

A MYCOLOGICAL STUDY OF NVC GRASSLAND COMMUNITIES

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By

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Introduction

Throughout northern Europe unimproved semi-natural grassland is an endangered habitat (Arnolds 1989, Eriksson et al. 1995). It has decreased as a result of agricultural intensification, herbicide and fertiliser treatment, ploughing and reseeded, building development and land drainage of wetter sites. Apart from their landscape value, grasslands are an important ecosystem for many groups of wildlife and a number of organisms included in Red Data Books are restricted to such sites. The vascular plant flora of these traditional ancient grasslands is diverse – as is the mycota. In many types of grassland the number of fungal species is greater than the number of vascular plant species while some locations may contain a large number of rare or endangered fungi, while the flowering plant flora may be unspectacular.

A suite of fungal species, covering a number of groups, is confined to nutrient-poor grasslands, and these disappear quickly if fertilizer is applied, to be replaced by more common nitrophiles. The species belong to the genera *Hygrocybe*, *Camarophylloopsis*, *Entoloma*, *Dermoloma*, *Porpoloma* and to the orders Clavariaceae (Fairy Clubs) and Geoglossaceae (Earth Tongues). Because of their sensitivity to higher levels of dissolved nitrate and phosphate, it has been suggested that these groups can be used as indicators of habitat quality. Habitats rich in these species have been described as “Waxcap grassland” (Arnolds 1980) and “*Hygrocybe* grasslands” (Feehan & McHugh; 1992) and a number of authors have proposed formulae which enable the numbers of fungal indicator species recorded from a site to be used to judge its conservation value (Rald 1985, Jordal & Gaarder 1993).

In view of the importance of the fungal element in ancient grasslands, British mycologists are conducting a survey throughout the British Isles in order to identify valuable mycological sites, with a view to ensuring their protection and appropriate management (Rotheroe et al., 1996). Data obtained in so far this survey has not, however, been related to NVC types.

The aim of this present study was to compile a reference database showing which macromycete species occurred in the various different types of NVC grassland.

Methods

The study was divided into two parts. The first involved a European literature search, a survey of records compiled from British Mycological Society forays, other unpublished records and the author's own personal records. The main references consulted were Arnolds, 1981, 1982 & 1990; Boertmann, 1995; Noordeloos, 1992; Rotheroe, 1994, and 1995. The vast majority of the records examined did not contain data relating to the National Vegetation Classification. However, where possible, descriptions of grassland types in the records were translated into NVC codes using two main reference works, Rodwell 1992 and Rodwell, 1996. Records which did not lend themselves to this translation were ignored.

The second part of the project took the form of field work at two sites which had been accurately surveyed for the NVC and using maps which enabled precise NVC community and sub-community codes to be assigned for each record. One site was at Winllan, near Talsarn, in the county of Ceredigion, the other was an SSSI in north Carmarthenshire, which has restricted access and is known by the Countryside Council for Wales by the code letters LW. A number of recording visits were made to both sites.

The results for both parts of the study were entered into a database on an Apple Mackintosh computer using the program Microsoft Works, version 3.0.

Discussion

The original intention was to confine the study to “meadows and pastures” the three types of grassland known as mesotrophic [MG] (neutral), calcifugous [U] (acidic) and calcicolous [CG] (calcareous or basic). However, it was quickly realised that this would not show the full picture and other types which could be grouped under the generic heading of “grassland” were also included. These were heaths [H], mires [M], sand dunes [SD] and maritime cliffs [MC]. So far

as sand dunes were concerned, only dune grassland and dune slack habitats were included, thus excluding, for example, mobile and semi-fixed dunes.

The study was confined to so-called “macromycetes”, comprising the larger fungi in the groups Agaricales s.l., Gasteromycetes and the larger Ascomycetes. Almost all the fungi recorded were saprotrophic. A few exceptions to the above were included. Among these were a Hyphomycete, *Paecilomyces farinosa*, which fruits on the larvae and pupae of insects in plant debris; and *Cordyceps militaris*, an Ascomycete in the Hypocreales, which fruits on buried lepidoptera pupae. Also included were three mycorrhizal fungi, *Cortinarius pratensis*, *Boletus albidus*, and *Scleroderma citrinum*. These were included because they may fruit well away from trees and it was thought that their presence might have some significance to habitat quality. A Myxomycete, *Mucilago crustacea*, was included for the same reason.

Results

A database print-out of the main list of species and the NVC grassland communities in which they occur is given in Appendix I. The species are listed alphabetically, not in classification order, and for ease of reference the fungal group to which each species belongs is given in field 2. The field entitled Community 1, refers to the records for the first part of the study and the field Community 2, gives the precise community and sub-community of occurrence observed in the second part of the study. It was felt impractical to attempt to use codes other than for community level in the first part of the survey.

The tables in Appendix II list the species which have been recorded in different grassland types, and are derived from both parts of the study.

In both appendices species which are regarded as indicators of Waxcap grassland are marked with an asterisk (*).

Text Table 1: Numbers of species and indicator species occurring in different grassland types

Grassland Type	No. of species	No. of indicator species
Mesotrophic	127	57
Calcifugous	123	77
Calcicolous	52	32
Sand dune	156	46
Mire	63	17
Heath	45	19
Maritime cliff	35	15

As will be seen from the above table, it appears that more macromycete grassland species have been recorded from sand dunes than from other types. However, this is probably not true, but merely indicates that more records are available (and the grassland type translatable) than is the case with the other six groups.

Perhaps easier to interpret are the totals for indicator species. These show that Calcifugous grasslands are particularly rich in “Waxcap-grassland species”, and that Mesotrophic grasslands also have a high score. It is not surprising that Calcicolous grasslands have lower figures, since the mycota of this habitat is rather specialised – as it is with the flowering plants.

Conclusions

Because of the limitations of the present study, too much should not be read into the numerical analysis of total species and indicator species for the different grassland types. A great deal more work needs to be done before real conclusions can be drawn and genuine comparisons made. The study has been valuable in producing a reference database which can be consulted by mycologists, other biologists, conservation organisations and managers of nature reserves.

It is clear that the most satisfactory way to proceed with further studies is to obtain data directly from fieldwork on sites which have been previously surveyed for NVC.

It is hoped that the British Mycological Society's Waxcap-grassland Survey will proceed in this direction in coming years.

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APPENDIX I

Print-out of Database showing Macromycete species
and grassland communities in which they occur

Community 1 refers to published and other existing records

Community 2 refers to species recorded in 1996 from NVC-surveyed sites

(See Text)

Asterisk (*) denotes Indicator Species for 'unimproved' Waxcap Grassland

Species	Fungal Group	Community1	Community2
<i>Agaricus arvensis</i>	Agaric	MG6, SD8, SD14, SD15	
<i>Agaricus campestris</i>	Agaric	CG9, MG1, MG2, MG5, MG6, SD8, SD14, SD15, SD16, U4	
<i>Agaricus cupreobrunneus</i>	Agaric	MC, MG1, MG2, MG5, U5	
<i>Agaricus essetii</i>	Agaric	SD16	
<i>Agaricus lutosus</i>	Agaric	SD14, SD16	
<i>Agaricus macrosporus</i>	Agaric	MG1, MG2, MG5, MG6	MG5a
<i>Agaricus semotus</i>	Agaric	CG1, MG6, SD11, SD12, SD14, SD15	
<i>Agaricus spissicaulis</i>	Agaric	SD16	
<i>Agaricus xanthodermus</i> v <i>leptotoides</i>	Agaric	SD15, SD16	
<i>Agrocybe arenaria</i>	Agaric	SD16	
<i>Agrocybe arvalis</i>	Agaric	MG3, SD17	
<i>Agrocybe eredia</i>	Agaric	SD14, U4	
<i>Agrocybe molesta</i>	Agaric	CG1, CG2, CG8, MG1, MG3	
<i>Agrocybe paludosa</i>	Agaric	M24, M25, M26, s, SD17	
<i>Agrocybe pediades</i>	Agaric	M24, M25, M26, MG4, MG5	
<i>Agrocybe praecox</i>	Agaric	CG1, MG6,	
<i>Agrocybe semiorbicularis</i>	Agaric	MC, MG5, MG6, SD15, SD16, U1	
<i>Agrocybe sphaeromorpha</i>	Agaric	SD14	
<i>Anellaria semiovata</i> *	Agaric	MG4, MG5, SD8, SD9, SD14, SD15, SD16	
<i>Arthenia acerosa</i>	Agaric	M22, MG8, MG9, MG10	
<i>Arthenia spathulata</i>	Agaric	SD15, SD17	
<i>Bolbitius titubans</i>	Agaric	SD15	
<i>Bolbitius vitellinus</i>	Agaric	M22, M23, M24, M25, MG7, MG8, MG9, MG10, SD8, SD14, SD15	M23a
<i>Boletus albidus</i>	Bolete	CG4, CG5	MG5c
<i>Bovista nigrescens</i>	Gasteromycete	MG5, MG6, SD8	
<i>Bovista plumbea</i>	Gasteromycete	CG4, CG5, MC, MG4, MG5, SD14, SD15, U1	
<i>Bovista pusilla</i>	Gasteromycete	SD8, U1	
<i>Calocybe carnea</i>	Agaric	M24, M25, MG4, MG5, MG8, MG9, SD14, SD15, SD16, SD18	

Species	Fungal Group	Community1	Community2
<i>Calocybe constricta</i>	Agaric	?	M23a
<i>Calocybe gambosa</i>	Agaric	CG2, CG8, MG1, MG3, MG5, SD15	
<i>Calocybe ionides</i>	Agaric	MG5, SD15, SD16, SD18	
<i>Calocybe obscurissima</i>	Agaric	SD14, SD15, SD16, SD18	
<i>Calvatia utriformis</i>	Agaric	CG4, CG5, MC, MG4, MG5, SD8, U1	U4b
<i>Camarophyllopsis atropuncta*</i>	Agaric	MG	
<i>Camarophyllopsis foetens*</i>	Agaric	CG, MG	
<i>Camarophyllopsis micacea*</i>	Agaric	CG	
<i>Camarophyllopsis schulzeri*</i>	Agaric	CG	
<i>Cantharellula umbonata</i>	Agaric	H1, H9	
<i>Clavaria acuta*</i>	Fairy Club	U4	
<i>Clavaria argillacea*</i>	Fairy Club	H1, H9, H12, H16, H21, MC, U4	
<i>Clavaria fumosa*</i>	Fairy Club	U4	
<i>Clavaria straminea*</i>	Fairy Club	U4	
<i>Clavaria vermicularis*</i>	Fairy Club	MG5, SD14, U1, U4	
<i>Clavaria zollingeri*</i>	Fairy Club	MG5	
<i>Clavulinopsis corniculata*</i>	Fairy Club	H1, H9, MC, U1, U4	
<i>Clavulinopsis fusiformis*</i>	Fairy Club	SD, U4	MG5c
<i>Clavulinopsis helveola*</i>	Fairy Club	H1, H9, MC, MG5, U4	MG5c
<i>Clavulinopsis laeticolor*</i>	Fairy Club	U1, U4	
<i>Clavulinopsis luteoalba*</i>	Fairy Club	MC, U1, U4	
<i>Clitocybe barbularum</i>	Agaric	SD14, SD15	
<i>Clitocybe dealbata</i>	Agaric	MG4, MG5, SD9, SD14, SD15, SD16	
<i>Clitocybe fragrans</i>	Agaric	H1, H9, SD14, SD15	MG5c
<i>Clitocybe harmajae</i>	Agaric	SD14, SD15, U4	
<i>Clitocybe rivulosa</i>	Agaric	MG4, MG5, SD14, SD15, SD16	
<i>Clitocybe vibecina</i>	Agaric	H1, H9	
<i>Collybia dryophila</i>	Agaric	H1, H9, H5, M14, M15, M16	M24

Species	Fungal Group	Community1	Community2
<i>Conocybe ambigua</i>	Agaric	SD15a, SD15b	
<i>Conocybe anthrocephala</i>	Agaric	MG5, SD15	
<i>Conocybe dunensis</i>	Agaric	SD8, SD15, SD17	
<i>Conocybe kuehneriana</i>	Agaric	SD15	
<i>Conocybe lactea</i>	Agaric	MG5, SD17	
<i>Conocybe lenticulospora</i>	Agaric	SD15	
<i>Conocybe macrocephala</i>	Agaric	SD15	
<i>Conocybe pseudopilosella</i>	Agaric	U4	
<i>Conocybe pubescens</i>	Agaric	SD15	
<i>Conocybe rickeniana</i>	Agaric	MC, MG1, MG2, MG5	
<i>Conocybe sienophylla</i>	Agaric	MG5, SD15	
<i>Conocybe siliginea</i>	Agaric	MG5	
<i>Coprinus ephemeroides</i>	Agaric	MG5	
<i>Coprinus friesii</i>	Agaric	M24, M25, U4	
<i>Coprinus galericuliformis</i>	Agaric	MC, SD15	
<i>Coprinus niveus*</i>	Agaric	MG5, SD8	
<i>Coprinus plicatilis</i>	Agaric	SD14, SD15, SD16	
<i>Cordyceps militaris</i>	Ascomycete	MG5, U4, U6	
<i>Cortinarius pratensis</i>	Agaric	CG10	
<i>Crinipellis stipitarius</i>	Agaric	SD8, SD14	
<i>Cystoderma amianthinum</i>	Agaric	H1, H9, H24, H25, SD14, SD15, U4	M23a, MG5c, U4b
<i>Cystoderma jasonis</i>	Agaric	M17, M18, M19, M20, SD15	
<i>Dermoloma cuneifolium*</i>	Agaric	CG, MG, SD	
<i>Dermoloma josserandii*</i>	Agaric	CG	
<i>Dermoloma pseudocuneifolium*</i>	Agaric	CG	
<i>Entoloma ameides*</i>	Agaric	SG, U	MG5c
<i>Entoloma anatinum*</i>	Agaric	H, SD	MG5c
<i>Entoloma atrocaeruleum*</i>	Agaric	?	MG5c

Species	Fungal Group	Community1	Community2
<i>Entoloma atromarginata*</i>	Agaric	SD17	
<i>Entoloma cetratum*</i>	Agaric	H1, H9, H5, M14, M15, M16	
<i>Entoloma chalybaeum*</i>	Agaric	SD14, SD15	
<i>Entoloma conferendum*</i>	Agaric	M22, MG5, MG8, MG9, MG10, SD14, SD15, SD16, U4, U6	
<i>Entoloma corvinum*</i>	Agaric	SD15, U4	MG5c
<i>Entoloma cruentatum (aff.)*</i>	Agaric	H	MG5c, U4b
<i>Entoloma exile*</i>	Agaric	U	MG5c
<i>Entoloma fernandae*</i>	Agaric	H1, H9, SD11, SD12	
<i>Entoloma formosum*</i>	Agaric	?	U4b
<i>Entoloma hebes*</i>	Agaric	SD17, U4	MG5c
<i>Entoloma helodes*</i>	Agaric	H1, H5, H9, M14, M15, M16, M17, M18, M19, M20	
<i>Entoloma hirtipes*</i>	Agaric	MG4, MG5	MG5c
<i>Entoloma incanum*</i>	Agaric	MC, SD15	
<i>Entoloma infula*</i>	Agaric	M22, MG8, MG9, MG10, SD17	MG5a, MG5c, U4b
<i>Entoloma jubatum*</i>	Agaric	U4	
<i>Entoloma junceus*</i>	Agaric	U4	
<i>Entoloma kuehnerianum*</i>	Agaric	U4	
<i>Entoloma lazulinum*</i>	Agaric	MC, U1, U4	
<i>Entoloma lucidum*</i>	Agaric	U4	
<i>Entoloma ortonii*</i>	Agaric	M, SD, U4	
<i>Entoloma papillatum*</i>	Agaric	MG5, SD14, SD15, U1, U4	
<i>Entoloma poliopus*</i>	Agaric	M	U4b
<i>Entoloma porphyrophaeum*</i>	Agaric	M24, M25, MG5, SD15, SD16, U4	MG5a, MG5c
<i>Entoloma rhombisporum*</i>	Agaric	U4	
<i>Entoloma sericellum*</i>	Agaric	M27, M28, SD17, U1, U4	
<i>Entoloma sericeum*</i>	Agaric	M22, MC, MG4, MG5, MG8, MG9, MG10, SD14, SD15, SD16, U1, U4	
<i>Entoloma serrulatum*</i>	Agaric	MG3, MG5, SD14, SD15, U1	MG5c, U4b
<i>Entoloma turbidum*</i>	Agaric	H1, H9, H5, M14, M15, M16, U5	

Species	Fungal Group	Community1	Community2
<i>Entoloma turci</i> *	Agaric	H1, H2, MC, SD15	
<i>Entoloma undatum</i> *	Agaric	SD14, SD15	
<i>Fayodia pseudoclusilis</i>	Agaric	SD8	
<i>Galerina atkinsoniana</i>	Agaric	H1, H9, M22, M24, M25, MG5, MG8, MG9, MG10, U6	
<i>Galerina calyptrata</i>	Agaric	M17, M18, M19, M20	
<i>Galerina heterocystis</i>	Agaric	H1, H9, M22, M24, M25, MC, MG8, MG9, MG10, SD14	
<i>Galerina hypnorum</i>	Agaric	H1, H9, M17, M18, M19, M20, M24, M25, MG5, SD14, SD15, U6	
<i>Galerina laevis</i>	Agaric	M22, MG8, MG9, MG10	
<i>Galerina luteofulva</i>	Agaric	SD8, SD15, SD16	U4b
<i>Galerina mniophila</i>	Agaric	H1, H9, U6	
<i>Galerina mycenoides</i>	Agaric	SD15, SD16	
<i>Galerina paludinella</i>	Agaric	SD15, SD17	
<i>Galerina praticola</i>	Agaric	SD14, SD15	
<i>Galerina pumila</i>	Agaric	H1, H9, H5, M14, M15, M16, M24, M25, MC, U6	
<i>Galerina vitraeiformis</i>	Agaric	M22, M24, M25, MC, MG5, MG8, MG9, MG10, SD8, SD9, SD14, SD15, U1, U4	
<i>Geoglossum cookeianum</i> *	Earth Tongue	SD14, SD15, U4	
<i>Geoglossum fallax</i> *	Earth Tongue	U4	
<i>Geoglossum glutinosum</i> *	Earth Tongue	MC, MG, U4	
<i>Geoglossum nigrinum</i> *	Earth Tongue	MC	
<i>Geoglossum umbratile</i> *	Earth Tongue	SD14, SD15, U4	
<i>Hebeloma leucosarx</i>	Agaric	M24, M25	
<i>Hemimycena candida</i>	Agaric	M27, M28	
<i>Hygrocybe aurantiosplendens</i> *	Agaric	CG, U4	
<i>Hygrocybe calciphila</i> *	Agaric	CG	
<i>Hygrocybe calyptriiformis</i> *	Agaric	H1, H9, MG5, U4	MG5c
<i>Hygrocybe cantharellus</i> *	Agaric	H, U4	
<i>Hygrocybe ceracea</i> *	Agaric	CG, MG3, MG5, SD14, SD15, SD16, U4	
<i>Hygrocybe chlorophana v. aurantiaca</i> *	Agaric	CG, MG5, U	MG5a, MG5c

Species	Fungal Group	Community1	Community2
<i>Hygrocybe chlorophana</i> *	Agaric	CG, MG5, SD, U4	M23a, MG5a, MG5c
<i>Hygrocybe citrinovirens</i> *	Agaric	CG2, CG8, MG1, MG3, MG5, U4	
<i>Hygrocybe coccinea</i> *	Agaric	CG, MG5, U4, U5	MG5a, MG5c
<i>Hygrocybe colmanniana</i> *	Agaric	CG4, CG5	
<i>Hygrocybe conica</i> f. <i>pseudoconica</i> *	Agaric	SD14, SD15, U4	
<i>Hygrocybe conica</i> *	Agaric	CG, M24, M25, MC, MG5, SD, U1, U4	MG5c
<i>Hygrocybe conicooides</i> *	Agaric	SD14, SD15	
<i>Hygrocybe flavescens</i> *	Agaric	MG5, U4	
<i>Hygrocybe flavipes</i> *	Agaric	CG, MG5, SD16	
<i>Hygrocybe fomicata</i> *	Agaric	CG, MG5, U4	MG5a, MG5c
<i>Hygrocybe glutinipes</i> *	Agaric	CG, M24, M25, MG5, U4	MG5c
<i>Hygrocybe helobia</i> *	Agaric	M, U4	
<i>Hygrocybe insipida</i> *	Agaric	MG5, SD17, U4	MG5c, U4b
<i>Hygrocybe intermedia</i> *	Agaric	CG2, CG4, CG5, MG5, U4	MG5c
<i>Hygrocybe irrigata</i> *	Agaric	CG, MG5, U4	
<i>Hygrocybe konradii</i> *	Agaric	CG2	
<i>Hygrocybe lacmus</i> *	Agaric	U2, U3, U4, U5	
<i>Hygrocybe laeta</i> *	Agaric	H, U4, U6	U4b
<i>Hygrocybe marchii</i> *	Agaric	CG, MG, U4	MG5c
<i>Hygrocybe miniata</i> *	Agaric	H, MG5, SD14, SD15, U4	
<i>Hygrocybe mollis</i> *	Agaric	H, U4	
<i>Hygrocybe nitrata</i> *	Agaric	MG5, SD13, U4	
<i>Hygrocybe ochraceopallida</i> *	Agaric	CG, SD8, SD14, SD15	
<i>Hygrocybe ovina</i> *	Agaric	U4	
<i>Hygrocybe perplexa</i> *	Agaric	CG	
<i>Hygrocybe persistens</i> v. <i>cuspidata</i> *	Agaric	CG, SD14, SD15	
<i>Hygrocybe persistens</i> *	Agaric	CG, MC, MG5, SD14, SD15	
<i>Hygrocybe pratensis</i> v. <i>pallida</i> *	Agaric	CG2, MG5, SD14, SD15	M23a, MG5a, MG5c

Species	Fungal Group	Community1	Community2
<i>Hygrocybe pratensis</i> *	Agaric	CG2, M24, MC, MG1, MG2, MG4, MG5, SD14, U4	MG5a, MG5c
<i>Hygrocybe psittacina</i> *	Agaric	CG, MC, MG4, MG5, SD14, SD15, SD17, U1, U4	MG5a, MG5c
<i>Hygrocybe punicea</i> *	Agaric	CG4, CG5, MG5, SD14, SD17	MG5a, MG5c
<i>Hygrocybe quieta</i> *	Agaric	CG, MG5, U4	
<i>Hygrocybe reai</i> *	Agaric	CG, MG5, SD14, SD15, U4	
<i>Hygrocybe reidii</i> *	Agaric	MG5, U4	MG5a, MG5c
<i>Hygrocybe russocoriacea</i> *	Agaric	MG1, MG2, MC4, MG5, SD14, SD15, U4, U5	
<i>Hygrocybe spadicea</i> *	Agaric	CG, MG5	
<i>Hygrocybe splendidissima</i> *	Agaric	H1, H9, MG5, SD15, U4	MG5c
<i>Hygrocybe substrangulata</i> *	Agaric	SD, U4	
<i>Hygrocybe turunda</i> *	Agaric	H, U	
<i>Hygrocybe unguinosa</i> *	Agaric	CG, MG5, U4	MG5a
<i>Hygrocybe virginea v fuscescens</i> *	Agaric	CG, MG5	
<i>Hygrocybe virginea</i> *	Agaric	CG, M24, MC, MG1, MG2, MG4, MG5, SD14, SD15, U1, U4	MG5a, MG5c
<i>Hygrocybe vitellina</i> *	Agaric	MG5, SD14, SD15, U4	MG5c
<i>Hygrocybe xanthochroa</i> *	Agaric	H, U4	
<i>Hyphoropsis macrospora</i>	Agaric	M22, MG8, MG9, MG10, SD11, SD12	
<i>Hypoholoma elongatum</i>	Agaric	U6	
<i>Hypoholoma ericaeum</i>	Agaric	H, M, U	M23a
<i>Hypoholoma udum</i>	Agaric	M17, M18, M19, M20	
<i>Langermannia gigantea</i>	Gasteromycete	MG1, MG2, SD8	
<i>Lepiota alba</i>	Agaric	SD15, SD16	
<i>Lepiota brunneoincarnata</i>	Agaric	CG2	
<i>Lepiota oreoformis</i>	Agaric	CG2, CG8, MG1, MG3, SD14	
<i>Lepiota subgracilis</i>	Agaric	CG2	
<i>Lepista irina</i>	Agaric	SD14	MG5a, MG6b
<i>Lepista luscina</i>	Agaric	SD8, SD9	
<i>Lepista nuda</i>	Agaric	MG5, SD8, SD14, U4	MG5c

Species	Fungal Group	Community1	Community2
<i>Lepista saeva</i>	Agaric	MG1, MG2, SD8, SD14, SD15	
<i>Lepista sordida</i>	Agaric	MG5, SD14	
<i>Leucoagaricus leucothites</i>	Agaric	SD8, SD14, SD15	
<i>Leucoagaricus pilatianus</i>	Agaric	SD14	
<i>Lycoperdon caudatum</i>	Gasteromycete	M24, M25, M26	
<i>Lycoperdon lividum</i>	Gasteromycete	MC, SD14, SD15, U1, U5	
<i>Lycoperdon molle</i>	Gasteromycete	SD14, SD15	
<i>Lycoperdon nigrescens</i>	Gasteromycete	U4	U4b
<i>Lycoperdon paludosa</i>	Gasteromycete	M24, M25, M26	
<i>Macrolepiota excoriata</i>	Agaric	SD14	
<i>Macrolepiota konradii</i>	Agaric	SD14, U5	
<i>Macrolepiota procera</i>	Agaric	MG1, MG2, MG5, SD8, SD9	MG5a
<i>Macrolepiota rhacodes</i>	Agaric	SD8, SD9	
<i>Marasmius oreades</i>	Agaric	MC, MG5, MG6, SD8, SD14, SD15, U1	
<i>Melanoleuca excissa</i>	Agaric	SD15	
<i>Melanoleuca grammopodia</i>	Agaric	MG1, MG2, MG3	
<i>Microglossum olivaceum</i>	Earth Tongue	CG1, MG5	
<i>Mucilago crustacea</i>	Myxomycete	SD	M23a, U4b
<i>Mycena adonis</i>	Agaric	M17, M18, M19, M20	
<i>Mycena aetides</i>	Agaric	U4	
<i>Mycena bulbosa</i>	Agaric	M22, MG8, MG9, MG10, SD17	
<i>Mycena chlorantha</i>	Agaric	H8, SD	
<i>Mycena cinerella</i>	Agaric	H1, H9, MC, MG5	
<i>Mycena citrinomarginata</i>	Agaric	M22, M24, M25, MG8, MG9, MG10, SD8	
<i>Mycena epipterygia</i>	Agaric	H1, H9, M24, M25, M27, M28, U4, U6	
<i>Mycena epipterygia v. pelliculosa</i>	Agaric	H1, H9, U4	
<i>Mycena filipes</i>	Agaric	H1, H9, MC, MG, SD14, SD15, U1, U6	
<i>Mycena flavoalba</i>	Agaric	SD14, SD15	MG5c

Species	Fungal Group	Community1	Community2
<i>Mycena galopus</i>	Agaric	H1, H5, H9, M14, M15, M16, M17, M18, M19, M20, SD11, SD12, U6	
<i>Mycena leptcephala</i>	Agaric	M24, M25, MC, MG5, SD, U1, U4, U6	M23a, MG5a, MG5c
<i>Mycena metata</i>	Agaric	U4	
<i>Mycena olivaceomarginata</i>	Agaric	H8, M22, M24, M25, MG5, MG8, MG9, MG10, U6	
<i>Mycena pura</i>	Agaric	M24, M25, MG5, SD8, SD14, SD15	
<i>Mycena pura f lutea</i>	Agaric	SD8, SD14, SD15	
<i>Mycena sanguinolenta</i>	Agaric	H1, H9	
<i>Mycena speirea</i>	Agaric	M27, M28	
<i>Mycena uracea</i>	Agaric	H5, M14, M15, M16, M17, M18, M19, M20	
<i>Mycenella salicina</i>	Agaric	SD15	
<i>Naucoria bohemica</i>	Agaric	M27, M28	
<i>Omphaliaster asterospora</i>	Agaric	H1, H9	
<i>Omphalina griseopallida</i>	Agaric	CG1	
<i>Omphalina mutila</i>	Agaric	H8, SD14	
<i>Omphalina obscurata</i>	Agaric	MG5	
<i>Omphalina pyxidata</i>	Agaric	MC, SD14, U1	
<i>Omphalina rustica</i>	Agaric	SD14	
<i>Paecilomyces farinosa</i>	Hyphomycete	H5, M14, M15, M16	
<i>Panaeolus acuminatus</i>	Agaric	M22, M24, M25, MC, MG8, MG9, MG10, SD14	
<i>Panaeolus ater</i>	Agaric	SD8, SD11, SD12, SD13, SD14, SD15	MG5c
<i>Panaeolus fimicola</i>	Agaric	MC, MG5, SD8, SD9, SD14, SD15	
<i>Panaeolus foenicicii</i>	Agaric	MG4, MG5, SD8, SD9, SD14, SD15, U1, U4	
<i>Panaeolus olivaceus</i>	Agaric	SD8, SD15, U4	
<i>Panaeolus papilionaceus</i>	Agaric	SD8, SD9, SD14	U4b
<i>Panaeolus rickenii</i>	Agaric	SD8, SD9, SD14, SD15	MG5c, U4b
<i>Panaeolus sphinctrinus</i>	Agaric	MG5, MG6, SD8, SD9, SD14, SD15, SD16	M23a, MG5c, U4b
<i>Phaeotellus rickenii</i>	Agaric	SD14, SD15	
<i>Poronia punctata*</i>	Ascomycete	H, U	

Species	Fungal Group	Community1	Community2
<i>Porpoloma metapodia*</i>	Agaric	MG5, U4	
<i>Psathyrella clivensis</i>	Agaric	CG, SD13, SD15	
<i>Psilocybe coprophila</i>	Agaric	M17, M18, M19, M20, SD16	
<i>Psilocybe inquilina</i>	Agaric	U1	
<i>Psilocybe muscorum</i>	Agaric	MC, SD15	
<i>Psilocybe semilanceata</i>	Agaric	M24, M25, MG1, MG2, MG5, SD15, SD16, U4, U6	M23a, MG5a, MG5c
<i>Psilocybe subcoprophila</i>	Agaric	SD8	
<i>Resinomyceena saccharifera</i>	Agaric	M17, M18, M19, M20, SD15	
<i>Rhodocybe popinalis</i>	Agaric	MC, U1	
<i>Rickenella fibula</i>	Agaric	H1, H9, M24, M25, MC, MG5, SD14, U4	MG5c
<i>Rickenella sertipes</i>	Agaric	M24, M25, MG5, U4	MG5c
<i>Scleroderma citrinum</i>	Gasteromycete	H1, H9	MG5c
<i>Stropharia aeruginosa</i>	Agaric	SD14, SD15	
<i>Stropharia caerulea</i>	Agaric	MG5, SD9, SD14, SD15	
<i>Stropharia coronilla</i>	Agaric	SD14	
<i>Stropharia inuncta</i>	Agaric	CG4, CG5, SD14	
<i>Stropharia pseudocyanea</i>	Agaric	SD14, U4	
<i>Stropharia semiglobata</i>	Agaric	MG5, MG6, SD12	M23a, MG5c
<i>Tephroclype ambusta</i>	Agaric	H5, M14, M15, M16	
<i>Tephroclype tesquorum</i>	Agaric	MG5	
<i>Trichoglossum hirsutum*</i>	Earth Tongue	SD15, U4	
<i>Trichoglossum walteri*</i>	Earth Tongue	U4	
<i>Tubertia pallidospora</i>	Agaric	SD15	
<i>Vascellum pratense</i>	Gasteromycete	MG4, MG5, SD14, SD15	
<i>Volvariella speciosa</i>	Agaric	MG6, SD8	

APPENDIX II

Occurrence of Macromycete species on Different Types of Grassland

Asterisk (*) denotes Indicator Species for 'unimproved' Waxcap Grassland

Table 1: Macromycetes occurring in Mesotrophic Grasslands

<i>Agaricus arvensis</i>	Agaric	<i>Hygrocybe citrinovirens</i> *	Agaric
<i>Agaricus campestris</i>	Agaric	<i>Hygrocybe coccinea</i> *	Agaric
<i>Agaricus cupreobrunneus</i>	Agaric	<i>Hygrocybe conica</i> *	Agaric
<i>Agaricus macrosporus</i>	Agaric	<i>Hygrocybe flavescens</i> *	Agaric
<i>Agaricus semotus</i>	Agaric	<i>Hygrocybe flavipes</i> *	Agaric
<i>Agrocybe arvalis</i>	Agaric	<i>Hygrocybe fornicata</i> *	Agaric
<i>Agrocybe molesta</i>	Agaric	<i>Hygrocybe glutinipes</i> *	Agaric
<i>Agrocybe pediades</i>	Agaric	<i>Hygrocybe insipida</i> *	Agaric
<i>Agrocybe praecox</i>	Agaric	<i>Hygrocybe intermedia</i> *	Agaric
<i>Agrocybe semiorbicularis</i>	Agaric	<i>Hygrocybe irrigata</i> *	Agaric
<i>Anellaria semiovata</i> *	Agaric	<i>Hygrocybe marchii</i> *	Agaric
<i>Arrhenia acerosa</i>	Agaric	<i>Hygrocybe miniata</i> *	Agaric
<i>Bolbitius vitellinus</i>	Agaric	<i>Hygrocybe nitrata</i> *	Agaric
<i>Boletus albidus</i>	Bolete	<i>Hygrocybe persistens</i> *	Agaric
<i>Bovista nigrescens</i>	Gasteromycete	<i>Hygrocybe pratensis v pallida</i> *	Agaric
<i>Bovista plumbea</i>	Gasteromycete	<i>Hygrocybe pratensis</i> *	Agaric
<i>Calocybe carnea</i>	Agaric	<i>Hygrocybe psittacina</i> *	Agaric
<i>Calocybe gambosa</i>	Agaric	<i>Hygrocybe punicea</i> *	Agaric
<i>Calocybe ionides</i>	Agaric	<i>Hygrocybe quieta</i> *	Agaric
<i>Calvatia utriformis</i>	Agaric	<i>Hygrocybe reai</i> *	Agaric
<i>Camarophylloopsis atropuncta</i> *	Agaric	<i>Hygrocybe reidii</i> *	Agaric
<i>Camarophylloopsis foetens</i> *	Agaric	<i>Hygrocybe russocoriacea</i> *	Agaric
<i>Clavaria vermicularis</i> *	Fairy Club	<i>Hygrocybe spadicea</i> *	Agaric
<i>Clavaria zollingeri</i> *	Fairy Club	<i>Hygrocybe splendidissima</i> *	Agaric
<i>Clavulinopsis fusiformis</i> *	Fairy Club	<i>Hygrocybe unguinosa</i> *	Agaric
<i>Clavulinopsis helveola</i> *	Fairy Club	<i>Hygrocybe virginea v fuscescens</i> *	Agaric
<i>Clitocybe dealbata</i>	Agaric	<i>Hygrocybe virginea</i> *	Agaric
<i>Clitocybe fragrans</i>	Agaric	<i>Hygrocybe vitellina</i> *	Agaric
<i>Clitocybe rivulosa</i>	Agaric	<i>Hygrophoropsis macrospora</i>	Agaric
<i>Conocybe anthrophophila</i>	Agaric	<i>Langermannia gigantea</i>	Gasteromycete
<i>Conocybe lactea</i>	Agaric	<i>Lepiota oreadiformis</i>	Agaric
<i>Conocybe rickeniana</i>	Agaric	<i>Lepista irina</i>	Agaric
<i>Conocybe sienophylla</i>	Agaric	<i>Lepista nuda</i>	Agaric
<i>Conocybe siliginea</i>	Agaric	<i>Lepista saeva</i>	Agaric
<i>Coprinus ephemeroides</i>	Agaric	<i>Lepista sordida</i>	Agaric
<i>Coprinus niveus</i> *	Agaric	<i>Macrolepiota procera</i>	Agaric
<i>Cordyceps militaris</i>	Ascomycete	<i>Marasmius oreades</i>	Agaric
<i>Cystoderma amianthinum</i>	Agaric	<i>Melanoleuca grammopodia</i>	Agaric
<i>Dermoloma cuneifolium</i> *	Agaric	<i>Microglossum olivaceum</i>	Earth Tongue
<i>Entoloma ameides</i> *	Agaric	<i>Mycena bulbosa</i>	Agaric
<i>Entoloma anatinum</i> *	Agaric	<i>Mycena cinerella</i>	Agaric
<i>Entoloma atrocaeruleum</i> *	Agaric	<i>Mycena citrinomarginata</i>	Agaric
<i>Entoloma conferendum</i> *	Agaric	<i>Mycena filopes</i>	Agaric
<i>Entoloma corvinum</i> *	Agaric	<i>Mycena flavoalba</i>	Agaric
<i>Entoloma cruentatum (aff.)</i> *	Agaric	<i>Mycena leptcephala</i>	Agaric
<i>Entoloma exile</i> *	Agaric	<i>Mycena olivaceomarginata</i>	Agaric
<i>Entoloma hebes</i> *	Agaric	<i>Mycena pura</i>	Agaric
<i>Entoloma hirtipes</i> *	Agaric	<i>Omphalina obscurata</i>	Agaric
<i>Entoloma infula</i> *	Agaric	<i>Panaeolus acuminatus</i>	Agaric
<i>Entoloma papillatum</i> *	Agaric	<i>Panaeolus ater</i>	Agaric
<i>Entoloma porphyrophaeum</i> *	Agaric	<i>Panaeolus fimicola</i>	Agaric
<i>Entoloma sericeum</i> *	Agaric	<i>Panaeolus foenisecii</i>	Agaric
<i>Entoloma serrulatum</i> *	Agaric	<i>Panaeolus rickenii</i>	Agaric
<i>Galerina atkinsoniana</i>	Agaric	<i>Panaeolus sphinctrinus</i>	Agaric
<i>Galerina heterocystis</i>	Agaric	<i>Porpoloma metapodia</i> *	Agaric
<i>Galerina hypnorum</i>	Agaric	<i>Psilocybe semilanceata</i>	Agaric
<i>Galerina laevis</i>	Agaric	<i>Rickenella fibula</i>	Agaric
<i>Galerina vittaeformis</i>	Agaric	<i>Rickenella sertipes</i>	Agaric
<i>Geoglossum glutinosum</i> *	Earth Tongue	<i>Scleroderma citrinum</i>	Gasteromycete
<i>Hygrocybe calyptriformis</i> *	Agaric	<i>Stropharia caerulea</i>	Agaric
<i>Hygrocybe ceracea</i> *	Agaric	<i>Stropharia semiglobata</i>	Agaric
<i>Hygrocybe chlorophana v aurantiaca</i> *	Agaric	<i>Tephrocybe tesquorum</i>	Agaric
<i>Hygrocybe chlorophana</i> *	Agaric	<i>Vascellum pratense</i>	Gasteromycete
		<i>Volvariella speciosa</i>	Agaric

Table 2: Macromycetes occurring in Calcifugous Grasslands

<i>Agaricus campestris</i>	Agaric	<i>Hygrocybe conica*</i>	Agaric
<i>Agaricus cupreobrunneus</i>	Agaric	<i>Hygrocybe flavescens*</i>	Agaric
<i>Agrocybe erebia</i>	Agaric	<i>Hygrocybe fornicata*</i>	Agaric
<i>Agrocybe semiorbicularis</i>	Agaric	<i>Hygrocybe glutinipes*</i>	Agaric
<i>Bovista plumbea</i>	Gasteromycete	<i>Hygrocybe helobia*</i>	Agaric
<i>Bovista pusilla</i>	Gasteromycete	<i>Hygrocybe insipida*</i>	Agaric
<i>Calvatia utriformis</i>	Agaric	<i>Hygrocybe intermedia*</i>	Agaric
<i>Clavaria acuta*</i>	Fairy Club	<i>Hygrocybe irrigata*</i>	Agaric
<i>Clavaria argillacea*</i>	Fairy Club	<i>Hygrocybe lacmus*</i>	Agaric
<i>Clavaria fumosa*</i>	Fairy Club	<i>Hygrocybe laeta*</i>	Agaric
<i>Clavaria straminea*</i>	Fairy Club	<i>Hygrocybe marchii*</i>	Agaric
<i>Clavaria vermicularis</i>	Fairy Club	<i>Hygrocybe miniata*</i>	Agaric
<i>Clavulinopsis corniculata*</i>	Fairy Club	<i>Hygrocybe mollis*</i>	Agaric
<i>Clavulinopsis fusiformis*</i>	Fairy Club	<i>Hygrocybe nitrata*</i>	Agaric
<i>Clavulinopsis helveola*</i>	Fairy Club	<i>Hygrocybe ovina*</i>	Agaric
<i>Clavulinopsis laeticolor*</i>	Fairy Club	<i>Hygrocybe pratensis*</i>	Agaric
<i>Clavulinopsis luteoalba*</i>	Fairy Club	<i>Hygrocybe psittacina*</i>	Agaric
<i>Clitocybe harmajae</i>	Agaric	<i>Hygrocybe quieta*</i>	Agaric
<i>Conocybe pseudopilosella</i>	Agaric	<i>Hygrocybe reai*</i>	Agaric
<i>Coprinus friesii</i>	Agaric	<i>Hygrocybe reidii*</i>	Agaric
<i>Cordyceps militaris</i>	Ascomycete	<i>Hygrocybe russocoriacea*</i>	Agaric
<i>Cystoderma amianthinum</i>	Agaric	<i>Hygrocybe splendidissima*</i>	Agaric
<i>Entoloma ameides*</i>	Agaric	<i>Hygrocybe substrangulata*</i>	Agaric
<i>Entoloma conferendum*</i>	Agaric	<i>Hygrocybe turunda*</i>	Agaric
<i>Entoloma corvinum*</i>	Agaric	<i>Hygrocybe unguinosa*</i>	Agaric
<i>Entoloma cruentatum (aff.)*</i>	Agaric	<i>Hygrocybe virginea*</i>	Agaric
<i>Entoloma exile*</i>	Agaric	<i>Hygrocybe vitellina*</i>	Agaric
<i>Entoloma formosum*</i>	Agaric	<i>Hygrocybe xanthochroa*</i>	Agaric
<i>Entoloma hebes*</i>	Agaric	<i>Hypholoma elongatum</i>	Agaric
<i>Entoloma infula*</i>	Agaric	<i>Hypholoma ericaeum</i>	Agaric
<i>Entoloma jubatum*</i>	Agaric	<i>Lepista nuda</i>	Agaric
<i>Entoloma junceus*</i>	Agaric	<i>Lycoperdon lividum</i>	Gasteromycete
<i>Entoloma kuehnerianum*</i>	Agaric	<i>Lycoperdon nigrescens</i>	Gasteromycete
<i>Entoloma lazulinum*</i>	Agaric	<i>Macrolepiota konradii</i>	Agaric
<i>Entoloma lucidum*</i>	Agaric	<i>Marasmius oreades</i>	Agaric
<i>Entoloma ortonii*</i>	Agaric	<i>Mucilago crustacea</i>	Myxomycete
<i>Entoloma papillatum*</i>	Agaric	<i>Mycena actites</i>	Agaric
<i>Entoloma poliopus*</i>	Agaric	<i>Mycena epipterygia</i>	Agaric
<i>Entoloma porphyrophaeum*</i>	Agaric	<i>Mycena epipterygia v pelliculosa</i>	Agaric
<i>Entoloma rhombisporum*</i>	Agaric	<i>Mycena filopes</i>	Agaric
<i>Entoloma sericellum*</i>	Agaric	<i>Mycena galopus</i>	Agaric
<i>Entoloma sericeum*</i>	Agaric	<i>Mycena leptoccephala</i>	Agaric
<i>Entoloma serrulatum*</i>	Agaric	<i>Mycena metata</i>	Agaric
<i>Entoloma turbidum*</i>	Agaric	<i>Mycena olivaceomarginata</i>	Agaric
<i>Galerina atkinsoniana</i>	Agaric	<i>Omphalina pyxidata</i>	Agaric
<i>Galerina hypnorum</i>	Agaric	<i>Panaeolus foenisecii</i>	Agaric
<i>Galerina luteofulva</i>	Agaric	<i>Panaeolus olivaceus</i>	Agaric
<i>Galerina mniophila</i>	Agaric	<i>Panaeolus papilionaceus</i>	Agaric
<i>Galerina pumila</i>	Agaric	<i>Panaeolus rickenii</i>	Agaric
<i>Galerina vittaeformis</i>	Agaric	<i>Panaeolus sphinctrinus</i>	Agaric
<i>Geoglossum cookeianum*</i>	Earth Tongue	<i>Poronia punctata*</i>	Ascomycete
<i>Geoglossum fallax*</i>	Earth Tongue	<i>Porpoloma metapodia*</i>	Agaric
<i>Geoglossum glutinosum*</i>	Earth Tongue	<i>Psilocybe inquilina</i>	Agaric
<i>Geoglossum umbratile*</i>	Earth Tongue	<i>Psilocybe semilanceata</i>	Agaric
<i>Hygrocybe aurantiosplendens*</i>	Agaric	<i>Rhodocybe popinalis</i>	Agaric
<i>Hygrocybe calyptriformis*</i>	Agaric	<i>Rickenella fibula</i>	Agaric
<i>Hygrocybe cantharellus*</i>	Agaric	<i>Rickenella sertipes</i>	Agaric
<i>Hygrocybe ceracea*</i>	Agaric	<i>Stropharia pseudocyanea</i>	Agaric
<i>Hygrocybe chlorophana v aurantiaca*</i>	Agaric	<i>Trichoglossum hirsutum*</i>	Earth Tongue
<i>Hygrocybe chlorophana*</i>	Agaric	<i>Trichoglossum walteri*</i>	Earth Tongue
<i>Hygrocybe citrinovirens*</i>	Agaric		
<i>Hygrocybe coccinea*</i>	Agaric		
<i>Hygrocybe conica f pseudoconica*</i>	Agaric		

Table 3: Macromycetes occurring in Calcicolous Grasslands

<i>Agaricus campestris</i>	Agaric
<i>Agaricus semotus</i>	Agaric
<i>Agrocybe molesta</i>	Agaric
<i>Agrocybe praecox</i>	Agaric
<i>Boletus albidus</i>	Bolete
<i>Bovista plumbea</i>	Gasteromycete
<i>Calocybe gambosa</i>	Agaric
<i>Calvatia utriformis</i>	Agaric
<i>Camarophylloopsis foetens*</i>	Agaric
<i>Camarophylloopsis micacea*</i>	Agaric
<i>Camarophylloopsis schulzeri*</i>	Agaric
<i>Cortinarius pratensis</i>	Agaric
<i>Dermoloma cuneifolium*</i>	Agaric
<i>Dermoloma josserandii*</i>	Agaric
<i>Dermoloma pseudocuneifolium*</i>	Agaric
<i>Hygrocybe aurantiosplendens*</i>	Agaric
<i>Hygrocybe calciphila*</i>	Agaric
<i>Hygrocybe ceracea*</i>	Agaric
<i>Hygrocybe chlorophana v aurantiaca*</i>	Agaric
<i>Hygrocybe chlorophana*</i>	Agaric
<i>Hygrocybe citrinovirens*</i>	Agaric
<i>Hygrocybe coccinea*</i>	Agaric
<i>Hygrocybe colmanniana*</i>	Agaric
<i>Hygrocybe conica*</i>	Agaric
<i>Hygrocybe flavipes*</i>	Agaric
<i>Hygrocybe fornicata*</i>	Agaric
<i>Hygrocybe glutinipes*</i>	Agaric
<i>Hygrocybe intermedia*</i>	Agaric
<i>Hygrocybe irrigata*</i>	Agaric
<i>Hygrocybe konradii*</i>	Agaric
<i>Hygrocybe marchii*</i>	Agaric
<i>Hygrocybe ochraceopallida*</i>	Agaric
<i>Hygrocybe perplexa*</i>	Agaric
<i>Hygrocybe persistens v cuspidata*</i>	Agaric
<i>Hygrocybe persistens*</i>	Agaric
<i>Hygrocybe pratensis v pallida*</i>	Agaric
<i>Hygrocybe pratensis*</i>	Agaric
<i>Hygrocybe psittacina*</i>	Agaric
<i>Hygrocybe punicea*</i>	Agaric
<i>Hygrocybe quieta*</i>	Agaric
<i>Hygrocybe reai*</i>	Agaric
<i>Hygrocybe spadicea*</i>	Agaric
<i>Hygrocybe unguinosa*</i>	Agaric
<i>Hygrocybe virginea v fuscescens*</i>	Agaric
<i>Hygrocybe virginea*</i>	Agaric
<i>Lepiota brunneoincarnata</i>	Agaric
<i>Lepiota oreadiformis</i>	Agaric
<i>Lepiota subgracilis</i>	Agaric
<i>Microglossum olivaceum</i>	Earth Tongue
<i>Omphalina griseopallida</i>	Agaric
<i>Psathyrella clivensis</i>	Agaric
<i>Stropharia inuncta</i>	Agaric

Table 4: Macromycetes occurring on Sand Dunes

<i>Agaricus arvensis</i>	Agaric
<i>Agaricus campestris</i>	Agaric
<i>Agaricus essetii</i>	Agaric
<i>Agaricus lutosus</i>	Agaric
<i>Agaricus semotus</i>	Agaric
<i>Agaricus spissicaulis</i>	Agaric
<i>Agaricus xanthodermus v lepiotoides</i>	Agaric
<i>Agrocybe arenaria</i>	Agaric
<i>Agrocybe arvalis</i>	Agaric
<i>Agrocybe erebia</i>	Agaric
<i>Agrocybe paludosa</i>	Agaric
<i>Agrocybe semiorbicularis</i>	Agaric
<i>Agrocybe sphaleromorpha</i>	Agaric
<i>Anellaria semiovata*</i>	Agaric
<i>Arrhenia spathulata</i>	Agaric
<i>Bolbitius titubans</i>	Agaric
<i>Bolbitius vitellinus</i>	Agaric
<i>Bovista nigrescens</i>	Gasteromycete
<i>Bovista plumbea</i>	Gasteromycete
<i>Bovista pusilla</i>	Gasteromycete
<i>Calocybe carnea</i>	Agaric
<i>Calocybe gambosa</i>	Agaric
<i>Calocybe ionides</i>	Agaric
<i>Calocybe obscurissima</i>	Agaric
<i>Calvatia utriformis</i>	Agaric
<i>Clavaria vermicularis</i>	Fairy Club
<i>Clavulinopsis fusiformis*</i>	Fairy Club
<i>Clitocybe barbularum</i>	Agaric
<i>Clitocybe dealbata</i>	Agaric
<i>Clitocybe fragrans</i>	Agaric
<i>Clitocybe harmajae</i>	Agaric
<i>Clitocybe rivulosa</i>	Agaric
<i>Conocybe ambigua</i>	Agaric
<i>Conocybe anthrocophila</i>	Agaric
<i>Conocybe dunensis</i>	Agaric
<i>Conocybe kuehneriana</i>	Agaric
<i>Conocybe lactea</i>	Agaric
<i>Conocybe lenticulospora</i>	Agaric
<i>Conocybe macrocephala</i>	Agaric
<i>Conocybe pubescens</i>	Agaric
<i>Conocybe sienophylla</i>	Agaric
<i>Coprinus galericuliformis</i>	Agaric
<i>Coprinus niveus*</i>	Agaric
<i>Coprinus plicatilis</i>	Agaric
<i>Crinipellis stipitarius</i>	Agaric
<i>Cystoderma amianthinum</i>	Agaric
<i>Cystoderma jasonis</i>	Agaric
<i>Dermoloma cuneifolium*</i>	Agaric
<i>Entoloma anatinum*</i>	Agaric
<i>Entoloma atromarginata*</i>	Agaric
<i>Entoloma chalybaeum*</i>	Agaric
<i>Entoloma conferendum*</i>	Agaric
<i>Entoloma corvinum*</i>	Agaric
<i>Entoloma fernandae*</i>	Agaric
<i>Entoloma hebes*</i>	Agaric
<i>Entoloma incanum*</i>	Agaric
<i>Entoloma infula*</i>	Agaric
<i>Entoloma ortonii*</i>	Agaric
<i>Entoloma papillatum*</i>	Agaric
<i>Entoloma porphyrophaeum*</i>	Agaric
<i>Entoloma sericellum*</i>	Agaric
<i>Entoloma sericeum*</i>	Agaric
<i>Entoloma serrulatum*</i>	Agaric

Table 4 cont.

		<i>Mycenella salicina</i>	Agaric
<i>Entoloma turci*</i>	Agaric		
<i>Entoloma undatum*</i>	Agaric	<i>Omphalina mutila</i>	Agaric
<i>Fayodia pseudoclusilis</i>	Agaric	<i>Omphalina pyxidata</i>	Agaric
<i>Galerina heterocystis</i>	Agaric	<i>Omphalina rustica</i>	Agaric
<i>Galerina hypnorum</i>	Agaric	<i>Panaeolus acuminatus</i>	Agaric
<i>Galerina luteofulva</i>	Agaric	<i>Panaeolus ater</i>	Agaric
<i>Galerina mycenoides</i>	Agaric	<i>Panaeolus fimicola</i>	Agaric
<i>Galerina paludinella</i>	Agaric	<i>Panaeolus foenicicii</i>	Agaric
<i>Galerina praticola</i>	Agaric	<i>Panaeolus olivaceus</i>	Agaric
<i>Galerina vittaeformis</i>	Agaric	<i>Panaeolus papilionaceus</i>	Agaric
<i>Geoglossum cookeianum*</i>	Earth Tongue	<i>Panaeolus rickenii</i>	Agaric
<i>Geoglossum umbratile*</i>	Earth Tongue	<i>Panaeolus sphinctrinus</i>	Agaric
<i>Hygrocybe ceracea*</i>	Agaric	<i>Phaeotellus rickenii</i>	Agaric
<i>Hygrocybe chlorophana*</i>	Agaric	<i>Psathyrella clivensis</i>	Agaric
<i>Hygrocybe conica f pseudoconica*</i>	Agaric	<i>Psilocybe coprophila</i>	Agaric
<i>Hygrocybe conica*</i>	Agaric	<i>Psilocybe muscorum</i>	Agaric
<i>Hygrocybe conicoides*</i>	Agaric	<i>Psilocybe semilanceata</i>	Agaric
<i>Hygrocybe flavipes*</i>	Agaric	<i>Psilocybe subcoprophila</i>	Agaric
<i>Hygrocybe insipida*</i>	Agaric	<i>Resinomycena saccharifera</i>	Agaric
<i>Hygrocybe miniata*</i>	Agaric	<i>Rickenella fibula</i>	Agaric
<i>Hygrocybe nitrata*</i>	Agaric	<i>Stropharia aeruginosa</i>	Agaric
<i>Hygrocybe ochraceopallida*</i>	Agaric	<i>Stropharia caerulea</i>	Agaric
<i>Hygrocybe persistens v cuspidata*</i>	Agaric	<i>Stropharia coronilla</i>	Agaric
<i>Hygrocybe persistens*</i>	Agaric	<i>Stropharia inuncta</i>	Agaric
<i>Hygrocybe pratensis v pallida*</i>	Agaric	<i>Stropharia pseudocyanea</i>	Agaric
<i>Hygrocybe pratensis*</i>	Agaric	<i>Stropharia semiglobata</i>	Agaric
<i>Hygrocybe psittacina*</i>	Agaric	<i>Trichoglossum hirsutum*</i>	Earth Tongue
<i>Hygrocybe punicea*</i>	Agaric	<i>Tuberia pallidospora</i>	Agaric
<i>Hygrocybe reali*</i>	Agaric	<i>Vascellum pratense</i>	Gasteromycete
<i>Hygrocybe russocoriacea*</i>	Agaric	<i>Volvariella speciosa</i>	Agaric
<i>Hygrocybe splendidissima*</i>	Agaric		
<i>Hygrocybe substrangulata*</i>	Agaric		
<i>Hygrocybe virginea*</i>	Agaric		
<i>Hygrocybe vitellina*</i>	Agaric		
<i>Hygrophoropsis macrospora</i>	Agaric		
<i>Langermannia gigantea</i>	Gasteromycete		
<i>Lepiota alba</i>	Agaric		
<i>Lepiota oreadiformis</i>	Agaric		
<i>Lepista irina</i>	Agaric		
<i>Lepista luscina</i>	Agaric		
<i>Lepista nuda</i>	Agaric		
<i>Lepista saeva</i>	Agaric		
<i>Lepista sordida</i>	Agaric		
<i>Leucoagaricus leucothites</i>	Agaric		
<i>Leucoagaricus pilatianus</i>	Agaric		
<i>Lycoperdon lividum</i>	Gasteromycete		
<i>Lycoperdon molle</i>	Gasteromycete		
<i>Macrolepiota excoriata</i>	Agaric		
<i>Macrolepiota konradii</i>	Agaric		
<i>Macrolepiota procera</i>	Agaric		
<i>Macrolepiota rhacodes</i>	Agaric		
<i>Marasmius oreades</i>	Agaric		
<i>Melanoleuca excissa</i>	Agaric		
<i>Mucilago crustacea</i>	Myxomycete		
<i>Mycena bulbosa</i>	Agaric		
<i>Mycena chlorantha</i>	Agaric		
<i>Mycena citrinomarginata</i>	Agaric		
<i>Mycena filopes</i>	Agaric		
<i>Mycena flavoalba</i>	Agaric		
<i>Mycena galopus</i>	Agaric		
<i>Mycena leptcephala</i>	Agaric		
<i>Mycena pura</i>	Agaric		
<i>Mycena pura f lutea</i>	Agaric		

Table 5: Macromycetes occurring in Mires

<i>Agrocybe paludosa</i>	Agaric
<i>Agrocybe pediades</i>	Agaric
<i>Arrhenia acerosa</i>	Agaric
<i>Bolbitius vitellinus</i>	Agaric
<i>Calocybe carnea</i>	Agaric
<i>Calocybe constricta</i>	Agaric
<i>Collybia dryophila</i>	Agaric
<i>Coprinus friesii</i>	Agaric
<i>Cystoderma amianthinum</i>	Agaric
<i>Cystoderma jasonis</i>	Agaric
<i>Entoloma cetratum*</i>	Agaric
<i>Entoloma conferendum*</i>	Agaric
<i>Entoloma helodes*</i>	Agaric
<i>Entoloma infula*</i>	Agaric
<i>Entoloma ortonii*</i>	Agaric
<i>Entoloma poliopus*</i>	Agaric
<i>Entoloma porphyrophaeum*</i>	Agaric
<i>Entoloma sericellum*</i>	Agaric
<i>Entoloma sericeum*</i>	Agaric
<i>Entoloma turbidum*</i>	Agaric
<i>Galerina atkinsoniana</i>	Agaric
<i>Galerina calyptrata</i>	Agaric
<i>Galerina heterocystis</i>	Agaric
<i>Galerina hypnorum</i>	Agaric
<i>Galerina laevis</i>	Agaric
<i>Galerina pumila</i>	Agaric
<i>Galerina vittaeformis</i>	Agaric
<i>Hebeloma leucosarx</i>	Agaric
<i>Hemimycena candida</i>	Agaric
<i>Hygrocybe chlorophana*</i>	Agaric
<i>Hygrocybe conica*</i>	Agaric
<i>Hygrocybe glutinipes*</i>	Agaric
<i>Hygrocybe helobia*</i>	Agaric
<i>Hygrocybe pratensis v pallida*</i>	Agaric
<i>Hygrocybe pratensis*</i>	Agaric
<i>Hygrocybe virginea*</i>	Agaric
<i>Hygrophoropsis macrospora</i>	Agaric
<i>Hypholoma ericaeum</i>	Agaric
<i>Hypholoma udum</i>	Agaric
<i>Lycoperdon caudatum</i>	Gasteromycete
<i>Lycoperdon paludosa</i>	Gasteromycete
<i>Mucilago crustacea</i>	Myxomycete
<i>Mycena adonis</i>	Agaric
<i>Mycena bulbosa</i>	Agaric
<i>Mycena citrinomarginata</i>	Agaric
<i>Mycena epipterygia</i>	Agaric
<i>Mycena galopus</i>	Agaric
<i>Mycena leptcephala</i>	Agaric
<i>Mycena olivaceomarginata</i>	Agaric
<i>Mycena pura</i>	Agaric
<i>Mycena speirea</i>	Agaric
<i>Mycena uracea</i>	Agaric
<i>Naucoria bohemica</i>	Agaric
<i>Paecilomyces farinosa</i>	Hyphomycete
<i>Panaeolus acuminatus</i>	Agaric
<i>Panaeolus sphinctrinus</i>	Agaric
<i>Psilocybe coprophila</i>	Agaric
<i>Psilocybe semilanceata</i>	Agaric
<i>Resinomycena saccharifera</i>	Agaric
<i>Rickenella fibula</i>	Agaric
<i>Rickenella sertipes</i>	Agaric
<i>Stropharia semiglobata</i>	Agaric
<i>Tephrocybe ambusta</i>	Agaric

Table 6: Macromycetes occurring on Heaths

<i>Cantharellula umbonata</i>	Agaric
<i>Clavaria argillacea*</i>	Fairy Club
<i>Clavulinopsis corniculata*</i>	Fairy Club
<i>Clavulinopsis helveola*</i>	Fairy Club
<i>Clitocybe fragrans</i>	Agaric
<i>Clitocybe vibecina</i>	Agaric
<i>Collybia dryophila</i>	Agaric
<i>Cystoderma amianthinum</i>	Agaric
<i>Entoloma anatinum*</i>	Agaric
<i>Entoloma cetratum*</i>	Agaric
<i>Entoloma cruentatum (aff.)*</i>	Agaric
<i>Entoloma fernandae*</i>	Agaric
<i>Entoloma helodes*</i>	Agaric
<i>Entoloma turbidum*</i>	Agaric
<i>Entoloma turci*</i>	Agaric
<i>Galerina atkinsoniana</i>	Agaric
<i>Galerina heterocystis</i>	Agaric
<i>Galerina hypnorum</i>	Agaric
<i>Galerina mniophila</i>	Agaric
<i>Galerina pumila</i>	Agaric
<i>Hygrocybe calyptriformis*</i>	Agaric
<i>Hygrocybe cantharellus*</i>	Agaric
<i>Hygrocybe laeta*</i>	Agaric
<i>Hygrocybe miniata*</i>	Agaric
<i>Hygrocybe mollis*</i>	Agaric
<i>Hygrocybe splendidissima*</i>	Agaric
<i>Hygrocybe turunda*</i>	Agaric
<i>Hygrocybe xanthochroa*</i>	Agaric
<i>Hypholoma ericaeum</i>	Agaric
<i>Mycena chlorantha</i>	Agaric
<i>Mycena cinerella</i>	Agaric
<i>Mycena epipterygia</i>	Agaric
<i>Mycena epipterygia v pelliculosa</i>	Agaric
<i>Mycena filopes</i>	Agaric
<i>Mycena galopus</i>	Agaric
<i>Mycena olivaceomarginata</i>	Agaric
<i>Mycena sanguinolenta</i>	Agaric
<i>Mycena uracea</i>	Agaric
<i>Omphaliaster asterospora</i>	Agaric
<i>Omphalina mutila</i>	Agaric
<i>Paecilomyces farinosa</i>	Hyphomycete
<i>Poria punctata*</i>	Ascomycete
<i>Rickenella fibula</i>	Agaric
<i>Scleroderma citrinum</i>	Gasteromycete
<i>Tephrocybe ambusta</i>	Agaric

Table 7: Macromycetes occurring on Maritime Cliffs

<i>Agaricus cupreobrunneus</i>	Agaric
<i>Agrocybe semiorbicularis</i>	Agaric
<i>Bovista plumbea</i>	Gasteromycete
<i>Calvatia utriformis</i>	Agaric
<i>Clavaria argillacea*</i>	Fairy Club
<i>Clavulinopsis corniculata*</i>	Fairy Club
<i>Clavulinopsis helveola*</i>	Fairy Club
<i>Clavulinopsis luteoalba*</i>	Fairy Club
<i>Conocybe rickeniana</i>	Agaric
<i>Coprinus galericuliformis</i>	Agaric
<i>Entoloma incanum*</i>	Agaric
<i>Entoloma lazulinum*</i>	Agaric
<i>Entoloma sericeum*</i>	Agaric
<i>Entoloma turci*</i>	Agaric
<i>Galerina heterocystis</i>	Agaric
<i>Galerina pumila</i>	Agaric
<i>Galerina vittaeformis</i>	Agaric
<i>Geoglossum glutinosum*</i>	Earth Tongue
<i>Geoglossum nigratum*</i>	Earth Tongue
<i>Hygrocybe conica*</i>	Agaric
<i>Hygrocybe persistens*</i>	Agaric
<i>Hygrocybe pratensis*</i>	Agaric
<i>Hygrocybe psittacina*</i>	Agaric
<i>Hygrocybe virginea*</i>	Agaric
<i>Lycoperdon lividum</i>	Gasteromycete
<i>Marasmius oreades</i>	Agaric
<i>Mycena cinerella</i>	Agaric
<i>Mycena filopes</i>	Agaric
<i>Mycena leptcephala</i>	Agaric
<i>Omphalina pyxidata</i>	Agaric
<i>Panaeolus acuminatus</i>	Agaric
<i>Panaeolus fimicola</i>	Agaric
<i>Psilocybe muscorum</i>	Agaric
<i>Rhodocybe popinalis</i>	Agaric
<i>Rickenella fibula</i>	Agaric