

L. Pecoraro, C. Perini, E. Salerni & V. De Dominicis

## Contribution to the knowledge of the mycological flora of the Pigelleto Nature Reserve, Mt. Amiata (Italy)

### Abstract

Pecoraro, L., Perini, C., Salerni, E. & De Dominicis, V.: Contribution to the knowledge of the mycological flora of the Pigelleto Nature Reserve, Mt. Amiata (Italy). — *Fl. Medit* 17: 143-163. 2007. — ISSN 1120-4052.

The Pigelleto Nature Reserve, situated to the south-east of Mt. Amiata (Tuscany, Italy), is characterized by a relict nucleus of *Abies alba* Mill. at low altitude, which is probably an autochthonous ecotype. The mycoflora list reported here is the result of past studies and observations carried out during 2005-2006. Among the species of macrofungi accounted for (426, belonging to 144 genera), 158 entities were collected for the first time during this recent study.

### Introduction

This work represents a contribution to the mycological knowledge of Pigelleto Nature Reserve (Mt. Amiata, central-southern Tuscany, Italy, Fig. 1). It constitutes part of the “Life04NAT IT/000191” Project concerning the conservation of *Abies alba* Miller, which includes many different studies to analyze the various natural components of the area under investigation (Pecoraro & al. in press).

The woods in the Amiata area are characterized by the alternation of *Quercus cerris* L. and *Fagus sylvatica* L., even though there are also mixed areas of mostly *Carpinus betulus* L. or *Fraxinus* sp. pl. (De Dominicis & Loppi 1992).

Moreover, all of the forested areas have been subject to reforestation, mainly carried out in the first half of the 1900s due to the passage of the forestry law in 1923. These areas of reforestation are inserted between forest successions and often join up with them. They are found in areas that were used for agriculture or pasture then abandoned and consequently suffered degradation (Niccolai 1990). The most common species planted were *Abies alba*, *Picea excelsa* (Lam.) Link, *Pinus laricio* Poir., *P. nigra* Arnold, *P. strobus* L., *Pseudotsuga menziesii* (Mirb.) Franco, *Larix decidua* Miller, *Cedrus deodora* (D. Don.) G. Don. f. in Loudon, *Cupressus arizonica* Greene (Arrigoni & Nardi 1975).

One of the most interesting natural components in the Amiata area and the Pigelleto Reserve is the silver fir, which can be found in relict nuclei of autochthonous *Abies alba*

growing at low altitude on the Apennines (De Dominicis & Loppi 1992); these woods are the main focus of our study.

Palynological data confirm the presence of the silver fir at low altitudes on Mt. Amiata since very early times (Clerici 1903; Tongiorgi 1938, 1939; Bertolani-Marchetti & Jacopi 1962; Bertolani-Marchetti & Soletti 1972).

Some authors maintain that there is an Apennine variety of the silver fir that is more resistant to drought, or even that there is an Amiata ecotype. If this last supposition were true, the reforestation, which was carried out with species of mostly unknown origin, would have exposed the hypothesized Amiata ecotype of the silver fir to a high risk of genetic pollution.

We report the final results of a study aimed at improving knowledge of the mycological flora in the Pigelletto Nature Reserve.

We report data acquired through surveys carried out in 2005-2006 which aimed to observe particular environments such as humid zones located at the edge of mixed oak woods and fir stands.



Fig. 1. Localization of the Pigelletto Nature Reserve.

The list of the macrofungi, intended as all fungi that produce visible fruit bodies of more than a millimetre in size (Arnolds 1981), gathers together all data from previous studies for the first time (Perini & al. 1995; Perini & al. 2004; Perini & al. 2005; Salerni & Perini 2003, in press), as well as including recent observations.

## Materials and methods

The mycoflora list is based on species information gathered from 20 years of data from mycological surveys carried out in the area (Perini & al. 1995; Perini & al. 2004; Perini & al. 2005; Salerni & Perini 2003, in press) and macrofungi collected during the recent study carried out from April 2005 to December 2006 (Pecoraro & al. in press).

The nomenclature mainly follows the recently published Italian check-list of Basidiomycetes (Onofri & al. 2005), then the Dutch list (Arnolds & al. 1995) and Courtecuisse & Duhem (1994) for the Mediterranean species in particular, while citations of authors follow Brummit & Powell (1992).

The fungi *taxa* found have been organized in a systematic order following Hawksworth & al. (1995). The genera and the species are ordered alphabetically within the families. The species preceded by the symbol <sup>+</sup> are new records for the Pigelleto Reserve; those followed by \* are either inserted in or proposed for the European Red Lists. The abbreviations in front of the records indicate which trophic group the item belongs to (**Am** = Associated with bryophytes, possibly weakly parasitic; **M** = Mycorrhizal; **P** = Parasite; **Sh** = Terrestrial saprotroph; **Sl** = Litter saprotroph; **Sw** = Lignicolous saprotroph), according to Arnolds & al. (1995) and the authors' observations.

The fungi species are conserved in the *Herbarium Universitatis Senensis* (SIENA).

## Results and discussion

The mycoflora list includes 426 species of macrofungi belonging to 144 genera included in the divisions *Basidiomycota* and *Ascomycota*.

Among the species listed, 158 are reported for the first time and are preceded by a <sup>+</sup>. These include 68 mycorrhizal, 48 lignicolous saprotrophic, 33 terrestrial saprotrophic, 8 parasitic and 1 associated with bryophytes *taxa*.

Among the newcomers the genus that presents the highest increase in species is *Cortinarius*, which belongs to the trophic category of the symbionts, with 10 species that can be added to the 19 listed before. Mycorrhizal fungi also show a strong increase in the genus *Amanita* that rises, in totality, from 5 to 13 listed species with 8 new records, and in the genus *Boletus*, previously represented by only 1 species and now by 4 *taxa*. Another important numerical increase (close to 50 %) may be seen in the *Russulaceae* family: the finding of 8 species of the genus *Lactarius* and 8 of *Russula* that were not encountered in previous studies increases the list of *taxa* belonging to this family of symbionts from 32 to 48. The number of species of the genus *Tricholoma* doubled, from 6 to 12. *Pholiota*, which was not listed in previous studies, is now represented by 5 entities (Fig. 2). With the cognitive contribution of these recent investigations, as emphasized graphically in Fig. 3, the

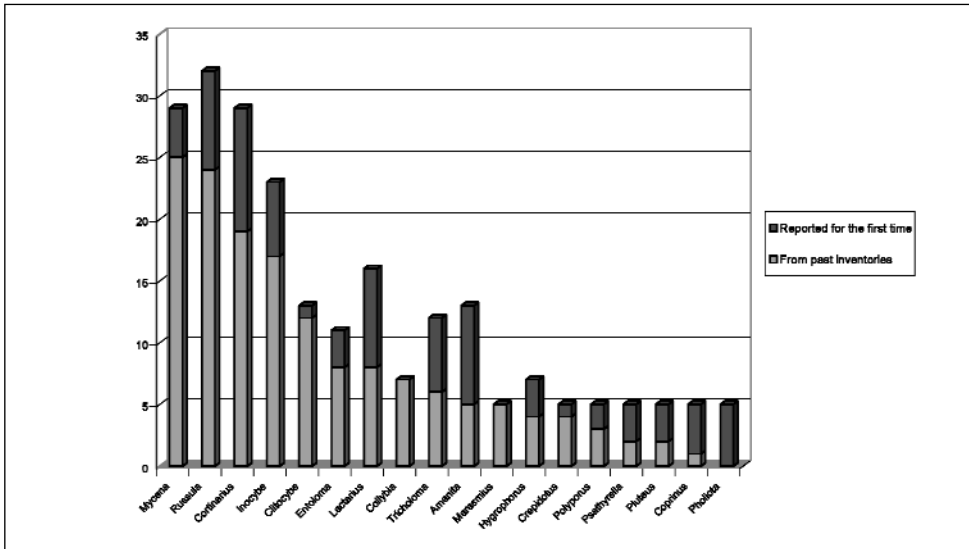


Fig. 2. Increase of the number of listed species in the most representative genera.

total number of mycorrhizal fungi rises from 97 to 165, the number of saprotroph *taxa* changes from 160 to 241 and, notably, the parasite species rise from 10 to 18.

The discovery of a great number of species not reported in previous studies could depend on the sampling methodology used in the past, which was principally mycocoenological. Mycocoenological studies strive to reveal the relationships that exist between the groups of fungi and the environment in which they live. In this type of study, all fungi species are noted and all the carpophores are counted in defined areas and vegetation over several years of observation (Arnolds 1981; Perini & Barluzzi 1987). In this study, in contrast, the samplings took place over most of the territory and in different habitats within the Pigelleto Nature Reserve, paying particular attention to the relict stands of silver firs and to the stands of yews and Eurasian hornbeam. In addition, the autumn of 2005 was particularly rainy and this condition, associated with mild temperatures, greatly increases the production of fungal fruit bodies (Salerni & al. 2002).

The graph in Fig. 4 shows the percentages of the different trophic groups to which the 426 entities reported in the mycoflora list belong. The symbiotic *taxa* represent 38.7 % of the macromycetes collected; the saprotrophs constitute 56.6 % of the collected entities, subdivided into terrestrial (26 %), litter (1.7 %) and lignicolous saprotrophs (28.9 %); the parasitic fungi amount to 4.2 % of the *taxa* sampled; and, lastly, the species associated with bryophytes represent 0.5 %.

According to some researchers (Fellner 1985, 1987; Schlechte 1987, 1991), mycorrhizal fungi represent more than 40% of total macromycetes in uncontaminated forests. The data obtained from Pigelleto Nature Reserve (38.7 % of symbiotic macromycetes) could be influenced by environmental parameters such as forest age, vegetational typologies, altitude, etc., and not be correlated to pollution factors. This would be in accordance

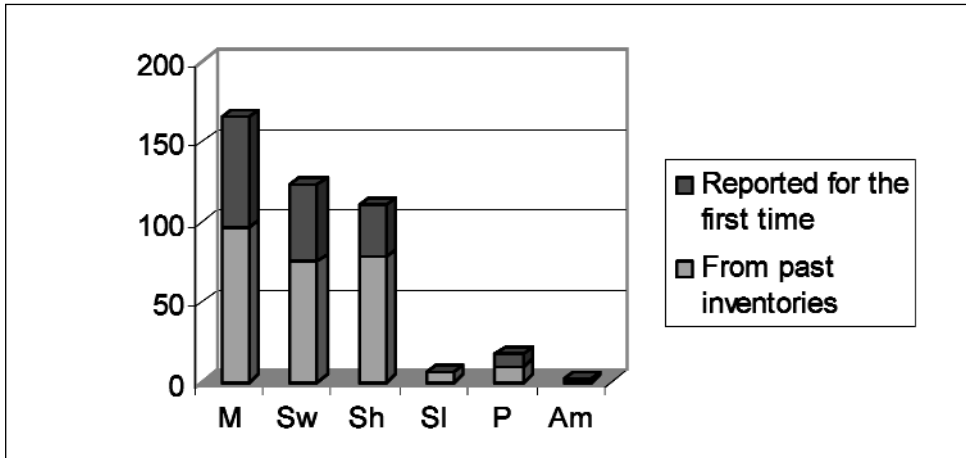


Fig. 3. Increase of the number of listed species in the different trophic groups (**Am** = Associated with bryophytes, possibly weakly parasitic; **M** = Mycorrhizal; **P** = Parasite; **Sh** = Terrestrial saprotroph; **SI** = Litter saprotroph; **Sw** = Lignicolous saprotroph).

with a more recent study carried out on Tuscan forests (Laganà & al. 1999) and would represent an explanation that is compatible with the high level of environmental protection that the Pigelleto Nature Reserve enjoys.

We would mention, lastly, the finding of *Tubifera ferruginosa* (Batsch) J.F. Gmel, the only species belonging to the myxomycetes, even if these have been definitively excluded from the Kingdom Fungi (Hawksworth & al. 1995) and included in that of the Protozoa.

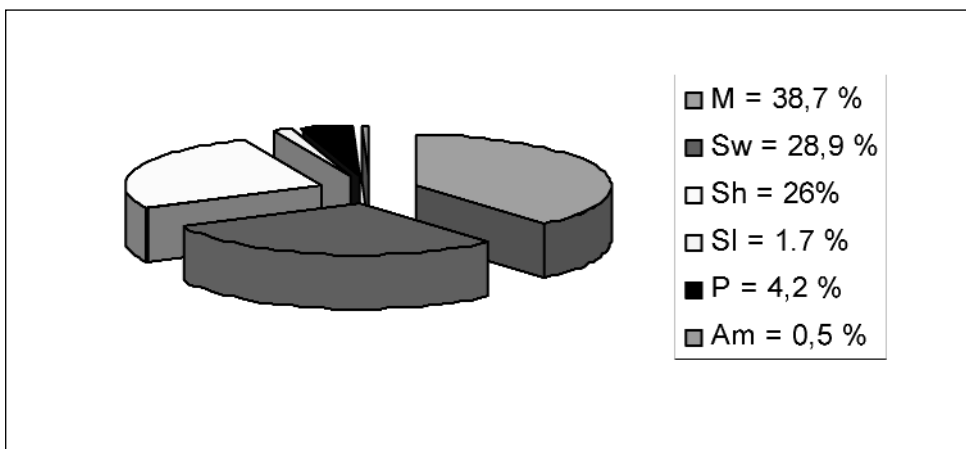


Fig. 4. Per cent division of the macrofungi collected in trophic groups (**Am** = Associated with bryophytes, possibly weakly parasitic; **M** = Mycorrhizal; **P** = Parasite; **Sh** = Terrestrial saprotroph; **SI** = Litter saprotroph; **Sw** = Lignicolous saprotroph).

The list of fungi species connected to the relict stand of silver firs has been expanded: 4 macrofungi of the newly reported species are characteristic of this environment (*Amanita spissa*, *Cystoderma carcharias*, *Pholiota scamba*, *Mycena filopes*) according to Smarda (1973).

The situation is different for other important vegetation that can be found inside the Pigelleto Reserve, such as the nuclei of yews (*Taxus baccata* L.) or the predominantly Eurasian hornbeam (*Carpinus betulus* L.) thickets in the ravines. The analysis of the fungi found in this area, in fact, reveals the dominance of species connected to broad-leaved woods in general, or to conifers (the most frequently found are *Entoloma sinuatum*, *Hygrophorus eburneus*, *Xerocomus subtomentosus*). In contrast, no fungus closely associated with the yew or the hornbeam was found. Even species that seem to be mainly, although not exclusively, connected to the hornbeam - such as *Russula lilacea* or *Tricholoma sejunctum* (according to the bibliography consulted) – do not represent valid exceptions (Becker 1956; Thoen 1970, 1971). The natural evolution of the vegetational biocoenoses has probably lead to a prevalence of the broad-leaved trees that surround the smaller nuclei of yew and hornbeam due to competition. This situation also seems to be confirmed from a mycological point of view. These natural forms of colonization should therefore be protected since they are of great biological and conservational interest, and their populations should be kept as pure as possible in order to favour the arrival and growth of characteristic fungi species.

Human intervention in the Pigelleto area, prior to the introduction of the present protection system, caused considerable environmental impact; the vegetal transformations and alterations that are currently to be found are evidence of this. Examples can be seen in the development of shrubbery, or more often the planting of artificial fir woods, in areas once used for farming and pasturage before these activities were abandoned.

The finding in a wooded environment of *Entoloma clypeatum*, a species normally associated with *Rosaceae* (Noordeloos 1992) in woodland clearings, in parks or in gardens, can be considered a further example of the above.

The gradual disappearance of natural or semi-natural pasture grasslands, indicated in the Habitats Directive 92/43 as decreasing and to be respected, may have caused the decrease or even the disappearance of vegetal and fungi species typically connected to them. For example, among the fungi there is only one species belonging to the genus *Hygrocybe* (*H. conica*) which is characteristic of and normally abundant in meadow lands (Candusso 1997). For this reason, it could be important to recover pre-existing pasture grasslands in areas in which these have been cancelled by the development of shrubbery. The presence of these ecosystems, connected to limited and controlled anthropic intervention in natural areas, leads to a valuable increase in biodiversity. Pasture grasslands are indicated as a priority for protection and conservation at European level, in part due to the numerous fungi species closely linked to these ecosystems (Arnolds 2001).

The finding of 37 fungal species (followed by \* in the list) considered as at risk of extinction or endangered in some way in a number of European countries (Pecoraro & al. in press) is emphasized. As these species appear to be relatively common in the investigated area, the Pigelleto Nature Reserve could be considered as an optimal centre for the *in situ* conservation of species which are at risk elsewhere.

## Acknowledgements

We would like to thank Ursula Peintner, of the Institute of Microbiology (N.F.) – Leopold Franzens Universität, Innsbruck, for the data that she kindly provided regarding the mycological observations carried out in Pigelleto. We would also like to thank Pier Giuseppe Montini of the Amiata - Val d'Orcia Consortium of Mountain Municipalities, Marcello Miozzo of DREAm Italia and Renato Scapigliati of Abies Alba Co-operative Society, for their kind collaboration and helpfulness.

## References

- Arnolds, E. 1981: Ecology and coenology of macrofungi in grasslands and moist heathlands in Drenthe, the Netherlands. Part 1. Introduction and Synecology. – *Bibl. Mycol.* **83**: 1-410.
- 2001: The future of fungi in Europe: threats, conservation and management. – In: Moore, D., Nauta, M. M., Evans, S. E. & Rotheroe, M., *Fungal conservation. Issues and solutions* – Cambridge.
- , Kuyper, Th. W. & Noordeloos, E. M. 1995: *Overzicht van de paddestoelen in Nederland – Wijster*.
- Arrigoni, P. V. & Nardi, E. 1975: Documenti per la carta della vegetazione del Monte Amiata. – *Webbia* **29**: 717-785.
- Becker, G. 1956 : Observations sur l'écologie des champignons supérieurs. – *Ann. Sci. Univ. Besancon (sér. 2, Bot.)* **7**: 15-128.
- Bertolani-Marchetti, D. & Jacopi, Z. 1962: Documenti palinologici del paesaggio forestale al Monte Amiata nei sedimenti del bacino lacustre delle Lame (Abbadia S. Salvatore). – *Giorn. Bot. Ital.* **69**: 19-31.
- & Soletti, G. A. 1972: La vegetazione del M. Amiata nell'ultimo interglaciale. Analisi polliniche nella farina fossile del giacimento di Fontespilli. – *Studi Trentini Sci. Nat., Sez. B* **49** **1**: 159-177.
- Brummit, R. K. & Powell, C. E. 1992: *Authors of plant names*. – Kew.
- Candusso, M. 1997: *Hygrophorus* s.l. – Alassio.
- Clerici, E. 1903: Sui resti di conifere del Monte Amiata. – *Boll. Soc. Geol. Ital.* **22(3)**: 523-554.
- Courtecuisse, R. & Duhem, B. 1994: *Guide des Champignons de France et d'Europe*. – Delachaux et Niestlé.
- De Dominicis, V. & Loppi, S. 1992: Biotopi da conservare. Le abetine relitte del Monte Amiata. – *Amiata Storia e Territorio* **13**: 36-40.
- Fellner, R. 1985: Ektomykorrhizní houby klimaxových lesních společenstev při horní hranici lesa v imisních oblastech Krkonos. – Ph.D. Thesis, Kostelec n. C. I.
- 1987: Monitorování zmen v druhové diverzite mykorrhizních hub na imisne ruzne exponovaných stanovistích. – Pp. 93-103 in: Fellner, R. (Ed.). *Ekologie mykorrhiz a mykorrhizních hub. Imise a mykorrhiza*. DT CSVTS, Pardubice.
- Hawksworth, D. L., Kirk, P. M., Sutton, B. C. & Pegler, D. N. 1995: *Dictionary of the Fungi*. *Comm. Mycol. Inst.* – Kew.
- Laganà, A., Loppi, S. & De Dominicis, V. 1999: Relationship between environmental factors and the proportions of fungal trophic groups in forest ecosystems of the central Mediterranean area. – *Forest Ecology and Management* **124**: 145-151.
- Nicolai, L. 1990: I boschi dell'Amiata. – *Amiata, Storia e Territorio* **8**: 40-46.
- Noordeloos, M. E. 1992: *Entoloma* s.l. – Saronno.
- Onofri, S., Bernicchia, A., Filipello Marchisio, V., Padovan, F., Perini, C., Ripa, C., Salerni, E., Savino, E., Venturella, G., Vizzini, A., Zotti, M., Zucconi, L. 2005: Checklist dei funghi italiani. *Basidiomycota*. – Sassari.

- Pecoraro, L., Perini, C., Salerni, E., Frignani, F., Vignani, R., Scali, M. & De Dominicis, V. in press: Biodiversity and conservation in the Pigelleto, Mt. Amiata (Italy). – *Phytologia Balcanica*.
- Perini, C. & Barluzzi, C. 1987: Considerazioni su aspetti metodologici nello studio delle micocenosi in vari tipi di vegetazione della Toscana centro-meridionale. – Pp.73-94 in: Pacioni, G. (ed.), *Studies on fungal communities*. – Dipartimento di Scienze Ambientali, Università degli Studi, L'Aquila.
- , Barluzzi, C., Comandini, O. & De Dominicis, V. 1995: Mycocoenological research in fir woods in Tuscany (Italy). – *Doc. Mycol.* **98-100**: 317-336.
- , —, Laganà A., Salerni, E. 2004: Biodiversità nel Senese. Flora macromicetica nel XX secolo. Accademia delle Scienze di Siena detta De' Fisiocritici. "Memorie" N. **11**.
- , Salerni E. & Pecoraro L. 2005. Le abetine della Riserva Naturale del Pigelleto (Monte Amiata): venti anni di indagini micologiche. – *Inform. Bot. Ital.* **37 (1, Parte B)**: 860-861.
- Salerni, E., Laganà, A., Perini, C., Loppi, S. & De Dominicis, V. 2002: Effects of temperature and rainfall on fruiting of macrofungi in oak forests of the Mediterranean area. – *Israel J. Pl. Sci.* **50**: 189-198.
- & Perini, C. 2003: Elenco delle specie raccolte. – Pp. 102-107 in: Salerni, E. & Perini, C. (eds.), *Atti del III Convegno Nazionale di Studi Micologici. I funghi del Monte Amiata. The importance of systematic, taxonomic and ecological knowledge of fungi for their conservation – Piancastagnaio (SI)*.
- & — in press. Former and present distribution of macrofungi in Southern Europe: an example from Tuscany (Italy).
- Schlechte, G. 1987: Ecological studies on mycorrhiza-forming fungi of forest stands exposed to different levels of air pollution. – Pp. 82-92 in: Fellner, R. (Ed.). *Ekologie mykorrhiz a mykorrhizních hub. Imise a mykorrhiza*. DT CSVTS, Pardubice.
- 1991: Zur struktur der Basidiomyzeten - Flora von unterschiedlich immissionsbelasteten Waldstandorten in Südniedersachsen unter besonderer Berücksichtigung der Mycorrhizabildung. Jahn u. Ernst, Hamburg.
- Smarda, F. 1973: Die Pilzgesellschaften Einiger Fichtenwälder Mährens – *Acta Sc. Nat. Brno* **7(8)**: 1-44.
- Thoen, D. 1970: Etude mycosociologique de quelques associations forestières des districts Picardo-Brabançon, mosan et ardennais de Belgique. – *Bull. Rech. Agr. Gembloux* **5**: 309-326.
- 1971: Etude mycosociologique de quelques associations forestières des districts Picardo-Brabançon, mosan et ardennais de Belgique. – *Bull. Rech. Agr. Gembloux* **6**: 215-243.
- Tongiorgi, E. 1938: Ricerche sulla vegetazione dell'Etruria marittima: la vegetazione del Monte Amiata durante l'ultima glaciazione. - *Nuovo Giorn. Bot. Ital.* **45**: 388-390.
- 1939. Presentazione di una cupola di *Quercus aegilops* L. rinvenuta nei giacimenti quaternari di farina fossile del Monte Amiata. - *Nuovo Giorn. Bot. Ital.* **46**: 651-652.

Addresses of the authors:

Lorenzo Pecoraro, Claudia Perini, Elena Salerni & Vincenzo De Dominicis -  
Department of Environmental Sciences "G. Sarfatti", University of Siena, Via P. A.  
Mattioli 4, 53100 Siena, Italy.



**Appendix****MYCOFLORA LIST****BASIDIOMYCOTA****AGARICALES****AGARICACEAE**

- Sh** - *Agaricus luteomaculatus* (F.H. Møller) F.H. Møller  
 + **Sh** - *Agaricus niveolutescens* Huijsman  
**Sh** - *Agaricus silvaticus* Schaeff.  
 + **Sh** - *Cystoderma amianthinum* (Scop.) Fayod  
 + **Sh** - *Cystoderma carcharias* (Pers.) Fayod \*  
 + **Sh** - *Cystoderma fallax* A.H. Sm. & Singer  
 + **Sh** - *Cystolepiota pulverulenta* (Huijsman) Vellinga \*  
**Sh** - *Cystolepiota seminuda* (Lasch) Bon  
**Sh** - *Cystolepiota sistrata* (Fr.) Bon & Bellù  
**Sh** - *Lepiota castanea* Quél.  
**Sh** - *Lepiota clypeolaria* (Bull.) P. Kumm.  
**Sh** - *Lepiota cristata* (Bolton) P. Kumm.  
 + **Sh** - *Macrolepiota mastoidea* (Fr.) Sing.  
**Sh** - *Macrolepiota procera* (Scop.) Singer

**AMANITACEAE**

- + **M** - *Amanita caesarea* (Scop.) Pers.  
**M** - *Amanita ceciliae* (Berk. & Broome) Bas  
 + **M** - *Amanita citrina* (Schaeff.) Pers.  
 + **M** - *Amanita crocea* (Quél.) Singer  
 + **M** - *Amanita eliae* Quél.  
 + **M** - *Amanita franchettii* (Boud.) Fayod  
**M** - *Amanita junquillea* Quél.  
**M** - *Amanita pantherina* (DC.) Krombh.  
**M** - *Amanita phalloides* (Fr.) Link  
**M** - *Amanita rubescens* Pers.  
 + **M** - *Amanita spissa* (Fr.) P. Kumm.  
 + **M** - *Amanita submembranacea* (Bon) Gröger \*  
 + **M** - *Amanita vaginata* (Bull.) Lam.

**BOLBITIACEAE**

- Sh** - *Conocybe brunneola* Kühner & Watling  
**Sh** - *Conocybe pilosella* (Pers.) Kühner  
 + **Sh** - *Conocybe tenera* (Schaeff.) Fayod  
 + **Sw** - *Psathyrella conopilus* (Fr.) A. Pearson & Dennis \*  
**Sh** - *Psathyrella lacrymabunda* (Bull.) M.M. Moser  
**Sh (Sw)** - *Psathyrella multipedata* (Peck) A.H. Sm.  
 + **Sw** - *Psathyrella piluliformis* (Bull.) P.D. Orton  
 + **Sh** - *Psathyrella prona* (Fr.) Gillet

## COPRINACEAE

- + **Sw** - *Coprinus atramentarius* (Bull.) Fr.
- + **Sh** - *Coprinus comatus* (O.F. Müll.) Pers.
- + **Sw (Sh)** - *Coprinus flocculosus* (DC.) Fr.
- + **Sw** - *Coprinus micaceus* (Bull.) Fr.
- Sh** - *Coprinus plicatilis* (M.A. Curtis) Fr.

## ENTOLOMATACEAE

- + **Sh (M?)** - *Clitopilus prunulus* (Scop.) P. Kumm.
- <sup>1+</sup> **(M?)** - *Entoloma clypeatum* (L.) P. Kumm. \*
- Sh** - *Entoloma hebes* (Romagn.) Trimbach
- + **Sh** - *Entoloma incanum* (Fr.) Hesler
- Sh** - *Entoloma juncinum* (Kühner & Romagn.) Noordel.
- Sh** - *Entoloma occultopigmentatum* Arnolds & Noordel.
- + **Sh** - *Entoloma sinuatum* (Bull. : Fr.) P. Kumm.
- Sh (M?)** - *Entoloma rhodopolium* (Fr.) P. Kumm.
- Sh (M?)** - *Entoloma rhodopolium* (Fr.) P. Kumm. f. *nidorosum* (Fr.) Noordel.
- Sh** - *Entoloma sericeum* Quéf.
- Sh** - *Entoloma sericeum* Quéf. var. *cinereoopacum* Noordel.
- Sh** - *Entoloma serrulatum* (Fr.) Hesler
- Sh** - *Rhodocybe nitellina* (Fr.) Singer

## HYGROPHORACEAE

- + **Sh** - *Hygrocybe conica* (Schaeff.) P. Kumm.
- + **M** - *Hygrophorus arbustivus* (Fr.) Fr.
- M** - *Hygrophorus chrysodon* (Batsch) Fr.
- M** - *Hygrophorus discoideus* (Pers.) Fr.
- M** - *Hygrophorus discoxanthus* (Fr.) Rea
- + **M** - *Hygrophorus eburneus* (Bull.) Fr. \*
- + **M** - *Hygrophorus penarius* Fr.
- M** - *Hygrophorus pudorinus* (Fr.) Fr.

## PLUTEACEAE

- + **Sw** - *Pluteus atromarginatus* (Singer) Kühner
- Sw** - *Pluteus cervinus* (Schaeff.) P. Kumm.
- Sh (Sw)** - *Pluteus ephebeus* (Fr.) Gillet
- + **Sw** - *Pluteus romellii* (Britzelm.) Sacc. \*
- + **Sw** - *Pluteus salicinus* (Pers.) P. Kumm.

## STROPHARIACEAE

- + **P** - *Pholiota adiposa* (Batsch) P. Kumm.
- + **Sw** - *Pholiota flammans* (Batsch) P. Kumm. \*
- + **Sw** - *Pholiota gummosa* (Lasch) Singer
- + **Sw** - *Pholiota lenta* (Pers.) Singer
- + **Sw (Sh)** - *Pholiota scamba* (Fr.) M.M. Moser \*
- + **Sh** - *Psilocybe caerulea* (Kreisel) Noordel.

---

<sup>1</sup> Finding this species in the autumn does not correspond to what is commonly reported in literature (Noordeloos, 1992), where it is considered a spring species.

- + **Sh** - *Psilocybe capnoides* (Fr.) Noordel.  
**Sw** - *Psilocybe fascicularis* (Huds.) Noordel.  
+ **Sw** - *Psilocybe sublateritia* (Fr.) Rode

## TRICHOLOMATACEAE

- + **Sw** - *Armillaria borealis* Merxm. & Korhonen  
**Sw** - *Armillaria lutea* Gillet  
**P** - *Armillaria mellea* (Vahl) P. Kumm.  
**P (Sw)** - *Armillaria ostoyae* (Romagn.) Herink  
+ **Sw** - *Baeospora myosura* (Fr.) Singer  
**Sh** - *Calocybe ionides* (Bull.) Donk  
**Sh** - *Clitocybe foetens* Melot  
**Sh** - *Clitocybe font-queri* R. Heim  
**Sh** - *Clitocybe fragrans* (With.) P. Kumm.  
**Sh** - *Clitocybe gibba* (Pers.) P. Kumm.  
**Sh** - *Clitocybe nebularis* (Batsch) P. Kumm.  
**Sh** - *Clitocybe odora* (Bull.) P. Kumm.  
**Sh** - *Clitocybe pausiaca* (Fr.) Gillet  
**Sh** - *Clitocybe phaeophthalma* (Pers.) Kuyper  
+ **Sh** - *Clitocybe sinopica* (Fr.) P. Kumm. \*  
**Sh** - *Clitocybe subcordispora* Harmaja  
**Sh** - *Clitocybe trullaeformis* (Fr.) Quél.  
**Sh** - *Clitocybe vermicularis* (Fr.) Quél.  
**Sh** - *Clitocybe vibecina* (Fr.) Quél.  
**Sh** - *Collybia alkalivirens* Singer  
**Sh** - *Collybia butyracea* (Bull.) P. Kumm.  
**Sh** - *Collybia confluens* (Pers.) P. Kumm.  
**Sh** - *Collybia dryophila* (Bull.) P. Kumm.  
**Sh** - *Collybia erythropus* (Pers.) P. Kumm.  
**Sh** - *Collybia peronata* (Bolton) P. Kumm.  
**Sh (P?)** - *Collybia tuberosa* (Bull.) P. Kumm.  
**Sw (Sh)** - *Hemimycena cephalotricha* (Joss.) Singer  
**Sw (Sh)** - *Hemimycena cucullata* (Pers.) Singer  
**Sh** - *Hemimycena gracilis* (Quél.) Singer  
+ **Sh (Sw)** - *Hohembuehelia petaloides* (Bull.) Schulzer  
**Sw** - *Hydropus subalpinus* (Höhn.) Singer  
**M** - *Laccaria amethystina* Cooke  
**M** - *Laccaria laccata* (Scop.) Cooke  
+ **Sh** - *Lepista flaccida* (Sowerby) Pat.  
**Sw** - *Lyophyllum coracinum* (Fr.) Singer  
**Sh** - *Lyophyllum deliberatum* (Britzelm.) Kreisel  
**Sw** - *Lyophyllum miserum* (Fr.) Singer  
+ **Sh** - *Lyophyllum transforme* (Britzelm.) Singer  
**Sh (SI)** - *Marasmius androsaceus* (L.) Fr.  
**SI** - *Marasmius bulliardii* Quél.  
**Sw** - *Marasmius rotula* (Scop.) Fr.  
**SI (Sw)** - *Marasmius torquescens* Quél.  
**SI** - *Marasmius wynnei* Berk. & Broome  
**Sw** - *Megacollybia platyphylla* (Pers.) Kotl. & Pouzar

- Sw** - *Micromphale foetidum* (Sowerby) Singer  
**Sl** - *Micromphale perforans* (Hoffm.) Gray  
**Sh (Sw)** - *Mycena abramsii* (Murrill) Murrill  
**Sw** - *Mycena acicula* (Schaeff.) P. Kumm.  
**Sh** - *Mycena amicta* (Fr.) Quél.  
**Sw (Sh)** - *Mycena arcangeliana* Bres.  
**Sh** - *Mycena aurantiomarginata* (Fr.) Quél.  
**Sw** - *Mycena crocata* (Schrad.) P. Kumm.  
**Sh** - *Mycena epipterygia* (Scop.) Gray  
**Sw** - *Mycena erubescens* Höhn.  
+ **Sh** - *Mycena filopes* (Bull.) P. Kumm.  
**Sh** - *Mycena flavescens* Velen.  
**Sl (Sh)** - *Mycena flavoalba* (Fr.) Quél.  
+ **Sw** - *Mycena galericulata* (Scop.) Gray  
**Sh** - *Mycena galopus* (Pers.) P. Kumm.  
**Sw** - *Mycena haematopus* (Pers.) P. Kumm.  
**Sw** - *Mycena hemisphaerica* Peck  
**Sw** - *Mycena inclinata* (Fr.) Quél.  
**Sh (Sw)** - *Mycena leptcephala* (Pers.) Gillet  
**Sh** - *Mycena metata* (Fr.) P. Kumm.  
**Sh** - *Mycena pelianthina* (Fr.) Quél.  
**Sh** - *Mycena polyadelpa* (Lasch) Kühner  
+ **Sh** - *Mycena polygramma* (Bull.) Gray  
**Sh** - *Mycena pura* (Pers.) P. Kumm.  
**Sh** - *Mycena rosea* Gramberg  
**Sh** - *Mycena sanguinolenta* (Alb. & Schwein.) P. Kumm.  
**Sh** - *Mycena sepia* J.E. Lange  
+ **Sw** - *Mycena stipata* Maas Geest. & Schwöbel \*  
**Sh (Sl)** - *Mycena stylobates* (Pers.) P. Kumm.  
**Sw** - *Mycena vitilis* (Fr.) Quél.  
**Sh** - *Mycena zephirus* (Fr.) P. Kumm.  
+ **Sw (P?)** - *Ossicaulis lignatilis* (Pers.) Redhead & Ginns  
**Sw** - *Panellus mitis* (Pers.) Singer  
+ **Sw** - *Panellus stipticus* (Bull.) P. Karst.  
**Am** - *Rickenella fibula* (Bull.) Raitelth.  
**Sh** - *Ripartites tricholoma* (Alb. & Schwein.) P. Karst.  
+ **M** - *Tricholoma album* (Schaeff.) P. Kumm. \*  
**M** - *Tricholoma argyraceum* (Bull.) P. Kumm.  
+ **M** - *Tricholoma atosquamosum* (Chevall.) Sacc.  
+ **M** - *Tricholoma columbetta* (Fr.) P. Kumm.  
**M** - *Tricholoma fulvum* (DC.) Sacc.  
**M** - *Tricholoma portentosum* (Fr.) Quél.  
**M** - *Tricholoma saponaceum* (Fr.) P. Kumm.  
+ **M** - *Tricholoma sejunctum* (Sowerby) Quél.  
**M** - *Tricholoma squarrulosum* Bres.  
**M** - *Tricholoma stans* (Fr.) Sacc.  
+ **M** - *Tricholoma ustaloides* Romagn.  
+ **M** - *Tricholoma virgatum* (Fr.) P. Kumm. \*  
**Sw** - *Tricholomopsis rutilans* (Schaeff.) Singer

- Sw (P?)** - *Xerula melanotricha* Dörfelt  
**Sw (P?)** - *Xerula pudens* (Pers.) Singer  
**Sw (P?)** - *Xerula radicata* (Rehlan) Dörfelt

**AURICULARIALES***AURICULARIACEAE*

- + **Sw** - *Auricularia auricula-judae* (Fr.) Quél.  
**Sw** - *Auricularia mesenterica* (Dicks.) Pers.

**BOLETALES***BOLETACEAE*

- M** - *Boletus aestivalis* (Paulet) Fr.  
+ **M** - *Boletus edulis* Bull.  
+ **M** - *Boletus erythropus* Pers.  
+ **M** - *Boletus pseudoregius* Heinr. Hubert ex Estadés  
**M** - *Leccinum crocipodium* (Letell.) Watling  
**M** - *Leccinum quercinum* (Pilát) E.E. Green & Watling  
**M** - *Suillus granulatus* (L.) Roussel

*GOMPHIDIACEAE*

- + **M** - *Chroogomphus rutilus* (Schaeff.) O. K. Mill.

*HYGROPHOROPSIDACEAE*

- + **Sh** - *Hygrophoropsis aurantiaca* (Wulfen) Maire

*PAXILLACEAE*

- + **Sw** - *Omphalotus olearius* (DC.) Singer  
+ **Sw** - *Tapinella atrotomentosa* (Batsch) Šutara \*  
+ **M** - *Paxillus involutus* (Batsch) Fr.

*XEROCOMATACEAE*

- M** - *Xerocomus chrysenteron* (Bull.) Quél.  
+ **M** - *Xerocomus impolitus* Fr. (Quél.)  
+ **M** - *Xerocomus subtomentosus* (L.) Quél.

**CANTHARELLALES***CANTHARELLACEAE*

- M** - *Cantharellus cibarius* Fr.  
**M** - *Cantharellus cibarius* Fr. var. *amethysteus* Quél.

*CLAVARIACEAE*

- Sh** - *Clavaria falcata* Pers.  
**Sh** - *Clavulinopsis corniculata* (Schaeff.) Corner  
**Sw** - *Macrotrophula fistulosa* (Holmsk.) R.H. Petersen

*CLAVULINACEAE*

- + **Sh** - *Clavulina cinerea* (Bull.) J. Schröt.  
**Sh (M?)** - *Clavulina coralloides* (L.: Fr.) J. Schröt.  
 + **Sh** - *Clavulina rugosa* (Bull.) J. Schröt. \*

*CRATERELLACEAE*

- + **M** - *Craterellus cornucopioides* (L.) Pers. \*  
 + **M** - *Craterellus lutescens* (Pers.) Fr. \*  
**M** - *Craterellus tubaeformis* (Fr.) Quél.

*HYDNACEAE*

- M** - *Hydnum repandum* L.  
 + **M** - *Hydnum rufescens* Pers.

*TYPHULACEAE*

- Sh** - *Typhula erythropus* Pers.

*CORTINARIALES**CORTINARIACEAE*

- M** - *Cortinarius aleuriosmus* Maire  
**M** - *Cortinarius anomalus* (Fr.) Fr.  
**M** - *Cortinarius bulliardii* (Pers.) Fr.  
**M** - *Cortinarius cagei* Melot  
 + **M** - *Cortinarius castaneus* (Bull.) Fr. \*  
 + **M** - *Cortinarius cotoneus* Fr.  
**M** - *Cortinarius cristallinus* Fr. ss. str.  
**M** - *Cortinarius croceus* (Schaeff.) Fr.  
 + **M** - *Cortinarius decipiens* (Pers.) Fr.  
 + **M** - *Cortinarius diabolicus* (Fr.) Fr.  
**M** - *Cortinarius dibaphus* Fr. var. *nemosus* (Rob. Henry) Rob. Henry  
**M** - *Cortinarius dionysae* Rob. Henry  
**M** - *Cortinarius duracinus* Fr.  
**M** - *Cortinarius erythrinus* (Fr.) Fr.  
**M** - *Cortinarius flexipes* s.l.  
**M** - *Cortinarius infractus* (Pers.) Fr.  
**M** - *Cortinarius lividoochraceus* (Berk.) Berk.  
**M** - *Cortinarius malicorius* Fr.  
 + **M** - *Cortinarius multiformis* Fr. var. *coniferarum* M.M. Moser \*  
**M** - *Cortinarius odorifer* Britzelm.  
 + **M** - *Cortinarius porphyropus* (Alb. & Schwein.) Fr.  
 + **M** - *Cortinarius purpurascens* (Fr.) Fr.  
 + **M** - *Cortinarius rigens* (Pers.) Fr. \*  
 + **M** - *Cortinarius rufoolivaceus* (Pers.) Fr.  
 + **M** - *Cortinarius salor* Fr.  
**M** - *Cortinarius torvus* (Bull.) Fr.  
**M** - *Cortinarius trivialis* J.E. Lange  
**M** - *Cortinarius umbrinolens* P.D. Orton  
**M** - *Cortinarius uraceus* Fr.

- Sw** - *Galerina marginata* (Batsch) Kühner  
**Sw (Sh)** - *Galerina stylifera* (G.F. Atk.) A.H. Sm. & Singer  
<sup>+</sup> **Sw** - *Gymnopilus junonius* (Fr.) P.D. Orton \*  
<sup>+</sup> **M** - *Hebeloma crustuliniforme* (Bull.) Quél.  
<sup>+</sup> **M** - *Hebeloma sacchariolum* Quél. \*  
<sup>+</sup> **M** - *Hebeloma sinapizans* (Fr.) Gillet  
**M** - *Hebeloma subsaponaceum* P. Karst.  
**M** - *Inocybe assimilata* (Britzelm.) Sacc.  
**M** - *Inocybe asterospora* Quél.  
<sup>+</sup> **M** - *Inocybe bongardii* (Weinm.) Quél. \*  
<sup>+</sup> **M** - *Inocybe calamistrata* (Fr.) Gillet  
<sup>+</sup> **M** - *Inocybe cincinnata* (Fr.) Quél. var. *major* (S. Petersen) Kuyper \*  
**M** - *Inocybe cookei* Bres.  
**M** - *Inocybe flavella* P. Karst.  
**M** - *Inocybe flocculosa* Sacc.  
<sup>+</sup> **M** - *Inocybe fraudans* (Britzelm.) Sacc.  
**M** - *Inocybe furfurea* Kühner  
**M** - *Inocybe fuscidula* Velen.  
**M** - *Inocybe geophylla* (Fr.) P. Kumm.  
**M** - *Inocybe geophylla* (Fr.) P. Kumm. var. *lilacina* (Peck) Gillet  
**M** - *Inocybe griseolilacina* J.E. Lange  
**M** - *Inocybe jacobi* Kühner  
**M** - *Inocybe leiocephala* D.E. Stuntz  
<sup>+</sup> **M** - *Inocybe obscurobadia* (J. Favre) Grund & D.E. Stuntz \*  
**M** - *Inocybe petiginosa* (Fr.) Gillet  
**M** - *Inocybe praetervisa* Quél.  
<sup>2+</sup> **M** - *Inocybe pseudoasterospora* Kühner & Bours.  
**M** - *Inocybe rimosa* (Bull.) P. Kumm.  
**M** - *Inocybe sindonia* (Fr.) P. Karst.  
**M** - *Inocybe whitei* (Berk. & Broome) Sacc.  
**Sw** - *Simocybe sumptuosa* (P. D. Orton) Sing.

#### CREPIDOTACEAE

- <sup>+</sup> **Am** - *Chromocyphella muscicola* (Fr.) Donk  
**Sw** - *Crepidotus cesatii* (Rabenh.) Sacc.  
<sup>+</sup> **Sw** - *Crepidotus lundellii* Pilát  
**Sw (Sl)** - *Crepidotus luteolus* (Lambotte) Sacc.  
**Sw** - *Crepidotus mollis* (Schaeff.) Staude  
**Sw** - *Crepidotus versutus* (Peck) Sacc.  
**Sw (Sh)** - *Tubaria hiemalis* Bon

#### DACRYMYCETALES

##### DACRYMYCETACEAE

- Sw** - *Calocera cornea* (Batsch) Fr.

<sup>2</sup> Although the characteristics found in the samples gathered permit the identification of *Inocybe pseudoasterospora*, the lack of detailed descriptions of this species in the literature make definite identification difficult.

**Sw** - *Calocera viscosa* (Pers.) Fr.

**Sw** - *Dacrymyces stillatus* Nees

## **GANODERMATALES**

### *GANODERMATACEAE*

**P** - *Ganoderma lucidum* (Curtis) P. Karst.

## **GOMPHALES**

### *RAMARIACEAE*

**Sh** - *Ramaria flaccida* (Fr.) Bourdot

## **HERICIALES**

### *AURISCALPIACEAE*

**Sw** - *Auriscalpium vulgare* Gray

### *GLOEOCYSTIDIELLACEAE*

**Sw** - *Vesiculomyces citrinus* (Pers.) E. Hagstr.

## **LYCOPERDALES**

### *LYCOPERDACEAE*

**Sh** - *Bovista aestivalis* (Bonord.) Demoulin

+ **Sh** - *Calvatia excipuliformis* (Scop. : Pers.) Kreisel

**Sh** - *Lycoperdon atropurpureum* Vittad.

**Sh** - *Lycoperdon foetidum* Bonord.

**Sh** - *Lycoperdon perlatum* Pers. : Pers.

**Sw** - *Lycoperdon pyriforme* Schaeff. : Pers.

## **NIDULARIALES**

### *NIDULARIACEAE*

+ **Sw** - *Cyathus striatus* (Huds. : Pers.) Willd.

**Sw** - *Crucibulum crucibuliforme* (Scop.) V.S. White

## **PHALLALES**

### *HYSTERANGIACEAE*

+ **Sw** - *Hysterangium stoloniferum* Tul. \*

### *PHALLACEAE*

+ **Sh** - *Mutinus caninus* (Huds. : Pers.) Fr.

**Sh?** - *Phallus hadriani* Vent. : Pers.

+ **Sh** - *Phallus impudicus* L. : Pers.



**PORIALES***CORIOLACEAE*

- + **P (Sw)** - *Abortiporus biennis* (Bull.) Singer
- + **Sw** - *Anrodia xantha* (Fr.) Ryvarden \*
- Sw (P)** - *Bjerkandera adusta* (Willd.) P. Karst.
- + **Sw** - *Byssomerulius corium* (Pers.) Parmasto
- + **Sw** - *Daedalea quercina* (L.) Pers.
- P** - *Fomitopsis pinicola* (Sw.) P. Karst.
- Sw** - *Hapalopilus nidulans* (Fr.) P. Karst.
- P** - *Heterobasidion annosum* (Fr.) Bref.
- + **Sw** - *Oligoporus stipticus* (Pers.) Gilb. & Ryvarden
- Sw** - *Oligoporus caesius* (Schrad.) Gilb. & Ryvarden
- Sw** - *Oligoporus lowei* (Pilát) Gilb. & Ryvarden
- + **Sw** - *Oligoporus tephroleucus* (Fr.) Gilb. & Ryvarden
- P** - *Podofomes trogii* (Fr.) Pouzar
- + **P** - *Hexagonia nitida* Durieu & Mont.
- + **Sw (P)** - *Trametes hirsuta* (Wulfen) Pilát
- + **Sw** - *Trametes versicolor* (L.) Lloyd \*
- Sw** - *Trichaptum abietinum* (Dicks.) Ryvarden

*LENTINACEAE*

- + **P** - *Pleurotus dryinus* (Pers.) P. Kumm.
- + **P** - *Pleurotus ostreatus* (Jacq.) P. Kumm.

*POLYPORACEAE*

- + **P** - *Dichomitus campestris* (Quél.) Domanski & Orlicz
- P** - *Polyporus alveolaris* (DC.) Bondartsev & Singer
- + **Sw** - *Polyporus badius* (Pers.) Schwein.
- Sw** - *Polyporus ciliatus* Fr.
- + **Sw** - *Polyporus tuberaster* (Jacq.) Fr. \*
- Sw** - *Polyporus varius* (Pers.) Fr.

**RUSSULALES***RUSSULACEAE*

- + **M** - *Lactarius azonites* (Bull.) Fr.
- + **M** - *Lactarius blennius* (Fr.) Fr. \*
- M** - *Lactarius chrysorrheus* Fr.
- M** - *Lactarius circellatus* Fr.
- M** - *Lactarius decipiens* Quél.
- + **M** - *Lactarius deterrimus* Gröger
- + **M** - *Lactarius flavidus* (Fr.) Fr.
- + **M** - *Lactarius fuliginosus* (Fr.) Fr. \*
- + **M** - *Lactarius mairei* Malençon
- M** - *Lactarius aurantiacus* (Pers.) Gray s.l.
- M** - *Lactarius pterosporus* Romagn.
- M** - *Lactarius salmonicolor* R. Heim & Leclair
- + **M** - *Lactarius serifluus* (DC.) Fr.

- M** - *Lactarius subdulcis* (Pers.) Gray  
**M** - *Lactarius subumbonatus* Lindgr.  
 + **M** - *Lactarius vellereus* (Fr.) Fr.  
**M** - *Russula adulterina* Fr.  
 + **M** - *Russula albonigra* (Krombh.) Fr.  
**M** - *Russula amethystina* Quél.  
**M** - *Russula cavipes* Britzelm.  
**M** - *Russula cessans* A. Pearson  
**M** - *Russula chloroides* (Krombh.) Bres.  
**M** - *Russula cyanoxantha* (Schaeff.) Fr.  
 + **M** - *Russula cyanoxantha* (Schaeff.) Fr. f. *peltereaui* Singer  
**M** - *Russula delica* Fr.  
**M** - *Russula farinipes* Romell  
 + **M** - *Russula foetens* (Pers.) Fr. \*  
**M** - *Russula fragilis* (Pers.) Fr.  
**M** - *Russula heterophylla* (Fr.) Fr.  
**M** - *Russula laurocerasi* Melzer  
**M** - *Russula laurocerasi* Melzer var. *fragrans* (Romagn.) Kuyper & Vuure  
 + **M** - *Russula lilacea* Quél.  
**M** - *Russula luteotacta* Rea  
**M** - *Russula mairei* Singer  
**M** - *Russula nigricans* (Bull.) Fr.  
**M** - *Russula olivacea* (Schaeff.) Pers.  
**M** - *Russula pectinatoides* Peck s.l.  
 + **M** - *Russula postiana* Romell \*  
**M** - *Russula puellaris* Fr.  
**M** - *Russula queletii* Fr.  
**M** - *Russula quercilicis* Sarnari  
 + **M** - *Russula rhodopus* Zvára  
**M** - *Russula romellii* Maire  
 + **M** - *Russula turci* Bres.  
**M** - *Russula urens* Romell  
 + **M** - *Russula vesca* Fr.  
**M** - *Russula violeipes* Quél.  
**M** - *Russula viscida* Kudrna

### **SCHIZOPHYLLALES**

#### *SCHIZOPHYLLACEAE*

- + **Sw** - *Schizophyllum commune* Fr.

### **SCLERODERMATALES**

#### *ASTRAEACEAE*

- + **M** - *Astraeus hygrometricus* (Pers. : Pers.) Morgan \*

#### *SCLERODERMATACEAE*

- + **M** - *Scleroderma areolatum* Ehrenb.

+ **M** - *Scleroderma citrinum* Pers. : Pers.

+ **M** - *Scleroderma verrucosum* (Bull. : Pers.) Pers. \*

## STEREALES

### ALEURODISCACEAE

**Sw** - *Aleurodiscus amorphus* Rabenh.

### BOTRYOBASIDIACEAE

**Sw** - *Botryobasidium laeve* (J. Erikss.) Parmasto

### CORTICIACEAE

**Sw** - *Vuilleminia comedens* (Nees) Maire

### HYPHODERMATACEAE

**Sw** - *Hyphodontia barba-jovis* (Bull.) J. Erikss.

**Sw** - *Hyphodontia breviseta* (P. Karst.) J. Erikss.

**P** - *Hyphodontia pallidula* (Bres.) J. Erikss.

+ **Sw** - *Hyphodontia quercina* (Pers.) J. Erikss.

**Sw** - *Radulomyces confluens* (Fr.) M.P. Christ.

**Sw** - *Schizopora paradoxa* (Schrad.) Donk

### MERULLIACEAE

**Sw** - *Byssomerulius corium* (Pers.) Parmasto

+ **Sw** - *Gleoporus dichrous* (Fr.) Bres.

**Sw** - *Mycocacia fuscoatra* (Fr.) Donk

+ **Sw** - *Terana caerulea* (Lam.) Kuntze

### PENIOPHORACEAE

**Sw** - *Peniophora laeta* (Fr.) Donk

**Sw** - *Peniophora piceae* (Pers.) J. Erikss.

### PODOSCYPHACEAE

**Sh (M?)** - *Cotylidia pannosa* (Sowerby) D.A. Reid

### SISTOTREMATACEAE

+ **Sh** - *Trechispora fastidiosa* (Pers.) Liberta

### STECCHERINACEAE

**Sw** - *Junghuhnia nitida* (Pers.) Ryvarden

### STEREACEAE

**Sw** - *Amylostereum chailletii* (Pers.) Boidin

**Sw** - *Stereum hirsutum* (Willd.) Gray

+ **Sw** - *Stereum subtomentosum* Pouzar

### TUBULICRINACEAE

**Sw** - *Tubulicrinis accedens* (Bourdot & Galzin) Donk

**TREMELLALES***EXIDIACEAE*

- Sw** - *Exidia glandulosa* (Bull.) Fr.  
 + **Sw** - *Exidia recisa* (Ditmar) Fr. \*  
**Sw** - *Exidia truncata* Fr.  
**Sw** - *Pseudohydnum gelatinosum* (Scop.) P. Karst.  
 + **Sh(?)** - *Sebacina incrustans* (Pers.) Tul. & Tul.  
**Sw** - *Stypella vermiformis* (Berk. & Broome) D.A. Reid

*TREMELLACEAE*

- + **P** - *Tremella encephala* Willd.  
 + **Sw** - *Tremella foliacea* Pers.  
**P** - *Tremella simplex* H.S. Jacks. & G.W. Martin

**TULASNELLALES***TULASNELLACEAE*

- + **Sw** - *Tulasnella pinicola* Bres.

**ASCOMYCOTA****DOTHIDEALES***ELSINOACEAE*

- P** - *Sphaceloma mattirolanum* (Sacc. & D. Sacc.) Jenkins

**LEOTIALES***DERMATEACEAE*

- + **Sw** - *Catinella olivacea* (Batsch) Boud.  
**Sw** - *Mollisia cinerea* (Batsch: Fr.) P. Karst.

*LEOTIACEAE*

- Sw** - *Bisporella citrina* (Batsch: Fr.) Korf & S.E. Carp.  
**Sw** - *Hymenoscyphus calyculus* (J. Sowerby: Fr.) W. Phillips  
**Sw** - *Hymenoscyphus serotinus* (Pers.: Fr.) W. Phillips  
**Sh** - *Leotia lubrica* (Scop.: Fr.) Pers.  
 + **Sw** - *Neobulgaria pura* (Pers.: Fr.) Petrak

*HYALOSCYPHACEAE*

- Sw** - *Lachnellula subtilissima* (Cooke) Dennis

*SCLEROTINIACEAE*

- Sl** - *Lanzia luteovirescens* (Roberge ex Desm.) Dumont & Korf  
**Sl** - *Rutstroemia luteovirescens* (Roberge ex Desm.) White

**PEZIZALES***HELVELLACEAE*

- + **Sh** - *Helvella atra* J. Koenig
- + **Sh** - *Helvella crispa* (Scop.: Fr.) Fr. \*
- + **Sh** - *Helvella lacunosa* Afzel.: Fr.

*MORCHELLACEAE*

- + **Sh** - *Morchella elata* Fr.: Fr.

*OTIDEACEAE*

- M?** - *Caloscypha fulgens* (Pers.) Boud.
- M** - *Humaria hemisphaerica* (Wigg.: Fr.) Fuckel
- + **Sw (Sh)** - *Scutellinia scutellata* (L.: Fr.) Lambotte
- Sh** - *Trichophaea hemisphaerioides* (Mouton) Graddon

*PEZIZACEAE*

- Sh** - *Peziza badiocnufa* Korf
- Sh (M?)** - *Sarcosphaera crassa* (Santi ex Steudel ) Pouzar

*SARCOSYPHACEAE*

- + **Sw** - *Sarcoscypha coccinea* (Jacq.) Sacc.

*TUBERACEAE*

- + **M** - *Tuber puberulum* Berk. & Broome

*Rhytismatales**RHYTISMATACEAE*

- + **P(?)** - *Rhytisma acerinum* (Pers.) Fr.

**XYLARIALES***XYLARIACEAE*

- Sw** - *Hypoxylon fuscum* (Pers.: Fr.) Fr.
- Sw** - *Xylaria hypoxylon* (L.: Fr.) Grev.
- Sw** - *Xylaria longipes* Nitschke
- + **Sw** - *Xylaria polymorpha* (Pers.: Fr.) Grev.

