THE NATURAL HISTORY OF SLAPTON LEY
NATURE RESERVE
X: FUNGI
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ABSTRACT
This survey of the fungi (excluding myxomycetes and lichen-forming species) of the Slapton Ley Nature Reserve, near Kingsbridge, South Devonshire, is based mainly on studies during the eight years 1968-1975. 949 species are reported of which 336 belong to the Basidiomycotina, 357 to the Ascomycotina, 239 to the Deuteromycotina, and 17 to the Mastigomycotina and Zygomycotina (one Actinomycete is also listed). Notes on the most conspicuous species within the major habitats are provided and the fungi detected on selected hosts summarized in tables.

The numbers of fungi found are compared with those reported from some other well-studied parts of the British Isles. The total of 949 species appears to be the largest from an area of its size in the British Isles. Because collecting was concentrated in the late summer and included two exceptionally dry years, Hymenomycetes (especially Agaricales) are considered particularly under-represented. It is estimated that the total number of fungi of all groups really present may be as many as 1,800.

Some 53 species (5.6% of those listed) were either not previously published as occurring in the British Isles (29 species) or new to science (24 species). This reflects our continuing poor knowledge of British microfungi.

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INTRODUCTION
Fungi are a group of organisms of paramount, but often unappreciated, importance in the world around us. Currently treated as a Kingdom equivalent to but distinct from plants (Plantae) and animals (Animalia), their significance arises from their method of nutrition; fungi require preformed organic compounds as food and take these in generally by absorption in solution rather than by ingestion (i.e. they are heterotrophic; lacking any chlorophylls they are unable to produce simple sugars
themselves. Newcomers to the study of fungi (mycology) are often surprised not only by the enormous range in their outward appearance and structure, but also by variations in their life cycles and their relationships to other organisms. The most familiar fungi are undoubtedly the brightly coloured fleshy “mushrooms and toadstools” which suddenly spring from grasslands and woodland floors and disappear again in a few days; these in reality constitute only a very small proportion of the total numbers of fungi known in the world (about 7%*). The bulk of the species are often overlooked as they are almost invisible to the naked eye and require microscopic examination in order to see their structure clearly.

Whether large or small, fungi play important roles in the shaping and nutrient cycling of many ecosystems. In some cases they are able to exert profound effects on the general appearance of an area, for example by killing trees, e.g. in Britain in recent years, the ravages of Dutch elm disease, caused by a microscopic fungus (*Ceratocystis ulmi*). Other species attack different flowering plants, ferns, mosses, algae, other fungi (hyperparasites), lichens, insects, and even man, causing varying degrees of damage. Fungi able to obtain their nutrients by actually killing or damaging other plants or animals (i.e. parasites) are outnumbered, however, by those able to thrive on dead plant and animal material (saprophytes). The fungal saprophytes are vital in the nutrient cycling of ecosystems as they are mainly responsible for reducing both massive fallen tree trunks and delicate fallen leaves to soft humus. Humus in the soil is acted upon by yet more saprophytic fungi (who are now joined in this role by bacteria and soil inhabiting animals†) and broken down still further; nutrients from once living plants are thus released into the soil becoming available once more to the roots of other plants.

Not all fungi are parasites or saprophytes. A large proportion of the fleshy fungi sprouting from woodland floors form symbiotic (mutually beneficial) associations with trees, underground fungal threads (mycelia) becoming intimately entwined with tree roots (such relationships are termed mycorrhiza). Some larger fungi are able to form mycorrhizal associations with only one kind of tree whilst others are more catholic in their selection. The presence of particular types of trees in a wood consequently determines which mycorrhizal species are able to occur and so the brightly coloured fruit bodies which sporadically appear at the surface. Fungi are also able to form a range of associations with algae; some of these lead to the production of stable, reproducible, dual organisms, acting as if they were one, termed lichens.

Despite the ecological importance of fungi, they receive scant attention in ecological courses. This lacuna in ecological teaching, and also in a great deal of ecological survey research work, arises because of problems familiar to zoologists (and more particularly entomologists and protozoologists) but largely foreign to botanists; only freshwater algology amongst the botanical disciplines shares some of them (Whitton, 1974). Detailed surveys detect most species of most botanical groups present in a locality and will certainly include all those most likely to be encountered in quantity. Comparable completeness is almost impossible to obtain for the fungi of an area simply because of the small size, sporadic occurrence and seasonality of many species. Furthermore, even in a very small area, the numerous microhabitats

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† In many cases about 90% of the humus is decomposed by fungi, 5% by bacteria, and 5% by animals (Barkman, 1973).
present are each able to support distinctive assemblages of microscopic species; a single flowering plant, for example, may bear different fungi on different parts of it during the various stages of its growth-and-decay cycle. Species thriving in a vegetative state underground (e.g. mycorrhizal-forming fungi), or amongst leaf litter, may rarely form fruit bodies above the ground and so remain undetected. Reid (1974) points out that species of larger fungi (macromycetes) may have short fruiting seasons with individual fructifications persisting only a few days or hours, and that often they cannot be relied upon to recur in the same site each year, and that occasionally an “uncommon” species can suddenly fruit either locally or nationally in one season but “disappear” or revert to its former status in subsequent years (such species presumably are widespread as vegetative mycelia but only rarely find climatic conditions necessary for the production of their fruit bodies). Barkman (1973), in his studies in the Netherlands, found that a single visit in high season would yield about 20% of the larger fungi really present.

Even if a species does fruit the chances of it being recorded are dependent not only on a specialist being present in the correct place at the right time but also on his carefully searching the appropriate habitat. Once collected it is often far from easy to identify a particular fungus accurately, because of inadequacies in our current knowledge of the British fungal flora and readily available literature. Investigations of this flora, which comprises perhaps some 12,000 species, are still in an exploratory phase, particularly in the microscopic groups, and it consequently to be expected that species either hitherto unrecorded in the British Isles or new to science will be discovered during any detailed study; a point perhaps well-made in the Slapton survey (p. 463). Identifications can rarely be reliable without the use of a microscope, a dispersed and specialized literature, access to a major fungal herbarium, and the assistance of numerous specialists in particular groups. Despite these difficulties, amateurs have an important role to play in improving our knowledge of British fungi by diligently collecting material and submitting what they cannot identify to appropriate specialists; only in this way will our knowledge of fungi become equivalent to that of flowering plants, ferns, mosses, liverworts and lichens.

**Fungal Identification**

Some basic knowledge of the biology, major groups and life-cycles will be helpful to the naturalist looking at fungi for the first time: the books of Talbot (1971) and Webster (1970) are particularly valuable as background reading.

Unfortunately no standard British fungus flora exists at the present time, although some of the extensive specialized literature is well illustrated and usable by the beginner. Those embarking on the study of larger fungi will find the works of Henderson *et al.* (1969), Kühner and Romagnesi (1953), Lange and Hora (1965), Pegler (1973), Rinaldi and Tyndalo (1974), Romagnesi (1962–1963), Wakefield and Dennis (1948) and Watling (1973) particularly helpful. For the Ascomycotina the work of Dennis (1968) is invaluable, supplemented by Dennis (1949, 1956) for many smaller Discomycetes and by v. Arx and Müller (1954), Munk (1957) and Müller and v. Arx (1962) for the Pyrenomycetes. Rust, smut and powdery mildew fungi are ably treated by Wilson and Henderson (1966), Ainsworth and Sampson (1950), and Junell (1967), respectively.
Literature for the identification of Deuteromycotina (Fungi Imperfecti) is exceptionally scattered but the well illustrated works of Barron (1968) and Ellis (1971, 1976) enable most Hyphomycetes to be named at least to genus. Grove (1935, 1937) provided a detailed treatment of British Coelomycetes but is now very dated.

Keys to most accepted genera of all groups of fungi are included in the standard reference work of Ainsworth et al., (1973) which is essential for anybody studying fungi seriously. Further specialist literature can be traced through Ainsworth (1971) and Holden (1975).

Large (1958) and Ramsbottom (1953) provide insights into broader aspects of mycology and the importance of fungi in the world at large. An introduction to the collection, examination, preservation and naming of fungi is given by Hawksworth (1974) who also discusses the preparation of floristic lists.

Useful papers, dealing with species of particular hosts or substrates, are cited at appropriate places in the following main section (pp. 398-412).

THE SLAPTON SURVEY

Fungi have been collected sporadically in the Slapton area of South Devonshire (Fig. 1) at least since the late 1920s (Harris, 1929). The first major contribution was, however, a visit of the British Mycological Society to Slapton Wood in May 1968 when 67 species were recorded (Holden, 1969). Table 1 summarizes the visits of all collectors of fungi in the Reserve known to me. While all records traced are included in the species lists on pp. 431-434 (with the exception of a few clearly erroneous names on manuscript lists and cards retained at the Field Centre), this paper is based mainly on collections I made on 18 visits in the seven years 1969-1975; single visits lasted from 2 to 28 days and included all months except January. During this period several collectors submitted material to me for determination (see p. 436). In addition Mr B. Ing kindly sent details of the fungi he noted during his studies on myxomycetes in the Reserve; Mr M. C. Clark visited the Reserve on four occasions making major contributions mainly to the Discomycetes, of which he has considerable experience as a collector; and Mr E. Descals collected and examined samples of foam for aquatic Hyphomycetes.

Fig. 2 shows that collecting has been concentrated in late summer rather than in late autumn and early spring when many fleshy fungi not currently recorded un-
Fig. 1.
Fig. 2.

Number of years in which collections of fungi have been made at Slapton in particular months during the period 1960–1975 (inclusive).

doubtedly occur from time to time. Visits to the Reserve, of necessity arranged some months in advance, have not always coincided with or immediately followed periods of heavy rain; on some occasions in summer almost no fleshy fungi were found in the Reserve. In addition the years 1971 and 1973 were exceptionally dry (Ratsey, 1975).

In this survey the thirty-three subdivisions of the Reserve proposed by Mercer (1966) and used by Brookes and Burns (1969) together with the five additional units adopted by Hawksworth (1972)*, have been employed (Fig. 3). I collected in all the units over the period 1969–1975 but the amount of survey work in each varied; units receiving the most attention were B, C, CY, DM, E1, E6, F1, I1, J1, J2 and N4.

While most habitats in the Reserve were examined, a few particularly specialized ones have remained almost unexplored during this survey, e.g. truly aquatic species (e.g. Chytridiales, Saprolegniales) and parasites on insects (e.g. Laboulbeniomycetes). Few isolations were made from soil or other substrates to detect species not encountered in a visible state in the field (although some fungi were grown in culture to assist identification); isolations from soil perhaps merit inclusion in floristic accounts of fungi as many such species undoubtedly fulfil important biological roles (see p. 392). A few samples of dung were kept in “damp chambers” (i.e. petri dishes lined with filter paper and moistened with sterilized water at intervals) in order to stimulate species to fruit on their natural substrates; such species would presumably have fruited in the field in suitable weather. I hope that some of the more specialized habitats will be treated in detail by future investigators.

The lichen-forming fungi and myxomycetes of the Reserve are omitted here as they have been treated by Hawksworth (1972) and Ing (1976), respectively.

The primary aim of this contribution is to provide an overall view of the fungi of the Reserve as far as it is known at the present time. Detailed notes on new or otherwise interesting species have been mainly included in a separate series of papers (Hawksworth, 1976; Hawksworth and Punithalingam, 1973a, 1975; Hawksworth and

* Of these it should be noted that CY (“The Causeway”), DM (Duck Marsh) and part of S (the coppice and marsh south of Southgrounds Farm) fall within the boundaries of the Slapton Ley Site of Special Scientific Interest as designated by the Nature Conservancy Council. SV (Slapton Village) is treated in a slightly wider context than previously (Hawksworth, 1972) to include the grounds of the Manor (20/834446) where a number of interesting species were found on hosts which also occur in the Reserve itself.
Fig. 3.
The Slapton Ley Nature Reserve showing location of the 38 units used in this study (reproduced from Hawksworth, 1972, p. 593).
Sivanesan, 1975, 1976a, 1976b); cross references to these and other publications in which Slapton material is discussed are included in the species lists on pp. 413–434; a number of fungi listed are to be treated in future publications. Some currently completely unidentified microfungi (about 30 specimens) may prove of note when their taxonomies have been clarified.

**Fungal Habitats**

This section outlines the major features of the fungal flora in the main habitats of the Reserve (Mercer, 1966). Only the more conspicuous species likely to be found are mentioned; brief descriptive notes included should assist in their recognition. Separate tables summarize the species known from selected host plants and a few other substrates in the Reserve.

Although, as already emphasized above (p. 392), the production of a definitive account of the fungi of an area is an almost impossible task, on the basis of the information now available for Slapton an introduction to the species can be provided. Not all those listed will, of course, be found every year, but in general one can be more certain of finding perennial larger species and microfungi than larger fleshy species.

The extent to which the distribution of particular species is related to the six major habitats varies considerably. The occurrence of many species will be limited by the occurrence of suitable host flowering plants and trees or other microhabitats (e.g. dung, rotting wood). Not all host-specific fungi are recorded from all units in which their host occurs; to what extent this is due to any real localization and lack of collecting at appropriate seasons is unclear but both factors are certainly contributory. Some of the larger fungi in particular, however, appear to be genuinely local in the Reserve; amongst others, *Cantharellus cibarius*, *Geoglossum cookeainum*, *Hydnum rufescens*, *Lentinus tigrinus* and *Lycoperdon foetidum*, are found with considerable regularity only in a small number of the potentially suitable sites.

The detailed geomorphology of the Reserve is described by Mercer (1966) and meteorological data are summarized by Brookes and Burns (1969), with synopses of both in Hawksworth (1972). A more detailed treatment of the climate is provided by Ratsay (1975). Brookes and Burns (1969) is also valuable to mycologists because it lists the 490 species of flowering plants and ferns of the Reserve, so indicating the host plants available to fungi.

I. **SHINGLE RIDGE**

The seaward face (A) of the shingle ridge is too unstable to support larger fungi but some microscopic species occur on the flowering plants able to colonize it (e.g. sand couch grass, *Agropyron junceiforme*; sea spurge, *Euphorbia paralias*). Small pieces of driftwood and fronds of seaweeds washed up onto the shingle have not been examined in detail for microfungi. Driftwood is an important habitat for a number of fascinating marine ascomycetes (see e.g. Koch, 1975) and merits a special study at Slapton. Wood blocks suspended in seawater would also yield additional species as they have at Newton Ferrers, S. Devon (Byrne and Jones, 1974). The massive barkless logs on the crest of the ridge (B) and upper parts of the seaward face (A), however, yielded several species of interest, including the perennial small black discs of *Lecanidion atratum* (a species apparently rare in England) and the scurfy
greenish-brown patches of *Cheiromyces microsperma*; other species common on dry barkless (decorticant) wood throughout the Reserve also occur on these logs (e.g. small black lip-like fruits of both *Glaniopsis praetangia* and *Hysterium angustatum*) but the logs are too dry to support many larger fungi.

Table 2. **Fungi on brambles (Rubus fruticosus aggr.) at Slapton**

<table>
<thead>
<tr>
<th>Teloschistaceae</th>
<th>Gnomoniella rubicola</th>
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<tr>
<td><em>Kuehnula teredinis</em></td>
<td>Hyaloscypha hyalina</td>
</tr>
<tr>
<td><em>Puccinia bulborum</em></td>
<td>Hymenoscyphus secatula</td>
</tr>
<tr>
<td><em>P. violaceum</em></td>
<td>Hypoderma rubi</td>
</tr>
<tr>
<td><em>Hymenoscyphaceae</em></td>
<td>Microthyrium sericeum</td>
</tr>
<tr>
<td><em>Peniophora cf. rufomarginata</em></td>
<td>Mollisia rubi</td>
</tr>
<tr>
<td><em>Radulomyces confusioides</em></td>
<td>Mollicarpus lanceolata</td>
</tr>
<tr>
<td><em>Ascomycotina</em></td>
<td>Peziza rubi</td>
</tr>
<tr>
<td><em>Anastomella rubicola</em></td>
<td>Pezizella sp.</td>
</tr>
<tr>
<td><em>Apiopora sp.</em></td>
<td>Pyrenopeziza escharsodes</td>
</tr>
<tr>
<td><em>Appendiculrella caesstroma</em></td>
<td>Rustroemia frutici</td>
</tr>
<tr>
<td><em>Buellia cf. stygia</em></td>
<td>Sclerotinia fuscata</td>
</tr>
<tr>
<td><em>Chaetosphaeria callimorpha</em></td>
<td>Sclerotinia sp.</td>
</tr>
<tr>
<td><em>Clypeosphaeria notarii</em></td>
<td>Sclerotinia sp.</td>
</tr>
<tr>
<td><em>Cyperosphaeria hypaloides</em></td>
<td>Cladosporium herbarum</td>
</tr>
<tr>
<td><em>Dauxoscyphus donorum</em></td>
<td>Cytophthora edipeta</td>
</tr>
<tr>
<td><em>Didymella applanata</em> (†)</td>
<td>Elachotelia sp.</td>
</tr>
<tr>
<td><em>Dimerium melioticola</em></td>
<td>Sporidesmium sp.</td>
</tr>
<tr>
<td><em>Glaniopsis praetangia</em></td>
<td>Trichoderma viride</td>
</tr>
<tr>
<td><em>Gnomonia rubi</em></td>
<td>Triposporium elegans</td>
</tr>
</tbody>
</table>

* = as the conidial state only; (†) = in conjunction with the conidial state; † = on *Appendiculrella caesstroma*.

The parts of the crest (B) which are well colonized by flowering plants are floristically a species-poor variant of the backslope (C) and so have many fungi in common with it. The lawn-like areas near the central car park in particular, as well as grassland in C that is kept short by mowing and (or) trampling (including roadside verges), reveal a large number of conspicuous fleshy fungi in the early spring and autumn when the weather has been very wet; for most of the year, however, none appear. The fawn to whitish stalked caps of *Agaricus* species ("mushrooms"; e.g. *A. arvensis*, *A. campestris*, *A. xanthodermus*), *Citobolus prunulus*, *Marasmius oreades* (fair ring mushroom) and *Mycoeta extensa* are often common and several form fairy rings here. The slimy, often yellowish-orange or greenish-yellow coloured caps of *Hygrophorus* species (e.g. *H. conicus*, *H. niveus*, *H. pratensis*) occur regularly here in the autumn when the greenish-black tongues of *Geoglossum cookeianum* generally also appear in the lawns near the central car park. Solitary specimens of the handsome pale greyish-brown capped volvate *Volvarilla speciosa* are not infrequent in B and C. Other larger fungi common in grassland in the Reserve generally (p. 409) are also found here. Two larger species known in the Reserve only from the backslope (C) are: *Lycoperdon foetidum* (brown spiny balls) which occurs regularly in the lichen swards (i.e. the *Cladonia alcalinii*; see Hawksworth, 1972), and *Omphalina giseopallida*, an apparently lichenized species found in December 1970 on the verge by the junction of the A379 and the road to Slapton village. The lichens on stabilized shingle here are remarkably poor in parasites.

The wide variety of flowering plants makes the backslope (C) one of the richest sites for microfungi in the Reserve. Hogweed (*Heracleum sphondylium*), sea radish (*Raphanus maritimus*), brambles (*Rubus fruticosus* aggr.), gorse (*Ulex* species), and
stinging nettle (*Urtica dioica*) are of particular importance. Standing dead stems of hogweed, for example, almost invariably reveal the black dots of *Diaporthopsis angelicae* over most of their lengths and the creamy-orange minute hairy cups of *Dasyscyphus mollissimus* near their bases. Leaves of brambles with reddish-purple circular patches are common and striking here as elsewhere in the Reserve and have the orange to black spore masses of *Phragmidium violaceum*, a rust fungus, on their undersides. The richness of these hosts will be apparent from Tables 2–4 in which the species recorded on them in the Reserve as a whole are summarized.

Table 3. *Fungi on gorse* (*Ulex species*) at Slapton

<table>
<thead>
<tr>
<th>Ascomycotina</th>
<th>Deuteromycotina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bisporella sulfurina</td>
<td>Aeosehytula siliis</td>
</tr>
<tr>
<td>Didymosphaeria conoidea</td>
<td>Ceratosporium fuscascens</td>
</tr>
<tr>
<td>Gloniopsis praelonga</td>
<td>Cladosporium herbarum</td>
</tr>
<tr>
<td>Lophiostoma angustilabrum</td>
<td>Endophragmia uniseptata</td>
</tr>
<tr>
<td>L. sp.</td>
<td>Gloeodesmium roseum</td>
</tr>
<tr>
<td>Melanomma pulvis-pyrus</td>
<td>Helminthosporium cylindraceum</td>
</tr>
<tr>
<td>Microthyrium cystis</td>
<td>Periconia hyssoides</td>
</tr>
<tr>
<td>Mollisia melaleuca</td>
<td>Septoria slaptioniensis</td>
</tr>
<tr>
<td>Mollisia dennisii</td>
<td>Sporidesmium cambreense</td>
</tr>
<tr>
<td>Phialea complicata</td>
<td></td>
</tr>
<tr>
<td>Pleospora herbarum</td>
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</tr>
</tbody>
</table>

Dung is also an important habitat for fungi. As horses are now not allowed in this part of the Reserve (although they nevertheless occur from time to time) and cows are not grazed here, the only dung commonly available is from dogs which are frequently exercised here. The ground is too stony (shingly) here for rabbits to burrow. The dung flora of the Reserve is discussed further on pp. 409–410 (Table 11).

Although the backslope is almost devoid of anything approaching woodland, young trees of several species occur near the boundary with both the Higher Ley and the Lower Ley where dense thickets of elder (*Sambucus nigra*) and willows (*Salix* species), swathed in stands of stinging nettles, occur: the fungi on these trees are discussed below (p. 404 and p. 402, respectively). The black scurfy fungus *Xanthorrhiza physcalis* is extremely abundant on the disc-like fruits of the orange lichen *Xanthoria parietina* on elder in C.

Table 4. *Fungi on stinging nettle* (*Urtica dioica*) at Slapton

<table>
<thead>
<tr>
<th>Gasteromycetes</th>
<th>Phialea cyathoides*</th>
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</thead>
<tbody>
<tr>
<td>Gyathus olla</td>
<td>Sclerotinia fuemelana</td>
</tr>
<tr>
<td>Hymenomycetes</td>
<td>Deuteromycotina</td>
</tr>
<tr>
<td>Laemella villosa</td>
<td>Apemelasma urticae</td>
</tr>
<tr>
<td>Macrocystidia eulereris</td>
<td>Cladosporium herbarum</td>
</tr>
<tr>
<td>Resinipitus cyphelliformis</td>
<td>Dendryphiella vinosa</td>
</tr>
<tr>
<td>Ascomycotina</td>
<td>Denbryphon comosum</td>
</tr>
<tr>
<td>Acrepergnum compressum</td>
<td>Dimosporium graminum</td>
</tr>
<tr>
<td>Calloria fuscoides*</td>
<td>Endophragmia atra</td>
</tr>
<tr>
<td>Dasyscyphus sulphureus</td>
<td>Melanconium sp.</td>
</tr>
<tr>
<td>Diaportha arctii</td>
<td>Periconia hyssoides</td>
</tr>
<tr>
<td>Hymenoscyphus herbarum</td>
<td>P. cookei</td>
</tr>
<tr>
<td>H. secalia</td>
<td>Phoma herbarum</td>
</tr>
<tr>
<td>Leptosphaeria acuta</td>
<td>Ramularia urticae</td>
</tr>
<tr>
<td>Mycosphaerella superfusa</td>
<td>Torula herbarum</td>
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<tr>
<td>Ophiobolus rubellus</td>
<td>T. sp.</td>
</tr>
<tr>
<td>Pezicula dennisii</td>
<td>Volucrispora ornithomorpha</td>
</tr>
</tbody>
</table>

* = as the conidial state only.
II. SLAPTON LEY

The truly aquatic fungi in either the Higher Ley (D) or the Lower Ley (E) have not so far been investigated (p. 396). Some samples of foam from the stream in Slapton Wood (J2) were, however, examined (p. 409; Table 9) and the foam often seen at the margins of the Lower Ley in particular can be expected to have many fungi in common with those from that stream. The marginal areas of both Leys are essentially reed-swamps (D1, D2, E1, E3, E4, E5, E6), although extensive stands of some other species (e.g. lesser reedmace, Typha angustifolia) occur locally. The reeds (Phragmites australis) themselves are an extremely important habitat for microfungi and some 22 species have been found on them in the Reserve (Table 5).

Table 5. *Fungi on reeds (Phragmites australis, syn. P. communis)* at Slapton

<table>
<thead>
<tr>
<th>Teliomycetes</th>
<th>Lophodermium arundinaeum</th>
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<tbody>
<tr>
<td>Puccinia magnusiana</td>
<td>Phomatospora berkeleyi</td>
</tr>
<tr>
<td>P. phragmites</td>
<td>Scirrhia rimosa</td>
</tr>
<tr>
<td>Ustilago grandiis</td>
<td>Tapesia evilescens</td>
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<tr>
<td></td>
<td>T. retinica</td>
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<table>
<thead>
<tr>
<th>Hymenomycetes</th>
<th>Deuteromycotina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crepidotus variabilis</td>
<td>Arthrinium phaeospermum</td>
</tr>
<tr>
<td>Marsimus limosus</td>
<td>Cladosporium cladosporioides</td>
</tr>
<tr>
<td></td>
<td>C. herbarum</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ascomycotina</th>
<th>Dictyosporium toruloidei</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anathostemma punctulata</td>
<td>Hendersonia culmicolae var.</td>
</tr>
<tr>
<td>A. tonicoide</td>
<td>minor</td>
</tr>
<tr>
<td>Darwinula controversus</td>
<td>Pirostoma cireinans</td>
</tr>
<tr>
<td>Lophiostoma arundinis</td>
<td>Stagonospora elegans</td>
</tr>
<tr>
<td>L. semiliberum</td>
<td></td>
</tr>
</tbody>
</table>

Newly appearing leaves are colonized by *Puccinia magnusiana* or, more commonly at Slapton, *P. phragmites*, which eventually form black velvety erumpent streaks on the leaves which are visible for some time after the death of the reeds. As the plants begin to die later in the year further minute fungi become established on the stems and are visible as black flecks or dots indicating immersed fruit bodies (e.g. *Hendersonia culmicolae* var. *minor*, *Lophiostoma arundinis*, *L. semiliberum*, *Lophodermium arundinaeum*). The delicate black scurf formed by the microscopic fruits of *Pirostoma cireinans* is common on dead standing canes but is easily overlooked. In spring and early summer the previous year’s canes are still standing and frequently burst open to reveal dense dark brown spore masses of the smut *Ustilago grandiis* which formed inside them. Lower parts of standing canes below the water level support at least two small fungi with disc-like fruits: *Tapesia evilescens* and *T. retinica*. Dead drifting canes, often accumulated in dense floating swards by on-shore winds, have a fungal flora similar to standing canes. Long-dead leaves of reeds frequently support the minute pale ochraceous agaric *Marsimus limosus*. Apinis et al. (1972, 1973) and Taligoola et al. (1973) found a number of fungi on reeds in the Trent Valley and elsewhere not seen at Slapton but employed several cultural techniques.

Many other host plants occur on the margins of the Leys and some small trees are also present locally (particularly ash, sycamore and willows) and support a wide range of minute fungi. Of particular note are the hollow dead stems of Japanese knotweed (*Reynoutria japonica*, syn. *Polygonum cuspidatum*) in E1 at Torcross which invariably have swarms of the minute black pin-like *Periconia hyssoides* within them.
The Torcross west shore (E6) is particularly sheltered and supports a very lush flowering plant flora (including many escapes from nearby gardens); it is notably rich in rust and powdery mildew fungi.

III. MARSHES

The Slapton marshes, of which the best is certainly Duck Marsh (DM), are an extremely important habitat for many groups of organisms including the fungi. Reeds in the wetter areas of the marshes (DM, F1, F2, G1, G2) support a flora similar to that elsewhere in the Reserve (Table 5). In drier parts massive tussocks of sedges (Carex species) occur which have a more limited fungal flora than that seen on sedges in the more basic-watered marshes (fens) of East Anglia; of the species restricted to them found at Slapton the almost cannon-ball-like immersed perithecia of Ceriophora palustris are easily found by stripping the surface off dead leaves. A vole’s nest in a sedge tussock in DM yielded dung on which several rare fungi were found (Table 11).

Willows (Salix species) proved to be one of the richest trees for fungi in the Reserve (Table 6). The willows of Slapton are also notable for their rich and luxurient moss and lichen floras which include several very rare species of these groups. Many willows in DM and CY are dead and dying: Hawksworth (1972) attributed this to waterlogging, but eating of the leaves to a skeletonized state by beetles* is probably the major factor. Young leaves are frequently colonized by the orange rusts Melampsora capraearam and M. epitea which, although forming extensive patches in some cases, rarely seem to cause any general leaf-death over whole trees (the beetles can, in contrast, be found on almost all leaves with green tissue left in late summer; often with 3–6 per leaf). Some conspicuous bracket-forming fungi become established and

* Two species of beetles appear to be involved, Phyllophaga vitellina (L.) and P. vulgatissima (L.), of which the former appears to be the commoner at Slapton (B. Ing, in litt.). A third species of this genus of beetles, P. latricollis Suffr., attacks the leaves of poplars on CY in a similar manner, causing extensive damage to that tree.

Table 6. Fungi on willows (Salix species) at Slapton

<table>
<thead>
<tr>
<th>Teiomyctes</th>
<th>L. racodium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melampsora capraearam</td>
<td>Lophiotrema angustilabrum</td>
</tr>
<tr>
<td>M. epitea</td>
<td>Mollisia ligni</td>
</tr>
<tr>
<td>Hymenomycetes</td>
<td>M. sp.</td>
</tr>
<tr>
<td>Dacrymyces stillatus</td>
<td>Orbilia auricolor</td>
</tr>
<tr>
<td>Daculoides confrogoa</td>
<td>O. xantostigma</td>
</tr>
<tr>
<td>Dactania mollis</td>
<td>Pachyella babingtoni</td>
</tr>
<tr>
<td>Laetiporus sulphureus</td>
<td>Peziza repanda</td>
</tr>
<tr>
<td>Myxena tortuosa</td>
<td>Scutellinia scutellata</td>
</tr>
<tr>
<td>Peniophora lagyi</td>
<td>Venturia minuta</td>
</tr>
<tr>
<td>Pleurus salicinus</td>
<td>Zignoella ovidea</td>
</tr>
<tr>
<td>Tyromyces caesius</td>
<td>Deuteronomycotina</td>
</tr>
<tr>
<td>Ascomycotina</td>
<td>Aureobasidium pullulans</td>
</tr>
<tr>
<td>Dacrymyces foudhundus</td>
<td>Cladosporium herbarum</td>
</tr>
<tr>
<td>D. cf. virgineus</td>
<td>Clonostachys compactisscula</td>
</tr>
<tr>
<td>Diatrype bullata</td>
<td>Diplodina salicis</td>
</tr>
<tr>
<td>Entyllela ct. stellulata</td>
<td>Libertella salicis</td>
</tr>
<tr>
<td>Hymenoscyphus caulicola</td>
<td>Phonopsis salicina</td>
</tr>
<tr>
<td>Lasiosphaeria hirsuta</td>
<td>Trichochrestum roseum</td>
</tr>
<tr>
<td></td>
<td>Trimmastroma betulinum</td>
</tr>
</tbody>
</table>
may contribute to the disease condition; their fruit bodies are frequently abundant on ailing trees. The tough creamy-white brackets of *Tyromyces caesius* (the pores of which turn bluish-grey) occur on willows starting to decline but appear absent from those which are almost completely dead. reddish-brown brackets of *Daedaleopsis confragosa* (with slot-like pores on the pale tan lower surface) are commonly found on dead trees. Two other bracket-forming fungi are also associated with dying willows, albeit less regularly: *Datronia mollis* and *Laetiporus sulphureus*. A number of microfungi are also not infrequent of which the black velvety pustules of *Trimmatostroma betulinum* on dead twigs are easily seen and locally abundant. Rotting willow wood has a fungal floral generally similar to that of sodden rotting wood of other trees (see p. 407), but, when submerged, it can support the rare *Pachyella babingtonii* which forms reddish-tan round convex fleshy fruits about 1 cm across.

Dead standing hollow elm (*Ulmus* species) trunks in DM, and roots of the same tree in CY and DM, often have the massive perennial brackets of the white-spored *Rigidoporus ulmarius*. The very local *Lentinus tigrinus* (neat white caps with dark brown velvety scales and a creamy stalk) was frequently found forming neat tufts on the bases of trees near the waterline in CY and in adjacent parts of Il; although I saw this species here on eight different occasions, it was never noted elsewhere in the Reserve and appears restricted to this very small area at Slapton.

The mature trees (elm, sweet chestnut, holly, sycamore, etc.) lining the northern side of DM and through which the public footpath runs provide a narrow belt of woodland supporting fungi found in this type of habitat throughout the Reserve (see pp. 405–408). Of particular note here, however, have been the discovery along the clayey footpath of a small *Hygrophorus* in late spring (*H. cf. marchii*), a small *Coprinus* with a purplish stem (*C. subpurpureus*, hitherto unreported from the British Isles), and the perhaps rather western *Marasmius hudsonii* (on decaying holly leaves, a small species with purple hairs on the cap).

As the Slapton marshes have a luxuriant lichen vegetation, they are, not surprisingly, one of the most important sites for fungi growing on lichens in the Reserve. *Parmelia caperata* and *P. perlata* have neat necrotic (decolourized) circular patches on their lobes in which the dot-like fruits (pycnidia) of *Phoma cytopsora* located centrally can be seen with a hand lens. Superficially similar patches on *Parmelia sulcata* in CY, but with blackish tears rather than dots, are caused by the previously undescribed *Cornutispora lichenicola*. *Abrothallus parreriarium* forms neat convex superficial black discs on the lobes of many *Parmelia* species at Slapton but is a parasymbiont (a fungus symbiotic with a pre-existing symbiotic association, i.e. the lichen host) rather than a parasite in that the lobes of the host appear almost undamaged. The normally fawn disc-like fruits of *Ramalina* species in DM in particular are occasionally discoloured and black-dotted due to either *Abrothallus suecicus* or a species of *Lichenoctonium*. A summary of literature for the identification of fungi growing on lichens in Britain is in Hawkesworth (1975).

**IV. LEYSIDE FRINGES**

The western margins of both the Lower and Higher Leys comprise low "cliffs" with a dense vegetation of bracken (*Pteridium aquilinum*), blackthorn (*Prunus spinosa*), brambles and elder interspersed locally with mature trees of ash (*Fraxinus excelsior*), oak (*Quercus robur*), elm and willow. Mycologically those parts of H, I1, I2, and I3
dominated by trees resemble the woodlands while those areas grazed by cattle are like grasslands, but two habitats are perhaps better represented here than elsewhere in the Reserve—bracken swards and large colonies of butcher's broom (*Ruscus aculeatus*).

Conspicuous, black, and often broad, streaks of *Rhopogonhus filicinus* appear on bracken stems whilst they are still green but, after they are dead, become so common that it is difficult to find uninfected stems. Trampled old dead bracken fronds and stems also support a number of small cup fungi (including *Dasyscyphus pteridis*, *Phialea pteridicola* and an unnamed *Phaeoelotium*) as well as several minute species of other groups. Dead and decolourised bushes of butcher's broom stand for several years and prove of particular interest, although determination of the various minute black spots on the leaf-like structures (cladodes) necessitates microscopic examination; the commonest fungus on this plant at Slapton is probably *Leptosphaeria rusei*, but *Phomopsis rusei* and *Phylllosticta ruscicola* are also frequent. Two particularly rare species on this host at Slapton, *Gutignardia istriaca* (new to the British Isles; in J6) and *Pyenofusarium rusei* (a previously undescribed genus and species; in I1), were found only once.

Fungi on trees in these units are generally the same as those found on trees of the same kind elsewhere in the Reserve (see pp. 405–408). The reddish fleshy brackets of *Fistulinia hepatica* (beef-steak fungus), which exude reddish blood-like drops on cutting are, however, particularly frequent on the bases of old oaks in I1. In August 1973, the large tawny and brown-scaly caps and stems of *Pholiota squarrosa* occurred on the base of a dying ash tree at the western end of I1. In the disused quarry just beyond the western limit of I1 and inside the boundary of S, fallen holly (*Ilex aquifolium*) leaves were remarkably rich in microfungi (Table 7). Aged elders, a characteristic feature of I1 in particular where they support several very rare lichens (Hawkesworth, 1972), almost invariably have the reddish-purple gelatinous ear-like fruit bodies of *Auricularia auricula-judae* (jew's ear) and the whitish paint-like patches of *Hyphodontia sambuci* throughout the year. The massive gorse bushes towards the eastern end of I1 yielded several species on their largest stems not noted elsewhere in the Reserve (Table 3).

The liverwort *Frullania dilatata* is a conspicuous feature of a small copse of elm trees in H (just south of M) and has large (2–4 cm diam) circular brownish lesions in its colonies which appear to be caused by the imperfect (conidial) state of *Nectria coccinea*.* Mature sycamore trees in I1 and I3 have several fungi on the lichens they support which are particularly frequent here including *Vouauxiella lichenicola* (black dots in the marginal parts of the disc-like fruits of *Lecanora chlorotera*), *Lecigrapha inspersa* (neat black discs on *Pertusaria pertusa*) and *Sphinctrina turbinata* (minute black club-like fruits on *Pertusaria pertusa*).

Grassland and dung inhabiting fungi (see pp. 408–411) are well represented in some of the Leyside fringes. The puff-ball *Bovista plumbea* (brownish-grey, smooth, almost papery sacks which contain a mass of purplish-brown spores) is particularly frequent in grazed parts of I1. In the summer of 1974 the poisonous sclerotia (purplish-black curved cigar-like structures) of *Claviceps purpurea* (ergot) were a conspicuous

* Not previously reported from bryophytes (Booth, 1966). *Fusarium lateritium* was also isolated from diseased colonies but is probably not the harmful (pathogenic) fungus as the imperfect state of *N. coccinea* (*Cylindrocarpon candidum*) predominates on the host and is even visible in the field with a hand lens on the leaves of the liverwort.
feature in H projecting from flowers of cock's-foot (*Dactylis glomerata*). Extensive
swards of silverweed (*Potentilla anserina*) on the gravelly and shaley parts of the shore-
line in I often have their leaves discoloured brownish by *Marssonia potentillae*.

V. WOODLANDS

Woodlands with shaded and humid interiors provide one of the richest hunting-
grounds for the mycologist. In addition to species forming mycorrhizal associations
with trees and occurring on standing trees, characteristic assemblages of fungi are
found on rotting wood, leaf litter, other light plant debris, and flowering plants and
ferns living in the herbaceous layer of the wood. At Slapton the woodlands are
essentially "mixed deciduous", although pure stands of coniferous trees occur in
some areas (see p. 407). In general, the least disturbed (i.e. least managed) and
longest-established woods support the largest number of larger fungi. As France
Wood (K) is of relatively recent origin, not being indicated on eighteenth-century
maps (see Mercer, 1966), it is thus not surprising to find that this wood appears to be
less rich in terms of species numbers than the much longer established Slapton Main
Wood (J1).

Many ephemeral larger fleshy fungi occur in the Slapton woodlands but the vast
majority are sporadic in occurrence, although when present can be exceedingly
abundant. In deciduous woodlands in north-west England, Hering (1966) found
that, of 94 larger fungi, 70 made up less than 5% of either the fresh-weight or number
of individuals; the same is probably true for Slapton. Periodicity makes it impossible
to forecast which species will be found at any particular season (see also pp. 392–393)
but by collecting in all seasons through several years those most likely to be seen can be
indicated. This section consequently emphasises very regularly occurring species
and some which are more spectacular but less frequently encountered.

Amongst the larger gilled species regularly thrusting their fruit bodies through the
leaf litter are *Amanita excelsa* (pinkish-buff caps with wart-like scales on their surface),
various *Boletus* species (with yellow pores rather than gills under the cap), *Laccaria
laccata* (pale reddish-brown throughout, gills sparse and stout), *Leptota procera*
(parasol mushroom; an often tall species with a whitish or pale brown cap which
bears brown shaggy scales, with a persistent movable membranous ring on the
stem which has brown snake-like markings and no volva; mainly in better lit margins
of woodlands) and *Russula ochroleuca* (yellowish-ochre caps with a white stem and
delicate brittle white gills). The edible orange funnel-shaped *Cantharellus cibarius*
(chanterelle) is very local at Slapton but occurs frequently in plenty in three areas:
the eastern lower part of J3, the eastern lower part of J1, and the northern part of
K. Larger fleshy fungi sprouting from buried and rotten stumps and fallen timber
include *Armillaria mellea* (honey fungus; a variable species with the caps shades of
buff and a thick cottony ring on the stem, occurring in large tufts, often extremely
abundant; one of our most destructive tree fungi; its bootlace-like black rhizo-
morphs are readily seen on dead infected trees where the bark has fallen away),
*Coprinus micaceus* (acorn-brown, half egg-shaped caps on white glistening stalks;
gills dark and dissolving in an inky mass), *Hypholoma fasciculare* (sulphur-tuft; sulphur
yellow throughout, in tufts, ring fibrillose and disappearing), *Lycoperdon pyriforme*

* Several other *Amanita* species occur more rarely including the often fatally poisonous *A. phalloides* (death
cap), which has a greenish or yellowish-olive cap, and the even more deadly *A. virosa* (destroying angel)
which is almost pure white throughout.
(a dark mustard-brown puff-ball with a distinctly narrowed base; usually in dense clusters), and Pluteus cervinus (cap dark brown, glistening when moist, gills salmon when mature, the stalk white with dark fibrils towards the base but no ring).

The more notable of the conspicuous but very sporadically occurring woodland species include Clitocybe nebularis (a large fungus with a cloudy grey cap and stout stalk, sometimes very abundant in K), and Grifola frondosa (greyish cabbage-like masses with minutely pored lower surfaces to the fronds and a strong smell of mice, to 30 cm across in J1). The golden yellow matt elongate clubs of Clavulinopsis helvola (4–7 cm tall) are sometimes abundant in J3 in the autumn.

Two Gasteromycetes present on the woodland floor at most times are Phallus impudicus (common stinkhorn), the foetid smell of which is so familiar, and Scleroderma citrinum (common earth-ball) which forms tough clay-coloured balls with a warty surface. This latter species is not uncommonly parasitized by Boletus parasiticus, perhaps now a rather rare fungus in the British Isles, in J1. At Slapton, Mutinus caninus (dog stinkhorn), with its orange apex at first concealed by the olivaceous spore mass, is much rarer than Phallus impudicus but appears to be particularly frequent in J3.

Many fungi, both large and minute, are associated with various stages of the life or seasonal cycles of particular trees. Lists of larger species associated with different kinds of trees in Britain are given in Watling (1973); those found at Slapton are included in the species lists on pp. 413–434. Examples of fungi largely restricted to particular types of trees almost certain to be encountered on standing trees include Daldinia concentrica (cramp balls; black hemispheres concentrically zoned inside) on ash which it may kill (e.g. in I1, J1 and N4), Microsphaera alphioides (oak mildew; a harmful species appearing as a whitish bloom on oak leaves, especially on suckers or shoots from cut stumps), Polymorphism rugosum (extensive perennial black stains on trunks) on beech, and Rhytisma acerinum (tar spot) forming black tar-like blotches on sycamore leaves.

### Table 7. Fungi on fallen leaves of holly (Ilex aquifolium) at Slapton

<table>
<thead>
<tr>
<th>Basidiomycotina</th>
<th>Niestria sp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morchus hudsonii</td>
<td>Phacidium multivale</td>
</tr>
<tr>
<td>Ascomycotina</td>
<td>Trochila ilicina</td>
</tr>
<tr>
<td>Ausgraphum hederae</td>
<td>Deuteromycoctina</td>
</tr>
<tr>
<td>Batrysphaera philoptrina</td>
<td>Coleophoma cylindrospora</td>
</tr>
<tr>
<td>Colocostria sp.</td>
<td>Colletotrichum dematium</td>
</tr>
<tr>
<td>Microthyrium ciliata</td>
<td>Phyllosticta ilicis</td>
</tr>
<tr>
<td></td>
<td>Pyrenomycetes ilicis</td>
</tr>
</tbody>
</table>

Leaf litter supports a wide variety of microfungi, some host specific and others ubiquitous. In the spring most leaves still not skeletonized will reveal, on close examination, black spots indicative of diverse microscopic species. Damp leaf litter is also a particularly rich habitat for many small cup fungi (Discomycetes). Dead holly leaves are probably the richest in the number of fungi they support at Slapton (Table 7) and even the casual observer will note the neat circular 1–2 mm diameter black spots of Phacidium multivale (opening by 4–6 teeth to reveal a paler subepidermal disc; Trochila ilicina is similar but to 1 mm diameter and lacks teeth). Rotting fallen spiny fruits (cupules) of sweet chestnut (Castanea sativa) are conspicuous in many parts of the Reserve’s woodlands and support a range of minute species, most of
Table 8. Fungi on rotting capsules of sweet chestnut (Castanea sativa) at Slatton

<table>
<thead>
<tr>
<th>Ascomycotina</th>
<th>Deuteromycotina</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Arachnochaeta eriobasis</em></td>
<td><em>Anasiria leva</em></td>
</tr>
<tr>
<td><em>Ceratochyta sp.</em></td>
<td></td>
</tr>
<tr>
<td><em>Chaetothelia callimorpha</em></td>
<td></td>
</tr>
<tr>
<td><em>Rutstroemia echinophil</em></td>
<td></td>
</tr>
<tr>
<td><em>Sclerotinia fucellana</em></td>
<td></td>
</tr>
<tr>
<td><em>Candelabrum spinulosum</em></td>
<td></td>
</tr>
<tr>
<td><em>Clathrospora zalewskii</em></td>
<td></td>
</tr>
<tr>
<td><em>Oidiodendron tenuissimum</em></td>
<td></td>
</tr>
<tr>
<td><em>Phialocephala fumosa</em></td>
<td></td>
</tr>
<tr>
<td><em>P. truncata</em></td>
<td></td>
</tr>
<tr>
<td><em>Pleurothecopsis pusilla</em></td>
<td></td>
</tr>
<tr>
<td><em>Pseudowisconsinia rufilata</em></td>
<td></td>
</tr>
<tr>
<td><em>Scolecodidium echinophilum</em></td>
<td></td>
</tr>
<tr>
<td><em>Verticillium tenuissimum</em></td>
<td></td>
</tr>
</tbody>
</table>

* as the conidiial state alone.

which occur on the spines themselves (Table 8; many of these are illustrated by Sutton, 1975). Glistening reddish-brown stalked discs of *Rutstroemia echinophil* occurred in such enormous profusion in the autumn of 1974 that the capsules became virtually invisible. Decaying beech mast frequently sports the slender 2–4 cm tall black, pinkish-white tipped, stromata of *Xylaria carpophila* in J1.

On dead twigs, both still attached to the trees and those fallen to the ground, characteristic fungi are also found. The narrow black stems with membranous creamy caps of *Marasmius androsaceus* and *M. rotula* are particularly frequent in this habitat. Of the numerous microfungi occurring on twigs, the black velvety patches of *Coryniespora smithii* on holly are often striking. Larger branches similarly support many species and are notable for bracket-fungi including *Auricularia mesenterica* (tripe fungus), *Coriolus versicolor* (many-zoned polypore), *Hymenochaete rubiginosum*, *Stereum hirsutum* and *S. rugosum*. The Bluish, often felt-like, *Pulcherricium caeruleum* is often seen encrusting fallen branches in J1 and J6. As fallen branches and whole trees decay, the fungi change as the wood is slowly converted to a spongy, crumbly and often saturated texture, which is the habitat for numerous slime-fungi (Myxomycetes, see Ing, 1976; some of which have fungal parasites, see Ing, 1974, for a key to these), Discomycetes, and Pyrenomycetes, in addition to the larger species referred to above. Scarlet discs fringed with stiff black bristles (*Scutellinia scutellata*), minute waxy orange discs (*Orbilia* species) and gelatinous watery irregular orange blobs (*Dacrymyces stillatus*) are particularly conspicuous. Fractured rotten wood is commonly stained a bright bluish-green by a Discomycete, *Chlorosplenium aeruginascens* (this stained wood was formerly used in the manufacture of Tunbridge Ware), and the dark bluish-black discs of *Mollisia* species may also occur in swarms. Stout black finger-like tufts of *Xylaria polymorpha* (dead man’s fingers) and the more slender and white-tipped tufts of *X. hypoxylon* (candle-snuff) are general on rotting wood in the Reserve. Species similarly finger-like in this habitat include the orange unbranched *Calocera cornea* and the whitish much branched and almost coral-like, *Ramaria stricta*. While some of the Pyrenomycetes on rotting wood are conspicuous because of their bright colour (e.g. swarms of scarlet *Nectria cinnabarina* and *N. coccinea* minute flask-shaped fruits) or large size (e.g. blackish, purplish or deep reddish stromata of *Hypoxylon* species), most of them, and dark coloured Hyphomycetes which are also common, have to be searched for with a hand lens. One of the first species with small black globose fruits to be noticed on wood will probably be *Chaetosphaerella phaeostroma* whose fruits occur in dense swards and have black hairs rising up amongst them.

Coniferous trees are locally extremely important components of the Slatton woods; their most extensive stands are in Loworthy Brake (J3) and the Hartshorn
Plantation (L). Although many larger fungi characteristic of pinewoods in Scotland (see Watling, 1973) have not been found at Slapton, several do occur on or under pine (e.g. Baeospora myosura, Coniophora arida, Cortinarius cinnamomeoluteus, Gymnopilus penetrans, Sparassis crispa, Stragulumidium sp., Tephromyces tesquorum, Tyromyces stipticus). Fallen scot’s pine (Pinus sylvestris) cones and needles also support several characteristic minute species (e.g. Diplodia pinea and Pezizella chionea on cones; Desmazerella acicola, Lophodermium pinastris and Sclerophoma pythiophila on needles). A useful key to microfungi on pine remains is included in Gremmen (1957).

The flowering plants and ferns in the woodlands, like the trees above them, have their own fungal parasites and saprophytes, for example, Colletotrichum dematium (black lens-shaped patches from which small black hairs arise on dead stems of bluebells, Endymion non-scriptus), Milesina scolopendri (a rust fungus on Hart’s tongue fern, Phyllitis scolopendrium), Puccinia obscura (a rust fungus on leaves of the greater woodrush, Luzula sylvatica), Rosellinia mammiformis (swarms of black flask-shaped fruits on dead stems of ivy, Hedera helix), and Uromyces muscar (a rust fungus on leaves of bluebells).

Damp clay in the woods supports some not detected elsewhere in the Reserve. The steep, moss and liverwort dominated, clay bank along the lower ride in J1 regularly supports the orange Hydnum rufescens (with spine-like teeth under the cap) and the yellowish rather woolly-capped boletaceous fungus Gyroporus cyanescens was seen there twice. Two large Peziza species, *P. arvernensis* (buff) and *P. badia* (deep purplish brown) also occurred on soil here at different times. The mosses (particularly Polytrichum species) on this ride frequently have the angular wing-like pure white fruit bodies of Cyphellostereum laeve clearly visible on them. Here, and elsewhere in J1, Galerina hypnorum and Nolanea stauropora arise from amongst moss and liverwort stands. In association with the often extensive moss cushions in J3, Cordyceps militaris, C. ophioglossoides and Lentia lubrica were conspicuous in the autumn of 1974; the presence here of *C. ophioglossoides* indicates the underground occurrence of the truffle-like *Elaphomyces*. In May 1975, softer soil in J2, alongside the stream west of the “V-notch”, had two larger species of note: *Hygrophorus laetus* (an extremely slimy species with long, largely buried stalks; rose-tan-brown throughout) and *Phellodon melaleucus* (a local species with a firm black stalk and fawn cap which has spine-like teeth projecting down from its underside).

Preliminary analyses of Hyphomycetes in foam and on leaf litter in the Slapton Wood stream (Table 9) indicate the richness of this habitat in the Reserve. There is now a well-illustrated guide to these attractively (often 3- or 4-armed) spored microscopic fungi (Ingold, 1975).

Fungi parasitic or saprophytic on larger fleshy fungi are not uncommon in the woodlands but, although most are microscopic (but see *Boletus parasiticus*, p. 406), they can be so abundant as to entirely cover their hosts. The most likely to be noted are the bright golden yellow imperfect phase of *Apiocrea chrysosperma* (particularly on *Boletus* species) and the white cottony fluff of the imperfect phase of *Hypomyces aurantium* (commonest on Armillaria mellea at Slapton).

VI. GRASSLAND AND ARABLE

In addition to the main grassland and arable units, i.e. Little Marsh Field (M) and Stokeley Fields (N1, N2, N3, and N4), grassland is also important in parts of B, C, H, I1 and S. Just as the least disturbed woodlands are richest for larger fleshy
Table 9. Fungi from the Slapton Wood stream (J2) mainly in foam and on incubated leaf skeletons

<table>
<thead>
<tr>
<th>Alatospora acuminata foam</th>
<th>Lepomiscia aquatica leaves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ananigra dendromorpha twig</td>
<td>L. terrestris foam</td>
</tr>
<tr>
<td>Anguillella crassa foam</td>
<td>Penicillium cyclopium water</td>
</tr>
<tr>
<td>Articulospora tetractidioa foam</td>
<td>P. frequentans water</td>
</tr>
<tr>
<td>and leaves</td>
<td>Tetracladium elegans leaves</td>
</tr>
<tr>
<td>A. sp. foam</td>
<td>Tetracladium marchalaniwm foam</td>
</tr>
<tr>
<td>Centrostospora aerina foam</td>
<td>T. setigerum foam</td>
</tr>
<tr>
<td>Dictyosporium cf. toruloides(^1) foam</td>
<td>Tricladium gracile foam</td>
</tr>
<tr>
<td>Flabellio slopa sp. foam</td>
<td>T. splendens foam and leaves</td>
</tr>
<tr>
<td>Fuxarium aqueductum(^2) water</td>
<td>Trifolferum myrtis(^3) foam</td>
</tr>
<tr>
<td>F. solani(^4) water</td>
<td>Volucrispora sp. foam</td>
</tr>
<tr>
<td>Heliscus lugdunensis foam</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) All records by E. Descals on 11 June 1975 unless otherwise stated.
\(^2\) Also known from non-aquatic habitats at Slapton.
\(^3\) Recorded by D. L. Hawkenworth on 1 November 1973 as growths on ABYSS agar plates obtaining by placing water drops on them.
\(^4\) Recorded here by E. Descals in 1973 but not in 1975.

woodland fungi, so the least often ploughed grasslands support the greatest variety of grassland fleshy fungi. Units B and C, together with unploughable steep portions and field margins of arable units, are consequently richest in such species. The fruit bodies of many of the larger grassland fungi tend to appear and decay very quickly, so that marked differences can occur in the species found in one site even from day to day. The species fruiting can also be affected to some extent by the application of fertilizers (different nitrogen sources favour different species).

Most of the larger fungi frequent in B and C (see p. 399) are also found in grassland in other parts of the Reserve. Other regularly occurring species include Agrocybe erebia, Coprinus comatus (lawyer’s wig; when present usually in large swarms covering many square metres), C. plicatilis and species of Psathyrella. Bolbitius vitellinus, Stropharia semiglobata and Volvariella speciosa are frequent on old, sometimes grass-covered, dung (Table 11). More durable rounded fruit bodies of species of Boistina and Lycoperdon are also sometimes abundant. Field margins and hedgerows sometimes yield some characteristically woodland fungi.

Grasses themselves support a variety of microfungi (Table 10). Of these, the bright orange pustules on leaves formed by a rust (Puccinia coronata) are particularly striking, and a search of dead stems with a lens often reveals the superficial black spiny fruits (pycnidia) of Dinemaspodium graminum. Yorkshire fog (Holcus lanatus) proved exceptionally rich at Slapton yielding several new and rarely recorded fungi. Amongst numerous microscopic fungi on flowering plants in grassland the following are particularly conspicuous: Cymadotheca trifolii (sooty blotch; the imperfect phase forming soot-like patches on the underside of leaves of white clover, Trifolium repens), Pseudopeziza trifolii (pale orange discs on brownish discoloured parts of white clover leaves), and Venturia rumicis (reddish or purplish circular patches on leaves of larger species of dock, Rumex species).

Fungal diseases of crops occur from time to time in arable areas (see also p. 412) but no detailed study of these was made; the downy mildew Peronospora parasitica was, however, abundant on leaves of kale (Brassica oleracea var. acephala) in H and M in the summer of 1974.

Dung, which supports a very specialized fungal flora, is naturally most abundant in grasslands where cattle are regularly grazed. Of the 56 species detected on it at
Table 10. Fungi on grasses (Gramineae) in grassland at Slapton

<table>
<thead>
<tr>
<th>Teliomycetes</th>
<th>Deuteromycota</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Puccinia coronata</em> Av, H</td>
<td><em>Alternaria tenuissima</em> P</td>
</tr>
<tr>
<td><em>P. poae-nemoralis</em> Ar</td>
<td><em>Arthrinium phaeospermum</em> B</td>
</tr>
<tr>
<td><em>Ascomycota</em></td>
<td><em>Ascochyta desmazieri</em> L</td>
</tr>
<tr>
<td>Chaetomiun globosum*</td>
<td><em>Cladosporium herbarum</em> Ar, D, P</td>
</tr>
<tr>
<td>Glacieps purpurea D</td>
<td><em>C. macrosporum</em> Ag</td>
</tr>
<tr>
<td>Didymella sp. Ar</td>
<td><em>C. uredincola</em> *</td>
</tr>
<tr>
<td>Erysiphe graminis D</td>
<td><em>Colletotrichum holci</em> H</td>
</tr>
<tr>
<td>Eudarleua corticii*</td>
<td><em>Coniothyrium sp.</em> *</td>
</tr>
<tr>
<td>Ophiobolus troakei H</td>
<td><em>Cylindrocladium</em> sp. Ar</td>
</tr>
<tr>
<td>Paradidiymella holci H</td>
<td><em>Dinemasporium graminum</em> Br, H</td>
</tr>
<tr>
<td>Pezizella eburnea*</td>
<td><em>Epicrocetum parvus</em></td>
</tr>
<tr>
<td>Phyllocladina graminis As, Ar</td>
<td><em>Scopulariopsis brevicaulis</em> *</td>
</tr>
<tr>
<td>B, H</td>
<td><em>Tovula herbarum</em> Ar</td>
</tr>
<tr>
<td>Pleospora vagans (**) Ar, D</td>
<td>*</td>
</tr>
</tbody>
</table>

* = as the conidial state only; (*) = in conjunction with the conidial state.
1 On undetermined clippings.
2 Hyperparasitic on other fungi on grasses.
3 On undetermined dead grass roots.

Hosts: **Ag = Agropyron** species (couch grasses), Ar = *Arrhenatherum elatius* (oat-grass), As = *Agrostis* species (bent-grasses), **AV = Avena** species (oats), B = *Bromus* species (brome-grasses), Br = *Brachypodium sylvaticum* (slender false-brome grass), D = *Dactylis glomerata* (cock’s-foot), H = *Holcus* species (*H. lanatus*, Yorkshire fog, and *H. mollis*, creeping soft grass), L = *Lolium perenne* (rye-grass), and P = *Phleum pratense* (Timothy grass).

Slapton (Table 11), most were obtained in damp chambers (see p. 396). Many dung fungi are minute and easily overlooked but the larger fleshy fungi mentioned above and some of the cup fungi (Discomycetes) are notable exceptions. Of the cup fungi *Coprobia granulata*, with gelatinous pale orange discs 1–2 mm across lacking marginal hairs, is certainly the most abundant and conspicuous, although care must be taken not to confuse this with the sparsely hairy *Cheiromyenia varipila* which is not uncommon at Slapton. Dung is, however, first colonized by moulds (particularly species of *Mucor*, *Pilaira* and *Pilobulus*) able to utilize simple sugars; in suitable weather some *Mucor* species can form glistening fur-like coverings to about 3 cm tall, over dung. The minute white but orange-yellow tipped cylindrical stalks of *Stilbella erythrocephala* often cover whole pellets of rabbit dung at Slapton. Old dung is often the richest for black flask-shaped Pyrenomycetes but examination with a dissecting microscope is needed to detect them. Vole dung proved of particular interest although only one sample was studied; this suggests that further examination of dung of small mammals native to the Reserve might be particularly rewarding. Richardson and Watling (1969) provide a useful key to fungi on dung in Britain, but the monograph of Lundqvist (1972) is necessary for reliable determination of many of the Pyrenomycetes found.

Peasdish (N4), although classified with the grasslands by Mercer (1966), has a dense strip of very old ash and elm trees already known to be important for lichens (Hawksworth, 1972). Many interesting microscopic fungi were found here on rotting wood. The Peasdish ash trees are attacked by *Daldinia concentrica* (see p. 406), which has killed some of them, but the elms have so far not contracted the often fatal *Ceratocystis ulmi* (Dutch elm disease) which, although known close to Slapton (Gibbs and Howell, 1974), does not appear to have entered the Reserve yet (the marginal scorching of elm leaves here and elsewhere in the Reserve is due to *Taphrina ulmi*).
Table 11. Fungi on dung of various types at Slapton

<table>
<thead>
<tr>
<th>Actinomycetes</th>
<th>C. granulata c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streptomyces cf. reticuli r</td>
<td>F. cernua c</td>
</tr>
<tr>
<td>&quot;Phycomycetes&quot;</td>
<td>Gibberella zeae* v</td>
</tr>
<tr>
<td>Muco nesetis b</td>
<td>Hypocrea pilulifera* v</td>
</tr>
<tr>
<td>M. griseo-ochraceus d, r</td>
<td>Lactarius cernua c</td>
</tr>
<tr>
<td>M. hiemalis b</td>
<td>Microascus longiflorus v</td>
</tr>
<tr>
<td>M. nuda r</td>
<td>Microstielus caerulescens v</td>
</tr>
<tr>
<td>M. saturnus i</td>
<td>Onygena cernua b</td>
</tr>
<tr>
<td>Pilates anomala c</td>
<td>Pedorderia decipiens r</td>
</tr>
<tr>
<td>P. cf. minueti c</td>
<td>P. pyriformis c</td>
</tr>
<tr>
<td>Pileobolus crystallinus r</td>
<td>Pseudosclerotium zonatum c</td>
</tr>
<tr>
<td>Rhizopus stolonifer r</td>
<td>Hypobasidium polyfusus c</td>
</tr>
<tr>
<td>Syncephalis nodosa r</td>
<td>Saccobolus glaber c</td>
</tr>
<tr>
<td>Hymenomycetes</td>
<td>S. versicolor s</td>
</tr>
<tr>
<td>Bolbitius vitellinus c</td>
<td>Schizotrichium cernua c</td>
</tr>
<tr>
<td>Coprinus cinereus c</td>
<td>Sordaria fimicola r</td>
</tr>
<tr>
<td>C. heptemers r</td>
<td>S. humana c, d, h</td>
</tr>
<tr>
<td>C. potilarderi c, h</td>
<td>Sporormiella intermedia r</td>
</tr>
<tr>
<td>C. velox c, r</td>
<td>S. minima c</td>
</tr>
<tr>
<td>Stropharia semiglobata c</td>
<td>Deuteromycesina</td>
</tr>
<tr>
<td>Volvariella speciosa c, d</td>
<td>A. superba c</td>
</tr>
<tr>
<td>Ascomycotina</td>
<td>Aspergillus candidus v</td>
</tr>
<tr>
<td>Ascomycotina</td>
<td>A. fumagatus c</td>
</tr>
<tr>
<td>A. farinaceus c</td>
<td>Fusarium culmorum r</td>
</tr>
<tr>
<td>A. immersus r</td>
<td>Gliocladium rosea r</td>
</tr>
<tr>
<td>Ascomycotina</td>
<td>Penicillium fumigatum d</td>
</tr>
<tr>
<td>A. subfuscus c</td>
<td>P. patulum v</td>
</tr>
<tr>
<td>Chelidonium cernua c</td>
<td>Stilberta erythrocephala c, r</td>
</tr>
<tr>
<td>C. cerasi c</td>
<td>Trichophyton roseum c</td>
</tr>
<tr>
<td>C. spec. c</td>
<td>Volvariellaspeciosa c, d</td>
</tr>
<tr>
<td>Coniochaeta lignaria c</td>
<td></td>
</tr>
</tbody>
</table>

* = as the conidial state only.

Dung types: b = bird, c = cow, d = dog, h = horse, i = indeterminate, r = rabbit, s = sheep, and v = vole.

VII. SLAPTON VILLAGE AND SOUTHGROUNDS FARM

At Southgrounds Farm (S), in addition to the grazed grassland which is often particularly rich in *Hygrophorus* species (including the vivid deep bluish-green to yellowish *H. psittacinus*), turf near the entrance to the Causeway (CY) is often remarkable for the number of fleshy fungi and it is one of two sites in the Reserve where the white, broad and deeply channelled stems and saddle-like caps of *Helvella crispa* have been seen (here they reach 12 cm tall). The butcher’s broom stands nearby are also of note, but of particular interest is the almost always moist dense woodland and hazel (*Corylus avellana*) coppice between CY and the farm itself. This area yielded a number of microscopic and larger fungi not seen elsewhere in the Reserve. This coppice is also often noteworthy for the abundance of *Armillaria mellea* and the profusion of the rust fungus *Puccinia adoxae* on moschatel (*Adoxa moschatellina*). The rich leaf litter under holly bushes near the boundary with I1 is mentioned on p. 404.

Walls in Slapton Village (SV) support a number of flowering plants which are more abundant here than in the Reserve itself and on which several microscopic fungi are readily seen, notably *Colotroa robertianum* (black spots on leaves of herb robert, *Geranium robertianum*), *Puccinia sminii* (abundant on yellowing leaves and stems of alexanders, *Smyrnium olescatrum*, in May) and *P. umbilicium* (on leaves of wall pennywort, *Umbilicus rupestris*, from February to May). A detailed survey of fungi on cultivated plants in gardens in the village has not been made, although a few of the more common species are listed. The abundance of fungi on roses, for example, is particularly striking; at Slapton rose leaves may have almost their whole surfaces
covered by mosaics of Diplocarpon rosae (black spot), Phragmidium mucronatum (a rust) and Sphaeroteca pannosa (a powdery mildew)—all fungi relatively intolerant of air pollution.

At the Field Centre Phytophthora infestans (potato blight) has been collected on potatoes (Solanum tuberosum), the dead stems of which also commonly bear the small black Colletotrichum coccodes. The spectacular red latticed balls of Clathrus ruber (lattice stinkhorn), perhaps best regarded as an introduced species (Dennis, 1955; Scannell, 1974), occurred regularly on an old tree stump in the centre's garden in the late summers of 1965 and 1967–1969 (inclusive), but has not been seen since.

Sodden rotting wood in the village, as elsewhere in the Reserve (see p. 407), commonly has Dacrymyces stillatus abundant on it. In several of the older cottages square-cracking of timber, often due to Serpula lacrymans (dry rot), was noted (Coniophora puteana has a similar effect but fruit bodies of that species were not seen).

**Fungal Flora**

<table>
<thead>
<tr>
<th>Actinomycetes</th>
<th>Mastigomycota</th>
<th>Oomycetes</th>
<th>Zygomycota</th>
<th>Zygomycetes</th>
<th>Basidiomycota</th>
<th>Telosporic</th>
<th>Hymenomycetes</th>
<th>Gasteromycetes</th>
<th>Ascomycota</th>
<th>Hemiascomycetes</th>
<th>Discomycetes</th>
<th>Plectomycetes</th>
<th>Pyrenomycetes</th>
<th>Lecanoromycetes</th>
<th>Deuteromycota</th>
<th>Coelomycetes</th>
<th>Ascomycetes</th>
</tr>
</thead>
</table>

The fungi (excluded the Myxomycota and lichen-forming species treated by Ing, 1976, and Hawksworth, 1972, respectively) recorded from the Reserve and its immediate vicinity are listed below with reference to the thirty-eight units used (Fig. 3).

For species detected between January 1968 and November 1975, dates of collection and collector's names have been omitted because of limitations of space; species not detected in this period are included with fuller information. Preserved herbarium material is indicated by the standard herbarium abbreviations (Holmgren and Keuken, 1974; Hawksworth, 1974) in brackets after the unit concerned*. Where Slapton material has been treated in taxonomic publications, references to these are provided; for species described as new to science, holotype collections are indicated by "T". Host plants are referred to by their scientific names, in most cases abbreviated to the genus, which indicates that the host species concerned is the commonest, or only, member of that genus at Slapton (see Brookes and Burns, 1969). For species isolated in culture from their host or substrate "Isol. ex" precedes the habitat data for them.

Species are arranged alphabetically within each Class (ending "—mycetes") according to the system of Ainsworth (1971). In the case of fungi with several

* The most frequently cited herbaria are IMI (Commonwealth Mycological Institute, Kew) and K (Royal Botanic Gardens, Kew).
distinct phases in their life cycles (pleomorphic species) entries for them are included under the perfect state names, the names of imperfect states (phases) found at Slapton being cross-referenced to these. In the entries for such species “as st. conid.” (i.e. as the conidial state) prefixes the imperfect state names.

Fuller information on most records cited are on a card-index at the Slapton Ley Field Centre.

ACTINOMYCETES
Streptomyces cf. reticuli (Waksman & Curtis) Waksman
On rabbit dung; M (IMI 186889).

MASTIGOMYCOTINA

OOMYCETES
Peronospora parasitica (Pers. ex Fr.) Fr.
On Brassica oleracea var. acephala [Kale] and Lepidium heterophyllum leaves; G (IMI 194159a); H; M (IMI 186853).

Physophthora infestans (Mont.) de Bary
On Solanum tuberosum [Potato] leaves; SV (IMI 186838).

P. sp.
On dead Typha stems; E6.

Plasmopara psymae (Unger) Schröt.
On Anemone leaves; J1.

ZYGOMYCOTINA

SYGOMYCETES
Eutypella thorii f. sp. ophiidis Hoffm.
Isol. ex Cibaria persoonii on wood; J1 (IMI 186874).

Mortierella ranvanniana (Mom.) Linneman
Isol. ex rotting wood; I1 (IMI 178187).

Mucor genovensis Leadner
On bird droppings; J1 (IMI 194097).

M. griseo-ochraceus Naumov
On dog and rabbit dung; C (IMI 180163); J1 (IMI 186888).

M. hiemalis Wehmer
On bird droppings and soil; C (IMI 194013); I1 (IMI 167275).

M. hiemalis f. corticola (Hagem) Schipper
On Penicillus repandus; CY (IMI 184301).

M. mucido auct.
On rabbit dung; J1 (IMI 186888a); M (IMI 186889).

M. racemosus Fres.
Isol. ex decaying leaf litter; J1 (IMI 178174).

M. satinarum Hagem
On undetermined dung; J1 (IMI 184279a).

Pleospora anomala (Ces.) Schröt.
On cow dung; I1 (IMI 164978d); N9.

P. cf. moreuil Ling
On cow dung; M (IMI 166795).

Pilobolus crystallinus (Wigg.) Tode
On rabbit dung; J6 (IMI 188776).

Rhizopus stolonifer (Ehrenb. ex Fr.) Lind
On rabbit dung; M (IMI 186889).

Syncephalis nodosa v. Tingheim
On Rhizopus stolonifer on rabbit dung; M (IMI 186889).

BASIDIOMYCOTINA

TELIOMYCETES
Colossosporium tusilaginis (Pers.) Lév.
On Sonchus oleraceus; J1.

Entyloma fucariae (Berk.) Fisch. v. Waldh.
On Ranunculus ficaria; J1, 2.

E. microsporum (Unger) Schröt.
On Ranunculus repens; L.

Kuehnema urendinis (Link) Arth. (syn. K. albida (Kühn) Magnus)
On Rubus stems; J1, K.

Melampsora capreae DC. ex Thüm.
On Salix leaves; F1; G2 (IMI 168530); J1 (IMI 168640).

M. epitea Thüm.
On Salix leaves, flowers and twigs, abundant; DM (IMI 194033).

M. euphorbiae (Schub.) Cast.
On Euphorbia sp.; SV (IMI 186866).

Milesinia saulspendrii (Faull) Henderson
On Phyllitis; J1.

M. whitei (Faull) Hirats.
On Polystichum aculeatum; J1.

Miyajiga pseudophaeoia (Mont.) Järgst.
On Sonchus asper; J1.

Phragmidium bulbosum (Str.) Schlech.
On Rubus canes; C (IMI 194955).

P. fragariae (DC.) Rabenh.
On Potentilla sterilis; S.

P. mucronatum (Perr.) Schlech.
On Rosa spp.; DM (IMI 194108); SV (IMI 186607).

P. sanguisorbar (DC.) Schröt.
On Poterion; S (IMI 186973).

P. violaceum (C. Schultz) Wint.
On Rubus leaves, very common; B; C (IMI 159831, 168593b); CY; D1; DM; E3, 4, 6; F1, 2; G1, 2; H; I1, 2, 3; J1, 2, 3, 4, 5, 6; K; L; M; N2, 3, 4, S; SV.

Puccinia adoxae DC.
On Adoxa; J1; K; S (IMI 184260).

P. agropodi (Stümm) Röhl.
On Aegeopodium; E6.

P. albiets Flwer.
On Adoxa; J1 (IMI 184269), 2.

P. arenariae (Schum.) Wint.
On Silene alba, S. dioica and Stellaria holostea; DM (IMI 184877); J1 (IMI 185358); 2; K; L (IMI 180159).

P. caricina DC.
On Carex paniculata; D2 (IMI 178197).

P. caricina cf. var. urticae-acutiformis (Kleb.) Henderson
On Urtica dioica; CY.

P. caricina var. urticae-venosaria (Kleb.) Henderson
On Carex vesicularia; D2 (IMI 186843).
HYMENOMYCETES

Agaricus arvensis Schaeff. ex Secr.
In turf; C.
A. bernardii Quél.
In turf; C.
A. campestris L. ex Fr.
In turf, sometimes abundant; B; C; CY; I1; nr J6; nr K; S; SV.
A. silvaticus Schaeff. ex Secr.
In leaf litter; DM; J1; 2; K.
A. silvicola (Vitt.)Peck
A. xanthoderms Genevrier
In turf, sometimes common; C.
Agrocybe cylindracea (DC. ex Fr.)Maire (syn. Pholiota aergeta (Brög.)Quél.)
On dead stump of ? Ulmus; DM.
A. dura (Bolt. ex Fr.)Sing.
J1.
A. erebia (Fr.)Kühn, ex Sing.
On woodland soil; S.
Amanita excelsa (Fr.)Kumm. (syn. A. spissa (Fr.) Kumm.)
In leaf litter; J1, 3.
A. fulva Schaeff. ex Secr. (syn. Amanitopsis fulva (Schaeff. ex Secr.)W. G. Sm.)
In leaf litter; J3.
A. phalloides (Vaill. ex Fr.)Secr.
In leaf litter; J1, 2; K.
A. rubescens (Pers. ex Fr.)Gray
In leaf litter, frequent; J1, 3.
A. vaginata (Bull. ex Fr.) Vitt. (syn. Amanitopsis vaginata (Bull. ex Fr.)Roze)
In leaf litter, rare; J3; K.
A. viosea Secr.
Armillaria mellea (Vahl ex Fr.) Kumm. (syn. Armillariella mellea (Vahl ex Fr.) Karst.)
Fruit bodies on dead stumps and rhizomorphs below bark on trees, very common; C; DM; Fr; J1; 3; J1, 2, 3; 5; K; M; N4; S; SV.

Atheilia sp.
Overgrowing Xanthoria parietina on Sambucus; C (IMI 190450); 11.
Not determinable in the absence of basidia and spores.

Auricularia auricula-judae (Bull. ex St-Am.) Wettst.
Very common on Sambucus, more rarely on Acer, Hedera, Salix and Ulmus; C; F1; G2; H; I1, 3; J1, 2; K; L; M; N4; S.

A. mesenterica (Dicks. ex Gray) Pers.
Fallen logs, frequent; nr CY; I2; 3; J1, 6; K; N4; S.

Baeostera myosura (Fr. ex Fr.) Sing.
Under Pteridium below Pinus; L.

Bjerkandera adusta (Willd. ex Fr.) Karst.
I1.

Bolbitius titubillus (Pers. ex Fr.) Fr.
Over old dung in pastures; C; GY; I1; J2; nr K; S.

Boletus chrysantheron Bull. ex St-Am.
In leaf litter; DM; K.

B. edulis Bull. ex Fr.
In turf; nr J6.

B. impolitus Fr.
In leaf litter; K.

B. parasiticus Bull. ex Fr. (syn. Xerocomus parasiticus (Bull. ex Fr.) Quél.)
On Sclerotinia citrinum, not infrequent in J1, rarer elsewhere; J1 (K), 3.

B. pulcherrimatus Opat.
In leaf litter; K.

B. subtomentosus Fr.
In leaf litter; J1.

Botryobasidium subcoronatum (Höhn. & Litsch.) Donk
On rotting wood; CY.

Calocera ferruginosa (Pers. ex Fr.) Sacc.
On rotten log; J1 (K).

Calocera cornea (Batsch ex Fr.) Fr.
On fallen branches and rotting wood; J1; K.

C. nisea (Pers. ex Fr.) Fr.
On rotting coniferous wood; J3; L.

Calyptotella capata (HolmK ex Fr.) Quél.
On decaying herbaceous stems and leaves, common; DM; F1; G2; I1 (IMI 160753); I1, 2; N4; S.5

Cantharellus cibarius Fr.
In leaf litter, locally abundant; J1, 3; K.

C. cinereus Pers. ex Fr.
C. tubaeformis Bull. ex Fr.
Amongst mosses on soil; J3 (K).

Ceriporia viridans (Berk. & Br.) Donk
On fallen Fraxinus log; J1.
Material poor and overgrown with algae.

Chondrostereum purpureum (Fr.) Pouz. (syn. Stereum purpureum (Fr.) Fr.)

Clavariadelphus juneus (Fr. ex Fr.) Corner
On wet decaying leaves; DM.

Clavulina rugosa (Fr.) Schröt.
Amongst mosses on soil; J1 (K), 2, 3.

Clavulinopsis cornuata (Schaeff. ex Fr.) Corner
In turf; G.

C. heloela (Fr.) Corner
In leaf litter, sometimes locally abundant; J3 (K).

Clitocybe clavipes (Pers. ex Fr.) Kumm.
In leaf litter; J1; N4.

C. nebularis (Batsch ex Fr.) Kumm.
In leaf litter and turf, often abundant; C; Fr; J1; K.

Clitopilus prunulus (Scop. ex Fr.) Kumm.
In turf forming ring; B.

Collybia butyacea (Bull. ex Fr.) Kumm.
In leaf litter and turf; C; J1.

C. ciriata (Schum. ex Fr.) Kumm.
In short turf, often abundant; I1; S.

C. confusus (Pers. ex Fr.) Kumm.
In leaf litter, frequent; J1; K.

C. dryophila (Bull. ex Fr.) Kumm.
In leaf litter; K.

C. maculata (Alb. & Schw. ex Fr.) Kumm.
In turf; C.

C. peronata (Bolt. ex Schw.) Kumm.
In leaf litter and turf; C; K.

Coniophora arida (Fr.) Karst.
On Pinus bark, rare; J1.

Cortyceps fibrillos (Fr.) Kühn.
In humus under fallen log and on damp ground; G2; I1 (K).

C. lactea (J. Lange) Métrood
In turf; N2.

C. tenera (Schaeff. ex Fr.) Kühn.
J1, 1967, Greenhalgh.

Cortinarius australis (Bull. ex Fr.) Fr.
On rotting stumps, frequent; DM; I1; J1; K; S.

C. cineratus Quél.
J1.

C. comatus (Müll. ex Fr.) Gray
In turf in large swarms; nr J1; N3.

C. extinctiorius (Bull. ex St-Am.) Fr.
In leaf litter; J1.

C. heptemerus M. Lange & A. H. Sm.
On rabbit dung; M (K).
About the sixth British record for this species (D. N. Pegler, in litt.).

C. lagopus (Fr.) Fr.
In turf; nr J1.

C. micaceus (Bull. ex Fr.) Fr.
On rotting stumps and logs, frequent; E6; Fr; J1; K.

C. patouillardii Quél.
On cow and horse dung; C; S.

C. plicatilis (Curt, ex Fr.) Fr.
In turf, usually solitary; B; nr I1; nr J6.

C. sibatius Peck
On clay ride in wood; J1.

C. subpurpureus A. H. Sm., Mycologia, 40: 684 (1948)
On clay soil of path; DM (K).
Not previously reported from the British Isles; to be discussed in a future publication by D. A. Reid.

C. velox Godey
On cow and rabbit dung; nr J6 (K); S.

Coriolus versicolor (L. ex Fr.) Quél. (syn. Polystictus versicolor (L. ex Fr.) Fr.)
On dead logs, branches and stumps, common; CY; I1; J1, 2, 3; K; S.

Cortinarius cinnamomomelatus Orton
On decorticate Pinus log; L.
C. decipiens (Pers. ex Fr.) Fr.

C. paniculatus Orton
Jt. 1.

C. gratissimus (Rabenh.) Sacc.
On dead Hedera stems; Jt. 1.

C. luteolus (Lambotte) Sacc.
On dead herbaceous stems and twigs; C (K); DM; G2.

C. mollis (Schaeff. ex Fr.) Kumm.
On dead branches, frequent; Jt. 1, 2 (K); K.

C. philippii (Berk. & Br.) Sacc.
On dead herbaceous stems; G2.

C. variabilis (Pers. ex Fr.) Kumm.
On dead stems of ? Phragmites and dead twigs; D (K); Jt. 1.

Cristella farinacea (Pers. ex Fr.) Donk
On rotting logs; Jt. 1, 6.

C. mutabilis (Pers.) Parm. (syn. Grandinia mutabilis (Pers.) Boud. & Galz., Trechispora mutabilis (Pers.) Lib.)
On dead Hedera stems; Jt. 1.

C. sparsiflora (Maire) Donk
Jt. 1.

Cyclonostroma laeae (Fr.) Reid
On mosses, locally abundant on sides of lower rides; Jt. (K).

Dacrymyces stillatus Nees ex Fr. (syn. D. deliquescentes auct.)
On rotten wood, common; DM; Fr; G1; H; Jt. 1, 3; K; S; SV.

Daedalea squarrosa L. ex Fr.
On fallen logs; F1; K.

Daedaleopsis confragosa (Bolt. ex Fr.) Schröt.
On dead Salix trunks and branches, locally very common; CY; DM; E3; Fr.

Diatromia mollis (Sommerf. ex Fr.) Donk (syn. Astroidia mollis (Sommerf. ex Fr.) Karst.)
On dead Salix branches; DM; F1; Jt. 2.

Entoloma sp.
In leaf litter; K.
Either E. jubatum (Fr.) Karst. or E. porphyrophyllum (Fr.) Karst. but material too poor to allow identification.

Exidia glandulosa (Bull. ex St.-Am.) Fr.
On rotting wood; I1; 3; Jt. 1; K.

E. thureticna (Lév.) Fr.

Fibularia vaillantii (DC. ex Fr.) Bond. & Sing. (syn. Poria vaillantii (DC. ex Fr.) Cooke)
K, 1964, Richardson.

Fistulina hepatica Schaeff. ex Fr.
On Quercus and occasionally Castanea trunks, locally frequent; Jt. 1; Jt. 1; K; N4; S.

Flagellocephala citrinopsora (Pilát) Reid
On dead Iris rhizomes in water; E2 (K).

Flammulina velutipes (Curt. ex Fr.) Karst.
On stumps; Jt. 1.

Galerina hypnorum (Schrack ex Fr.) Kühn.
Amongst mosses on clay banks and logs; Jt. 1.

G. unicolor (Vahl ex Sommerf.) Sing. (syn. Pholiota musiliena auct., P. marginita (Batsch ex Seer.) Quélt.)

Gamodermia adspersum (Schulze) Donk (syn. G. europaeum Steyaert)
On dead stumps and logs; CY; Jt. 1, 3.

G. applanatum (Pers. ex Gray) Pat.
On dead stumps and logs; CY; DM; Jt. 1; K.
Some of these records may refer to G. adspersum.

Gloeostereum inarcescens (Berk.) Boid.
On fallen logs of ? Pogus and Fraxinus; I1; Jt. 1 (K).

Geotropa frondosa (Dick. ex Fr.) Gray
In leaf litter under Castanea, locally abundant in 1972, usually rare; Jt. 1 (K), 3.

Gymnopilus penetrans (Fr. ex Fr.) Murrill
On decoricate Pinus log, abundant; L.

Gyroporus cyanescens (Fr.) Quél.
Amongst mosses on clay soils in woods, local; Jt. (K), 3.

Henningsomyces candidus (Pers.) Kunze
On rotting Fraxinus wood; K (K).

Heterobasidion annosum (Fr.) Bref. (syn. Fomes annosus (Fr.) Karst.)
K, 1964, Richardson.

Hirschioporus abietinus (Pers. ex Fr.) Donk
K, 1964, Richardson, and 1965, Greenhalgh.

Hydnora rufescens Pers.
On clay bank of lower ride, locally frequent; Jt. 1 (K).

Hygrophoropsis aurantiaca (Wulf. ex Fr.) Maire (syn. Cladophy aurantiaca (Wulf. ex Fr.) Maire) K, 1960, Lee.

Hygrophoropsis cf. oraeanus (Wulf. ex Fr.) Fr.
In turf; C.

H. chlorophanus (Fr.) Fr.
In turf and amongst wood chips; CY; N4.

H. cucineus (Schaeff. ex Fr.) Fr.
In turf; nr CY; nr K.

H. conicus (Scop. ex Fr.) Fr.
In turf; frequent; B; C; DM.

H. laetus (Pers. ex Fr.) Fr.
In soft clayey humus by stream bank; Jt. 2 (K).

H. cf. marchii Bres.
In leaf litter; DM (K).

H. niveus (Scop.) Fr.
In turf; C; S.

H. pratensis (Pers. ex Fr.) Fr.
In turf, locally abundant; B; C.

H. psittacinus (Schaeff. ex Fr.) Fr.
In turf; DM; S.

H. strigulatus Orton
In hedgerow by public footpath; DM.

Hymenochaete rubiginosum (Schrad.) Lév.
On dead branches and logs, common; Jt. 1 (K), 2, 3; K.

Hyphoderma setigerum (Fr.) Donk
On rotten twigs; Jt. 1.

H. tenue (Pat.) Donk
On rotten wood; Jt. 1; SV.

Hypholoma abietarum (Burt.) J. Erikss.
On dead wood; Jt. 1.

H. papilloso (Fr.) J. Erikss.
On dead Hedera stems; Jt. 1.

H. quercina (Fr.) J. Erikss.
J1, 1967, Greenhalgh.

H. sambuci (Pers. ex Fr.) J. Erikss.
On Sambucus trunks, common; C; DM; F1; H (K); I1, 3; Jt. 1 (IMI 175865), 2, 6; K; N1, 4; S.

Hypholoma fasciculare (Huds. ex Fr.) Kumm.
On stumps, common; F1; Jt. 1, 3, 5; K; S.

Inocybe semiplutea (Peck) Donk
On fallen branches and twigs; Jt. 1 (K).
Inocybe astreospora Quéll.
J1, 1965, Greenhalgh.

I. fastigiata (Schaef. ex Fr.) Quéll.
In turf; nr J1.

I. geophylla (Sow. ex Fr.) Kumm. var. lilacina Gillet
In leaf litter; K (K).

I. petigitosa (Fr. ex Fr.) Gillet
J1.

Inonotus radiatus (Sow. ex Fr.) Karst.
On Abies trunks; Fr.

Laccaria amethystea (Bull. ex Mérat) Murrill (syn. L. lactata var. amethystina (Huds. ex Cooke) Rea)
In leaf litter; J1, 2, 3; K; S.

L. lactata (Scop. ex Fr.) Cooke
In leaf litter and amongst bryophytes, common; DM; J1, 2, 3; K; S.

Lachnella villosa (Pers. ex Schw.) Gillet
On dead herbaceous stems, particularly Urtica, common; C; DM; F1; G1 (IMI 178321b); J1 (IMI 183214); N4.

Lucynaria velutina (Pers. ex Fr.) Konrad & Maubl.
On decaying stump; S.

Lactarius chrysorheus Fr.

L. nitsitimus (Fr.) Fr.
In leaf litter; J1.

L. pyrogalus (Bull. ex Fr.) Fr.
By trackside south of farm; S.

L. quetius (Fr.) Fr.
In leaf litter; J1.

L. subdelici (Pers. ex Fr.) Gray
In leaf litter; K.

L. turbis (Weinm.) Fr.
J3, 1964, Richardson.

Lactarius sulphureus (Bull. ex Fr.) Murrill (syn. Grifola sulphurea (Bull. ex Fr.) Pilát)
On dead and dying trunks and branches; GY; I2; J1; K; N4.

Lentinus tigrinus (Bull. ex Fr.) Fr.
On bases of Fraxinus, Quercus and Salix by water, very local but frequent; GY (K); I1 (K); S.

Leptota bucknalli (Berk. & Br.) Sacc.
On shaded soil; S (K).

L. cristata (Fr.) Kumm.
In leaf litter and turf; K; S.

L. frietii (Lach.) Quéll.
On shaded soil; S (K).

L. lutieri Boult.
In leaf litter; I1; S.

L. incohinites (Vitt.) Orton
In turf; B (K).

Scales and cracking abnormal.

L. procer (Scop. ex Fr.) Gray
In turf and leaf litter, frequent; F1; J6 (K); K.

L. rhacodes (Vitt.) Quéll.
In turf and leaf litter; I1; J1.

L. setulosa J. Lange
In leaf litter; S.

Leptota nuda (Bull. ex Fr.) Cooke
In turf; C.

Macrocystidium cucumis (Pers. ex Fr.) Heim (syn. Nannaria cucumis (Pers. ex Fr.) Kumm.)
On the ground under Urtica; J2 (K).

M. epiphyllus (Pers. ex Fr.) Fr.
On decaying leaves; G2.

M. hudsonii (Pers. ex Fr.) Fr.
On dead Ilex leaves, abundant in October 1975; DM (K).

M. limosus Quéll.
On dead Phragmites leaves and stems; GY; D1 (K); DM; E3; G2.

M. ovatus (Bolt. ex Fr.) Fr.
In turf, often forming rings, locally abundant; B; C; nr J6.

M. ramealis (Bull. ex Fr.) Fr.
On dead twigs and stumps; J1; K.

M. rotula (Scop. ex Fr.) Fr.
On dead twigs, logs and stumps, very common and often abundant; F1; J1; J2, 3; K; N4; S.

Meripilus giganteus (Pers. ex Fr.) Karst. (syn. Grifola gigantea (Pers. ex Fr.) Pilát)
On dead stumps buried in the ground; nr I1; nr J1.

Merulius corrivium Fr.
On dead twigs; N4 (K).

M. tremellosus Fr.
On dead logs; J1; 3; N4.

Metulodontia roumeguiri (Bres.) Parm. (syn. Peniophora roumeguiri Bres.)
On dead wood; J1.

Mycesa acuta (Schaef. ex Fr.) Kumm.
On rotting twigs; DM (K).

M. asellus (Fr.) Quéll.
In turf and leaf litter, frequent; G; J1.

M. bryophila Vogl

M. corticola (Pers. ex Fr.) Gray
Amongst mosses on rotting log; I3 (K).

M. fibula (Bull. ex Fr.) Kühn.
In turf; I1; S.

M. filipes (Bull. ex Fr.) Kumm. sensu Orton
In leaf litter; K (K).

M. galariculata (Scop. ex Fr.) Gray
On rotting wood, often amongst mosses; GY; J1, 3.

M. galopus (Pers. ex Fr.) Kumm.
In leaf litter and turf; J1 (K).

M. gypsas (Fr.) Quéll.
On rotting wood debris; DM.

M. mistrata (Fr. ex Fr.) Kumm.
In leaf litter; J1.

M. pearsoniana Dennis ex Sing.
In turf; C.

M. polygramma (Bull. ex Fr.) Gray
J3.

M. pura (Pers. ex Fr.) Kumm.
In leaf litter; H; S.

M. rovida (Scop. ex Fr.) Quéll.
On dead twigs; DM; K; S.

M. sanguinolenta (Alb. & Schw. ex Fr.) Kumm.
J1.

M. spicata (Fr. ex Fr.) Gillet
Amongst mosses by stream and on dead twigs; DM; J2 (K).

M. stylobaris Céjé
On dead Juncus stems; GY.

M. tenerina (Berk.) Sacc.
On dead twigs; I3; J1.
M. tortuosa Orton

Amongst mosses on ground and on Salix; Gt (K); Jt.

M. vitilis (Fr.) Quél.

On Acer keys in leaf litter; Jt.

Myosotis erecta (Fr.) Don.


Myxarthrum oceanatum Wallr.

On dead Acer branch and fallen rotting wood; J2 (K); N4 (K).

Naucoria langet Kühn.

In litter under Abies; DM.

Nelarina infusa (Fr.) Gillet

In turf; C (K).

N. lucina Orton

On soil; K.

N. papillata Bres.

Jt.

N. staurostoma Bres.

Amongst mosses on clay bank of ride; Jt (K).

Onhangina griseopallida (Desm.) Quél. (syn. Phaeostelis griseopallidus (Desm.) Kühn. & Lamoure) In turf with "Betula vulgaris"; C (K).

Hawksworth (1972).

Onhamella mecida (Schrad. ex Fr.) Höhn. (syn. Arrarilla meota (Schrad. ex Fr.) Kumm.)

J1, 1965 and 1967, Greenhalgh.

O. radicata (Relham ex Fr.) Sing.

K.

Panaeolus sphinctrinus (Fr.) Quél.

Jt.

Pannellus stipticus (Bull. ex Fr.) Karst.

On dead logs; Jt 1, 3.

Paxillus involutus (Batsch ex Fr.) Fr.

On logs and stumps in and litter wood, frequent; DM; Jt 1, 3.

Peniophora iycii (Pers.) Höhn. & Litsch.

On dead boards and stems of Acer, Fraxinus, Hedera and Salix; DM (K); I3; Jt; M.

P. nuda (Fr.) Bres.

Jt.

P. quercina (Pers. ex Fr.) Cooke

On dead Quercus branches; Jt 1, 3.

P. e. rufomarginata (Pers.) Litsch.

On dead twigs of Rosa or Rubus; DM.

Phaeostelis scheinii (Fr.) Pat.

Jt.

Phanerochaete velutina (Pers.) Parm.

J1, 1965, Greenhalgh.

Phellinus ferruginosus (Schrad. ex Fr.) Pat.

On Corylus; F1 (K); Jt.

Phellodon melaleucus (Fr. ex Fr.) Karst.

Amongst mosses on clayey humus of stream bank, locally abundant; J2 (K).

Phlegia merismoides Fr. (incl. P. radiata Fr.)

Underside of fallen logs; Jt (K).

P. pubera (Fr.) Christ.

Underside of Castanea branches; F1.

Pholiota gymmosa (Lasch) Sing.

On stumps; S.

P. squarrosa (Müll. ex Fr.) Kumm.

On base of dying Fraxinus; F1.

Filodermum byssinum (Karst.) Jüllich

On cut end of Castanea log; J3 (K).

Pistillaria micans Fr.

On dead stems of Equisetum, Oenanthe and Urtica; DM; S.

Pleurotus cornucopiae (Paulet ex Pers.) Roll.

On Acer; J1 (K).

P. dryinus (Pers. ex Fr.) Kumm.

On Betula; SV.

P. ostreatus (Jacq. ex Fr.) Kumm.

On Hedera and ilex stems and branches; K (K).

P. ulmarius (Bull. ex Fr.) Kumm.

On stumps of Ulmus; SV.

Pitulwus aurantiacus (Trog.) Sacc.


P. coruscus (Schaeff. ex Fr.) Kumm.

On dead stems and rotting wood, very common; C; DM (K); F1; J1; Jt 2, 6; K.

P. podoospermus Sacc. & Cub.

On dead stump; I1 (K).

P. salicinus (Pers. ex Fr.) Kumm.

On dead stems and rotting logs; F1; Jt 1, K.

P. umbrosus (Pers. ex Fr.) Kumm.

On rotting logs; S (K).

Podocaria sanguinolenta (Alb. & Schw. ex Fr.) Höhn.

On the ground and rotten wood; F1 (K).

Polyergus squamosus Huds. ex Fr.

On dead and dying stumps and branches; DM; J1; K; N4.

Psathyrella candolleana (Fr.) Maire

On dead wood; J1 2, N4.

P. gracilis (Fr.) Quél.

In leaf litter; DM (K).

P. hydrophila (Bull. ex Méat) Maire

In leaf litter; Jt.

P. microrhiza (Lasch) Konrad & Maubl.

In leaf litter and turf; J1; Jt.

P. obtusata (Fr.) A.H. Sin.

In turf; CY (K).

P. pygmaea (Bull. ex Fr.) Sing.

On dead stump; S (K).

Pseudolymphodium gelatinosum (Scop. ex Fr.) Karst.

On dead stump; J1 (K).

Pseudotremetes gibbosus (Pers.) Bond. & Sing.

F1, 1966, Richardson.

Pulcherrium caeruleum (Fr.) Parm. (syn. Corticium caeruleum Fr.)

On dead branches and twigs, locally abundant; J1 (K); 6; K; SV.

Radulomyces confusus (Fr.) Christ.

On old canes of Rubus; C.

Ramaria aurea (Schaeff. ex Fr.) Quél. (syn. Clavaria aurea Schaeff. ex Fr.)


Perhaps an error for Clavulinopsis helvelona.

R. stricta (Fr.) Quél.

On rotting wood and in leaf litter, frequent; J1, 3; Jt 1, 3; K; L; SV.

Resupinatus applicatus (Batsch ex Fr.) Gray (syn. Pleurotus applicatus (Batsch ex Fr.) Kumm.)


R. cupelliformis (Berk.) Sing.

On dead Urtica stems; S (K).

Rhodotus palustre (Bull. ex Fr.) Maire

On fallen log of ? Ulmus; K (K).
Rigidoporus ulmarius (Sow. ex Fr.)Imaz. (syn. Fomes ulmarius (Sow. ex Fr.)Gill.)
On dead stumps and trunks, particularly of Ulmus, locally frequent; CY; DM; H; I, 3; N; SV.

Russula atroperporeae (Krombh.)Britz.
In leaf litter; J1.

R. cyanoxantha (Schaeff. ex Secr.)Fr.
In leaf litter; J3.

R. emetica (Schaeff. ex Fr.)Gray
In leaf litter, frequent; J1, 3; N4.

R. nigricans (Bull. ex Mérat)Fr.
In leaf litter; J1, 3.

R. ochroleuca (Pers. ex Secr.)Fr.
In leaf litter, very common; J1, 2, 3.

R. paracresia J. Schaeff.
In leaf litter; J1, 3.

R. velomovskii Melzer & Zvara
In leaf litter under Fagus; K.

R. vesca Fr.
In pasture; nr J6.

R. virens (Schaeff. ex Zant.)Fr.
In leaf litter; K (K).

Serpula lacrymans (Wulf. ex Fr.)Schröter.
Causing dry-rot in timber of old cottages; SV.

Schizopora paradoxa (Schrad. ex Fr.)Donk (syn. Itepex obliquus (Schrad. ex Fr.)Fr., Xylobolus versicolor (Pers.)Bond.)
On dead wood; J1.

Sparassis crispa Wulf. ex Fr.
In litter under Pinus, rare; J1.

Stereum gausapatum (Fr.)Fr.
On old fencepost; S.

S. hirutum (Willd. ex Fr.)Gray
On dead stumps, branches, rotting wood and fenceposts, very common; DM; F1; I1; J1, 2, 3, 6; K; L.

S. rameale (Pers. fr.) (syn. S. sulphuratum Berk. & Rav.)
On fallen Acer branches; J1 (K).

S. rugosum (Pers. ex Fr.)Fr.
On dead branches, etc.; DM; J1.

Strongyliidium sp.
On decorticate Pinus wood; J1.
Poor material precludes determination to species level.

Stropharia semiglobata (Batsch ex Fr.)Quél.
In turf over or on dung, common; B; G; CY; I1; nr J6; S.

Subulizystidium longisporum (Pat.)Parm. (syn. Hypochus longisporum Pat.)
On dead wood; J1.

Tephrocybe terquorum (Fr.)Moser
On burnt ground under Pinus; L (K).

Tremella mesenterica Retz. ex Hook.
On dead wood and branches, frequent; J1; K.

Tricholoma sulphureum (Bull. ex Fr.)Kumm.
On dead stumps and from litter; J1, 5; SV.

Tricholomopsis platyphylla (Pers. ex Fr.)Sing.
In leaf litter; J1.

T. rutileans (Schaeff. ex Fr.)Sing.
On dead coniferous stumps; J1, 3; SV.

Tuberias fusiformes (Pers ex Fr.)Gill.
On dead stumps and twigs; DM; J1.

Typhula sclerotoides (Pers.)Fr.
On old Fraxinus petioles; J1 (K).

Tyromyces caesius (Schrad. ex Fr.)Murrill (syn. Polyporus caesius Schrad. ex Fr.)
On dead stumps and dying branches of trees, frequent on Salix; CY; DM; F1; H; J1.

T. stipticus (Pers. ex Fr.)Kotl. & Pouz. (syn. Lepiotus stipticus (Pers. ex Fr.)Quél.)
On underside of decorticate Pinus branch; J3 (K).

Voleariella speciosa (Fr. ex Fr.)Sing.
In turf over old dung, solitary, frequent; B, C; nr J6; SV.

GASTEROMYCETES

Beovista nigrisens Pers. ex Pers. in leaf litter; J1; K.

B. plumbea Pers. ex Pers.
In short turf and leaf litter; I1; K; SV.

B. psylla Bastch ex Pers. (syn. Lycoperdon ericetorum Pers.)
In short turf; B.

Calvatia excipuliformis (Scop. ex Pers.)Perdeck (syn. Lycoperdon sacculatum Vahl ex Schum.)
In turf; nr I1; K; 1960, Lee.

C. striulifera (Bull. ex Pers.)Jaap (syn. C. coelata (Bull. ex Pers.)Morgan, Lycoperdon coelatum Bull. ex Pers.)

Clathrus ruber Mich. ex Pers.
On stump in Field Centre Garden, 1965 and 1967–9 (inclusive) only; SV.

Cystus olla Bastch ex Pers.
On ground amongst Urtica roots; C (K).

C. striatular Huds. ex Pers.
On fallen trunk of Fraxinus; J5 (K).

Lycoperdon echinatum Pers. ex Pers.
On leaf litter and turf; nr CY; nr J6; K.

L. foetidum Bonord. (syn. L. nigrisens Pers.)Lloyd
In turf of lichen heath, locally frequent; G (K).

L. perlatum Pers. ex Pers.
In leaf litter; J2; K (K).

L. pyriforme Schaeff. ex Pers.
On rotting logs, common; I1; J1, 2, 3, 5; K; S.

Mutinus caninus (Huds. ex Pers.)Fr.
In leaf litter, locally abundant; J1, 2, 3; K.

Phallus impudicus L. ex Pers.
In leaf litter, common; J1, 2, 3; K.

Scleroderma citrinum Pers. (syn. S. aurantium auct.)
In leaf litter, very common; J1, 2, 3; K.

S. verrucosum Bull. ex Pers.
In leaf litter, rare; J1, 3; K.

Vasculum pratense (Pers.)Kreisel (syn. Lycoperdon hiemalis Vitt.)
In leaf litter and turf; nr CY (K); I1; K.

ASCOMYCOTINA

HEMIASCOMYCETES

Protomyces inundatus Dang.
On Apium leaves; DM (IMI 197840).

Taphrina ulmi (Fuckel.)Johanson
On Ulmus leaves, browning the margins; DM; N4 (IMI 194038).

DISCOMYCETES

Acroterrium compactum Tode ex Fr.
On dead Urtica stems; DM (IMI 194111); I1; S (IMI 182862).
Aluria aurantia (Fr.)Fuckel

Allophylla hissaca (Karst.) Sacc.
  On dead Filipendula stems; DM (IMI 198109).

Arachnoepizea eriobasis (Berk.)Korf (syn. Trichopeza eriobasis (Berk.)Boud.)
  In fallen Castanea cupules; J1 (IMI 188805).

Asobolas albidas Crouan
  On sheep dung; SV.

A. densus Fr.
  On rotting wood; N4 (K).

A. fuscatus Pers. ex Hook.
  On cow dung; J1; nr K (IMI 1649794); S (IMI 180140).

A. immersus Pers. ex Pers.
  On rabbit pellets; nr J1 (IMI 186888d).

Ascocoryne cylichnum (Tul.)Korf (syn. Coryne cylichnum (Tul.)Boud.)
  On rotting wood; J1, 2 (IMI 180142).

A. saccae (Jacq. ex Gray)Groves & Wilson (syn. Coryne saccae auct.)
  On rotting logs; J1 (IMI 180144), 3, 5; L (IMI 180152).

Asophasus subfuscus (Crouan)Boud. (incl. A. microsporus (Berk. & Br.)Phillips)
  On cow dung, very common; J1 (IMI 164978c, 181606a); J1 (IMI 178319b); N2, 3 (IMI 168550c), 4 (IMI 166792b, 166740b); S; SV.

Aulographium hederae Lib. (syn. A. vagum Desm.)
  On fallen Helx leaves; S (IMI 182245e).

Bisporella citrina (Batsch ex Fr.)Korf & Carp. (syn. Calyceella citrina (Batsch ex Fr.)Boud.)
  On dead twigs; G2; J1 (IMI 182837), 2 (IMI 185591).

B. sulphurina (Quel.)Carp. (syn. Calyceella sulphurina (Quel.)Boud.)
  On dead wood and old Ulex stems; J1 (IMI 1887114); J1 (IMI 168624a), 3.

Calloria fusarioides (Berk.)Fr.
  On dead Urtica stems, as st. conid. Cylindrocladia urticae (Pers.)Bonord.; S.

Calyxella phaladi (Lib.)Höhn.
  On dead Phalaris stems; G1 (IMI 183884).

C. punctiformis (Grew.)Höhn. (syn. Phialina pubera (Lasch)Höhn.)
  On fallen Quercus leaves; nr J1 (IMI 188807).

Chalomyena corinaria ( Cooke)Boud.
  On cow dung, frequent; J1 (IMI 181606b); J1 (IMI 178319b); N4 (IMI 166794c).

C. raripila (Phill.)Dennis
  On cow dung, frequent; J1 (IMI 164978a), 3; N3; S.

C. sp.
  On cow dung; M (IMI 166777).

Chlorosplenium aeruginosum (Nyl.) Karst. (syn. Chlorociboria aeruginosum (Nyl.)Kan. ex Ram. et al.)
  On dead branches and logs, stained wood common but apothecia rare; J1, 2, 3, 6; K.

Coccomyces dentatus (Schum. ex Fr.)Karst.
  On fallen Castanea leaf; J1 (IMI 198111).

Coryna querquinum (Pers.)Wallr.
  On Quercus twigs; H (IMI 194059b).

Crepis granulata (Bull. ex Fr.)Boud.
  On cow dung, very common; H; J1 (IMI 164978d);
  nr J1; N2, 3 (IMI 168550a), 4; S; SV.

Cryptodiscus rhopaloides Sacc.
  On dead Rubus stems; S (herb. Graddon).

Hawksworth and Sivasesan (1976b).

Cudoniella clavus (Alb. & Schw. ex Fr.)Dennis
  On dead twigs; DM; G2; J1 (IMI 182854).

Cudoniella clavus var. grandis (Boud.) Dennis
  In humus; J1.

Cyathicula coronata ( Bull. ex Mérat)de Not.
  On dead herbaceous stems; S (IMI 198112).

D. colorella (Karst.)Dennis
  On fallen Fraxinus petiolas; J1 (K).

Cyathidipoda macropus (Pers. ex Fr.)Dennis

Dasyosyphus aeruginellus (Karst.)Korf & J. R. Dixon (syn. Chlorosplenium aeruginellum (Karst.)Karst.)
  On decaying Filipendula stem; DM (IMI 198110).

D. opalus (Berk. & Br.) Dennis
  On dead Junus ophiusa stems; J1 (IMI 182860).

D. brevipilus Le Gal
  On rotting wood; J1 (IMI 182859); S (IMI 183850).

D. controversus ( Cooke)Rehm
  On Phragmites canes; Dr (IMI 188809).

D. corticalis (Pers. ex Fr.)Masse
  On dead Hedera stems; DM; J1 (IMI 182861), 6 (IMI 185895).

D. durnorum (Rob.) Masse
  Underside of fallen Rubus leaves; J1 (IMI 182858); S.

D. fusescens (Pers.)Gray
  On fallen Quercus ilex leaves; SV (IMI 182866).

D. grevillei (Berk.)Masse
  On dead Oenanthe stems; E5 (IMI 183887).

D. mollissimus (Lasch)Dennis
  On dead stems of Beta, Heracleum and Urtica, common; B; C (IMI 182865, 183877, 184044, 189865); G1 (IMI 178321a).

D. nidulus (Schm. & Kunze)Masse
  On dead Oenanthe stems; DM (IMI 198115); G2 (IMI 198116).

D. niveus (Hedw. ex Fr.)Sacc.
  On rotten wood; J1 (IMI 182864).

D. pteridis (Alb. & Schw. ex Pers.)Masse
  On dead Pieridium stems; J3 (IMI 182863).

D. pulicaria (Quel.)Sacc.
  On rotting Salix twigs; CY (IMI 166867).

D. pulvaceus (Alb. & Schw. ex Fr.)Höhn.
  On dead wood and Ilex twigs; J1 (IMI 182868), 6 (IMI 195330c).

D. sphaeritii Masse
  On fallen Quercus leaves; nr I1 (IMI 188910).

D. sulphuris (Pers.)Masse
  On dead herbarious stems, often abundant; C (IMI 188811); DM; G2; S.

D. virginus Gray
  On rotting logs, twigs and Hedera stems, frequent; DM (IMI 194022); Fr (IMI 183866); J1 (IMI 183978), 2 (IMI 194086).

Dermea tulanei Grove
  On Fraxinus twigs; J1 (IMI 179285, K).

Dennis (1974).

Demeczierea articulata Lib.
  On fallen Pinus needles, as st. conid. Verticillaciudum tridichum Preuss, locally abundant; J3 (IMI 184255, 184287b).
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*Discolocarpus roseus* Wolf
On cultivated *Rosa* leaves, as st. conid. *Actinonema roseae* (Lib.) Fr., common; SV.

*Elaphomyces* sp.
Under leaf litter; J3.

*Eriopeziza casta* (Pers.) Rehm
On roting wood; J1 (IMI 182869, 183876).

*Fimaria coccinea* (Phil.) van Brumm.
On cow dung; N4 (IMI 186740).

*Geoglossum cookieanum* Nannf.
In short turf, locally frequent; B; K.

*Helvelia crispa* Fr.
In turf, solitary; S; K.

*Heterophaeria patella* (Tode ex Fr.) Grev.
On dead *Daucus* stems, as st. conid. *Heteropatella bonordii* (Hassl.) Lind; B (IMI 194017); C (IMI 184266).

*Hyalocephula kyalina* (Pers.) Boud.
On roting wood and *Rubus* twigs; J1 (IMI 182845), 6 (IMI 184297).

*Lachnorhagia* (Desm.) Nannf.
On dead *Acer* leaves and petioles; J1 (IMI 188812); N4.

*Hymanoxys chalybeus* (Sow. ex Fr.) Phill. (incl. *Heliotium consertum* (Karb.) Karst.)
On roting *Salix* twigs; DM (IMI 194026).

*H. caudatus* (Karb.) Dennis
On fallen *Acer* petioles; N4 (IMI 198114).

*H. herbarum* (Pers. ex Fr.) Dennis
On dead *Urtica* stems, frequent; G1, N4 (IMI 196203); S (IMI 188813).

*Rubistor* (Karb.) Dennis
On dead herbaceous stems; DM (IMI 198113).

*H. acuta* (Pers. ex Fr.) Phill.
On dead *Urtica* and *Rubus* stems; C (IMI 188814); DM; G2; J1; S.

*R. herbarum* (Pers.) Boud.
On roting wood; J1 (IMI 184295).

*Hydromena rubii* (Pers. ex Chev.) de Not. (syn. *H. virgulatum* DC. ex St.-Am.)
On dead *Rubus* twigs; DM; S (IMI 182624).

*S. sp.
On fallen *Castanea* leaves; J1 (IMI 198122).

*Spores 24 × 4 μm.*

*Isodophanus carneus* (Pers.) Korf (syn. *Ascothorax carneus* (Pers.) Boud.)
On cow dung; J1 (IMI 1887756); S (IMI 181049d).

*Lachnella kabiana* (Seav.) Dennis
On dead twigs; J1.

*Lasiospilus ciliatus* (Schm. ex Fr.) Boud.
On cow and sheep dung, frequent; C; J1; nr J1; S; SV.

*Leotia lubrica* Pers.
Amongst mosses under *Fagus*, locally abundant; J3 (IMI 188742, 188815); K.

*Leptosiga elastica* (Bull. ex St-Am.) Boud.

*Leptotrichia ranunculi* (Fr.) Schuepp (syn. *Fabraea ranunculi* (Fr.) Karst.)
On drying leaves of *Ranunculus repens*; S (IMI 182844).

*Lophodermium armadinaeum* (Schrad. ex Fr.) Chev.
On *Phragmites* canes; F1.

*L. hedericola* Ahmad
On dead *Hedera* leaves; H (IMI 182255).

*L. pinastri* (Schrad. ex Fr.) Chev.
On *Pinus* needles; J1.

*Microsclera grisella* (Rehm) Syd.
On underside of decaying *Pteridium* fronds; I3 (IMI 182846).

*Mollisia adonwyldis* Rehm.
On dead *Centaura* stems; C (IMI 178295).

*M. cinerea* (Batsch) Karst.
On roting wood, common; CY (IMI 180132); DM (IMI 188721); J1 (IMI 178305); J1 (IMI 184296), 2; N4 (IMI 1887520); S (IMI 184257).

*M. cinerella* Sacc.
On dead *Castanea* wood; J1 (IMI 168620).

*M. clavata* Greum. (syn. *M. cinerea* var. minutella Sacc.)
On roting *Ephelobium* stems; DM (herb. Graddon).

*M. discolor* (Mont.) Phill.
On *Betula* twigs; J1 (herb. Graddon).

*M. fallax* (Desm.) Gill.
On roting wood; J1 (IMI 179270); I (IMI 180156); S (IMI 180161).

*M. ligni* (Desm.) Karst.
On dead wood; DM (IMI 184296); K (IMI 182523); SV (IMI 182848).

*M. melaleuca* (Fr.) Sacc.
On roting *Ulex* wood; S (IMI 189880).

*Mollisia rubi* (Rehm) Hohne. (syn. *Pyrenopeziza rubi* (Fr.) Rehm.)
On dead *Rubus* leaves; C (IMI 188816); J1.

*Mollisiphiella dennisii* Graddon
On dead *Ulex* twigs; C (IMI 189886).

*M. lanceolata* (Grenum.) D. Hawksw.
On dead *Rubus* canes; DM (IMI 178299).

Hawksworth and Sivanesan (1975).

*Niptera pilosa* (Cros.) Boud.
On dead *Carex* leaves; DM (IMI 194104).

*Orbilia auricola* (Blox. ex Berk.) Sacc.
On roting wood; DM (IMI 1940354); J1 (IMI 178302, 184294).

O. curvistipora* Boud.
On dead herbaceous stems; G2; J1 (IMI 1686274), 3.

O. euonymi* Vel.
On roting log; I1 (IMI 178289).

Hawksworth and Sivanesan (1975).

O. luteorubella* (Nyl.) Karst.
On roting wood, common; CY (IMI 1783004); Da (IMI 178297); DM (IMI 194028); F1; H; J1; J1 (IMI 168628); 2; N4 (IMI 1887539); S.

O. xanthostigma* (Fr.) Fr.
On roting wood; J1 (IMI 178301); K (IMI 178304); N4 (IMI 196202).

Pachyella kibarttoni* (Berk. & Br.) Boud. (syn. *Pilo pea kibarttonii* (Berk. & Br.) Berk.)
On roting *Salix* wood immersed in water; DM (IMI 194028); G1 (IMI 189366).

*Pezicula dennisii* D. Hawksw.
On dead *Urtica* stems; J3 (IMI 192620 T, herb. Graddon).

Hawksworth and Sivanesan (1976a).

*P. rubi* (Lib.) Niesl.
On dead *Rubus* canes; J1 (IMI 182849).

*Pezicia avornenis* Boud.
On clay soil of ride; J1 (IMI 166670).

*P. badia* Pers. ex Mérat
On clay soil bank of ride; J1 (IMI 188730).
**Psilochora ingulinaria** (Kartsch.) Dennis
On rotted *Epilobium* stems; G1 (IMI 189879); S.

**Pseudopeziza digitalina** (Phil.) Sacc.
On dead *Digitaria* stems; J1 (IMI 186633, 186624, 186662); K.

**P. escharodes** (Berk. & Br.) Rehm
On dead *Rubus* canes; I1 (IMI 194078); J1 (IMI 182853).

**P. bebnialis** (Dem.,) Rehm
On dead *Silene dioica* stems; C (IMI 182866).

**P. mercandia** (Fuchel) Boud.
On dead *Mercandia* stems; J1 (IMI 182868).

**P. plantaginum** Fuchel
On dead *Plantago lanceolata* leaves; nr H; SV (IMI 182893).

**Rhizophus polymorus** (Kartsch.) Sacc.
On cow dung; I1.

**Rhytisma aerocinum** (Pers. ex St.-Am.) Fr.
On *Acer* leaves, as st. conid. *Melasmiella aerina* Lev. on live leaves, perfect stage on fallen leaves, widespread but rarely abundant; C; DM (IMI 186843); E6; H; I1; J1, 2, 6; K; N4.

**Rutstroemia echinophila** (Bull. ex Mérat) Höhn.
On rotting *Castanea* cupules, exceptionally common and abundant in autumn and summer 1974; J1, 2, 3 (IMI 187841).

**R. frusticis** Rehm
On dead standing *Rubus* canes; C (IMI 186835).

**R. sydowiana** (Rehm) Wint.
On dead *Castanea* petioles; J3 (IMI 188817).

**Saccobus glaber** (Pers. ex Pers.) Lamotte
On cow dung; S (IMI 181049f).

**S. versicolor** (Kartsch.) Karst.
On ? sheep dung; SV.

**Sarcoscypha coccinea** (Fr.) Lamotte
Amongst mosses and twigs on the ground; S.

**Sclerotinia fuceliana** (de Barby) Fuchel
On dead and dying stems, leaves and fruits of many species (including *Castanea*, *Filippendula*, *Galium*, *Glaucium*, *Heracleum*, *Ononis*, *Orobanche*, *Rubus*, *Rumex*, *Syringia* and *Urtica*), as st. conid. *Butrytis cinerea* Pers. ex Pers., extremely common; B (IMI 186552); C (IMI 186938, 186872, 187344, 187372); DM (IMI 186854, 186887); F1, 6; F1, 2; G1; H (IMI 186844); J1 (IMI 187836); J1 (IMI 186826, 180146); 2, 3, 6; S (IMI 184569e); SV (IMI 186840d).

**S. sulinata** Whetzel.
On *Carex* tussock; N4 (K).

**Scutellinia scutilata** (L. ex St.-Am.) Lamotte
On sodden rotted logs and branches, common; C; G1 (IMI 184027); F1; H (IMI 179317); J1 (IMI 1865596); K; N4; S.

**Sphacelostoma turbinata** (Pers. ex Fr.) de Not.
On *Petricaria petiolaris* thalli on *Acer*, local; I1 (IMI 186829).

**Stictis stellata** Wallr.
On dead herbaceous stems (including *Epilobium*, *Heracleum*, *Ononis*, and *Rubus*); C (IMI 183709); DM (IMI 182840); G2; J1; N4.

**Symphyosporinopsis alliacea** L. A. Ellis
On rotten *Anchusa* seeds, with st. conid. *Symphyospora* sp.; DM, (IMI 198117).

**Taphres aviescerz** Karst.
On bases of dead *Phragmites* canes submerged in water; DM (herb. Graddon).
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T. ruticola (Rabenh.); Karst.
On bases of dead Phragmites canes submerged in water; Gt (IMI 189889).

T. chropha (DC. ex Mérat); Sacc.
On Equisetum leaves; Jt.

T. officinale (L.); Mill.
On Sabatia minor leaves; S.

T. sylvaticum (DC. ex Mérat); Sacc.
On Poa annua leaves; S.

T. maculatum (L.); Borkh.
On Phragmites canes; S.

T. violaceum (L.); Schrad.
On Phragmites canes; S.

T. pumilum (L.); Schrad.
On Phragmites canes; S.

T. angustifolium (L.); Schrad.
On Phragmites canes; S.

T. nigra (L.); Schrad.
On Phragmites canes; S.

T. australis (L.); Schrad.
On Phragmites canes; S.

T. arundinaceum (L.); Schrad.
On Phragmites canes; S.

T. brachytricha (L.); Schrad.
On Phragmites canes; S.

T. pratense (L.); Schrad.
On Phragmites canes; S.

T. arundinacea (L.); Schrad.
On Phragmites canes; S.

T. angustifolia (L.); Schrad.
On Phragmites canes; S.

T. australis (L.); Schrad.
On Phragmites canes; S.

T. pratensis (L.); Schrad.
On Phragmites canes; S.

T. alba (L.); Schrad.
On Phragmites canes; S.

T. nigra (L.); Schrad.
On Phragmites canes; S.

T. australis (L.); Schrad.
On Phragmites canes; S.

T. maritima (Huds.); Schrad.
On Phragmites canes; S.

T. pratensis (L.); Schrad.
On Phragmites canes; S.

T. nigra (L.); Schrad.
On Phragmites canes; S.

T. pratensis (L.); Schrad.
On Phragmites canes; S.

T. nigra (L.); Schrad.
On Phragmites canes; S.

T. pratensis (L.); Schrad.
On Phragmites canes; S.

T. nigra (L.); Schrad.
On Phragmites canes; S.

T. pratensis (L.); Schrad.
On Phragmites canes; S.

T. nigra (L.); Schrad.
On Phragmites canes; S.

T. pratensis (L.); Schrad.
On Phragmites canes; S.

T. nigra (L.); Schrad.
On Phragmites canes; S.

T. pratensis (L.); Schrad.
On Phragmites canes; S.

T. nigra (L.); Schrad.
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On Phragmites canes; S.

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On Phragmites canes; S.

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On Phragmites canes; S.

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On Phragmites canes; S.

T. pratensis (L.); Schrad.
On Phragmites canes; S.
D. L. Hawkinson

Calonecrosia sp.
On fallen lex leaves; DM (IMI 1961239); K (IMI 189532); S (IMI 1822452). Hawksworth and Sivanesan (1976a).

Calypsolophia claspis (Rom.) Fitzp.
On Praxinus wood; I1 (IMI 1801217).

C. tristis (Fuc.) Fitzp.
On rotting wood; DM (IMI 182257).

Ceratocystis sp.
On rotting Castanea cupules; J5 (IMI 184567); S (IMI 1823669).
Apparently an undescribed species.

Ceratoxiella vestita Sacc.
On rotting log; N4 (IMI 188751).

Ceratophora palustri (Berk. & Br.) Hohn.
On dead Carex paniculata leaves; F2 (IMI 186857).

Chalmitornia elatum Kunze ex Fr.
On decaying plant debris by Lower Ley water's edge; E4 (IMI 184994).

C. globosum Kunze ex Fr.
On decaying grass clippings; DM (IMI 184264).

Chaetosporia phaenospora (Durr. & Mont.) E. Mull. & C. Booth (syn. Thaxteria phaenospora (Durr. & Mont.) C. Booth).
On rotting wood, common; CY; DM (IMI 182870); I1, 3; J1 (IMI 178224), 2; 5; K; M; N4; S.

Chaetosporia collinomorpha (Mont.) Sacc.
On rotting Castanea cupules (as st. conid. Codinae sp.) and on Rhus stems; G2; J1 (IMI 178331, 178946), 6 (IMI 184593).

C. myriocarpa (Fr.) C. Booth
On rotting wood; N4 (IMI 1952026).

C. palustris (Curt.) C. Booth
On rotting wood and fallen Fagus cupules; I1 (IMI 178286); J1 (IMI 18661), 3 (IMI 184272).

Cladoczeps purpurea (Fr.) Tul.
On spikelets of Daucus, with st. conid. Spathelia setigerum Lev., local; H (IMI 186842, 186846).

Clypeosporia mammillata (Fr.) Lambotte
Immersed in decorticating wood; SV (IMI 182256).

C. notariiii Fuckel
On Rubus canes, probably common; C (IMI 182904); CY; DM; I1, J1.

Cniosporia ligniaria (Grev.) Masse
On cow dung; J1 (IMI 184994).

Cordyceps millarii (L. ex St-Am.) Link
From subterranean Lepidopteran larvae; J3 (IMI 188808).

C. ophioglossoides (Ehrenb. ex Fr.) Link
Amongst mosses, presumably from subterranean Elaphomyces sp.; J3 (IMI 180756).

Creopus gelatinosus (Tode ex Fr.) Link
On rotting wood; SV (IMI 182853).

Daldinia concentrica (Bolt.) ex Fr.; Ges. & de Not.
On dying and fallen Praxinus trees, very common, more rarely on burnt bushes of Castanea and Ulex,stromata preceded by st. conid. Nodulisporium sp.; CY; F1, 2; I1 (IMI 183861), 2, 3; J1 (IMI 183907), 2, 5; K; L (IMI 180155); N4; S; SV.

Diaporthe areti (Lasch) Nits.
On dead Artomóxia, Heracleum and Urtica stems; C (IMI 1789218), G2 (IMI 187835); H (IMI 166799); Nq.

D. leiphaemia (Fr.) Sacc.
On dead Quercus twig, as st. conid. Phomopsis quercina (Sacc.) Hohn.; CY (IMI 160508).

D. palla Nits.
On dead Hedera leaves and stems, frequent, as st. conid. Phomopsis palla Trav.; J1 (IMI 166801); K (IMI 165004); N4 (IMI 166775).

D. stiulosa (Alb. & Schw.) Nits.
On Sambucus twigs, as st. conid. Phomopsis sambucina Trav.; DM (IMI 166770).

D. sp.
On Acacia sp. stems; G (IMI 178329).

Diaporthe angelicae (Berk.) Wehm.
On dead Angelica and particularly Heracleum stems, as st. conid. Phomopsis asteraceae Grove, very common; B, C (IMI 156851); CY; DM (IMI 156869, 166902); E1; 6; F1; G1, 2 (IMI 168539, 168564); H1; I1, 2; 3 (IMI 168535); J1, 2; K; N1, 4; S; SV.

Diaporthe bullata (Hoffm. ex Fr.) Fr.
On dead Salix branches; DM (IMI 168595); I1 (IMI 188765).

D. disciformis (Hoffm. ex Fr.) Fr.
On dead branches; I1, 3; J1, 2, 6.

D. stigma (Hoffm. ex Fr.) Fr.
On dead twigs; H, J1.

Diaporthe faecalis (Fr.) Sacc.
J1 (2), 1905, Greenhalgh.

D. quercina (Pers. ex Fr.) Cooke
On dead Quercus twigs and branches; I1; J1 (IMI 193934).

Eutypa achari Tul.
On decorticante Aec. wood, common; I1 (IMI 166803); 2; J1, 2, 6 (IMI 180862); K; S.

D. flavicvens (Pers. ex Fr.) Tul.
On dead Aec. wood; N4 (IMI 188750).

E. sp.
On decorticante Aec. wood; I1 (IMI 188772).

Eutypella acerisiola (Sacc.) Berk.
On dead Aec. branches; J2 (IMI 188725, herb. Chesters).

E. stellulata (Fr.) Sacc.
On dead Salix and Ulnmus twigs; DM (IMI 197829); H (IMI 194071).
The collection on Salix (194071) is tentatively placed here as this fungus is usually regarded as confined to Ulnmus.

Gibberella bicocca (Wallr.) Sacc.
On dead twigs in Prunella dilatata colonies, with st. conid. Fusarium lateritium Nees ex Link; H.

G. zeae (Schw.) Petch
Isol. ex volu nest in Carex tussock, as st. conid. Fusarium graminearum Schwabe; DM (IMI 185307).

Gnomonia rubi (Rehm.) Wint.
On dead Rubus twig; DM (IMI 197834).

G. setacea de Not. (syn. G. aractis (Riess) Ges. & de Not.)
On dead Aec. leaves and petioles; J1 (IMI 164992, 182251).

Gnomoniella rubicola Pass.
On dead Rubus canes; I1 (IMI 177202), 3 (IMI 186548).

Hawksworth and Sivanesan (1976a).

Hypocrea filiformis J. Webst. & Rifaí
Isol. ex volu dung, as st. conid. Trichoderma filiforme J. Webst. & Rifaí; DM (IMI 185308).

Hypomyces aurantius (Pers. ex Fr.) Tul.
On decaying Armillaria caps, as st. conid. Cladoscyton varium Nees ex Duby; J1 (IMI 168718, herb. Arnold).
Hypoxylon confusum (Tode ex Fr.) West.
On dead wood, frequent; J1, 3 (IMI 194091); K; N4 (IMI 188766); S.

H. fragi (Pers. ex Fr.) Kickx
On dead branches, particularly of Fagus, frequent;
DM; J1, 2, 3; K; L.

H. fusum (Pers. ex Fr.) Fr.
On dead wood, particularly of Corylus; CY (IMI 178271); J1 (IMI 189258); K.

H. hetroxium Peck
On dead branches, particularly of Betula; J1; K.

H. multiforme (Fr. ex Fr.) Fr.
On dead branches, particularly of Betula and Corylus;
J1 (IMI 178259), 9, 32; K; S.

H. rubiginosus (Pers. ex Fr.) Fr.
On dead wood, particularly of Fraxinus; DM; J1 (IMI 194064); J1; K; M (DAOM).

H. serpens (Pers. ex Fr.) Kickx
On dead wood of various trees, frequent; CY;
DM; J1, 3; J1, 3 (IMI 188744); M; S (IMI 165015).

Lasiorhizohiris hirsuta (Fr.) Ces. & de Not.
On rotting wood; CY (IMI 180130); J1; K.

L. osina (Fr.) Ces. & de Not.
On rotting wood; N4 (IMI 188866); S.

L. racodium (Pers. ex Fr.) Ces. & de Not.
On rotting wood, 2 Salix; G2 (IMI 178363).

L. sternoides (Hoffm. ex Fr.) Ces. & de Not.
On rotting wood, often in large swarms; J1; K; N3;
S (IMI 189352).

Microcos us longisporus Zukal
On vole dung; DM (IMI 18263).
Hawskworth and Sivanesan (1973).

Mionectrula exocarum (Kleb.) G. Booth
Isol. ex vole dung; DM (IMI 192452).

Neetria candidans Plowr. (syn. Necniopsis candidans (Plowr.) Maire).
On Stemniopsis typhina, as st. conid. Acromonium sp.; J1.

N. cininabarina (Tode ex Fr.) Fr.
On dead branches and twigs, often in swarms, sometimes as st. conid. Tubercularia vulgaris Tode ex Fr., common; I1, 3; J1 (IMI 178243); K; L (IMI 180138, 188740); N4 (IMI 182452); S.

N. alcei (Pers. ex Fr.) Fr.
On dead logs and twigs (perfect state) but also
associated with lesions in Frullania dilatata colonies (ass. conid. Cylindrocladus candidus (Link)Wollenw.);
H (IMI 178712); J1 (IMI 194052); S (IMI 190173).
A Cylindrocladus from lesions in moss colonies on a wall in S (IMI 193395) may also belong here but failed
to grow in culture.

N. epiphlae (Tode ex Fr.) Fr. aggr.
On dead Rausc clados; L (IMI 188737).
Fusarium aqueductum Lagh. obtained from cultures of the ascospores.

N. flava (Ful.) Dingley
On insect remains on Salix, as st. conid. Fusarium exsulculum (Desm.,Wollenw. & Reink; F2 (IMI 194072).
Hawskworth and Sivanesan (1975a).

N. cf. magnusiana Rehn
On effete Diatrespa sp.; J1 (IMI 193396).
Indentification tentative as material very poor.

N. sinopica Fr.
K, 1965, Richardson.

Nieslia sp.
On fallen ilx leaves, locally abundant; S (IMI 182244, CBS).
Apparently undescribed and distinct from N. exul (Alb. & Schw. ex Fr.) Wint. and N. ilicifolia (Cooke) Wint.
Statt. conid. Monocyllium tenue W. Gams obtained from cultures of ascospores; to be described
in a forthcoming publication by Dr W. Gams.

Paraditymella clarkii D. Hawksw. & Sivanesan
On dead Rubus stems; G2 (IMI 178251 T).
Hawskworth and Sivanesan (1976).

P. holzi D. Hawksw. & Sivanesan
On dead Holcus lanatus stems; G (IMI 18873 T).
Hawskworth and Sivanesan (1976).

Phomatospora berkeleyi Sacc.
On dead Phragmites canes in water; E7 (IMI 178366).

Phyllachora granivis (Pers. ex Fr.) Fuckel
On dead leaves of various grasses (see Table 10).
common; C (IMI 178209, 178257); CY (IMI 180134); J1; nr J1 (IMI 180139); N3; S; SV.

Podospora decipiens (Wint. ex Fuckel) Niessl
On rabbit dung; nr J1 (IMI 188888); nr J6 (IMI 188756).

P. pyriformis (Bayer) Cain
On cow dung; S (UPS).
Hawskworth and Sivanesan (1975).

Rhaphormia pyriformis (Fr.) Hohn.
On rotting wood; K (IMI 187992).

Rosellinia mammiformis (Pers. ex Fr.) Ces. & de Not.
On dead Hedera stems in swarms, often common;
J1, 3; J1 (IMI 178233), 2 (IMI 188325), 5; K.

R. sp.
On rotting wood; K (IMI 187992).
A single peritheciom 1.2 mm diam with non-
appendiculate ascospores c. 21 x 8 µm.

Schizochytrium conicum (Fuckel) Lundq. (syn. Podospora eurupala (de Bary) Niessl).
On cow and rabbit dung, common; nr CY (IMI 164976);
J1 (IMI 184996); nr J6 (IMI 188766); S (IMI 180935).

Silvia ferruginea (Pers. ex Fr.) Karst.
On Corylus twigs; J1 (IMI 194047).

Sordaria finicola (Rob.) Ces. & de Not.
On rabbit dung; M (IMI 186886).

S. humana (Fuckel) Wint.
On cow, dog and horse dung; C (IMI 178307, 180169, 188634); J1 (IMI 184955).

Trematospora pertusa (Pers. ex Fr.) Fuckel
On dead Fraxinus wood; J1 (IMI 194050).

Trichosphaeria sp.
On rotting wood; J1 (IMI 189857a).
Close to T. brevispina Munk but differing in having
larger ascospores.

Vala ceratophora Tul.
On dead Ilx twigs; J2 (IMI 194093).

V. sodita Nits.
On Populus twigs, as st. conid. Cytophaga chrysophorum Fr.; CY (IMI 188513).

Xylaria carpophila (Pers. ex Fr.) Fr.
On rotting Fagus mast, locally frequent; J1 (IMI 164990); K.

X. hypoxylon (L. ex Fr.) Grev.
On rotting wood, very common; DM; F1; J1, 2, 3, 4, 5; K; N4; S.
X. longipes Nits.
On rotting logs, particularly of Acer, frequent; I1; J1; K.

X. polymorpha (Pers. ex St-Am.) Grev.
On rotting wood, common; GY; E6; F1; I1 (IMI 173909); J1; 2; 5; K; (IMI 180145).

Zigmoella ovooidea (Fr.) Sacc.
On Salix bark; DM (IMI 194099).

Z. sp.
On rotting wood; N4 (IMI 188752c).
Ascospores 3-septate, hyaline, 12–15 × 3–4 μm.

LOCULOASCOMYCETES

Abrotallos pannellariun (Sommerf.) Arnold
On thalli of Parnella caperata, P. carpohirrinos, P. perliata, P. sulcata, Usnea intexta and U. subfloridana, sometimes with the presumed st. conid. Phoma sp., forming flesh coloured 0.5–1.5 mm diam galls (Bifurcophyse purpureum Rieh.) on U. intexta, very common; C; CY (IMI 164972); DM (IMI 159890, 159865); F1 (IMI 159892); 2; G2; H; I1 (IMI 188770); J2; N4 (IMI 166790); SV.

A. suecicus (Kirsch.) Nordin
On apothecia of Ramalina fastigiata, with st. conid. Phoma ramalinarum Nordin, rare; DM (IMI 194098).

Berlesella nigrospora (Blox. ex Curt.) Sacc.
On Hypoxylon multiforme; I1 (IMI 182554).
This species is generally regarded as confined to Eutypa; the spores of the Slaton collection are slightly smaller than usual and further material is needed to ascertain whether the species on Hypoxylon is really conspecific with that on Eutypa.

Botryosphaeria philiprina (Berk. & Curt.) v. Arx & E. Müll.
On dead Ilex leaves; J1 (IMI 16864).

Buillia cf. stygia (Berk. & Curt.) E. Müll. (syn. Korschenda stygia (Berk. & Curt.) Masso.
On rotting Fraxinus wood and dead Rubus twigs; G2 (herb. Clark); I1 (IMI 194082).
Hawksworth and Sivanesan (1976b). The spores of the Rubus collection do not appear striate and become 3-septate.

Coleroa robertiani (Fr.) E. Müll. (syn. Stigmatites robertiani (Fr.) Fr.
On live Geranium robertianum leaves, common; DM; J1 (IMI 182841); SV (IMI 183666).

Cymadotha trifolii Wolf (syn. Myxodaerella kilianii Petr.)
On live Trifolium repens leaves, as st. conid. Polystichum trifolii Schm. & Kunze ex Fr., locally abundant; Na; 3 (IMI 186532).

Didymella applanata (Nies) Sacc.
On old Rubus canes, often of the conid. (unamed), common; G (IMI 170977); I1, 3; J1; K; L.

D. holostea Syd.
On dead and dying Stellaria holostea leaves; SV (IMI 184238).
Hawksworth and Sivanesan (1975).

D. prominula (Speg.) Pirozynski & Morgan-Jones
On dead Peridium rachis; I1 (IMI 166792).

D. proxima (Kärst.) Sacc.
On dead Carex riparia leaves; E3 (IMI 194061).

D. sp.
On thallus of Buellia canescens, rare; S (IMI 168572).
Ascospores c. 10 × 3.5 μm; probably undescribed but material scant.

D. sp.
On dead Arthematherum leaves; C (IMI 168486).

Didymotheca conoida Niesl.
On decorticate old Ulex stems; I1 (IMI 188758).
(D. micula (Körb.) Vain., see Microtheca micula Körb. in Hawksworth (1973a).)

Dimeria mellitocida (Petr.) Hansf.
On Appendicella calostoma on Rubus stems; S (IMI 197833a).

Dolichosphaeria litigiosa (Sacc.) Höhn.
On dead Parietaria stems, as st. conid. Pynothecium litiogas (Dess.) Died.; I1 (IMI 165023).

Eudarluca carici (Fr.) O. Erik.
On old pustules of Puccinia coronata and P. obscura, as st. conid. Darluca filum (Fr.) Cast.; E6 (IMI 168528, 168529b); J1 (IMI 168576).

Eurychaetra ulmi (Schleich. ex Fr.) Schröt.
On dead Ulmus leaves; DM (IMI 182867); N4.

Glomoptris praolengia (Schw.) Zogg (syn. G. levantia Rehm)
On decorticace wood, dead Rosa and Rubus canes, bark of Corylus, Sambucus and Ulex, very common; B; C (IMI 166781, 178910); CY; DM (IMI 166786, 178714, 178714a, 1787110); E1; F1; 2; H (IMI 168528); I1 (IMI 166773); 3; J1; 2; 3; 4; 5; K; L; M; Na; 2; 3; 4; S (IMI 166313, 183853).

Guignardia istrical Bubák
On dead Rhus cladodes; J6 (IMI 184294).
Hawksworth and Sivanesan (1976b).

Hysterium angustatum Alb. & Schw. ex Mérat
On decorticace wood, bark of Acer, Fraxinus, Quercus and Ulex; dead Rosa canes, and cork, very common; B; C (IMI 166726); DM; H; I1 (IMI 168516); 3; J1 (IMI 166688); 2; 6; K (IMI 183882); L; M; N4 (IMI 167593); S; SV (IMI 165043).

Kieselusella caudata (E. Müll.) Corbaz
On decorticace logs; A (IMI 194019a, herb. Kohlmeier).
Hawksworth and Sivanesan (1976).

K. pinicola D. Hawksw. & Sivanesan
On fallen decorticace Pinus wood; L (IMI 180157 T).
Hawksworth and Sivanesan (1975).

K. sp.
On rotting wood; K (IMI 187992).
Ascospores 3-septate, 9–14 × 3–5 μm.

Lecaniond atratum (Hedw. ex Fr.) Endl. (syn. Patellaria atrata Hedw. ex Fr.)
On decorticace logs; rare; A (IMI 194020).

Leucogloea intersperga (Flörke ex Tul.) Rehm
On thallus of Ostrythalia turneri, Paratricharia hymenaea and P. pertusia, locally abundant; I1 (IMI 154733, 178912); N4 (IMI 194037).

Leptosphaeria acuta (Fr.) Kärst.
On dead Urtica canes, very common; C (IMI 178282, 178306); D1; DM (IMI 178315); E1, 4; 6; F1; G1 (IMI 178912d); H1; 3; J1; 2; 3; 4; 5; 6; K; L; M; N3; 4; 5; SV.

L. doliform var. conoides (de Not.) Sacc.
On decorticace Sambucus wood; I1 (IMI 165021).

L. eustoma (Fuckel) Sacc.
On dead Harethace stems; C (IMI 159852a).

L. harrisoniae (Rob.) Niesl
On dead Clematia stems; SV (IMI 194068).

L. maculans (Desm.) Ces. & de Not.
On old Raphanus maritimus stem bases, as st. conid. Phoma lingam Desm.; C (IMI 168491).
L. raphani D. Hawksw. & Sivanesan
On dead Raphanus maritimus stems; C (IMI 178278 T), Hawksworth and Sivanesan (1975).

L. rusi (Wallr.) Sacc.
On dead and dying cladodes of Rutea, often in necrotic patches, common; I1 (IMI 164993, 178216), J1 (IMI 164981), 6 (IMI 182856), L1 (IMI 186776).

L. typharum (Desm.) Kernst.
On dead Typha stems in water, as st. conid. Scolocorysella typhae (Höhn.) Petr.; E2 (IMI 166768).

L. sp.
On dead Loniceria stems; C (IMI 168495).

L. sp.
On rotting wood; J1 (IMI 168685).
Ascospores 4-7 septate, 18-82 × 2.2-5 µm.

Lophiostoma angustilabrum (Berk. & Br.) Cooke
On dead stems of Digitalis, Teucrium and Ulex, and on rotting wood; C (IMI 111459, 111464); E1 (IMI 111446); J1 (IMI 168630); N4 (IMI 178343).

L. arundinis (Pers. ex Fr.) Ces. & de Not.
On dead Phragmites canes, common; D1, 2; DM; E1 (IMI 11472, 11160a, 183785), 6; F1; G1 (IMI 186387), 2.

L. caudium (Fr.) Ces. & de Not.
On dead stems of Centaurea, Dipsacus, Rumex, Teucrium and an unnamed umbellifer; C, 1957-8, Francis (IMI 111161, 111469, 111475, 111466, 111461).

Chesters and Bell (1970).

L. fucelli C. & de Not. (Desm.)
On dead Teucrium stems, 1958, Francis (IMI 111463).

L. semilibrum (Desm.) Ces. & de Not.
On dead Phragmites canes, very common, more rarely on dead Brachypodium sylvaticum stems; CY; D1, 2; (IMI 1843026); E1 (IMI 111473, 111160, 168012, 178235), 2, 3, 4, 5, 6, F1, 2, G2; N3 (IMI 182520), Chesters and Bell (1970).

L. vagabundum Sacc.
On dead stems of Centaurea, Dipsacus, Rumex and Teucrium; C, 1957-8, Francis (IMI 111479, 111467, 111468, 111462, 111465).

L. sp.
On dead Ulex stems; E2 (IMI 194083).
Not L. angustilabrum, which is also recorded from Ulex at Slapton, nor Lophiostoma ulicis (Pat.) E. Müll. which has larger ascospores.

Melanomna fuscidulata Sacc.
On decorticate wood of Acer and Fraxinus; I1 (IMI 178288); J1 (IMI 166787).

M. palustris-fusca (Pers. ex Fr.) Fulk
On dead Ulex stems and decorticate wood; I1 (IMI 166688); J1 (IMI 166863).

Metaphoera sp.
On decorticate fallen branch; J6 (IMI 183862).

Microthyrium eilleta Greem. & Kan
On dead Ilex leaves; S (IMI 182446).

M. cytisi Fulk
On dead Ulex shoots, locally abundant; C (IMI 183868).
This species, hitherto not published as occurring in Britain, is to be discussed in a forthcoming paper by Mrs J. P. Ellis.

M. ilicinum de Not.
On Quercus ilex leaves; SV (IMI 182249).

M. serissorus (Desm.) Höhn.
On dead Rubus twig; G2 (IMI 197898).
Mycotheca euryhorae Niesl ex Schrötl.
On dead Euphorbia paralias stems; A (IMI 194938).
Hawksworth and Sivanesan (1976a).

M. hedericola (Desm.) Lindau
On living Hedera leaves; C (IMI 166799).

M. iridis (Desm.) Schrötl.
On dead tips of Iris leaves; F1 (IMI 168835).

M. macrospora (Kleb.) Jorstad
On living Iris leaves; D2 (IMI 168517); E2 (IMI 166769).

M. maculiformis (Pers. ex Fr.) Schrötl.
On fallen Castanea and Fagus leaves; J1 (IMI 164982); K (IMI 165002).

M. obsorniae D. Hawksw. & Sivanesan
On dead Artemisia stems; C (IMI 178281a T). Hawksworth and Sivanesan (1976b).

M. pteridis (Desm.) Schrötl.
On dead Pteridium fronds; J3 (IMI 182254).

M. punctiformis (Pers. ex Fr.) Starbl.
On fallen Quercus leaves; J1 (IMI 164980, 164995).

M. recicuta (Fr.) Johanson
On dead or aged Juncus effusus stems; D2 (IMI 168845); J1 (IMI 168685).

M. slaptieniensis D. Hawksw. & Sivanesan
On Crataegus twigs and spines; H (IMI 178341 T). Hawksworth and Sivanesan (1975); on C. monogyna, not C. oxyacanthoides as originally reported.

M. superflua (Auersw.) Petr. (syn. Didymella superflua (Auersw.) Sacc.)
On dead Urtica canes; S (IMI 165016, 182248).

M. sp.
On dead Loniceria stems; DM (IMI 194034).
This differs from M. clymenia (Sacc.) Johanson & Oud., which occurs on leaves of this host, in having smaller ascospores.

Ophiobolus acuminatus (Sow.) Duby
On dead Cirrium stems; G (IMI 178265).

O. herpotriches (Fr.) Sacc.
On dead Typha debris by Ley; E2 (IMI 1783244).

O. rubellus (Pers. ex Fr.) Sacc. (syn. Leptospora rubella (Pers. ex Fr.) Rabenh.)
On dead Urtica canes; DM (IMI 166776).

O. trokel D. Hawksw. & Sivanesan
On dead Holcus lanatus stems; C (IMI 168618 T). Hawksworth and Sivanesan (1975).

O. typhae Felt.
On dead Typha debris by Ley; E2 (IMI 1783244).

Otthia spiraeae (Fukel) Fukel (syn. O. crataegi Fukel)
On dead Crataegus twigs, with the st. conid. Diplodia sarmentorum (Fr.) Fr. (syn. D. crataegi Westend.); L (IMI 180162).
Hawksworth and Sivanesan (1976b).

Pleospora herbarum (Fr.) Rabenh.
On dead or aged stems of Armeria, Pilotella, Ulex and Urtica, sometimes as st. conid. Stemphylium botryosum Wallr.; B (IMI 168555); C (IMI 159856, 178276); M (IMI 166788).

P. infectoria Fulk
On dead Raphanus maritimus stems; C (IMI 166725).

P. phaeocomoides (Berk. & Br.) Wint.
On dead Heracleum stems; C (IMI 166762).

P. aphthuligerae (Desm.) Höhn.
On dead Artemisia and Umbilicus stems; C (IMI 178281c); SV (IMI 194036).
P. vulgaris Niessl
On dead stems and leaves of Arrhenatherum and Dactylis, sometimes as or with st. conid. Stagonospora arenaria (Sacc.)Sacc.; C (IMI 170281, 186870); Ga (IMI 168540).

P. sp.
On dead Anthyllis stems; C (IMI 178274).
Apparently not P. anthyllidis Auerw. & Niessl but S. applanatum spars.

P. sp.
On dead Digitalis stems; J1 (IMI 164987a).

P. sp.
On dead Centaurea stems; G (IMI 178264).

Pyrenophora thyphaeola (Cook)E. Mull.
On dead Typha stems, locally abundant; E1 (IMI 164996).

Rhotaphactus filicinus (Fr. ex Fr.)Nits. ex Fucell
On dead and aged Phragmites stems, as st. conid. Leptospora filicina (Fr.)W. Gams; very common; C; CY; DM; H; J1 (IMI 165039a); 2; 3; J1; 2; N4; 3; L; S.

Scirrhia simosa (Alb. ex Schw. ex Fr.)Fucell
On roasting wood, as st. conid. Helicoma mmilleri Corda; J1 (IMI 188740b).

Venturia inutula Barr
On decorticate Salix wood, rare; DM (IMI 194166).

V. ruminis (Desm.)Wint.
On living, and dead leaves, and more rarely dead stems of Rumex, very common; B; C; CY (IMI 165014); D1; 2; DM; E1; 2; 3; 4; 5; 6; F1; 2; G1; 2; H (IMI 166779); J1; 2; 3; J1 (IMI 166628d); 2; 3; 4; 5; nr 6; L; M; N3; 4; S; SV.

Westoniporella ciliata (Petr.)E. Mull.
On dead Filipendula stems; DM (IMI 165039a).

Hawksworth and Sivanesan (1976b).

DEUTEROMYCOTINA

COELOMYCETES

(Actinomenna rosae (Lib.)Fr., see Diplocarpon rosae Wolf)
Aphelenzasma urticae (Lib.)Sacc. On dead Urtica stems; S (IMI 164984).
Aphelenzasma aquinalis Sacc. On Betula twigs; J1 (IMI 168755b).

A. sp.
On dead Armeria shoots; C (IMI 168686).

A. sp.
On dead Russus cladoles; J6 (IMI 184285b).

A. collicola (Cooke & Massee)Died. On old Glauceum stems; B (IMI 168553).

A. vulgaris Kab. & Buh. (incl. var. lonicerae Grove) On Lonicera leaves; C (IMI 168496); J1 (IMI 194996).

A. sp.
On Carex pendula leaves; SV (IMI 168649).
This material may be an immature Septoria (E. Punithalingam, in litt.).

Ascochyta deformis (Karst.)Grove On Sambucus bark; H (IMI 168522a).

A. ulsae Grove
On dead Ulex leaves; I1 (IMI 166798).

Asteromella sp.
On fallen Acer and Betula leaves; J1 (IMI 188715, 188733).
Imperfect states of Mycosphaerella species.

Ascomycetes (Derm.)Hohn. On fallen Ilex and Prunus laurocerasus leaves; J1 (IMI 168658a).

C. sp.
On fallen Pinus needles; J3 (IMI 184287a).

Celimoneron coccodes (Wallr.)Hughes
On dead stems of Solanum tuberosum, locally abundant; SV (IMI 188763).

C. denaturn (Pers. ex Fr.)Grove On dead stems or old leaves of Endymion, Heracleum, Ilex and Iris, common on old Edynion flowering stalks; C (IMI 15983a); CY (IMI 180143); DM; E3; J1 (IMI 180149); 2; 3; K; L; S.

C. fusca Laum. On living Digitalis leaves, forming large leaf-spots; C (IMI 168497).

C. helicii (Desm.)Morgan-Jones On Hedera leaves; DM (IMI 166791).

C. holci (Syd.)Grove
On Holcus lanatus leaves; C (IMI 184259b).

Cnidosporium fuchelli Sacc. On living Prunus spinosa leaves; J3 (IMI 188743).

C. sultioniense D. Hawksw. & Punith. On dead Ilex twigs; J1 (IMI 168574T).
Hawksworth and Punithalingam (1975).

C. sp.
On Dinemastrum graminum on Holcus, rare; C (IMI 188671b).

Cornulispora lichenicola D. Hawksw. & Sutton On Parmelia sulcata thalli, rare; CY (IMI 168831T).
Hawksworth (1976).

Cryptonella typhae (Peck)Died. On dead Typha stems in water; E2 (IMI 164985).

Cytospora ambiens Sacc. On dead Ulmus twigs; N3 (IMI 188755).

C. chrysosperma Fr., see Valsa sordida Nits.

C. elspeetia Sacc. On dead Rubus canes; L (IMI 180154).

Darlylia flava (Fr.)Cast., see Eudarlylia carici (Fr.) O. Eriks.

Dipeasporium graminum Lév. (incl. var. striegensum Karst.) On dead stems and leaves of Gramineae, Calarium verum and Urtica, common; B; C (IMI 168671a, 168638); DM (IMI 18885); G1 (IMI 178311f); I1; 2; 3; 4; S; SV.

Diplocarpon finex (Desm.)Kicks On fallen Pinus cones and twigs; J1 (IMI 178442), 3 (IMI 184289b); L (IMI 197354).

D. sarmentorum (Fr.)Fr., syn. D. crustaegei Westend., see Ostrea spinacea (Fucell)Fucell.
Diplolina aqueti Sacc.
On dead Equisetum stems; G1 (IMI 178260).
D. salicis Westend.
On Salix twigs; H (IMI 166789).
cf. Elachopeltis.
On old Rubus canes; C (IMI 182121).
Probably undescribed but material sparse.
Hendersonia culmica Sacc. var. minor Sacc. (? syn.
H. culmica Sacc.)
On dead Phragmites canes, locally abundant; E1
(IMI 178934); 4 (IMI 168544), 6.
H. sp.
On dead Forniculum stems; H (IMI 186848).
(Heteropatella bonodornii [Haszl.] Lind, see Heterosphaeria
patella (Tode ex Fr.) Grev.)
(Leptostroma ficienteum Fr., see Rhopogonous ficienteus
[Fr. ex Fr.] Nits. ex F.Juckel)
Leptothyrium medium Cooke
On unarmed fallen leaf; J1 (IMI 188824).
Libertella salicis A.L.Sm.
On dead Salix branch; I1 (IMI 188764).
Lichencodium sp.
In apothecia of Ramalina calicaris on Salix, rare;
DM (IMI 186833).
Hawsworth (1976).
Marssonina delastrei (Delacr.) Magnus
OnSilene dioica leaves; C (IMI 168493).
M. potentillae (Desm.) Magnus
On Potentilla anserina leaves, locally frequent;
I1 (IMI 186824), 178342.
Melanocium sp.
On dead Urtica canes; S (IMI 182247).
Probable undescribed but previously collected in
Norfolk on the same host (Wheatten Broad, 26
(Melania acaia (Lév.), see Rhytisma acauria (Pers.
ex St.-Am.) Fr.)
Myxocystis polyctistis (Ber. & Br.) Sacc.
On dead Betula twigs; J1 (IMI 188734).
Neoitiospora caricina (Desm.) Höhn.
On dead Carex leaves; DM (IMI 184303).
Pestalotiopsis sp.
On dead Thuja leaves; SV (IMI 194022).
Phloaspora acriis (Lib.) Sacc.
On fallen dead Acr keys; I1 (IMI 188766).
Ph. heraclei (Lib.) Petr.
On living Heracleum leaves, frequent; C (IMI
168595); E1; 6 (IMI 168544); F1; G1; 2; H; I1; J2;
N3 (IMI 188758), 4; S; SV.
Phoma arnariae-sibiricae Allesch.
On Arniae rooting stems; B (IMI 184849).
P. cytophora (Vouaux) D. Hawskaw.
On thalli of Parmelia caperata and P. perlata, frequent;
CY (IMI 164975); DM; F1; I1; J2; N4.
Hawsworth and Punithalingam (1973): Hawskaw
(1976).
P. glomerata (Corda) Wollenw. & Hochapf.
On dead Cirsium stems; J6 (IMI 184993).
P. herbarum Westend.
On dead stems or twigs of Digitalis, Fraxinus, Tri-
folium and Urtica, very common on Urtica; C
(IMI 178262, 168555); D1; E1, 2, 5, 6; F1; G1
(IMI 178221); H; I1, 3, J1; M (IMI 166800);
N3, 4; S (IMI 164986, 164988, 165016, 182498); SV.
P. libertiana Sacc. & Speg.
On dead Larix twigs; J1 (IMI 168631).
(P. lingan Desm., see Leptosphaeria maculans (Desm.)
Ces. & de Not.)
P. medicinogin Malbr. & Roum. var. pinodella (L. K.
Jones)Boerema
On Trifolium pratense leaves; C (IMI 188748).
(P. ramalinae Nordin, see Abrothallus succius (Kirsch.
Nordin)
P. rubella Grove
On dead Cirsium stems; N3 (IMI 188754).
P. sp.
On cut end of Castanea log; J1 (IMI 186866).
Phanoposia albicans (Rob. & Desm.) Syd.
On dead Hypochoeras flowering shoots; C (IMI
186875).
P. atercius Grove, see Diastrophis angelicae (Berk.
Wehm.)
P. controversa (Sacc.) Trav.
On dead Fraxinus twigs, frequent; C (IMI
178263); I1; J1 (IMI 178254); N4; S; SV.
P. crucerizeae Grove
On dead Rhoophko maritimus stems; C (IMI 178330).
P. digitalis D. Hawskaw. & Punith.
On old dead Digitalis stems; I1 (IMI 1649878 T).
Hawsworth and Punithalingam (1973a).
P. doradiana (Sacc. & Roum.) Died.
On dead Ramex stems; H (IMI 166761); J1 (IMI
186628).
P. elliptica (Peck)Grove (syn. P. mazzantiioides Petr.)
On dead Galium aparine stems; J1 (IMI 180196).
P. epatoricolea Petr.
On dead Epautoptrum stems; SV (IMI 178666).
P. hieraci Greene
On dead Pilosella flowering shoots; C (IMI 1598304).
Hawsworth and Punithalingam (1973a).
P. hydrangeae Lucas & Da Camara
On dead Hydrangea stems; SV (IMI 184271,
186841).
P. iridis (Cook) D. Hawskaw. & Punith.
On old Iris flowering shoots; SV (IMI 178330).
Hawsworth and Punithalingam (1975).
P. occultu (Sacc.) Trav.
On dead twigs and rotting wood of Picea and Pinus;
J1 (IMI 1868674), 3 (IMI 184286).
P. polygonorum (Cook)Grove
On dead Reynoustria stems; E1 (IMI 1667244), 6.
(P. pulla Trav., see Diastrophis pulla Nits.)
P. pustulata (Sacc.) Died.
On dead Acr branch; I1 (IMI 196212).
P. quercina (Sacc.) Höhn., see Diastrophis leipochnia (Fr.
Sacc.)
P. rusc (Westend.)Grove
On dead Ruscus cladodes; L (IMI 1887374).
P. salicina (Westend.)Died.
On dead Salix twigs and leaves; I1 (IMI 178270), 2
(IMI 180186).
(P. sambucina Trav., see Diastrophis spiculosa (Alb. &
Schw. ex Fr.) Nits.)
P. sobrina Höhn.
On dead Fraxinus twigs; M (IMI 1868556).

P. subordinaria (Desm.) Trav. On dead Plantago lanceolata and P. media stems; B (IMI 168066); C (IMI 170980).

P. syringina (Sacc.) Trav. On Syringa leaves; SV (IMI 168400a).

(P. zebris (Sacc.) Höhn., see Apiopithore zebris (de Lacroix) Wehm.)


P. sp. On dead Prunus laurocerasus leaves; J1 (IMI 168656b, 168661).

Phylocteta hedericola Dur. & Mont. On Hedera leaves; J1.

P. ruscicola Desm. On dead Ruscus cladodes, frequent; 1t (IMI 178261); J1 (IMI 188375); S.

Phylosticta ilicis (Oud.) Petr. & Syd. On fallen Ilex leaves, locally abundant; J1 (IMI 168642, 168649); 2, 6; K; S.

Picrostoma circinatum Fr. On dead Phragmites canes, common on standing canes; D1, 2; DM (IMI 1849028); Et, 3; 5, 6; F1; G1 (IMI 1849274), 2.

Platysiphonia sp. On dead Ilex twigs under the bark; J6 (IMI 195550b).

Polyscyphium rugosum (Fr.) D. Hawksw. & Puniith. (syn. Dichotoma faginea (Fr.) Sacc.) On Fagus bark, forming extensive patches on old trunks, very common; DM; J1 (IMI 166793), 2, 3; K; L; N5.


(Pycnostylium litigiosum (Desm.), Died., see Dostothyrilla litigiosa (Sacc.) Höhn.)

Pycnochaeta ilicis Wilson On dead fallen Ilex leaves, locally abundant; DM (IMI 198123b); S (IMI 182245b).

P. sp. On dead Luzula sylvatica leaves; J1 (IMI 194044).

Rhabdospora hypochoridis Grove On dead Hypochaeris flowering shoots; C (IMI 168594).

Sclerotinia phytiophila (Corda) Höhn. On fallen Pinus needles, locally abundant; J1 (IMI 180138), 3, L.

(Scoleosporiella typhae (Höhn.) Petre, see Leptosphaeria typharum (Desm.) Kerp.)

Seiridium uniconae (Cooke & Ellis) Sutton On dying Thuya leaves; SV (IMI 184280).

Septoria galapagensis Westend. On Galapagos tetralith leaves; 1t (IMI 168551).

S. hederae Desm. On Hedera leaves; K (IMI 165005).

S. lychnidis Desm. On Silene dioica leaves; J1.

S. minutus Schröd. On dead Luzula sylvatica leaves; J1 (IMI 188720).


(Stagonospora arenaria (Sacc.) Sacc., see Pleospora vagans Niesl)

S. calystegiae (Westend.) Grove On Calystegia leaves; DM (IMI 168591).

S. elegans (Berk.) Sacc. & Trav. On dead Phragmites canes; E6 (IMI 168877).

Stegosporium pyroforme Corda On Acr twigs, C, 1t, 3 (IMI 168546).

Vonouxiella lichenicola (Linds.) Petr. & Syd. In apothecia of Leucora chlorara, very common; C; DM; F1; H (IMI 186864); 1t (IMI 178325), 3; J2; N5 (IMI 188750), 4; S; SV.

V. verrucosa (Vouaux) Petr. & Syd. In apothecia of Leucora chlorara, rare; H (IMI 168661b).

HYPHOMYCETES

Acremonium persicinum (Nicot) W. Gams (syn. Paecloniomyces persicinicus Nicot)

On decortic ate Acr wood; J1 (IMI 168575).

A. strictum W. Gams (syn. Cephalosporium acerominum auct.) Isol. ex rabbit dung and decaying Calotis excipuliformis; nr J1 (IMI 196959b), nr 6 (IMI 188776).

(A. sp., see Nectria candidans Plowr.)

Acrogonospora sphaerocephala (Berk. & Br.) M. B. Ellis On dead perithecia of Lasiosphaeria spernoides; S (IMI 188526).

Alatospora acuminata Ingold In stream foam; J2.

Alternaria alternata (Fr.) Keissl. On dead herbaceous stems and wood; C (IMI 178337); Et, 3, 6 (IMI 168795); 1t (IMI 168592).

A. tenaxima (Kunze ex Pers.) Willah. On dead herbaceous stems, aged or dead leaves, etc., common; C (IMI 178317, 178332); DM (IMI 195810b); E1 (IMI 185557); H (IMI 188479); J1 (IMI 176332).

Alyssidium retinum (Fr.) M. B. Ellis On rotting wood; J1 (IMI 180134).

Anuringa dendromorpha Descals On twig in stream; J2.

A. laxa Sutton On rotting Castanea cupules; DM (IMI 184568d).

Sutton (1975).

Anguillospora crassa Ingold In stream foam; J2.

Aphanocladium album (Preuss) W. Gams On Comartricha nigras; J1.

Arthrinium phasphorum (Corda) M. B. Ellis On dead culms of Bromus, dead Phragmites canes, and student's transect cane; E2 (IMI 180129); J1 (IMI 178337); M (IMI 166735).

(A. sp., see Aphiopsora montagni Sacc.)

Arthrobotrys cf. superba Corda On nematodes on cow dung; J1 (IMI 189313).

Articulospora termitilina Ingold In stream foam and on incubated leaf skeletons; J2.

A. sp. In stream foam, abundant; J2.

Probably an undescribed species (Descals, in litt.).
Aspergillus candidus Link ex Fr.
On vole dung in Carex tussock; DM (IMI 185587).
A. fumigatus Fres.
On cow dung; S (IMI 1810406).
Aureobasidium pullulans (de Bary) Arnaud
On leaves of Acer and Iris, and on dead Salix twigs; CY (IMI 1685154); DM (IMI 1684836); I1 (IMI 1685276).
Batrobasidium abruptum (Berk. & Br.), Mason & Hughes
On rotting *Fraxinus* stump; S (IMI 164998).
Blister ocellisporum (A.L.Sm.) Sutter (syn. Stiltella ocellispora (A.L.Sm.), B. Ing.)
On Trichia affinis and *T. botrytis*; J1; S.
B. tomentosum (Schrad. ex Fr.) Sutter (syn. Stiltella tomentosa (Schrad. ex Fr.) Berk.)
On Trichia botrytis and T. sp.; J1.
Botryosphaeria longibrachiatum (Oud.).Maire
On dead plant material; k.
(Botrytis cinerea Pers. ex Pers., see Sclerotinia fuckeliana (de Bary)Fukku)
Brachysporium blaxami (Cook) Sacc.
On rotting wood associated with *Trichosporium* sp.; J1 (IMI 1838576).
Candelabrum spinulosum van Beverwijk
On rotting Castanea cupules; J1 (IMI 1782736, 1845666, 1888238), 6 (IMI 1845656).
Sutton (1975).
Centrospora aerina (Hartig) Newhall
In stream foam; J2.
Ceratosporium fuscescens Schwein.
On dead Ulx stems; 11 (IMI 1887716).
Cercospora depaezoides (Desm.) Sacc.
On Sambucus leaves; DM (IMI 168486).
C. rubi Sacc.
On Rubus leaves; J1; K (IMI 165010).
Chiaromyces microsporica (Kart.) Hughes
On decorticate logs; B (IMI 153190).
Chromosporium ochraceum Corda
On dead Heracleum stems; G1 (IMI 179380).
(Chladobryozon variurn Nees ex Duby, see Hypomyces aurantius (Pers. ex Fr.) Tul.)
Cladosporium cladosporioides (Fresca) de Vries
On dead Phragmites canes and fallen Acer leaves; D2 (IMI 166775); J1 (IMI 186847).
C. herbarum (Pers. ex Link) Gray
On dead, aged, or living herbaceous stems, leaves, fruits and flowers of many species, dead twigs, rotting wood, cardboard, dung and plaster, extremely common, undoubtedly the commonest fungus in the Reserve; B (IMI 186500, 186569); C (IMI 1508700, 1586298, 156009, 188962, 18896, 170278, 179336, 1782856, 1686464); CY (IMI 194065); D1, 2); DM (IMI 1509100, 186882); E1 (IMI 166909, 1665578), 2 (IMI 1825338); 3, 5, 6 (IMI 1667248, 168504, 168505); F1, 2; G1, 2; H (IMI 178250, 1686578); I1 (IMI 1865476, 168500, 178681a, 1783396), 3 (IMI 1686371); J1 (IMI 166786, 168652, 1842738), 2, 3, 3, 4, 5, 6; K (IMI 166096, 165022); L; M; N2, 3, 4; S (IMI 186844); SV.
C. macrocarpum Preuss
On dead and aged herbaceous stems, flowers and leaves; B (IMI 186875); C (IMI 179337); SV (IMI 186859).
C. uremioica Speg.
On old sorri of a rust (? *Puccinia corona*) on dead grass leaves; 11 (IMI 1887756).
Hawksworth (1976).
Clathrotheca zaleskii van Beverwijk
On rotting *Castanae* cupules; J1 (IMI 1888222, 1845666), 5 (IMI 1845676), 6 (IMI 1845654).
Sutton (1975).
Clonostachys compressuscula (Sacc.) D. Hawksw. & W. Gams
On dead Salix twigs; DM (IMI 178256).
Hawksworth and Punithilingam (1975).
Codinaea fertilis Hughes & Kendrick
On rotting *Fagus* mast (cupules); J3 (IMI 194096a).
(C. sp., see *Clathrotheca callimorpha* (Mont.) Sacc.)
Corynespora squalii (Berk. & Br.) M. B. Ellis
On dead *Ilex* twigs, locally abundant; J1, 2 (IMI 194054), 6 (IMI 189604); K (IMI 178292).
(Cylindrocarpon candidum (Link) Wollenw., see *Nectria coccinea* (Pers. ex Fr.) Fr.)
Cylindrocladium sp.
On dead *Arrenatherum* leaves; C (IMI 168486).
Material too poor for certain determination.
(Cylindrocarpon urticae (Pers.) Bonord., see *Cattoria fusarioides* (Berk.) Fr.)
Dendrophthoe sp.
On *Fuligo septica* var. *flava*; J1 (IMI 1781704a).
Dendrophthoe infuscans (Thüm.) M. B. Ellis
On dead *Oenanth* stems; C (IMI 184304e).
Hawksworth (1976).
D. vinosa (Berk. & Curt.) Reisinger
On dead *Urtica* canes; DM (IMI 1878277).
Dendryphiophthora Wallr.
On dead stems of *Anagallis*, *Lamium album* and *Urtica*; B (IMI 168554); C (IMI 187820); nr J1 (IMI 1842900); S.
Dictyosporium toruloides (Corda) Guqguen
On dead *Phragmites* canes in water, dead *Filipendula* stems and in stream foam; DM (IMI 197830); E1 (IMI 178293); J2.
Didymaria lanaria Pass.
On old *Linaria* leaves; G (IMI 186499).
Endophagria atro (Berk. & Br.), M. B. Ellis
On dead *Urtica* canes; S (IMI 1828474).
E. boeiei J. Crane, *Myxogastria* 64; 658 (1972)
On fallen *Pinus* cones; L (IMI 197536a).
New to the British Isles; to be discussed in a forthcoming paper.
E. uneptata M. B. Ellis
On dead *Ulex* stems; I1 (IMI 1887716).
Endophagriella cambrensis M. B. Ellis
On rotting wood; K (IMI 187992d).
Epichloe purpureus Ehrenb. ex Schlecht.
On rotting wood and decaying grass leaves; H (IMI 180151); I1 (IMI 1781876, 1887756).
Flagellospora sp.
In stream foam; J2.
The undescribed but common large-spored species of Ingold (1975).
Fusarium aqueductum Lagh. ex *see also under Nectria epiphylla* (Tode ex Fr.) Fr.
Isol. ex stream; J2.
F. avenaceum (Corda ex Fr.) Sacc.
On plant debris on Ley shore; E2 (IMI 1825539).
(F. cocogahilium (Desm.) Wollenw. & Reink., see *Nectria flammula* (Tul.) Dingley)
F. culmerum (W.Sm.) Sacc.
Isol. ex rabbit dung; nr. J6 (IMI 188776e).
(F. graminearum Schwabe, see Gibberella zeae (Schw., Pech.)
(F. larietinum Nees ex Link, see Gibberella baccata (Wallr.) Sacc.)
F. solani (Mart.) Sacc.
Isol. ex stream; J2.
Fusarium griseum Link
On fallen leaves, particularly of Castanea, occasional; J1 (IMI 179376, 180135); 3 (IMI 184286c), 6.
Gliocladium roseum (Link) Bain. (incl. G. catenulatum Gilman & Abbot)
On aged Ulex stems and isol. ex rabbit dung; J1 (IMI 188767c); nr. J6 (IMI 188776h).
Graphium sp.
On rotting wood; N4 (IMI 1887528).
(Helicena muelleri Corda, see Thaxteriella pezizia (Berk. & Curt.) Petrak)
Helicus lugdunensis Sacc. & Therry
In stream foam; J2.
Helminthosporium cylindraceum Corda
On dead Ulex stems; J1 (IMI 188717c).
H. solani Link ex Fr. & Schub.
On dead twigs; J1 (IMI 194041); J2 (IMI 184288).
Hormatiella alba Peuss.
On decaying apothecia of Peziza repanda; CY (IMI 1843016).
Hyalodendron sp.
On underside of fallen Fraxinus log; J1 (IMI 194081).
Conidia unusually large (15–25 × 6.6–10 μm).
Illosporum roseum Mart. ex Fr.
On thallus of Physcia tenella on Sambucus, rare; J1 (IMI 180128).
Lemnospora aquatica de Wild.
On incubated leaf skeletons from stream; J2.
L. terrestris Tubaki
In stream foam; J2.
Monilia sp.
On underside of fallen Fraxinus log; J1 (IMI 194081).
Conidia 15–25 × 6.5–11 μm.
(Monellium tenue W. Gams, see Nieslia sp.)
Nematagonium aurantiacum Desm.
On rotting logs; J1 (IMI 194051).
Nodulisporium gregarium (Berk. & Curt.) Meyer
On dead fallen twigs; J1 (IMI 178171).
N. griseum (Berk. & Curt.) Meyer
On dead log of Q. Acer; K (IMI 178239).
N. verrucosum (van Beyma) G. Sm.
On twigs by stream; J2 (IMI 185588).
Oidiodendron tenellissimum (Peck) Hughes
On rotting Castanea cupules; DM (IMI 184568c).
Oidium sp.*
On Parietaria leaves; SV (IMI 186651).
O. sp.*
On Sambucus young stems; J1 (IMI 168525).
O. sp.*
On Silene dioica leaves; E6.
Oncopodiella hyperparasticha D. Hawksw.
On dead perithecia of Lactispora stromoides; S (IMI 186653 T).
Hawksworth and Punithalingam (1975).

* The generic name "Oidium" as used here is Oidium Link (syn. Aerosporum Nees ex Fr.), this having recently been conserved for the imperfect states of members of the Erysiphaceae (powdery mildews).

Ozonium auriculatum Link s.l.
On rotting Ulmus branch; N4 (IMI 178251).
Paeoniloxys farinosa (Dicks. ex Fr.) A. Brown & G. Sm.
On insect larvae on dead herbaceous stems and fallen logs; DM (IMI 182843); J1 (IMI 194079); J1 (IMI 189870).
P. tenuepis (Peck) R. Samson (syn. Isaria peckoltii Lloyd, I. tenuepis Peck)
On Acer bark; M1 (IMI 168519).
(Pellinospora arundinis (Corda) Fr., see Aposiora montanica Sacc.)
Penicillium brevicompactum Dierckx
On cap of decaying Bolites sp. and on old Calvatia exguibiliformis sporocarps; J1 (IMI 178279, 196205c).
P. cyclopium Westl.
Isol. ex stream and Ley water; DM; E3; J2.
P. digitatum Sacc.
On rotting fruit skins; SV (IMI 179375).
P. frequentans Thom
Isol. ex stream and Ley water; DM; E3; J2.
P. fuscocinose Thom
On dog dung; C (IMI 179377).
A collection from rotting wood (11, IMI 1781879) in the P. fuscocinose-variabile series was also obtained.
P. pataulum Bain.
On vole dung in Carex tussock; DM (IMI 184260).
P. variabile Sopp (see also under P. fuscocinose Thom)
As culture contaminant; SV (IMI 178170b).
Periconia hyssoides Pers. ex Mérat
On dead herbaceous stems and aged or diseased leaves, common, particularly on dead Urtica stems; C; CY (IMI 186576); D1, 2; DM (IMI 166771a, 166841); E1, 6; F1, 2; G1 (IMI 178321c), 2 (IMI 168596); H1, I1 (IMI 166736, 1667354, 178324, 183414c), 3; J1 (IMI 168686), 2, 3, 5, 6; L; M (IMI 1668565), N3, 4; S (IMI 183854a); SV.
P. cookei Mason & M. B. Ellis
On dead Heracleum and Urtica stems; C (IMI 182823); J3 (IMI 189671).
P. minutissima Corda
On old Reynoutria stems; E1 (IMI 166734).
P. shpanala A. K. Roy
On dead Pteridium fronds; G2 (IMI 180165).
Hawksworth and Punithalingam (1975).
Philosaepha fumosa (Ellis & Everh.) Sutton
On rotting Castanea cupules; DM (IMI 184568a); J1 (IMI 184560d), 3 (IMI 188881), 5 (IMI 184565d), 6 (IMI 184565d).
Sutton (1975).
P. trunciata Sutton
On rotting Castanea cupules; J6 (IMI 184565c T).
Sutton (1975).
Pleurotheciopsis pusilla Sutton
On rotting Castanea cupules; DM (IMI 184568a); J1 (IMI 178273e, 184566, 188281), 3 (IMI 190495a), 5 (IMI 184567b).
Polysestatum fuscidentatum Ries
On rotting Castanea cupules; J1 (IMI 180145a).
(Polyblomyctium trifolii Schm. & Kunze ex Fr., see Cymodotheca trifolii (Kill.) Wolf)
Pseudomicrodochium acicularis Sutton
On rotting Castanea cupules; J1 (IMI 188829a), 3 (IMI 188894).
Pseudodiploglossus simplex (Kunze ex Fr.) M. B. Ellis
On dead Ilex wood; J1 (IMI 168651).

Ramularia didymomiioides Briosi & Sacc.
Forming necrotic patches on Silene dioica leaves; nr J1 (IMI 194985).
Hawksworth (1976).

R. pruniolae Thüm.
Forming necrotic patches on Prunus leaves; J1 (IMI 194064).

R. rubella (Bon.) Nannf. (syn. Ovularia oblique (Cookie) Oud.)
Forming marginally zoned necrotic patches on Rumex leaves; B (IMI 194015); N4.

R. scrophulariae Faurtr. & Roum.
On leaves of Scrophularia aquatica; DM (IMI 194100).

R. urticae Ces.
On Urtica leaves, G2 (IMI 197839).

Sclerotobasidium echinophialum (Massal.) Sutton
On rotted Castanea cupules; common; DM (IMI 184568a); J1 (IMI 1782946, 1782754, 184566, 1888236), 3 (IMI 188886, 190903b), 5 (IMI 184567a), 6 (IMI 188565e); S (IMI 184565a).

Seepulatosis brevisculis (Sacc.) Bain. s. lat.
On grass clippings; DM (IMI 197535).

(Sepedoninum chrysosporum Bull. ex Fr., see Apiocrea chrysosperma (Tul.) Syds.)

Spodicodes grovesii M. B. Ellis
On rotted wood; J1 (IMI 197846a).

(Sphacelis segetum Lév., see Claviceps purpurea (Fr.) Tul.)

Sporidesmium adscendens Berk.
On decorticlate log; J1 (IMI 183985).

S. cambricus M. B. Ellis
On dead Ulex gallii leaves; C (IMI 184265).

S. foliicolum (Corda) Mason & Hughes
On decorticlate Fraxinus wood; l1 (IMI 194066).

S. sp.
On dead Rubus canes; J1 (IMI 184283b).

This material has 4-septate conidia and may be undescribed but is rather scant.

Sporobolomyces roeseri Kuyver & van Niel
Isol. ex rotted wood; J1 (IMI 186867e).

Sporobolomyces sp.
On fallen Pinus cones; L (IMI 197536b).

A white-spored species.

Sporotrichum pruinatum Gilm. & Abbott
On decaying Armillaria mellea gills; S (IMI 180147).

(Stenophyllum botryosum Wallr., see Plasmodora herbaceum (Pers. ex Fr.) Rabenh.)

S. eustriatum (Wallr.) Simmons
On dead Horaceum stem; C (IMI 178297a).

Stillinga erythrophepha (Ditom. ex Fr.) Lindau
On cow and rabbit dung, frequent; nr J1 (IMI 181553), 6 (IMI 188824); M.

(Symphysiria sp., see Symphyotricha angulata E. A. Ellis)

Taninotella scripta (Karst.) Hughes
On decorticlate wood in ruined building; K (IMI 184254).

T. sp.
On Corylus bark; J1 (IMI 168573).

Tetracladium lowii Ingold
On incubated leaf skeletons from stream; J2.

Tetraplocladium marchalianum de Wild.
In stream foam; J2.

T. setigerum (Grove) Ingold
In stream foam; J2.

Tilletiosis minor G. Nyland
On Crataeria persimilis; J1 (IMI 186867b).

Torula herbarum Pers. ex Gray
On dead herbaceous stems, vegetable debris by the Ley and Pinus resin, frequent; C (IMI 178279); DM; Es (IMI 178324b); J1 (IMI 166790, 178332), nr J1 (IMI 184290); L (IMI 180153); S (IMI 183854).

T. sp.
On dead Urtica canes; S (IMI 182474).
A segregate from T. herbarum distinguished in having longer conidia to be described shortly by Dr. J. L. Crane.

Trichoderma hamatum (Bonord.) Bain.
On rotted wood; J1 (IMI 180137).

(T. pittuliifera J. Westb. & Riih., see Hypocrea pittuliifera J. Westb. & Riih.)

T. urvida Pers. ex Gray
On rotted wood and Rubus canes; CY (IMI 178183); H (IMI 180150); J1 (IMI 194049, 196266).

Trichladium gracile Ingold
In stream foam; J2.

T. splendens Ingold
In stream foam and on incubated leaf skeletons from stream; J2.

Trichothecium roseum (Pers. ex Link) Gray
On Aser and Salix twigs and branches, also on cow dung; CY (IMI 178306); DM (IMI 194036b); J1, J1 (IMI 181607), 2 (IMI 195861).

Trichotomastroma betulinum (Corda) Hughes
On dead Salix twigs, common, more rarely on Quercus twigs; CY (IMI 194062); DM; H (IMI 166732, 180148, 188659, 194050a); J1.

T. sp.
On Aser twigs; J1 (IMI 165020).

Sporodochia not developed.

Triposporium myrii (Lind.) Hughes
On Aser leaves and in stream foam; DM (IMI 168493b); J1 (IMI 186834), 2.

Triposporium elegans Corda
On rotted Pagus mast (cupules) and dead Rubus canes; J1 (IMI 184829); 3 (IMI 194066).

(Tuberulocystis vulgaris Tode ex Fr., see Necrta cinnabarina (Tode ex Fr.) Fr.)

T. sp.
On Aser bark; J1 (IMI 195359).

(Verticillium tridum Preuss, see Desmaziereella aciola (Libert)

Verticillium agarinum (Link) Corda
On Lepista nuda; C.

V. fungicola (Preuss) Hessebr.
On decaying leaf litter; J1 (IMI 1781746).

V. lecannii (Zimm.) Viégas
On dead Lepidopteran larva; C (IMI 186836).

V. vexianum (Sacc.) Sacc.
On Argyria circinaria, Stenonotopsis typhina and Trichia florisformis; J1, 4; K; S.

V. tenuissimum Corda
On rotted Castanea cupules; J1 (IMI 188829b); S (IMI 184596).

Sutton (1975).

Virgaria nigra Link ex Gray
On dead Quercus twig; K (IMI 184267).

Virgariella sp.
On cut end of Castanea log; J1 (IMI 186864).
Volucrispera ornithomorpha (Trott.) Hask.
On live Urtica leaves; E6; H (IMI 186844a).
Hawksworth (1976).

V. sp.
In stream foam; J2.

Volatella ciliata Alb. & Schw. ex Fr.
On horse dung and submerged Hedera leaves; C
(IMI 159829b); E1 (IMI 184270).

Xanthoricola physiciæ (Kalchbr.) D. Hawksw.
On apothecia of Xanthoria parietina, locally abundant;
C; DM; H; I1 (IMI 164974, 178313).
Hawksworth and Punithalingam (1979a).

Xylophypa nigrescens (Pera. ex Fr.) Mason
On dead Fraxinus log; J1 (IMI 168717).
Hawksworth and Punithalingam (1975).

Discussio

Most fungal recording in the British Isles is rather haphazard and only rarely have attempts been made to provide comprehensive lists of the species present in a particular region. The total of 949 species reported for Slapton appears to be by far the largest number detected in such a restricted area (Table 12). Much greater numbers have, however, been found in larger regions, notably in Mull (R. Watling, in latt.), south-east England (Dennis, 1973), Warwickshire (M. C. Clark, in latt.) and Yorkshire (Mason and Grainger, 1933). As a result of a survey of the numbers of fungi recorded in selected well-studied areas, Dennis (1973) considered that the approximate proportions of the total numbers of species to be expected in the major groups were “Phycomycetes” 2–6%, Basidiomycotina 47–57%, Ascomycotina 24–27%, Deuteromycotina 12–20% and Myxomycota 1–5%. Table 12 suggests that at Slapton the Basidiomycotina are certainly underworked whilst the Ascomycotina are particularly well represented; the total for the Deuteromycotina is also relatively high.

The relative paucity of the Basidiomycotina records from Slapton probably arises mainly from a failure to detect many of the ephemeral fleshy species of the Agaricales. This failure stems principally from much of the survey work having to be

<table>
<thead>
<tr>
<th></th>
<th>Berkshire</th>
<th>Haliford parish</th>
<th>Herefordshire</th>
<th>Monk Wood (Hunts.)</th>
<th>Mull</th>
<th>New Forest</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) “Phycomycetes”a</td>
<td>0 (0%)b</td>
<td>30 (2.2%)</td>
<td>55 (4.6%)</td>
<td>1 (0.3%)</td>
<td>47</td>
<td>1 (0.1%)</td>
</tr>
<tr>
<td>(b) Basidiomycotina</td>
<td>805 (60.9%)</td>
<td>740 (55.4%)</td>
<td>806 (67.7%)</td>
<td>250 (82.6%)</td>
<td>862</td>
<td>617 (89.0%)</td>
</tr>
<tr>
<td>Teliomycetes</td>
<td>785</td>
<td>666</td>
<td>654</td>
<td>229</td>
<td>756</td>
<td>595</td>
</tr>
<tr>
<td>Hymenomycetes</td>
<td>54</td>
<td>117</td>
<td>8</td>
<td>91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gasteromycetes</td>
<td>20</td>
<td>3</td>
<td>15</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Ascomycotina</td>
<td>190 (19.1%)</td>
<td>426 (31.9%)</td>
<td>162 (13.6%)</td>
<td>41 (13.4%)</td>
<td>531</td>
<td>72 (10.4%)</td>
</tr>
<tr>
<td>(d) Deuteromycotina</td>
<td>0 (0%)</td>
<td>141 (10.5%)</td>
<td>167 (14.0%)</td>
<td>13 (4.3%)</td>
<td>298</td>
<td>3 (0.4%)</td>
</tr>
<tr>
<td>Totals</td>
<td>995</td>
<td>1,337</td>
<td>1,190</td>
<td>305</td>
<td>1,738</td>
<td>693</td>
</tr>
</tbody>
</table>

*Zygomycoxtina + Mastigomycotina. b Numbers of species in each subdivision (i.e. (a)-(d) are expressed as a percentage

Bowie (1968); 2 Watling (1967); 3 Gregory (1951, 1953); 4 Houlton (1973); 5 R. Watling (in latt.); 6 Rayner (1911); 7 Mason and Grainger (1937).
carried out in the late summer (see Fig. 2, p. 396), as opposed to the autumn in which this group optimally fruits, and also to the years 1971 and 1973 being exceptionally dry. The listings of other groups presented here are also not to be treated as definitive: in addition to habitats not investigated in detail (see p. 396), because of the difficulties inherent in fungal survey work (p. 392-393) many species could certainly be added by future visits to the Reserve. How many fungi, then, remain to be detected at Slapton? If one assumes that the information for south-east England is reasonably comprehensive, at least on a proportional basis, then the Ascomycotina at Slapton might be expected to constitute 23.9% of the total rather than 37.6% as reported here. For this to be true, the total number of fungi recorded at Slapton would have had to be 1,494 species. As the Ascomycotina total is certainly incomplete, it seems reasonable to speculate that the actual number of fungi at Slapton is considerably in excess of 1,494: a number as high as 1,800 (excluding the Myxomycota and lichen-forming species) may be a not unrealistic estimate. It will be of interest to see if this suggestion is vindicated by future studies.

Slapton is the first area in Devon in which an account of the fungi of all groups, as comprehensive as possible, has been attempted. The fungal flora of Devon, as that of south-west England generally, is but poorly known at present. The most recent check-list for the county is Hiern and Rogers (1906) which included only some 567 species (451 of which were Basidiomycotina). Since then many species have been listed in "Botanical Reports" and other papers in the Transactions of the Devonshire Association for the Advancement of Science and foray accounts in the Transactions of the British Mycological Society. A list of the fungal disease of crops then known in the county was compiled by the Seale-Hayne Agricultural College (1935). Two recent British Mycological Society forays in the county, however, yielded rather few species: 194 around Paignton (Holden, 1969) and 234 around South Molton

and lichen-forming fungi) recorded from selected areas of the
those known from Slapton

<table>
<thead>
<tr>
<th>Northam Great Wood (Herts.)</th>
<th>Rhum*</th>
<th>South-east England</th>
<th>Stanmore Common (Middlesex)</th>
<th>Warwickshire</th>
<th>Yorkshire</th>
<th>SLAPTON</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (0%)</td>
<td>37 (4-2%)</td>
<td>236 (5-7%)</td>
<td>1 (0-4%)</td>
<td>30 (1-6%)</td>
<td>83 (2-5%)</td>
<td>17 (1-8%)</td>
</tr>
<tr>
<td>77 (93-6%)</td>
<td>419 (47-4%)</td>
<td>1,916 (46-6%)</td>
<td>223 (93-7%)</td>
<td>1,009 (53-4%)</td>
<td>1,969 (59-3%)</td>
<td>336 (35-4%)</td>
</tr>
<tr>
<td>266</td>
<td>374</td>
<td>1,666</td>
<td>197</td>
<td>880</td>
<td>1,705</td>
<td>55</td>
</tr>
<tr>
<td>8</td>
<td>60</td>
<td></td>
<td>25</td>
<td></td>
<td></td>
<td>264</td>
</tr>
<tr>
<td>17 (5-7%)</td>
<td>241 (27-3%)</td>
<td>962 (23-9%)</td>
<td>12 (5-0%)</td>
<td>710 (37-6%)</td>
<td>849 (25-5%)</td>
<td>357 (37-6%)</td>
</tr>
<tr>
<td>2 (0-7%)</td>
<td>187 (21-1%)</td>
<td>979 (23-8%)</td>
<td>2 (0-8%)</td>
<td>140 (7-4%)</td>
<td>422 (12-7%)</td>
<td>239 (25-2%)</td>
</tr>
<tr>
<td>86</td>
<td>884</td>
<td>4,113</td>
<td>238</td>
<td>1,888</td>
<td>3,323</td>
<td>949</td>
</tr>
</tbody>
</table>

* the total number of fungi recorded from each area.

' White and White (1966); *Watling (1970); *Dennis (1973); *Ing (1969); *M. C. Clark (in litt.);
(Thomas, 1973)*. No critical synthesis of the available information on the fungi of Devonshire has been made so that the total number now recorded in the county remains uncertain.

An interesting result of the Slapton survey has been the number of fungi found new to science or previously unpublished as occurring in the British Isles: twenty-four species new to science (of which 18 have now been formally described and a further six await further material and description) and twenty-nine not apparently previously published for the British Isles. Fuller information on most of these finds can be located through the series “New and interesting microfungi from Slapton, South Devonshire” which supplements this paper (see p. 396). Not all these 53 species (i.e. 5·6% of the total number of fungi recorded) are, however, now only known in Britain from Slapton. This surprisingly large number of discoveries in a single study is likely to arise from a combination of (a) the nature of Slapton which makes it remarkably rich for plants and animals generally (e.g. 490 flowering plants and ferns, Brookes and Burns, 1969; 260 lichens, Hawksworth, 1972 and unpublished data; 84 myxomycetes, Ing, 1976; 178 mosses and liverworts, A. R. Perry, in litt.; c. 2,500 beetles, P. M. Hammond, in litt.), and (b), perhaps more importantly, the poor state of our current knowledge of British microfungi.

In my account of the lichens of Slapton (Hawksworth, 1972) I discerned a number of distinct geographical elements in the lichen flora. Increased knowledge since then has enabled even more elements to be recognized on a national scale (Coppins, 1976). Knowledge of the distribution of non-lichenized fungi in Britain, however, currently lags far behind that of the lichen-forming species. In recent years there has been an attempt to map some larger fungi on a European scale (Lange, 1974) but, as pointed out by Reid (1975), gaps in our knowledge render this an enterprise of somewhat doubtful value at the present time. In the case of the microfungi some of these problems are magnified even further. This is not to say that fungi do not show distribution patterns comparable to those described in flowering plants, etc., but only that we are not yet in a position to begin to recognize them with confidence. In my view any serious mapping of the distributions of fungi in Britain must await a great deal more collecting and critical taxonomic research.

ACKNOWLEDGEMENTS

The preparation of this account would not have been possible without the cooperation of numerous specialists who have most kindly assisted in the determination of material from Slapton: Dr G. W. R. Arnold, Dr C. Booth, Prof. C. G. C. Chesters, Mr M. C. Clark, Dr R. W. G. Dennis, Dr D. M. Dring, Dr M. B. Ellis, Mrs J. P. Ellis, Dr S. M. Francis, Dr W. Gams, Mr W. D. Graddon, Prof. J. J. Kohlmeyer, Mrs J. Lunn, Dr N. Lundqvist, Dr E. M. Mordue, Dr J. L. Mulder, Dr A. H. S. Onions, Dr D. N. Pegler, Dr E. Punithalingam, Dr D. A. Reid, Dr R. A. Samson, Dr A. Sivanesan, Dr J. D. Stamps, Dr B. C. Sutton, Mrs M. Talloch and Miss G. M. Waterhouse.

I am also grateful to Mr and Mrs M. C. Clark, Mr E. Descals, Dr G. N. Greenhalgh, Mr B. Ing, Miss L. Turpitt, Dr A. J. Whalley and Prof. J. Webster for sending records and (or) specimens to me.

* These were, however, both spring forays and so the Agaricales would certainly be under-represented in these lists also.
In addition I am indebted to Mr R. P. Troake, and his past and present staff at Slapton, for their continuing assistance in many ways, not least for providing accommodation and local laboratory facilities, and to various colleagues for their helpful comments on drafts of this paper.

Lastly, I should like to record my gratitude to Mr J. H. Barrett for his attempts to make the first sections of my paper intelligible to the non-specialist, and to my wife for her assistance in both this regard and also for tolerating numerous visits to Slapton.

REFERENCES


