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Additions to the Finnish aphyllorphoroid fungi

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Abstract: A checklist of Finnish aphyllorphoroid fungi was published in 2009. After that plenty of knowledge has been accumulated. Here we present all new information including three species new to Finland as well as species new to one or several boreal zone sections in Finland. *Amyloathelia amylacea*, *Tubulicium vermiferum*, and *Tulasnella danica* are reported as new to Finland, together with records of some species that are very rare in the whole of Finland, such as *Athelia cystidiolophora*, *Brevicellicium exile*, *Chaetoporellus curvisporus*, *Melzericium udicola*, *Phlebia lindtneri*, and *Postia mappa*. In total, 67 aphyllorphoroid fungi are listed as new to some sections of the boreal or hemiboreal vegetation zone in Finland; new records have been made in altogether eight sections out of eleven. We accumulated here all records which were not included in the Finnish checklist, including those that have already been published somewhere else. Thus this paper can be used as a supplement to the checklist.

Kokkuvõte: Lisandusi Soome mittelehikseente nimestikule

Soome mittelehikseente (*Aphyllorphorales*) nimestik avaldati aastal 2009. Pärast seda on kogunenud rohkelt uut teavet. Kirjutises esitatakse andmeid kolme Soomele uue liigi ja Soome borealse osa mitme sektori uusleidude kohta. Soomele uued on *Amyloathelia amylacea*, *Tubulicium vermiferum* ja *Tulasnella danica*, lisaks on kogu Soomes väga haruldased näiteks *Athelia cystidiolophora*, *Brevicellicium exile*, *Chaetoporellus curvisporus*, *Melzericium udicola*, *Phlebia lindtneri* ja *Postia mappa*. Kokku märgitakse 67 mittelehikseente liiki, mis on uued Soome mõnes borealse või hemiborealse taimkattega osas (uusleide on kaheksas sektoris olemasolevast üheteistkümnest). Koondasime siia kõik andmed, mida pole Soome liiginimestikus – ka teiste poolt kirjanduses juba avaldatud. Nii võib kirjutist käsitada Soome liiginimestiku täiendusena.

INTRODUCTION

Recently published checklist and distribution maps of aphyllorphoroid fungi in Finland point out the areas with deficient species distribution knowledge (Kotiranta et al., 2009). Many large scale inventories of wood-inhabiting fungi have been conducted in northern Finland and in South Finland national parks during the last decade. However, knowledge is still deficient, especially regarding corticioid and jelly fungi (Kotiranta et al., 2010). The main reason is that Finland is a vast geographic area considering the scale of aphyllorphorales. In addition, many of the conducted inventories were focused mainly on polypores (e.g. Renvall, 1995; Niemelä et al., 2003; Niemelä et al., 2005; Kunttu & Halme, 2008). In this paper, we present 67 new aphyllorphoroid fungi new to some section of the boreal or hemiboreal vegetation zone in Finland.

MATERIAL AND METHODS

Records were made in private inventories and in the inventories of Metsähallitus (former Finnish Forest and Park Service) during autumns 2007–2010. The aim of inventories carried out by Metsähallitus was to investigate the polypore community and its conservation value in the inventoried areas. Therefore inventories have focused on habitats and trunks which are known to be inhabited by threatened polypore species (Kotiranta & Niemelä, 1996; Niemelä, 2005). The aims of private inventories varied but these have mostly been more intensive studies concentrating on the ecology of polypores and corticioids.

To make this paper usable as a supplement to the checklist (Kotiranta et al., 2009) we include here also records that have separately been published by Kunttu et al. (2009, 2010).

Voucher specimens are preserved in the herbaria of University of Turku (TUR), Univer-

sity of Oulu (OULU), University of Helsinki (H), University of Jyväskylä (JYV), or in the reference herbarium of Heikki Kotiranta (H.K.).

The boundaries of the vegetation zones and their sections are presented in Fig. 1. The map is based on papers by Ahti et al. (1968) and Hämet-Ahti (1981). Boreal and hemiboreal vegetation zones consist of 11 sections. The same sections are used in the Finnish regional red-list evaluation. Co-ordinates follow the Finnish national uniform grid system (27°E) (Heikinheimo & Raatikainen, 1981). The nomenclature follows Kotiranta et al. (2009), Hjortstam & Ryvarden (2009) and Miettinen & Larsson (2011). The threat categories are according to Kotiranta et al. (2010).

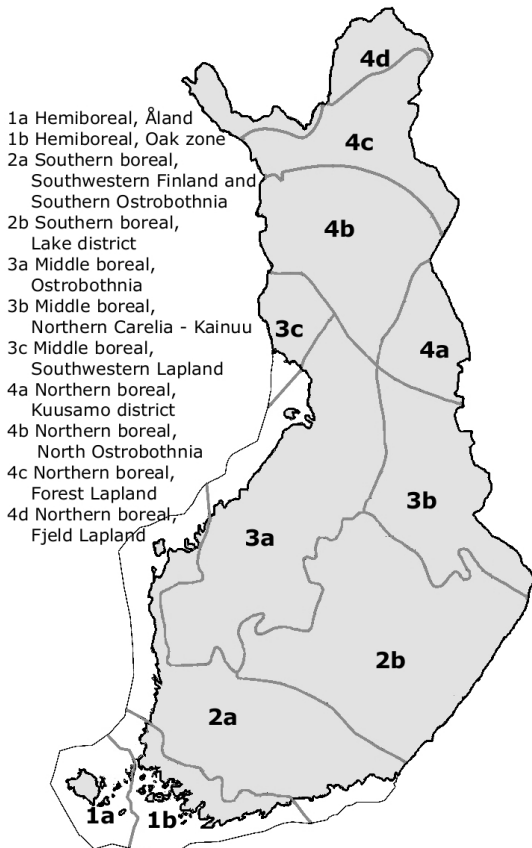


Fig. 1. Sections of forest vegetation zones in Finland.

RESULTS

The new records are presented for each section in order from the south to the north. The number code after the name of the section is according to Finnish practise (Fig. 1; see also Kotiranta et al., 2009). The municipality of the record site is mentioned after each species. Areas of municipalities can be so extensive, especially in northern Finland that they can be situated in two sections of boreal zones. Possible threat category is given after the species name. Species are listed in alphabetical order.

List of the species mentioned in this article, with their authors and new forest vegetation zones in Finland, is presented in the Appendix.

Hemiboreal, Oak zone (1b) – 15 species new

Brevicellium exile DD, Dragsfjärd, Morgonlandet 6635243:3258793, on *Alnus glutinosa* (2010 Kunttu 7503b); *Coniophora fusispora* Dragsfjärd, Apelholmen 6653:3247, on *Alnus glutinosa* (2010 Kunttu 6673a); *Jaapia ochroleuca* Dragsfjärd, Morgonlandet 6635243:3258793, on *Alnus glutinosa* (2010 Kunttu 7501); *Peniophorella tsugae* Dragsfjärd, Vänö 6650092:3230813, on *Alnus glutinosa* (2008 Kunttu 4494a); *Phlebia cremeoalutacea* Dragsfjärd, Södra Benskar 6658:3237, on *Pinus sylvestris* and Högländ 6675093:3239748 on *Betula* sp. (2008, 2010 Kunttu 2988, 6564a); *Phlebiella alnicola* Kaarina, Lemunniemi 6706451:3241418, on *Alnus glutinosa* (2009 Kunttu 5956); *Postia mappa* EN, Nauvo, Fårö 6657:3208, on *Pinus sylvestris* (2010 Kunttu 6175); *Pseudomerulius montanus* Dragsfjärd 6656:3260, on *Pinus sylvestris* (2009 Kunttu 4840); *Sidera lunata* Kaarina, Nunna 6713095:3249011, on *Pinus sylvestris* (2009 Kunttu 5755); *Skeletocutis brevispora* NT, Perniö, Piikanummi 6686686:3279379, on *Picea abies* (2010 Kunttu 7089); *Trechispora araneosa* Dragsfjärd, Vänö 6650200:3230870, on *Alnus glutinosa* (2008 Kunttu 4454a); *Trechispora stellulata* Nauvo, Sillholm 6689:3223, on *Pinus sylvestris* (2009 Kunttu 4880a); *Tubulicium vermiferum* Dragsfjärd, Yxskär, on *Alnus glutinosa* 6650639:3223137 (2010 Kunttu 6467a); *Tulasnella danica* Dragsfjärd, Morgonlandet 6635284:3258788, on *Sorbus aucuparia* (2010 Kunttu 7484).

Southern boreal, Southwestern Finland and Southern Ostrobothnia (2a) – 2 species new

Amyloathelia amylacea Sipoo, Lilla Flisberget 6707:3400, on *Juniperus communis* (2010 Kotiranta 22745); *Peniophorella echinocystis* Pälkäne, Äimälä 6802494:3350373, on *Betula* sp. (2009 Halme 4551).

Southern boreal, Lake district (2b) – 7 species new

Athelia arachnoidea Luhanka, Molikko 68501:34316,

on *Juniperus communis* (2010 Kotiranta 22789 & I. Sell); *Athelia cystidiolophora* Muurame, Kuusimäki 6902237:3421651, on *Pinus sylvestris* (2008 Halme 3123); *Basidiodendron caesiocinereum* Luhanka, Lempää, Lempään puro Nat. Res. 68489:34336, on *Juniperus communis* (2010 Kotiranta 22796 & I. Sell); *Chaetoporellus curvisporus* NT, Muurame, Kuusimäki 6902036:3421789, on *Pinus sylvestris* and *Betula* sp. (2010 K. Juutilainen 3475, 3633); *Melzericium udicola* Luhanka, Sepänmäki – Toelahti 68484:34337, on *Juniperus communis* (2010 Kotiranta 22820 & I. Sell); *Mucronella bresadolae* Kuhmoinen, Kärppäjärvi 6838447:3412496, on *Picea abies* (2008 Halme 3265); *Thanatephorus fusisporus* Luhanka, Sepänmäki – Toelahti 68484:34337, on *Juniperus communis* (2010 Kotiranta 22822 & I. Sell).

Middle boreal, Ostrobothnia (3a) – 10 species new
Antrodia primaeva VU, Puolanka, Saarijärvi 7188901:3522789, on *Pinus sylvestris* (2009 P. Keihäs); *Antrodiella ichnusana* Oulu, Toppila 7217037:3425982, on *Alnus incana* (2009 Kulju 100/09); *Athelia neuhoffii* Kiiminki, Ylä-Kourilehto 722228:345337, on *Picea abies* (2000 E. Ohenoja); *Basidiodendron caesiocinereum* Kalajoki, Lepänen 7130507:3337539, on *Juniperus communis* (2008 Kulju 26/08 & M. Sievänen & J. Särkkä); *Odontium flabelliradiatum* Oulu, Vihriäsaari 7213833:3426058, on *Alnus incana* (2010 Kulju 109/10); *Phellinus hippophaëicola* Himanka, Vääräkari 7124776:3335420, on *Hippophaë rhamnoides* (2008 Kulju 6/08); *Phlebia lindtneri* VU, Puolanka, Saarijärvi 718967:3522614, on *Populus tremula* (2009 P. Keihäs); *Phlebia uda* Oulu, Pikisaari 7214491:3427297, on deciduous tree (2009 Kulju 7/09); *Sistotrema confluens* Kiiminki, Kolehmainen 72273:34412 (2004 M. Ohenoja); Oulu, Hangaskangas 7201661:3441753 (2009 Kulju 4/09 & T. Tenno); *Pihtipudas*, Louhuvuori 7043199:3409711 (2005 Kulju 108/05 & Halme); *Trechispora subsphaerospora* Kalajoki, Lepänen 7130488:3337573, on *Juniperus communis* (2008 Kulju 28/08 & M. Sievänen).

Middle boreal, Northern Carelia – Kainuu (3b) – 4 species new

Calocera furcata Suomussalmi, Särkkä-Äylä 7189862:3627421, on *Picea abies* (2009 Kulju 3/09 & K. Kukko-oja); *Phlebia albida* Suomussalmi, Hukkakangas 719083:362932, on *Picea abies* (2009 K. Kukko-oja & Kulju); *Sistotrema diademiferum* Suomussalmi, Särkiaho 718861:362856, on *Pinus sylvestris* (2009 K. Kukko-oja & A. Hekkala); *Woldmaria filicina* Taivalkoski, Aitto-oja 7244197:3563136, on *Matteuccia struthiopteris* (2007 Kulju 6/07 & P. Helo).

Middle boreal, Southwestern Lapland (3c) – 9 species new

Amylocorticium cebennense Keminmaa, Martimoaapa 7305813:3407819, on *Pinus sylvestris* (2010 Pennanen 1588); *Byssomerulius albostramineus* Rovaniemi, Louevaara 7371217:3413963, on *Pinus sylvestris* (2010 Pennanen 1295); Tervola, Runkaus Strict Nat.

Res. 7327823:3435031, on *Pinus sylvestris* (2010 Pennanen 1484); *Dacrymyces chrysocomus* Tervola, Pisavaara Strict Nat. Res. 7360010:3416117, *Pinus sylvestris* (2010 Pennanen 1512); *Hydnellum ferrugineum* Ylitornio, Kuusivaarankangas 7364554:3399330 (2010 Pennanen 1246); *Mucronella calva* Rovaniemi, Louevaara 7370462:3420389, on *Pinus sylvestris* (2010 Pennanen 1466); *Phaeolus schweinitzii* Rovaniemi, Louevaara 7371386:3414943, on *Pinus sylvestris* (2010 Pennanen 1300); *Postia lowei* EN, Tervola, Runkaus Strict Nat. Res. 7337784:3435177, on *Pinus sylvestris* (2010 Pennanen 1254); *Postia ptychogaster* Tervola, Runkaus Strict Nat. Res. 7330838:3434640, on *Pinus sylvestris* (2010 Pennanen 1549); *Sidera lunata* Keminmaa, Martimoaapa 7306190:3408021, on *Pinus sylvestris* (2010 Pennanen 1580).

Northern boreal, North Ostrobothnia (4b) – 7 species new

Antrodiella canadensis EN, Pelkosenniemi, Pyhänturi National Park 7435541:3499839, on *Pinus sylvestris* (2009 Kunttu 5410) *Asterostroma laxum* Rovaniemi, Rovajärvi Military area, Peurakankaat 7409192:3477611, on *Pinus sylvestris* (2010 Pennanen 1432); *Kneiffiella abieticola* Rovaniemi, Rovajärvi Military area, Syvänlamminvaara 7414038:3479525, on *Pinus sylvestris* (2010 Pennanen 1381); *Mucronella bresadolae* Rovaniemi, Kutuseljänhongikko 7430957:3452462, on *Pinus sylvestris* (2009 Kunttu 5294) *Physisporinus vitreus* Sodankylä, Pahtavaara 7532941:3475406, on *Picea abies* (2009 Kunttu 5179); *Skeletocutis jelicii* EN, Rovaniemi, Käyräs-tunturi 7428176:3462323, on *Pinus sylvestris* and Kutuseljänhongikko 7430729:3452604, on *Pinus sylvestris* (2007, 2009 Kunttu 2485, 5291); *Stereum subtomentosum* Sodankylä, Pomokaira 7532814:3472774, on *Betula* sp. (2009 Kunttu 5208).

Northern boreal, Forest Lapland (4c) – 14 species new

Anomoloma abolutescens VU, Salla, Värriö Strict Nat. Res. 7522605:3612847, on *Pinus sylvestris* (2009 Kunttu 5685); *Byssomerulius albostramineus* Inari, Takkireuhkajärvi 7612685:3553037, on *Pinus sylvestris* and Sarmitunturi 7615760:3559094, on *Pinus sylvestris* (2008 Kunttu 3295, 3683) *Datronia mollis* Inari, Paksuniemi 7665949:3553256, on *Betula* sp. (2009 Kunttu 5000); *Metulodontia nivea* Inari, Haapaniemi 7645409:3497551, on *Betula* sp. (2008 Kunttu 3897); *Phellinus igniarius* sensu stricto Salla, Värriö Strict Nat. Res. 7518518:3608329, on *Salix caprea* (2009 Kunttu 5470); *Phlebia radiata* Inari, Auttojänkä 7661909:3550356, on *Sorbus aucuparia* (2009 Kunttu 3937), *Phlebia serialis* Inari, Kyläjoenpalo 7595905:3483756, on *Pinus sylvestris* (2008 Kunttu 3432); *Phlebiella christiansenii* Savukoski, Könkään-niemi 7534277:3594443, on *Pinus sylvestris* (2007 Kunttu 2197); *Rigidoporus populinus* Inari, Mirhamin-maa 7580478:3454270, on *Betula* sp. and Haapaniemi 7645426:3497491, on *Populus tremula* (2008 Kunttu 3402, 3893); *Schizopora radula* Savukoski, Värriö

Strict Nat. Res. 7524932:3610323, on *Betula* sp. (2009 Kunttu 5587); *Skeletocutis brevispora* NT, Savukoski, Värriö Strict Nat. Res. 7517004:3606662, on *Picea abies* (2009 Kunttu 5519); *Stereopsis vitellina* Salla, Värriö Strict Nat. Res. 7523906:3612995, on *Pinus sylvestris* (2009 Kunttu 5702); *Trechispora hymenocystis* Inari, Kirakkaniemi 7666152:3551569, on *Betula* sp. (2009 Kunttu 5050); *Trechispora stevensonii* Inari, Allijänkä 7582886:3453727, on *Betula* sp. (2008 Kunttu 3806).

DISCUSSION

The most remarkable new records are *Amylothelia amylacea*, *Tubulicium vermiferum* and *Tulasnella danica*, which were collected from Finland for the first time. *A. amylacea* was found from Sipoo in the southern boreal zone where its substrate was a dead thick (diam. 8 cm) branch at 1.9 metres height of a living large (stem diam. 20 cm) *Juniperus communis*. In Europe *A. amylacea* is reported from France, Italy, Russia and Spain, and all collections derive from *Juniperus* spp. (Bernicchia & Gorjon, 2010). *T. vermiferum* grew on a 1 m long, thin and quite hard (diam. 5 cm; decay stage 2) fallen trunk of *Sorbus aucuparia*. *T. vermiferum* is relatively seldom collected, but the scattered distribution covers Great Britain in the west Central Europe, Sweden in the north and Russia and Turkey in the east (Bernicchia & Gorjon, 2010). The substrate of *T. danica* was a fallen branch of *Alnus glutinosa* (diam. 8 cm; length 1.3 m) with still quite hard wood (decay stage 2). The two latter species were found in the archipelago of Dragsfjärd, in the hemiboreal zone. *T. danica* is a rare species but besides Denmark (Hauerslev, 1979) is found at least in Great Britain (Roberts, 1993).

Other exceptional records are those of *Athelia cystidiolophora*, *Brevicellicium exile*, *Chaetoporellus curvisporus*, *Melzericium udicola*, *Phlebia lindtneri* and *Postia mappa*. The new record of *B. exile* is the second in Finland and was made in the outer archipelago of Dragsfjärd, in hemiboreal zone. The first record was made in Pisavaara Strict Nature Reserve in north boreal zone, which is one of the most valuable forests in Finland (Niemelä et al., 2005). The substrate in Dragsfjärd was a fallen, large trunk of *Alnus glutinosa*. The record of *P. lindtneri* is also the second in Finland, now found in Puolanka close to Helsinki where it grew on *Populus tremula*. The earlier record derives from the hemiboreal zone and far away from Helsinki. The specimen

of *M. udicola* grew on *Juniperus communis* in Luhanka and is the third in Finland. Two earlier sites were in Helsinki, in the hemiboreal zone, where both grew on cultivated *Salix fragilis* 'Bullata' (Kotiranta et al., 2009). The record of *A. cystidiolophora* in Muurame is the fourth in Finland and it grew on a decaying *Pinus sylvestris* trunk near a dying fruit body of *Perenniporia subacida*. The record of *P. mappa* is the fourth in Finland and it is now the southernmost in Finland. Two collections of *C. curvisporus* from Kuusimäki in Muurame constitute the fifth occurrence in Finland (Kotiranta et al., 2009). These fruit bodies grew on advanced decayed and large fallen trunks of *Pinus sylvestris* and *Betula* sp., respectively. The record of *S. diademiferum* in Suomussalmi is the sixth in Finland. Earlier records were from South Finland and one from Lapland.

The occurrences of *Odonticium flabelliradiatum* are centred in Southern and Central Finland and thus the new record, found in Oulu, is apparently the most northernmost. *Pseudomerulius montanus* in Dragsfjärd is now the southernmost record in Finland. Earlier records are from Central Finland. The earlier records of *Anomoloma albolutescens* were from southern and eastern Finland and thus the new record from Salla was exceptionally northern. Also the substrate was exceptional: the fruit-body in Salla grew on *Pinus sylvestris* even though according to Niemelä (2005) it grows normally on *Picea abies* and *Populus tremula*. The northernmost *Phlebiella christiansenii* in Savukoski was found on *Pinus sylvestris* though it normally grows on deciduous trees. *Antrodiella ichnusana* and *Phlebia uda* were found in Oulu, which is much more further to the north than the earlier records from South Finland. *Schizopora radula* was found from Savukoski, which is situated much more north than the earlier records in Central and East Finland where it is rare. Also *Phellinus hippophaëicola* and *Trechispora stevensonii* were found notably more north than the earlier records.

The high amount of new information accumulated after the recent publication of the Finnish checklist (Kotiranta et al., 2009) indicates that the aphylloroid fungi are still poorly known in Finland. For many species the few records are from distant geographic locations and it is difficult to imagine that their distributions would be so scattered in reality. Most

probably many of these species occur in numerous sites between the scattered observations. To establish which species are *truly* rare, more effort should be put on inventories. The fungal community occupying the smallest dead wood fractions seems to be especially poorly known (Juutilainen et al., 2011).

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APPENDIX List of species with new forest vegetation zones in Finland.

Species	New zone	Species	New zone
<i>Amyloathelia amylacea</i> (Bourdot & Galzin) Hjortstam & Ryvarden	2a	<i>Phlebia cremeoalutacea</i> (Parmasto) K.H. Larss. & Hjortstam	1b
<i>Amylocorticium cebennense</i> (Bourdot) Pouzar	3c	<i>Phlebia lindtneri</i> (Pilát) Parmasto	3a
<i>Anomoloma albolutescens</i> (Romell) Niemelä & K.H. Larss.	4c	<i>Phlebia radiata</i> Fr.	4c
<i>Antrodia primaeva</i> Renvall & Niemelä	3a	<i>Phlebia serialis</i> (Fr.) Donk	4c
<i>Antrodiella canadensis</i> (Overh.) Niemelä	4b	<i>Phlebia uda</i> (Fr.) Nakasone	3a
<i>Antrodiella ichnusana</i> Bernicchia, Renvall & Arras	3a	<i>Phlebiella alnicola</i> (Bourdot & Galzin) Bondartsev & Singer	1b
<i>Asterostroma laxum</i> Bres.	4b	<i>Phlebiella christiansenii</i> (Parmasto) K.H. Larss. & Hjortstam	4c
<i>Athelia arachnoidea</i> (Berk.) Jülich	2b	<i>Physisporinus vitreus</i> (Pers. : Fr.) P. Karst.	4b
<i>Athelia cystidiolophora</i> Parmasto	2b	<i>Postia lowei</i> (Pilát) Jülich	3c
<i>Athelia neuhoffii</i> (Bres.) Donk	3a	<i>Postia mappa</i> (Overh. & Lowe) M.J. Larsen & Lombard	1b
<i>Basidioidendron caesiocinereum</i> (Höhn. & Litsch.) Luck-Allen	2b, 3a	<i>Postia ptychogaster</i> (F. Ludw.) Vesterh.	3c
<i>Brevicellicium exile</i> (H.S. Jacks.) K.H. Larss. & Hjortstam	1b	<i>Pseudomerulius montanus</i> (Ginns) Kotir., K.H. Larss. & Saaren.	1b
<i>Byssomerulius albostramineus</i> (C. Torrend) Hjortstam	3c, 4c	<i>Rigidoporus populinus</i> (Schumach. : Fr.) Pouzar	4c
<i>Calocera furcata</i> (Fr.) Fr.	3b	<i>Schizopora radula</i> (Pers.) Hallenb.	4c
<i>Chaetoporellus curvisporus</i> (J. Eriksson & Hjortstam) J. Eriksson & Hjortstam	2b	<i>Sidera lunata</i> (Romell ex Bourdot & Galzin) K.H. Larsson	1b, 3c
<i>Coniophora fusispora</i> (W.B. Cooke & Ellis) Sacc.	1b	<i>Sistotrema confluens</i> Pers. : Fr.	3a
<i>Dacrymyces chrysocomus</i> (Bull. : Fr.) Tul.	3c	<i>Sistotrema diademiferum</i> (Bourdot & Galzin) Donk	3b
<i>Datronia mollis</i> (Sommerf.) Donk	4c	<i>Skeletocutis brevispora</i> Niemelä	1b, 4c
<i>Hydnellum ferrugineum</i> (Fr. : Fr.) P. Karst.	3c	<i>Skeletocutis jelicii</i> Tortic & A. David	4b
<i>Jaapia ochroleuca</i> (Bres.) Nannf. & J. Erikss.	1b	<i>Stereopsis vitellina</i> (Plowr.) D.A. Reid	4c
<i>Kneiffiella abieticola</i> (Bourdot & Galzin) Jülich & Stalpers	4b	<i>Stereum subtomentosum</i> Pouzar	4b
<i>Melzericium udicola</i> (Bourdot) Hauerslev	2b	<i>Thanatephorus fusisporus</i> (J. Schröt.) P. Roberts & Hauerslev	2b
<i>Metulodontia nivea</i> (P. Karst.) Parmasto	4c	<i>Trechispora araneosa</i> (Höhn. & Litsch.) K.H. Larss.	1b
<i>Mucronella bresadolae</i> (Quél.) Corner	2b, 4b	<i>Trechispora hymenocystis</i> (Berk. & Broome) K.H. Larsson	4c
<i>Mucronella calva</i> (Alb. & Schwein.) Fr.	3c	<i>Trechispora stellulata</i> (Bourdot & Galzin) Liberta	1b
<i>Odonticium flabelliradiatum</i> (J. Erikss. & Hjortstam) Zmitr.	3a	<i>Trechispora stevensonii</i> (Berk. & Broome) K.H. Larsson	4c
<i>Peniophorella echinocystis</i> (J. Erikss. & Å. Strid) K.H. Larss.	2a	<i>Trechispora subsphaerospora</i> (Litsch.) Liberta	3a
<i>Peniophorella tsugae</i> (Burt) K.H. Larss.	1b	<i>Tubulicium vermiferum</i> (Bourdot) Oberw. ex Jülich	1b
<i>Phaeolus schweinitzii</i> (Fr.) Pat.	3c	<i>Tulasnella danica</i> Hauerslev	1b
<i>Phellinus hippophaëicola</i> H. Jahn	3a	<i>Woldmaria filicina</i> (Peck) Knudsen	3b
<i>Phellinus igniarius</i> s. str. (L. : Fr.) Quél	4c		
<i>Phlebia albida</i> H. Post	3b		