—10 ~m. This layer is covered by narrower, externally coarsely granulated, coloured hyphae. Medullary excipulum of textura porrecta,
hyphae 2—3 μm wide. Subhymenium amyloid. Asci 100—120 × 8 μm, I+ also after KOH-pretreatment. Spores uniseriate, elliptic-inequilateral, 8—10 × 4.0—4.5 μm, aseptate, acyanophilous, walls slightly thickened (up to 0.4 μm), no guttules in cotton blue, KOH or Melzer’s reagent. Paraphyses cylindrical, 1.5—2.0 μm wide, apex regularly 0.5—1.0 μm wider, with brown contents and matrix.

Though no stroma formation could be detected in the badly preserved caryopsis, this specimen keys, on anatomical grounds, to above genus. There is no major deviation from the description given by Dennis (1956). The thickened spore wall seems to be present also at late stage. Some nomenclatural notes on the species, synonymous to G. temulenta (Prill. & Delacr.) M. Wilson et al., are presented by Schumacher (1979b). Reported by Seaver (1961b) from Oregon. This species is rarely collected in North America and no material is deposited in DAOM or CUP (Dr. Kohn, in letter).

**Poculum firmum** (Pers.: Fr.) Dumont

Que. Schefferville, Attikamagen Lake, on wood of *Alnus crispa*, 500 m, 5.VIII.1967 Kankainen.

Ectal excipulum made of three layers; the innermost of light brown, parallel hyphae, 3—4 μm wide; outside this is a gelatinized, hyaline, more short-celled layer, cells 20—25 × 8—10 μm; the covering layer made of narrow, brown hyphae. Medullary excipulum of hyaline textura intricata, subhymenium brownish. Asci 140 × 11 μm, I+ without KOH-pretreatment. Spores irregularly biseriate, elliptic-fusoid, inequilateral, 19—23 × 4—5 μm, 3-septate when aged and then typically producing apically subglobose conidia. Paraphyses cylindrical.

The material is in close agreement with White’s (1941) description based on European material. At that time reliable records on this species from North America were still lacking. The earlier records were based on *Rutstroemia macrospora* (Peck) Kan. (syn. *Ciboria peckiana* (Cke) Korf), which lacks the gelatinized layer in ectal excipulum. Based on Kohn’s (1982) view this would be the first record of *Poculum firmum* from North America.

**Hyaloscyphaceae**

**Dasyscyphus calyculiformis** (Schum.: Fr.) Rehm

Nfld. Schefferville, Astray Lake, on twigs of *Alnus crispa*, 600 m, 4.VIII.1967 Kankainen.

Apothecia stipitate, externally brown and hairy, ca. 1 mm in diam. Disc yellowish when dry, stated as greyish in fresh material, stipe 0.3 mm long. Ectal excipulum of textura prismaticata — textura angularis, cells up to 15 μm long. Hairs up to 170 × 5 μm, wall slightly thickened, mostly 0.5 μm but occasionally up to 1 μm, multiseptate, brown, covered with minute, hyaline granules, except for the slightly broadened apex, which is usually hyaline and bearing conspicuous crystal masses, occasionally crystals present also in lower parts, no purple stain excuded in KOH. Asci 60—80 × 5—6 μm, I+ without KOH-pretreatment. Spores irregularly biseriate, cylindrical-subfusoid, 11—14 (—16) × 2 μm, aseptate. Paraphyses lanceolate, basally 1-septate, 4 μm wide, exceeding the asci by 20 μm.

The present collection raises some problems in the classification of *Dasyscyphus calyculiformis* and its segregates. Out of these both var. *latebricola* Rehm and *D. clandestinus* (Bull.: Fr.) Fuck. are kept separate mainly because of smaller spores and partly specific substrates. Also they both lack purple dye in KOH. The former, discussed by Dennis (1963) and raised to specific rank by Raitviir (1970), possibly confined to *Ericaceae*. The latter is said to occur on *Rubus* and other rather woody herbaceous stems. Ecologically it could be considered as lignicolous and perhaps not so far from *D. calyculiformis*. *D.

Apothecia cupulate, sessile, up to 0.3 mm in diam when dried, externally violet-brown, inside whitish due to small granules or spores, disc light yellow, margin white, fringed with hyaline, irregularly tapering, 30 μm long hairs, their walls 0.5—1.0 μm thick, basally brown and violet encrusted. Hairs covering the flanks correspondingly basally brown to violet encrusted, this formed by minute granules unevenly distributed and of varying size (unheated water), their amount easily diminished in KOH-pretreatment. Spores cylindric-subfusoid, 6—7 μm, cylindric-subfusoid, 6—7 μm, typically clavate, 3—4 μm wide, wall slightly thickened or tapering, not bearing crystal masses or excuding resinous matter. Asci 50 × 5 μm, 1+ without KOH-pretreatment. Spores 6—8 × 1.5—2.0 μm, cylindric-subfusoid, asperate. Paraphyses lanceolate, 2.5—4.0 μm wide, exceeding the asci by 10—20 μm.

The collections are more robust than the forms found on catkin scales (cf. Huhtinen 1982). They bear common features in hair length and lanceolate paraphyses, thus being separate from D. brevipilus Le Gal. Collection 149 has slightly thickened hair walls; this feature is shown also by Dennis (1949, Fig. 4e). Hair apices show variation. The brown colour of some dried apothecia is not likely to be of diagnostic value.

Dasyscyphella nivea (Hedw. fil.: Fr.) Raitv. — Fig. 10 Nfld. Schefferville, Marble Lake, on dead, woody stems of Rubus, 500 m, 12.VII.1967 Heikilä & Kankainen.

Apothecia stipitate, yellowish when dried, 0.3 mm in diam. Hairs 80—100 × 2 μm, 5—6-septate, wall slightly thickened (0.3 μm), minutely granulated except the upper 30—50 μm which is totally smooth and stains more intensively in cotton blue, apex typically clavate, 3—4 μm wide, covered by an orange-yellow, amorphous substance, basal cell narrow to inflated. In heated lactophenol loose, hyaline crystals present. Asci 40 × 5 μm, 1+ without KOH-pretreatment. Spores cylindric-subfusoid, 6—7 × 1—2 μm. Paraphyses lanceolate, 3 μm wide, 1-septate, exceeding the asci by 15 μm.

Both Dasyscyphus solenia (Peck) Dennis and Peziza cenangioides Ellis might be confused with this species in the field. The former species has wider and more closely septate, rather short hairs. The hairs of P. cenangioides are more like those of D. leucostomus, but they are stated as thin-walled and shorter. In all P. cenangioides is more close to present material than D. solenia (cf. Seaver 1961b, Dennis 1963).


Apothecia clearly stipitate, up to 1 mm in diam and pure white when fresh, may become pale brownish when dried, stipe firm to delicate. Hairs ca. 100 × 3 μm, thin-walled or wall up to 0.4 μm thick, evenly and totally granulated, septate, cylindrical or apex slightly widened or tapering, not bearing crystal masses or excuding resinous matter. Asci 50 × 5 μm, 1+ without KOH-pretreatment. Spores 6—8 × 1.5—2.0 μm, cylindric-subfusoid, asperate. Paraphyses lanceolate, 2.5—4.0 μm wide, exceeding the asci by 10—20 μm.

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The genus Dasyscyphella now includes seven species out of which D. nivea is well characterized by the orange-yellow substance often affecting the colour of dried apothecia. Due to the lanceolate and clearly exceeding paraphyses the material comes closest to D. crystallina (Fuck.) Raitv. which apparently is conspecific with D. nivea. The two recently described species, D. montana Raitv. and D. angustipila Raitv., remain white when dried. Also D. dryina (Karst.) Raitv. is close to present species, but has larger spores (9.6—11.0 × 2.0—2.5 μm) and does not exude resin (Dennis 1949, Raitviir 1977).

Under UV-light the apothecia were dull yellowish and a slight colour difference could be detected relative to the species treated below.
Dasyscyphella sp.  — Fig. 11

Que. Fort Chimo, Highfall Creek, on decorticated wood of Alnus crispa, 50 m, 2.VIII.1967 Kankainen.

Apothecia gregarious, stalked, 0.2 mm in diam and white when dried. Hairs 80—120 × 2 μm, 5—6 -septate, wall 0.3 μm thick, acyanophilous, granulated below, upper 30—40 μm smooth, apex slightly inflated to tapering, not exceeding any coloured substance. No loose crystals present in heated KOH-pretreatment. Spores usually obliquely and 1.5 μm wide not exceeding the asci or only by 5 μm.

Possibly this scarce material represents a new taxon. It is closest to D. angustipla Raitv., but has narrower spores and hair apices. In the present collection some hairs may be subclavate with an apex narrower than lower parts, but the characteristic hairs taper at their apices. The dextrinoid reaction is clear and the dextrinoid reaction of hair wall are also typical features of the material. Although no type material remains in Prague this foliicolous taxon is most likely conspecific with Dasyscyphella nivea. In the system by Korf & Kohn (1980) the species belongs to Dasyscyphella subtilis Karstenia. But it should be noted that this fungus is problematic, because Haines & McKnight (1977) stressed the orange to brown hairs of Perrotia populina (Seaver) Dennis as a separating feature to P. flammea with rust red hairs. However, in the present material and additional collections from northern Finland the hairs of P. flammea are typically orange to the unaided eye.

The description by Haines & McKnight (1977)
offers, however, other differences to *P. flammee*. Their material did not yield any colour in KOH and the hairs are described as brown-walled. This is the case also in descriptions by Seaver (1961b) and Dennis (1963). When hairs of *P. populina* are notably brown-walled it yields in difference to other species in this genus (cf. Dennis 1958, 1963). Both Dennis and Haines & McKnight described the spores of *P. populina* as aseptate. This is the case in majority of spores of the present collection. Scattered one-septate spores, with a septum clearly observable only after a strong staining in cotton blue, do occur free from the asc.

In all, *Perrotia populina* is a still closer relative to the present species than *P. aurea* (Masseee) Dennis, different in hair colour and lack of dye in KOH (cf. Dennis 1958). *Perrotia succina* (Phil.) Dennis differs in having yellowish hairs to unaided eye and under microscope (Seaver 1961b, Dennis 1963).

**References**

**Leotiaceae**

**Cudonia confusa** Bres.  

Paraphyses cylindrical, curved, tip not swollen. Colour of dried apothecia is not always a useful character in separating this species from *Cudonia circinans* (Pers.: Fr.) Fr. Blind test suggests that paraphyse apices may be a better feature to use.

The apothecia of Kallio’s collection (101) showed clear green-yellow colour in stipe under UV-light. This feature was not encountered in other collections of *Cudonia* from northern Canada and Finland.

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