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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

* According to the data compiled by Ainsworth (1971, pp. 406–407).

† 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

Table 1. *Summary of the collectors and recorders of fungi together with the year(s) of their visit(s) and number of visits*

British Mycological Society 1968 (1)	Mr B. Ing 1973–74 (4)
Mr M. C. Clark 1974–75 (4)	Mr P. W. James 1970–72 (3)
Mrs M. C. Clark 1974–75 (3)	Mrs A. Lee (née Burns) 1960–65
Mr E. Descals 1973–75 (2)	Prof. H. G. Peacock 1928 (1)
Miss M. Forsyth 1961– (1)	"ACR" [Full name unknown] 1962 (1)
Dr S. M. Francis 1957–58 (2)	Dr D. H. S. Richardson 1963–66 (5)
Dr G. N. Greenhalgh 1965–67 (3)	"FT" [Full name unknown] 1964 (1)
Mr J. L. Griffith 1967–73	Miss L. Turpitt 1974 (2)
Miss C. M. Hainsworth 1940 (1)	Prof. J. Webster 1974 (1)
Mr G. T. Harris 1932 (1)	Dr A. J. Whalley 1967–68, 1973–74 (4)
Mr K. Harrower 1973 (1)	
Dr D. L. Hawksworth 1969–75 (18)	

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-

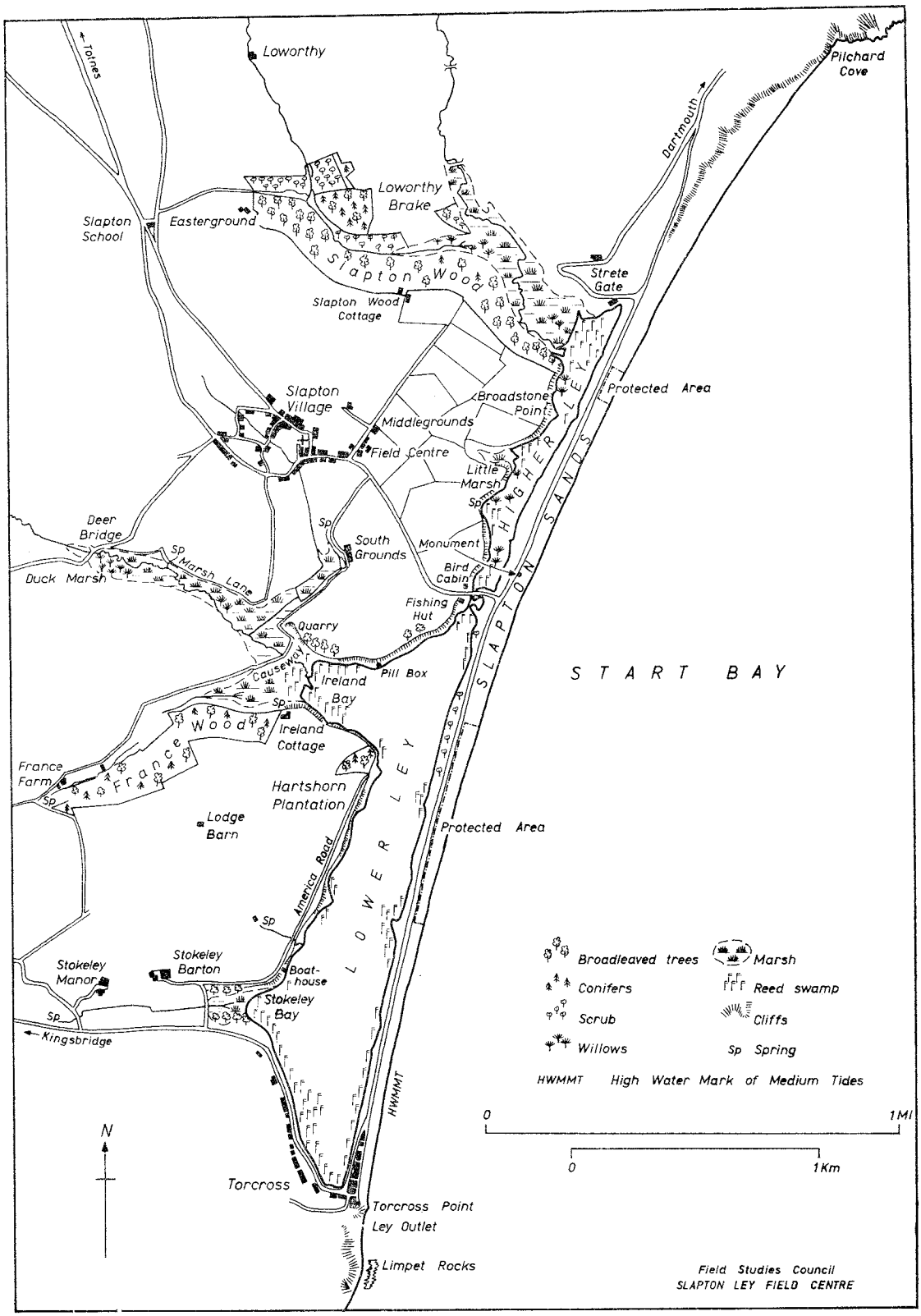

FIG. 1.
The Slapton Ley Nature Reserve (reproduced from Hawksworth, 1972, p. 537).

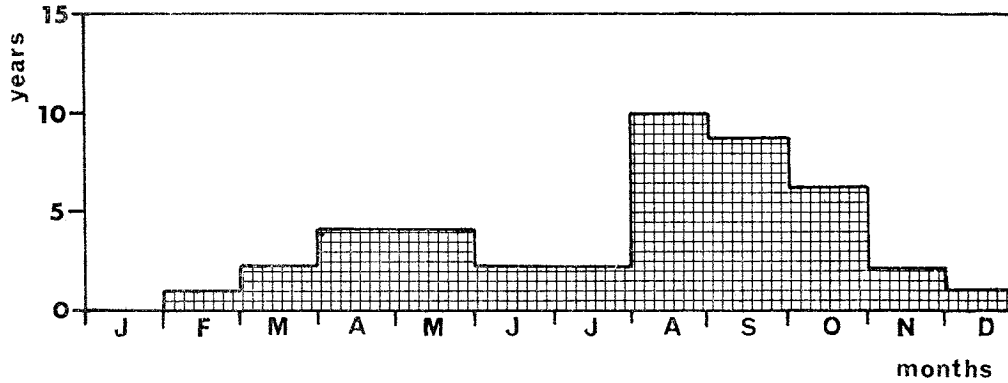

FIG. 2.
Number of years in which collections of fungi have been made at Slapton in particular months during the period 1960–1975 (inclusive).

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.

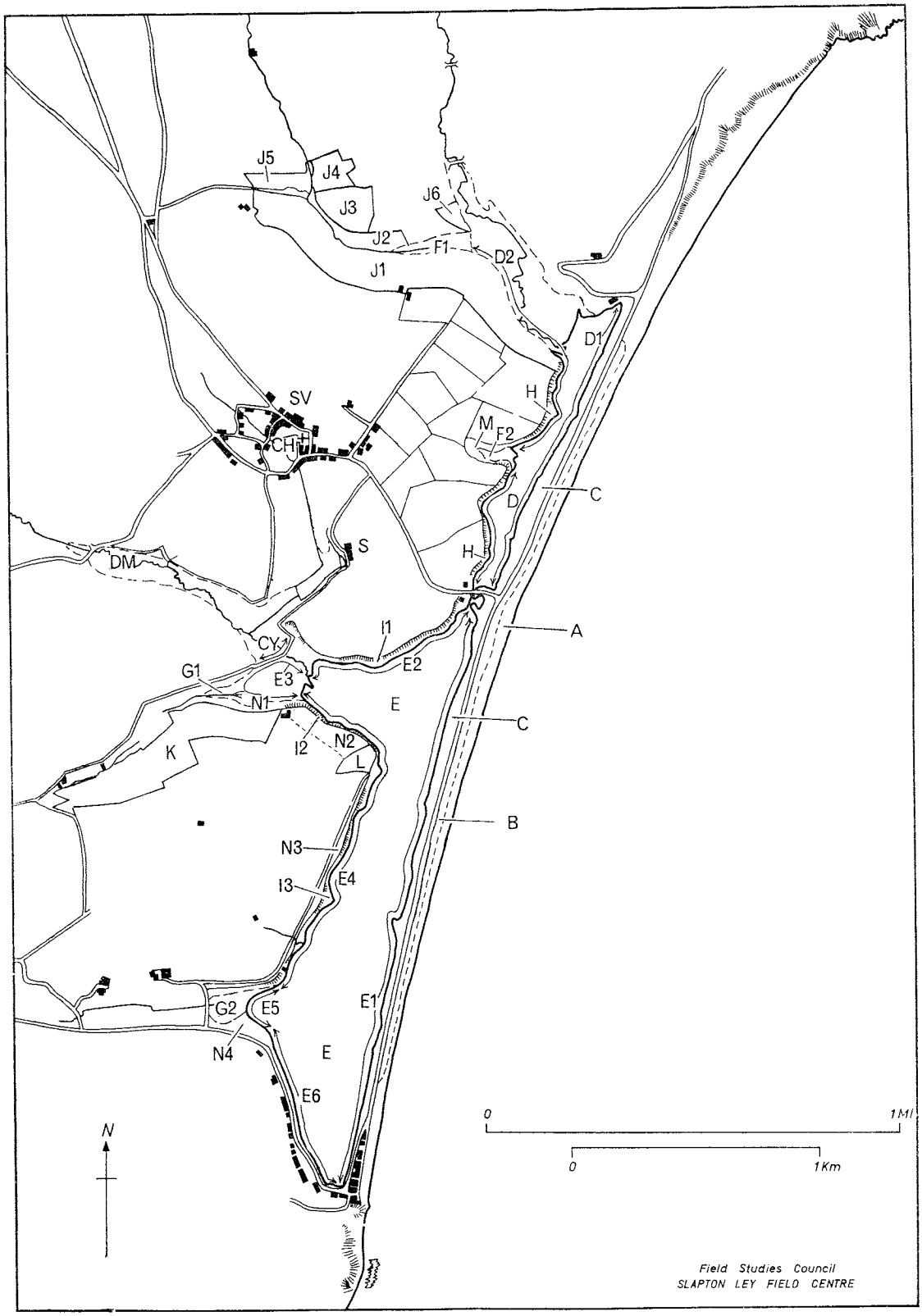

FIG. 3.

The Slapton Ley Nature Reserve showing location of the 38 units used in this study (reproduced from Hawksworth, 1972, p. 539).

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 meterological 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 Ratsey (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 *Cheiromycella microscopica*; other species common on dry barkless (decorticate) wood throughout the Reserve also occur on these logs (e.g. small black lip-like fruits of both *Gloniopsis praelonga* and *Hysterium angustatum*) but the logs are too dry to support many larger fungi.

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

Teliomycetes	*Gnomoniella rubicola*
Kuehneola uredinis	*Hyaloscypha hyalina*
Puccinia bulbosum	*Hymenoscyphus scutula*
P. violaceum	*Hypoderma rubi*
	Microthyrium versicolor
Hymenomycetes	*Mollisina rubi*
Peniophora cf. *rufomarginata*	*Mollisiopsis lanceolata*
Radulomyces confluens	*Pezicula rubi*
	Pezizella sp.
Ascomycotina	*Pyrenopeziza escharodes*
Anthostomella rubicola	*Rutstroemia fruticeti*
*Apioporthe vepris**	*Sclerotinia fuckeliana**
Appendiculella calostroma	*Stictis stellata*
Buellia cf. *stygia*	
Chaetosphaeria callimorpha	Deuteromycotina
Clypeosphaeria notarisii	*Cercospora rubi*
Cryptodiscus rhopaloides	*Cladosporium herbarum*
Dasyscyphus dumorum	*Cytospora clypeata*
Didymella applanata (*)	*Elachopeltis* sp.
Dimerium meliolicola[1]	*Sporidesmium* sp.
Gloniopsis praelonga	*Trichoderma viride*
Gnomia rubi	*Triposporium elegans*

* = as the conidial state only; (*) = in conjunction with the conidial state; [1] = on *Appendiculella calostroma*.

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*), *Clitopilus prunulus*, *Marasmius oreades* (fairy ring mushroom) and *Mycena aetites* 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 *Volvariella 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 *Cladonietum alcicornis*; see Hawksworth, 1972), and *Omphalina griseopallida*, 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*

Ascomycotina	Deuteromycotina
Bisporella sulfurina	*Ascochytula ulicis*
Didymosphaeria conoidea	*Ceratosporium fuscescens*
Gloniopsis praelonga	*Cladosporium herbarum*
Lophiostoma angustilabrum	*Endophragmia uniseptata*
L. sp.	*Gliocladium roseum*
Melanomma pulvis-pyrus	*Helminthosporium cylindraceum*
Microthyrium cytisi	*Periconia byssoides*
Mollisia melaleuca	*Septoria slaptoniensis*
Mollisiopsis dennisii	*Sporidesmium cambrense*
Phialea complicata	
Pleospora herbarum	

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 *Xanthoriicola physciae* 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*

Gasteromycetes	*Phialea cyathoidea*
Cyathus olla	*Sclerotinia fuckeliana**
Hymenomycetes	
Lachnella villosa	Deuteromycotina
Macrocystidia cucumeris	*Apomelasmia urticae*
Resupinatus cyphelliformis	*Cladosporium herbarum*
	Dendryphiella vinosa
Ascomycotina	*Dendryphion comosum*
Acrospermum compressum	*Dinemasporium graminum*
*Calloria fusarioides**	*Endophragmia atra*
Dasyscyphus sulfureus	*Melanconium* sp.
Diaporthe arctii	*Periconia byssoides*
Hymenoscyphus herbarum	*P. cookei*
H. scutula	*Phoma herbarum*
Leptosphaeria acuta	*Ramularia urticae*
Mycosphaerella superflua	*Torula herbarum*
Ophiobolus rubellus	*T.* sp.
Pezicula dennisii	*Volucrispora ornithomorpha*

* = 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*

Teliomycetes	*Lophodermium arundinaceum*
Puccinia magnusiana	*Phomatospora berkeleyi*
P. phragmites	*Scirrhia rimosa*
Ustilago grandis	*Tapesia evilescens*
	T. retinicola
Hymenomycetes	
Crepidotus variabilis	Deuteromycotina
Marasmius limosus	*Arthrinium phaeospermum*
	Cladosporium cladosporioides
Ascomycotina	*C. herbarum*
Anthostomella punctulata	*Dictyosporium toruloides*
A. tomicoides	*Hendersonia culmicola* var.
Dasyscyphus controversus	*minor*
Lophiostoma arundinis	*Pirostoma circinans*
L. semiliberum	*Stagonospora elegans*

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 culmicola* var. *minor*, *Lophiostoma arundinis*, *L. semiliberum*, *Lophodermium arundinaceum*). The delicate black scurf formed by the microscopic fruits of *Pirostoma circinans* 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 grandis* 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. retinicola*. 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 *Marasmius 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 byssoides* 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

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

Teliomycetes	*L. racodium*
Melampsora capraearum	*Lophiostoma angustilabrum*
M. epitea	*Mollisia ligni*
	M. sp.
Hymenomycetes	*Orbilia auricolor*
Dacrymyces stillatus	*O. xanthostigma*
Daedaleopsis confragosa	*Pachyella babingtonii*
Datronia mollis	*Peziza repanda*
Laetiporus sulphureus	*Scutellinia scutellata*
Mycena tortuosa	*Venturia minuta*
Peniophora lycii	*Zignoella ovoidea*
Pluteus salicinus	
Tyromyces caesius	Deuteromycotina
	Aureobasidium pullulans
Ascomycotina	*Cladosporium herbarum*
Dasyscyphus pudibundus	*Clonostachys compactiuscula*
D. cf. *virgineus*	*Diplodina salicis*
Diatrype bullata	*Libertella salicis*
Eutypella cf. *stellulata*	*Phomopsis salicina*
Hymenoscyphus calyculus	*Trichothecium roseum*
Lasiosphaeria hirsuta	*Trimmatostroma betulinum*

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 capraearum* 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, *Phyllodecta 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. laticollis* Suffr., attacks the leaves of poplars on CY in a similar manner, causing extensive damage to that tree.

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 I1; 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 luxurient 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 cytospora* 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 parmeliarum* 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 *Lichenoconium*. A summary of literature for the identification of fungi growing on lichens in Britain is in Hawksworth (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 *Rhopographus 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 unamed *Phaeohelotium*) as well as several minute species of other groups. Dead and decolourized 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 rusci*, but *Phomopsis rusci* and *Phyllosticta ruscicola* are also frequent. Two particularly rare species on this host at Slapton, *Guignardia istriaca* (new to the British Isles; in J6) and *Pycnofusarium rusci* (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 *Fistulina 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 (Hawksworth, 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 chlarotera*), *Leciographa 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 shoreline in I1 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 surpising 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), *Lepiota 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 springing 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 boot-lace-like black rhizomorphs 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* (suphur-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 alphitoides* (oak mildew; a harmful species appearing as a whitish bloom on oak leaves, especially on suckers or shoots from cut stumps), *Polymorphum 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*

Basidiomycotina	*Niesslia* sp.
Marasmius hudsonii	*Phacidium multivalve*
	Trochila ilicina
Ascomycotina	Deuteromycotina
Aulographum hederae	*Coelophoma cylindrospora*
Botryosphaeria philoprina	*Colletotrichum dematium*
Calonectria sp.	*Phyllostictina ilicis*
Microthyrium ciliata	*Pyrenochaeta ilicis*

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 multivalve* (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 cupules of sweet chestnut* (Castanea sativa) *at Slapton*

Ascomycotina	*Candelabrum spinulosum*
Arachnopeziza eriobasis	*Clathrosphaerina zalewskii*
Ceratocystis sp.	*Oidiodendron tenuissimum*
*Chaetosphaeria callimorpha**	*Phialocephala fumosa*
Rutstroemia echinophila	*P. truncata*
*Sclerotinia fuckeliana**	*Pleurotheciopsis pusilla*
	Pseudomicrodochium aciculare
Deuteromycotina	*Scolecobasidium echinophilum*
Anavirga laxa	*Verticillium tenuissimum*

* = as the conidial 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 echinophila* occurred in such enormous profusion in the autumn of 1974 that the cupules became virtually invisible. Decaying beech mast freqently 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 *Corynespora 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 Slapton 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 cinnanomeoluteus*, *Gymnopilus penetrans*, *Sparassis crispa*, *Strangulidium* sp., *Tephromyces tesquorum*, *Tyromyces stipticus*). Fallen scot's pine (*Pinus sylvestris*) cones and needles also support several characteristc minute species (e.g. *Diplodia pinea* and *Pezizella chionea* on cones; *Desmazierella acicola*, *Lophodermium pinastri* 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 scolopendrii* (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 muscari* (a rust fungus on leaves of bluebells).

Damp clay in the woods supports some species 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 staurospora* arise from amongst moss and liverwort stands. In association with the often extensive moss cushions in J3, *Cordyceps militaris*, *C. ophioglossoides* and *Leotia 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; rosey-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 chyrsosperma* (particularly on *Boletus* species) and the white cottony fluff of the imperfect phase of *Hypomyces aurantius* (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*[1]

Alatospora acuminata foam	*Lemonniera aquatica* leaves
Anavirga dendromorpha twig	*L. terrestris*[4] foam
Anguillospora crassa foam	*Penicillium cyclopium*[3] water
Articulospora tetracladia foam and leaves	*P. frequentans*[3] water
A. sp. foam	*Tetrachaetum elegans* leaves
Centrospora acerina foam	*Tetracladium marchalianum* foam
Dictyosporium cf. *toruloides*[2] foam	*T. setigerum* foam
Flabellospora sp. foam	*Tricladium gracile* foam
Fusarium aquaeductum[3] water	*T. splendens* foam and leaves
F. solani[3] water	*Tripospermum myrti*[2] foam
Heliscus lugdunensis foam	*Volucrispora* sp. foam

[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. Hawksworth 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 *Bovista* 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 *Dinemosporium 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: *Cymadothea 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*

Teliomycetes	Deuteromycotina
Puccinia coronata Av, H	*Alternaria tenuissima* P
P. poae-nemoralis Ar	*Arthrinium phaeospermum* B
	Ascochyta desmazieri L
Ascomycotina	*Cladosporium herbarum* Ar, D, P
Chaetomium globosum[1]	*C. macrosporum* Ag
Claviceps purpurea D	*C. uredinicola*[2]
Didymella sp. Ar	*Colletotrichum holci* H
Erysiphe graminis D	*Coniothyrium* sp.[2]
Eudarleuca caricis[2]*	*Cylindrocladium* sp. Ar
Ophiobolus troakei H	*Dinemasporium graminum* Br, H
Paradidymella holci H	*Epicoccum purpurascens*[1]
Pezizella eburnea[3]	*Scopulariopsis brevicaulis*[1]
Phyllachora graminis As, Ar, B, H	*Torula herbarum* Ar, D
Pleospora vagans (*) Ar, D	

* = 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 *Cheilymenia raripila* which is not uncommon at Slapton. Dung is, however, first colonized by moulds (particularly species of *Mucor*, *Pilaira* and *Pilobolus*) 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*

Actinomycetes	*Coprobia granulata* c
Streptomyces cf. *reticuli* r	*Fimaria cervina* c
"Phycomycetes"	*Gibberella zeae** v
Mucor genevensis b	*Hypocrea pilulifera** v
M. griseo-ochraceus d, r	*Iodophanus carneus* c
M. hiemalis b	*Lasiobolus ciliatus* c, s
M. mucedo r	*Microascus longirostris* v
M. saturninus i	*Micronectriella cucumeris* v
Pilaira anomala c	*Onygena corvina* b
P. cf. *moreaui* c	*Podospora decipiens* r
Pilobolus crystallinus r	*P. pyriformis* c
Rhizopus stolonifera r	*Pseudeurotium zonatum* c
Syncephalis nodosa r	*Ryparobius polysporus* c
Hymenomycetes	*Saccobolus glaber* c
Bolbitius vitellinus c	*S. versicolor* s
Coprinus cinereus c	*Schizothecium conicum* c, r
C. heptemerus r	*Sordaria fimicola* r
C. patouillardii c, h	*S. humana* c, d, h
C. velox c, r	*Sporormiella intermedia* r
Stropharia semiglobata c	*S. minima* c
Volvariella speciosa c, d	Deuteromycotina
Ascomycotina	*Arthrobotrys* cf. *superba* c
Ascobolus albidus s	*Aspergillus candidus* v
A. furfuraceus c	*A. fumigatus* c
A. immersus r	*Fusarium culmorum* r
Ascophanus subfuscus c	*Gliocladium roseum* r
Cheilymenia coprinaria c	*Penicillium funiculosum* d
C. raripila c	*P. patulum* v
C. sp. c	*Stilbella erythrocephala* c, r
Coniochaeta lignaria c	*Trichothecium roseum* c
	Volutella ciliata h

* = 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 vivd 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 *Coleroa robertianum* (black spots on leaves of herb robert, *Geranium robertianum*), *Puccinia smyrnii* (abundant on yellowing leaves and stems of alexanders, *Smyrnium olusatrum*, in May) and *P. umbilici* (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 *Sphaerotheca 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).

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The fungi (excluded the Myxomycota and lichen-froming 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" preceeds 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*c*).

MASTIGOMYCOTINA

OOMYCETES

Peronospora parasitica (Pers. ex Fr.) Fr.
On *Brassica oleracea* var. *acephala* [Kale] and *Lepidium heterophyllum* leaves; C (IMI 194115*a*); H; M (IMI 186853).

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

P. sp.
On dead *Typha* stems; E6.

Plasmopara pygmaea (Unger) Schröt.
On *Anemone* leaves; J1.

ZYGOMYCOTINA

ZYGOMYCETES

Entomophthora cf. *aphidis* Hoffm.
Isol. ex *Cribraria persoonii* on wood; J1 (IMI 186867*e*).

Mortierella ramanniana (Möll.) Linneman
Isol. ex rotting wood; I1 (IMI 178187*c*).

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

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

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

M. hiemalis f. *corticola* (Hagem) Schipper
On *Peziza repanda;* CY (IMI 184301*c*).

M. mucedo auct.
On rabbit dung; J1 (IMI 186888*a*); M (IMI 186889*d*).

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

M. saturninus Hagem
On undetermined dung; J1 (IMI 184273*a*).

Pilaira anomala (Ces.) Schröt.
On cow dung; I1 (IMI 164978*d*); N3.

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

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

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

Syncephalis nodosa v. Tiegheim
On *Rhizopus stolonifera* on rabbit dung; M (IMI 186889*a*).

BASIDIOMYCOTINA

TELIOMYCETES

Coleosporium tussilaginis (Pers.)Lév.
On *Sonchus oleraceus;* J1.

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

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

Kuehneola uredinis (Link)Arth. (syn. *K. albida* (Kühn) Magnus)
On *Rubus* stems; J1; K.

Melampsora capraearum 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 168608).

Milesinia scolopendrii (Faull)Henderson
On *Phyllitis;* J1.

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

Miyagia pseudosphaeria (Mont.)Jørst.
On *Sonchus asper;* J1.

Phragmidium bulbosum (Str.)Schlecht.
On *Rubus* canes; C (IMI 194055).

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

P. mucronatum (Pers.)Schlecht.
On *Rosa* spp.; DM (IMI 194108); SV (IMI 168607).

P. sanguisorbae (DC.)Schröt.
On *Poterium;* S (IMI 183873).

P. violaceum (C. Schultz)Wint.
On *Rubus* leaves, very common; B; C (IMI 159831, 168587*b*); 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. aegopodii (Stürm)Röhl.
On *Aegopodium;* E6.

P. albescens Plowr.
On *Adoxa*; J1 (IMI 184269), 2.

P. arenariae (Schum.)Wint.
On *Silene alba, S. dioica* and *Stellaria holostea;* DM (IMI 168477); J1 (IMI 185589), 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-vesicariae* (Kleb.)Henderson
On *Carex vesicaria;* D2 (IMI 186843).

P. cnici Mart.
On *Cirsium vulgare;* N3 (IMI 168534).

P. coronata Corda
On *Avena sativa, Holcus lanatus* and *H. mollis*, common; C (IMI 184259*a*); G2 (IMI 178200); H; I1; J1 (IMI 178201); K; L; M (IMI 186854); N4; S (IMI 178196); SV.

P. galii-verni Ces. (syn. *P. valantiae* auct.)
On *Galium mollugo* dead stems; C (IMI 186872). Not reported for this species of *Galium* by Wilson and Henderson (1966).

P. hieracii (Roeh.)Mart.
On *Hieracium, Hypochaeris, Pilosella* and *Taraxacum;* C (IMI 166727, 180125); J1; N4 (IMI 196201); SV (IMI 194010).

P. lagenophorae Cooke
On *Senecio vulgaris;* SV.

P. lapsanae Fuckel
On *Lapsana;* J1; SV.

P. magnusiana Körnicke
On *Phragmites* and *Ranunculus repens;* CY; DM (IMI 184261).

P. malvacearum Mont.
On *Althaea;* SV.

P. menthae Pers.
On *Mentha aquatica;* D2 (IMI 168542); E2 (IMI 188773), 4.

P. obscura Schröt. ex Pass.
On *Luzula sylvatica;* J1 (IMI 168648, 168578*a*, 188720*b*); N4.

P. phragmites (Schum.)Körnicke
On *Phragmites* and *Rumex* spp., common; CY; D1, 2 (IMI 168515); E1, 4, 5, 6; F1, 2; G1, 2; *sine loc.* (IMI 184953).

P. poae-nemoralis Otth
On *Arrhenatherum;* SV (IMI 178202).

P. polygoni-amphibii Pers.
On *Polygonum persicaria;* E6 (IMI 168506).

P. primulae Grev.
On *Primula;* DM (IMI 166669); J1; N4 (IMI 178199).

[*P. pulverulenta* Grev.
Reported from Torcross on rose-bay willow herb (*Epilobium angustifolium*) by Harris (1933); *P. pulverulenta* is not known on this host (Wilson and Henderson, 1966) and the fungus may have been *Pucciniastrum epilobii* Otth, a species otherwise not known from Slapton.]

P. punctata Link
On *Galium mollugo;* S (IMI 178198).

P. saniculae Grev.
On *Sanicula;* J1.

P. sessilis Schröt.
On *Arum;* J2

P. smyrnii Biv.-Bernh.
On *Smyrnium*, very common; E6 (IMI 194039); I1 (IMI 165965); J1; N4; SV.

P. umbilici Duby
On *Umbilicus;* J1; S; SV.

P. veronicae Schröt.
On *Veronica montana;* K (IMI 183871).

Sphacelotheca hydropiperis (Shum.)de Bary
On *Polygonum hydropiper* flowers; I1 (IMI 197842).

Tilletia menieri Har. & Pat.
On *Phalaris;* E6 (IMI 187173).

Uredo sp.
On *Cirsium vulgare* old stems; N3 (IMI 168541).

Urocystis anemones (Pers.)Wint.
On *Ranunculus repens;* DM (IMI 197841); E6.

Uromyces betae (Pers.)Tul.
On *Beta vulgaris* subsp. *maritima;* C (IMI 183872).

U. dactylidis Otth
On *Ranunculus ficaria;* J1.

U. geranii (DC.)Lév.
On *Geranium pyrenaicum;* SV (IMI 186852).

U. muscari (Duby)Lév.
On *Endymion;* J1; S (IMI 183855); SV.

U. pisi (DC.)Otth
On *Medicago arabica;* C; SV (IMI 194009).

U. rumicis (Shum.)Wint.
On *Rumex obtusifolius* leaves; S (IMI 197832).

U. trifolii (Hedw.)Fuckel
On *Trifolium repens;* I1 (IMI 188739).

Ustilago grandis Fr.
On *Phragmites*, common; D1, 2; E1 (IMI 194011), 2, 6; F2; G1, 2.

U. longissima (Sow. ex Schlecht.)Meyen
On *Glyceria;* D1.

U. striiformis (West.)Niessl
On *Phalaris;* E6.

U. violacea (Pers.)Fuckel
On *Silene dioica* and *S. maritima;* C; DM; J1.

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
J3, 1964, *Richardson;* K, 1965, *Greenhalgh.*

A. xanthodermus Genevier
In turf, sometimes common; C.

Agrocybe cylindracea (DC. ex Fr.)Maire (syn. *Pholiota aegerita* (Brig.)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. virosa Secr.
J3, 1967, *Greenhalgh.*

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; CY; DM; F1; I1, 3; J1, 2, 3, 5; K; M; N4; S; SV.

Athelia sp.
Overgrowing *Xanthoria parietina* on *Sambucus;* C (IMI 190450); I1.
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.

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

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

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

Boletus chrysenteron 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 *Scleroderma citrinum*, not infrequent in J1, rarer elsewhere; J1 (K), 3.

B. pulverulentus Opat.
In leaf litter; K.

B. subtomentosus Fr.
In leaf litter; J1.

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

Caldesiella 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. viscosa (Pers. ex Fr.)Fr.
On rotting coniferous wood; J3; L.

Calyptella capula (Holmsk ex Fr.)Quél.
On decaying herbaceous stems and leaves, common; DM; F1; G2; I1 (IMI 166753*b*); J1, 2; N4; S.

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

C. cinereus Pers. ex Fr.
J1, 1965, *Greenhalgh;* K, 1965, *Greenhalgh.*

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

Ceriporia viridans (Berk. & Br.)Donk
On fallen *Fraxinus* log; I1.
Material poor and overgrown with algae.

Chondrostereum purpureum (Fr.)Pouz. (syn. *Stereum purpureum* (Fr.)Fr.)
K, 1965, *Greenhalgh.*

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

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

Clavulinopsis corniculata (Schaeff. ex Fr.)Corner
In turf; C.

C. helvola (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; F1; J1; K.

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

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

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

C. confluens (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 Fr.)Kumm.
In leaf litter and turf; C; K.

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

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

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

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

Coprinus atramentarius (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. exstinctorius (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; F1; I1; 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. silvaticus 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 cinnamomeoluteus Orton
On decorticate *Pinus* log; L.

C. decipiens (Pers. ex Fr.)Fr.
K, 1965, *Greenhalgh.*

C. puniceus Orton
J1.

Crepidotus cesatii (Rabenh.)Sacc.
On dead *Hedera* stems; J1.

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

C. mollis (Schaeff. ex Fr.)Kumm.
On dead branches, frequent; J1, 2 (K); K.

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

C. variabilis (Pers. ex Fr.)Kumm.
On dead stems of ? *Phragmites* and dead twigs; D1 (K); J1.

Cristella farinacea (Pers. ex Fr.)Donk
On rotting logs; J1, 6.

C. mutabilis (Pers.)Parm. (syn. *Grandinia mutabilis* (Pers.)Boud. & Galz., *Trechispora mutabilis* (Pers.) Lib.)
On dead *Hedera* stems; J1.

C. sphaerospora (Maire)Donk
J1.

Cyphellostereum laeve (Fr.)Reid
On mosses, locally abundant on sides of lower rides; J1 (K).

Dacrymyces stillatus Nees ex Fr. (syn. *D. deliquescens* auct.)
On rotten wood, common; DM; F1; G1; H; I1; J1, 3; K; S; SV.

Daedalea quercina 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; F1.

Datronia mollis (Sommerf. ex Fr.)Donk (syn. *Antrodia mollis* (Sommerf. ex Fr.)Karst.)
On dead *Salix* branches; DM; F1; J2.

Entoloma sp.
In leaf litter; K.
Either *E. jubatum* (Fr.)Karst. or *E. porphyrophaeum* (Fr.)Karst. but material too poor to state which.

Exidia glandulosa (Bull. ex St.-Am.)Fr.
On rotting wood; I1, 3; J1; K.

E. thuretiana (Lév.)Fr.
J3, 1967, *Greenhalgh.*

Fibuloporia 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; I1; J1; K; N4; S.

Flagelloscypha citrispora (Pilát)Reid
On dead *Iris* rhizomes in water; E2 (K).

Flammulina velutipes (Curt. ex Fr.)Karst.
On stumps; J1.

Galerina hypnorum (Schrank ex Fr.)Kühn.
Amongst mosses on clay banks and logs; J1.

G. unicolor (Vahl ex Sommerf.)Sing. (syn. *Pholiota mustelina* auct., *P. marginata* (Batsch ex Secr.) Quél.)
K, 1965, *Greenhalgh.*

Ganoderma adspersum (Schulz)Donk (syn. *G. europaeum* Steyaert)
On dead stumps and logs; CY; J1, 3.

G. applanatum (Pers. ex Gray)Pat.
On dead stumps and logs; CY; DM; J1; K.
Some of these records may refer to *G. adspersum.*

Gloeocystidiellum lactescens (Berk.)Boid.
On fallen logs of ? *Fagus* and *Fraxinus;* I1; J1 (K).

Grifola frondosa (Dicks. ex Fr.)Gray
In leaf litter under *Castanea*, locally abundant in 1972, usually rare; J1 (K), 3.

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

Gyroporus cyanescens (Fr.)Quél.
Amongst mosses on clay soils in woods, local; J1 (K), 3.

Henningsomyces candidus (Pers.)Kuntze
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.*

Hydnum rufescens Pers.
On clay bank of lower ride, locally frequent; J1 (K).

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

Hygrophorus cf. *ceraceus* (Wulf. ex Fr.)Fr.
In turf; C.

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

H. coccineus (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; J2 (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. strangulatus Orton
In hedgerow by public footpath; DM.

Hymenochaete rubiginosum (Schrad.)Lév.
On dead branches and logs, common; J1 (K), 2, 3; K.

Hyphoderma setigerum (Fr.)Donk
On rotten twigs; J1.

H. tenue (Pat.)Donk
On rotten wood; J1; SV.

Hyphodontia alutaria (Burt.)J. Erikss.
On dead wood; J1.

H. papillosa (Fr.)J. Erikss.
On dead *Hedera* stems; J1.

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

H. sambuci (Pers. ex Pers.)J. Erikss.
On *Sambucus* trunks, common; C; DM; F1; H (K); I1, 3; J1 (IMI 178338*b*), 2, 6; K; N1, 4; S.

Hypholoma fasciculare (Huds. ex Fr.)Kumm.
On stumps, common; F1; I1; J1, 3, 5; K; S.

Incrustoporia semipileata (Peck)Donk
On fallen branches and twigs; J1 (K).

Inocybe asterospora Quél.
J1, 1965, *Greenhalgh.*

I. fastigiata (Schaeff. ex Fr.)Quél.
In turf; nr J1.

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

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

Inonotus radiatus (Sow. ex Fr.)Karst.
On *Alnus* trunk; F1.

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

L. laccata (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 178321*b*); I1 (IMI 183414); N4.

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

Lactarius chrysorheus Fr.
J3, 1967, *Greenhalgh.*

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

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

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

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

L. turpis (Weinm.)Fr.
J3, 1964, *Richardson.*

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

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

Lepiota bucknallii (Berk. & Br.)Sacc.
On shaded soil; S (K).

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

L. friesii (Lasch)Quél.
On shaded soil; S (K).

L. hetieri Boud.
In leaf litter; I1; S.

L. leucothites (Vitt.) Orton
In turf; B (K).
Scales and cracking abnormal.

L. procera (Scop. ex Fr.)Gray
In turf and leaf litter, frequent; F1; J1 (K); K.

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

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

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

Macrocystidia cucumis (Pers. ex Fr.)Heim (syn. *Naucoria cucumis* (Pers. ex Fr.)Kumm.)
On the ground under *Urtica;* J2 (K).

Marasmius epiphylloides (Rea)Sacc. & Trott.
On dead *Hedera* leaves; DM; nr J1 (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 Quél.
On dead *Phragmites* leaves and stems; CY; D1 (K); DM; E3; G2.

M. oreades (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; I1; J1, 2, 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 corium Fr.
On dead twigs; N4 (K).

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

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

Mycena acicula (Schaeff. ex Fr.)Kumm.
On rotting twigs; DM (K).

M. aetites (Fr.)Quél.
In turf and leaf litter, frequent; C; J1.

M. bryophila Vogl
K, 1965, *Greenhalgh.*

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

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

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

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

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

M. gypsea (Fr.)Quél.
On rotting wood debris; DM.

M. metata (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. rorida (Scop. ex Fr.)Quél.
On dead twigs; DM; K; S.

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

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

M. stylobates Cejp
On dead *Juncus* stems; CY.

M. tenerrima (Berk.)Sacc.
On dead twigs; I3; J1.

M. tortuosa Orton
Amongst mosses on ground and on *Salix;* G1 (K); J1.

M. vitilis (Fr.) Quél.
On *Acer* keys in leaf litter; J1.

Mycoacia uda (Fr.)Donk
J1 and K, 1965, *Greenhalgh.*

Myxarium nucleatum Wallr.
On dead *Acer* branch and fallen rotting wood; J2 (K); N4 (K).

Naucoria langei Kühn.
In litter under *Alnus;* DM.

Nolanea infula (Fr.)Gillet
In turf; C (K).

N. luscina Orton
On soil; K.

N. papillata Bres.
J1.

N. staurospora Bres.
Amongst mosses on clay bank of ride; J1 (K).

Omphalina griseopallida (Desm.)Quél. (syn. *Phaeotellus griseopallidus* (Desm.)Kühn. & Lamoure)
In turf with "*Botrydina vulgaris*"; C (K).
Hawksworth (1972).

Oudemansiella mucida (Schrad. ex Fr.)Höhn. (syn. *Armillaria mucida* (Schrad. ex Fr.) Kumm.)
J1, 1965 and 1967, *Greenhalgh.*

O. radicata (Relham ex Fr.)Sing.
K.

Panaeolus sphinctrinus (Fr.)Quél.
J1.

Panellus stipticus (Bull. ex Fr.)Karst.
On dead logs; J1, 3.

Paxillus involutus (Batsch ex Fr.)Fr.
On logs and stumps and in leaf litter, frequent; DM; J1, 3.

Peniophora lycii (Pers.)Höhn. & Litsch.
On dead branches and stems of *Acer, Fraxinus, Hedera* and *Salix;* DM (K); I3; J1; M.

P. nuda (Fr.)Bres.
J1.

P. quercina (Pers. ex Fr.)Cooke
On dead *Quercus* branches; J1, 3.

P. cf. *rufomarginata* (Pers.)Litsch.
On dead twigs of *Rosa* or *Rubus;* DM.

Phaeolus schweinitzii (Fr.)Pat.
J1.

Phanerochaete velutina (Pers.)Parm.
J1, 1965, *Greenhalgh.*

Phellinus ferruginosus (Schrad. ex Fr.)Pat.
On *Corylus;* F1 (K); J1.

Phellodon melaleucus (Fr. ex Fr.)Karst.
Amongst mosses on clayey humus of stream bank, locally abundant; J2 (K).

Phlebia merismoides Fr. (incl. *P. radiata* Fr.)
Underside of fallen logs; J1 (K).

P. pubera (Fr.)Christ.
Underside of *Castanea* branches; F1.

Pholiota gummosa (Lasch)Sing.
On stumps; S.

P. squarrosa (Müll. ex Fr.)Kumm.
On base of dying *Fraxinus;* I1.

Piloderma byssinum (Karst.)Jülich
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 stump of *Ulmus;* SV.

Pluteus aurantiorugosus (Trog)Sacc.
J1, 1964, "*F.T.*", 1965 and 1967, *Greenhalgh;* K, 1967, *Greenhalgh.*

P. cervinus (Schaeff. ex Fr.)Kumm.
On dead stumps and rotting wood, very common; C; DM (K); F1; I1; J1, 2, 6; K.

P. podospileus Sacc. & Cub.
On dead stump; I1 (K).

P. salicinus (Pers. ex Fr.)Kumm.
On dead stumps and rotting logs; F1; J1; K.

P. umbrosus (Pers. ex Fr.)Kumm.
On rotting logs; S (K).

Podoporia sanguinolenta (Alb. & Schw. ex Fr.)Höhn.
On the ground and rotten wood; I1 (K).

Polyporus 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 Mérat)Maire
In leaf litter; J1.

P. microrhiza (Lasch)Konrad & Maubl.
In leaf litter and turf; I1; J1.

P. obtusata (Fr.)A.H.Sm.
In turf; CY (K).

P. pygmaea (Bull. ex Fr.)Sing.
On dead stump; S (K).

Pseudohydnum gelatinosum (Scop. ex Fr.)Karst.
On dead stump; J1 (K).

Pseudotrametes gibbosa (Pers.) Bond. & Sing.
F1, 1966, *Richardson.*

Pulcherricium caeruleum (Fr.)Parm. (syn. *Corticium caeruleum* Fr.)
On dead branches and twigs, locally abundant; J1 (K), 6; K; SV.

Radulomyces confluens (Fr.)Christ.
On old canes of *Rubus;* C.

Ramaria aurea (Schaeff. ex Fr.)Quél. (syn. *Clavaria aurea* Schaeff. ex Fr.)
J1, in leaf litter, 1960, *Lee.*
Perhaps an error for *Clavulinopsis helvola.*

R. stricta (Fr.)Quél.
On rotting wood and in leaf litter, frequent; I1, 3; J1, 3; K; L; SV.

Resupinatus applicatus (Batsch ex Fr.)Gray (syn. *Pleurotus applicatus* (Batsch ex Fr.)Kumm.)
K, 1965, *Greenhalgh.*

R. cyphelliformis (Berk.)Sing.
On dead *Urtica* stems; S (K).

Rhodotus palmatus (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; I1, 3; N4; SV.

Russula atropurpurea (Krombh.)Britz.
In leaf litter; J1, 3.

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. parazurea J. Schaeff.
In leaf litter; J1, 3.

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

R. vesca Fr.
In pasture; nr J6.

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

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

Schizopora paradoxa (Schrad. ex Fr.)Donk (syn. *Irpex obliquus* (Schrad. ex Fr.)Fr., *Xylodon versiporus* (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. hirsutum (Willd. ex Fr.)Gray
On dead stumps, branches, rotting wood and fence-posts, 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.

Strangulidium 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; C; CY; I1; nr J6; S.

Subulicystidium longisporum (Pat.)Parm. (syn. *Hypochnus longisporum* Pat.)
On dead wood; J1.

Tephrocybe tesquorum (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. rutilans (Schaeff. ex Fr.)Sing.
On dead coniferous stumps; J1, 3; SV.

Tubaria furfuracea (Pers ex Fr.)Gill.
On dead stumps and twigs; DM; J1.

Typhula sclerotioides (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. *Leptoporus stipticus* (Pers. ex Fr.)Quél.)
On underside of decorticate *Pinus* branch; J3 (K).

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

GASTEROMYCETES

Bovista nigrescens Pers. ex Pers.
In leaf litter; J1; K.

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

B. pusilla Batsch ex Pers. (syn. *Lycoperdon ericetorum* Pers.)
In short turf; B.

Calvatia excipuliformis (Scop. ex Pers.)Perdeck (syn. *Lycoperdon saccatum* Vahl ex Schum.)
In turf; nr J1; K, 1960, *Lee.*

C. utriformis (Bull. ex Pers.)Jaap (syn. *C. caelata* (Bull. ex Pers.)Morgan, *Lycoperdon caelatum* Bull. ex Pers.) K, 1965, *Greenhalgh.*

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

Cyathus olla Batsch ex Pers.
On ground amongst *Urtica* roots; C (K).

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

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

L. foetidum Bonord. (syn. *L. nigrescens* (Pers.)Lloyd)
In turf of lichen heath, locally frequent; C (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.

Vascellum pratense (Pers.)Kreisel (syn. *Lycoperdon hiemale* 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

Acrospermum compressum Tode ex Fr.
On dead *Urtica* stems; DM (IMI 194111); I1; S (IMI 182862).

Aleuria aurantia (Fr.)Fuckel
nr K, 1960, *Lee.*

Allophylaria byssacea (Karst.) Sacc.
On dead *Filipendula* stems; DM (IMI 198109).

Arachnoepeziza eriobasis (Berk.)Korf (syn. *Trichopezia eriobasis* (Berk.)Boud.)
In fallen *Castanea* cupules; J1 (IMI 188805).

Ascobolus albidus Crouan
On sheep dung; SV.

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

A. furfuraceus Pers. ex Hook.
On cow dung; I1; nr K (IMI 164979*a*); S (IMI 181040*c*).

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

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

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

Ascophanus subfuscus (Crouan)Boud. (incl. *A. microsporus* (Berk. & Br.)Phillips)
On cow dung, very common; I1 (IMI 164978*c*, 181606*a*); J1 (IMI 178319*b*); N2, 3 (IMI 168550*b*), 4 (IMI 166794*b*, 166740*b*); S; SV.

Aulographum hederae Lib. (syn. *A. vagum* Desm.)
On fallen *Ilex* leaves; S (IMI 182246*a*).

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

B. sulfurina (Quél.)Carp. (syn. *Calycella sulfurina* (Quél.)Boud.)
On dead wood and old *Ulex* stems; I1 (IMI 188771*a*); J1 (IMI 168624), 3.

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

Calycellina phalaridis (Lib.)Höhn.
On dead *Phalaris* stems; G1 (IMI 183884).

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

Cheilymenia coprinaria (Cooke)Boud.
On cow dung, frequent; I1 (IMI 181606*b*); J1 (IMI 178319); N4 (IMI 166794*a*).

C. raripila (Phill.)Dennis
On cow dung, frequent; I1 (IMI 164978*a*), 3; N3; S.

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

Chlorosplenium aeruginascens (Nyl.)Karst. (syn. *Chlorociboria aeruginascens* (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).

Colpoma quercinum (Pers.)Wallr.
On *Quercus* twigs; H (IMI 194059*b*).

Coprobia granulata (Bull. ex Fr.)Boud.
On cow dung, very common; H; I1 (IMI 164978*b*); nr J1; N2, 3 (IMI 168550*a*), 4; S; SV.

Cryptodiscus rhopaloides Sacc.
On dead *Rubus* stems; S (herb. Graddon). Hawksworth and Sivanesan (1976*b*).

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).

C. dolosella (Karst.)Dennis
On fallen *Fraxinus* petioles; J1 (K).

Cyathipodia macropus (Pers. ex Fr.)Dennis
K, 1967, by path, *Richardson.*

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

D. apalus (Berk. & Br.) Dennis
On dead *Juncus effusus* stems; J1 (IMI 182860.)

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

D. controversus (Cooke)Rehm
On *Phragmites* canes; D1 (IMI 188809).

D. corticalis (Pers. ex Fr.)Massee
On dead *Hedera* stems; DM; J1 (IMI 182861), 6 (IMI 183859).

D. dumorum (Rob.) Massee
Underside of fallen *Rubus* leaves; J1 (IMI 182858); S.

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

D. grevillei (Berk.)Massee
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, 184304*a*, 183865); G1 (IMI 178321*a*).

D. nidulus (Schm. & Kunze)Massee
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.)Massee
On dead *Pteridium* stems; I3 (IMI 182863).

D. pudibundus (Quél.)Sacc.
On rotting *Salix* twigs; CY (IMI 168567).

D. pulveraceus (Alb. & Schw. ex Fr.)Höhn.
On dead wood and *Ilex* twigs; J1 (IMI 182868), 6 (IMI 195530*a*).

D. soppittii Massee
On fallen *Quercus* leaves; nr I1 (IMI 188810).

D. sulfureus (Pers.)Massee
On dead herbaceous stems, often abundant; C (IMI 188811); DM; G2; S.

D. virgineus Gray
On rotting logs, twigs and *Hedera* stems, frequent; DM (IMI 194032*a*); F1 (IMI 183856); J1 (IMI 183878), 2 (IMI 194088).

Dermea tulasnei Grove
On *Fraxinus* twigs; I1 (IMI 178285, K). Dennis (1974).

Desmazierella acicola Lib.
On fallen *Pinus* needles, as st. conid. *Verticicladium trifidum* Preuss, locally abundant; J3 (IMI 184255, 184287*b*).

Diplocarpon rosae Wolf
On cultivated *Rosa* leaves, as st. conid. *Actinonema rosae*(Lib.) Fr., common; SV.

Elaphomyces sp.
Under leaf litter; J3.

Eriopeziza caesia (Pers.)Rehm
On rotting wood; J1 (IMI 182869, 183876).

Fimaria cervaria (Phill.)van Brumm.
On cow dung; N4 (IMI 166740).

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

Helvella crispa Fr.
In turf, solitary; S; K.

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

Hyaloscypha hyalina (Pers.)Boud.
On rotting wood and *Rubus* twigs; J1 (IMI 182845), 6 (IMI 184297).

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

Hymenoscyphus calyculus (Sow. ex Fr.)Phill. (incl. *Helotium conscriptum* (Karst.)Karst.)
On rotting *Salix* twigs; DM (IMI 194026).

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

H. herbarum (Pers. ex Fr.)Dennis
On dead *Urtica* stems, frequent; I1, N4 (IMI 196203); S (IMI 188813).

H. robustior (Karst.) Dennis
On dead herbaceous stems; DM (IMI 198113).

H. scutula (Pers. ex Fr.)Phill.
On dead *Urtica* and *Rubus* stems; C (IMI 188814); DM; G2; I1; S.

H. vernus (Boud.)Dennis
On rotting wood; J1 (IMI 184295).

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

H. sp.
On fallen *Castanea* leaves; J1 (IMI 198122).
Spores 24 × 4 μm.

Iodophanus carneus (Pers.)Korf (syn. *Ascophanus carneus* (Pers.)Boud.)
On cow dung; I1 (IMI 188775*a*); S (IMI 181040*d*).

Lachnellula hahniana (Seav.)Dennis
On dead twigs; J1.

Lasiobolus ciliatus (Schm. ex Fr.)Boud.
On cow and sheep dung, frequent; C; I1; nr J1; S; SV.

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

Leptopodia elastica (Bull. ex St.-Am.)Boud.
K, 1965, *Greenhalgh*.

Leptotrochila ranunculi (Fr.)Schüepp (syn. *Fabraea ranunculi* (Fr.)Karst.)
On dying leaves of *Ranunculus repens;* S (IMI 182844).

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

L. hedericola Ahmad
On dead *Hedera* leaves; H (IMI 182255).
Hawksworth and Sivanesan (1976*b*).

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

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

Mollisia adenostylidis Rehm
On dead *Centaurea* stems; C (IMI 178295).
Hawksworth and Sivanesan (1975).

M. cinerea (Batsch)Karst.
On rotting wood, common; CY (IMI 180132); DM (IMI 188721); I1 (IMI 178305); J1 (IMI 184296), 2; N4 (IMI 188752*a*); S (IMI 184257).

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

M. clavata Gremm. (syn. *M. cinerea* var. *minutella* Sacc.)
On rotting? *Epilobium* stems; DM (herb. Graddon).

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

M. fallax (Desm.)Gill.
On rotting wood; J1 (IMI 170270); L (IMI 180156); S (IMI 180161).

M. ligni (Desm.)Karst.
On dead wood; DM (IMI 184256); K (IMI 184253); SV (IMI 182848).

M. melaleuca (Fr.)Sacc.
On rotting *Ulex* wood; S (IMI 183880).

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

Mollisiopsis dennisii Graddon
On dead *Ulex* twigs; C (IMI 183885).

M. lanceolata (Gremm.)D. Hawksw.
On dead *Rubus* canes; DM (IMI 178299).
Hawksworth and Sivanesan (1975).

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

Orbilia auricolor (Blox. ex Berk.)Sacc.
On rotting wood; DM (IMI 194035*a*); J1 (IMI 178302, 184294).

O. curvatispora Boud.
On dead herbaceous stems; G2; J1 (IMI 168627*a*), 3.

O. euonymi Vel.
On rotting log; I1 (IMI 178289).
Hawksworth and Sivanesan (1975).

O. luteorubella (Nyl.)Karst.
On rotting wood, common; CY (IMI 178300*a*); D2 (IMI 178297); DM (IMI 194032*b*); F1; H; I1; J1 (IMI 168626), 2; N4 (IMI 188753*a*); S.

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

Pachyella babingtonii (Berk. & Br.)Boud. (syn. *Psilopezia babingtonii* (Berk. & Br.)Berk.)
On rotting *Salix* wood immersed in water; DM (IMI 194028); G1 (IMI 183888).

Pezicula dennisii D. Hawksw.
On dead *Urtica* stems; I3 (IMI 192620 **T**, herb. Graddon).
Hawksworth and Sivanesan (1976*a*).

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

Peziza arvernensis Boud.
On clay soil of ride; J1 (IMI 166670).

P. badia Pers. ex Mérat
On clay soil bank of ride; J1 (IMI 188730).

P. repanda Pers.
On dead *Salix* log and wood chips; CY (IMI 184301*a*); N4 (IMI 196200).

Pezizella alniella (Nyl.)Dennis
On old female *Alnus* catkins; DM (IMI 182850).

P. chionea (Fr.)Dennis
On rotting *Pinus* cones; J1 (IMI 182851).

P. chrysostigma (Fr.)Sacc.
On dead *Dryopteris* fronds; J1 (IMI 182852).

P. eburnea (Rob.)Dennis
On exposed dead grass roots; nr J1 (IMI 188818).

P. parasitica Vel.
Overgrowing algae on rotting log; N4 (IMI 188753*b*, herb. Graddon).
Hawksworth and Sivanesan (1967*a*).

P. punctoidea (Karst.)Rehm
On dead *Epilobium hirsutum* leaves; G2 (IMI 198118).

P. roburnea Vel.
On fallen *Castanea* leaf; J1 (IMI 198119).
Hawksworth and Sivanesan (1976*b*).

P. rubescens Mout.
On the underside of dead *Quercus* leaves; J1 (IMI 182856).

P. sp.
On *Rubus* stems and *Ulmus* wood; DM; G2 (IMI 197838*b*); J3 (herb. Graddon); N4 (herb. Graddon).
A red-staining species.

Phacidium multivalve Fr. (syn. *Phacidiostroma multivalve* (DC. ex St.-Am.)Höhn.)
On dead *Ilex* leaves, sometimes as st. conid. *Ceuthospora phacidioides* Grev., very common; DM; I1; J1, 2, 6; K; S (IMI 182246*b*).

Phaeobulgaria inquinans (Fr.)Nannf. (syn. *Bulgaria inquinans* Fr.)
On dead logs and branches; I1; J1, 3 (IMI 188747); K.

Phialea complicata (Karst.)Dennis
On dead *Ulex* stems; C (IMI 184268).

P. cyathoidea (Bull. ex Mérat)Gill.
On dead herbaceous stems, particularly of *Heracleum* and *Urtica*, common; C (IMI 178298*a*, 184300); DM (IMI 194113, 194112); G2; I1; N4; S (IMI 182847*b*).

P. littoralis Graddon
On old *Beta* stems; B (K T).
Graddon (in press).

P. pteridicola (Crouan)Gill.
On dead *Pteridium* stems; I3 (IMI 182857).

P. subhyalina Rehm
On fallen *Acer* petioles; DM (IMI 198120); N4 (IMI 198121).

Pirottaea nigro-striata Graddon
On dead *Heracleum* stems; C (IMI 182834).

Polydesmia pruinosa (Berk. & Br.)Bond.
On dead bark over *Hypoxylon* sp.; DM; J1 (IMI 170271*a*).

Propolis versicolor (Fr. ex Fr.)Fr.
On dead twigs; J3.

Pseudohelotium sp.
On dead *Pteridium* stems; I3 (IMI 192621).
Hawksworth and Sivanesan (1976*a*).

Pseudopeziza medicaginis (Lib.)Sacc.
On living *Medicago lupulina* leaves; C (IMI 178284); J1.

P. trifolii (Biv.-Bern.)Fuckel
On living *Trifolium repens* leaves; H (IMI 178308); I1; N3.

Psilachnum inquilinum (Karst.)Dennis
On rotting *Equisetum* stems; G1 (IMI 183879); S.

Pyrenopeziza digitalina (Phill.)Sacc.
On dead *Digitalis* stems; J1 (IMI 168633, 168627*b*, 168662); K.

P. escharodes (Berk. & Br.)Rehm
On dead *Rubus* canes; I1 (IMI 194078); J1 (IMI 182835).

P. lychnidis (Desm.)Rehm
On dead *Silene dioica* stem; C (IMI 182836).

P. mercurialis (Fuckel)Boud.
On dead *Mercurialis* stems; J1 (IMI 182838).

P. plantaginis Fuckel
On dead *Plantago lanceolata* leaves; nr H; SV (IMI 182839).

Rhyparobius polysporus (Karst.)Sacc.
On cow dung; I1.

Rhytisma acerinum (Pers. ex St.-Am.)Fr.
On *Acer* leaves, as st. conid. *Melasmia acerina* Lév. on live leaves, perfect stage on fallen leaves, widespread but rarely abundant; C; DM (IMI 168484); E6; H; I1; J1, 2, 6; K; N4.

Rutstroemia echinophila (Bull. ex Mérat)Höhn.
On rotting *Castanea* cupules, exceptionally common and abundant in autumn 1974; J1, 2, 3 (IMI 188741).

R. fruticeti Rehm
On dead standing *Rubus* canes; C (IMI 168583).

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

Saccobolus glaber (Pers. ex Pers.)Lambotte
On cow dung; S (IMI 181040*f*).

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

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

Sclerotinia fuckeliana (de Bary)Fuckel
On dead and dying stems, leaves and fruits of many species (including *Castanea, Filipendula, Galium, Glaucium, Heracleum, Ononis, Orobanche, Rubus, Rumex, Syringia* and *Urtica*), only as st. conid. *Botrytis cinerea* Pers. ex Pers., extremely common; B (IMI 168552); C (IMI 168498, 168587*a*, 178344, 178337*d*); DM (IMI 168479, 168487); E1, 6; F1, 2; G1; H (IMI 186844*b*); I1 (IMI 178326); J1 (IMI 168628*c*, 180146*b*), 2, 3, 6; S (IMI 184569*c*); SV (IMI 186840*d*).

S. sulcata Whetz.
On *Carex* tussock; N4 (K).

Scutellinia scutellata (L. ex St.-Am.)Lambotte
On sodden rotting logs and branches, common; CY; DM (IMI 194027); F1; J1 (IMI 178311), 2 (IMI 188559o); K; N4; S.

Sphinctrina turbinata (Pers. ex Fr.) de Not.
On *Pertusaria pertusa* thalli on *Acer*, local; I1 (IMI 186829).

Stictis stellata Wallr.
On dead herbaceous stems (including *Epilobium, Heracleum, Oenanthe* and *Rubus*); C (IMI 183874); DM (IMI 182840); G2; J1; N4.

Symphyosirinia angelicae E. A. Ellis
On rotten fallen *Angelica* seeds, with st. conid. *Symphyosira* sp.; DM, (IMI 198117).

Tapesia evilescens Karst.
On bases of dead *Phragmites* canes submerged in water; DM (herb. Graddon).

T. retinicola (Rabenh.)Karst.
On bases of dead *Phragmites* canes submerged in water; G1 (IMI 183889).

Trochila craterium Fr.
On underside of dead *Hedera* leaves; DM; J1 (IMI 182842, 184282); K (IMI 184276).

T. ilicina (Nees ex Fr.)Greenhalgh & Morgan-Jones
On fallen *Ilex* leaves, very common; DM; I1; J1 (IMI 168642*c*), 2, 3, 6; K; S.

T. laurocerasi (Desm.)Fr.
On fallen *Prunus laurocerasus* leaves, locally abundant; J1 (IMI 168654, 168656, 168657).

PLECTOMYCETES

[*Note:* Many members of the Erysiphaceae s.l. have been found only as their imperfect states at Slapton; as nomenclaturally correct names do not exist for many of these this is not indicated in the species entries here.]

Erysiphe artemisiae Grev.
On *Artemisia* leaves and stems; B; C; E6; I1; S; SV.

E. asperifoliorum Grev.
On *Echium, Myosotis arvensis* and *Symphytum* × *uplandicum* leaves; C; E6 (IMI 168507); N3.

E. cichoracearum DC. ex Mérat
On leaves of Compositae (including *Arctium, Aster, Centaurea, Cirsium, Solidago* and *Sonchus* species), very common; C; E1, 6 (IMI 170287); I1 (IMI 178246); N3; S; SV (IMI 178235).

E. circaeae Junell
On *Circaea lutetiana* leaves; K (IMI 178272).

E. cruciferarum Opiz ex Junell
On *Cheiranthus cheiri* and *Raphanus maritimus* leaves, locally abundant; B; C (IMI 178318); SV.

E. depressa (Wallr.)Schlecht.
On *Arctium minus* leaves; N3 (IMI 168674).

E. fischeri Blum.
On *Senecio vulgaris* leaves; SV.

E. galeopsidis DC. ex Mérat
On leaves and stems of Labiatae (including *Ballota, Glechoma, Lamium* and particularly *Stachys*), common; CY; D1; DM; E1, 6 (IMI 168503, 170283, 170284, 194056); F1; H; S; SV.

E. graminis DC. ex Mérat
On *Dactylis* leaves; SV.

E. heraclei DC. ex St.-Am.
On *Heracleum* leaves, extremely common; B; C; CY; E1, 4, 6; F1; G2; H (IMI 168526); I1, 3; J1, 2; K (IMI 187991); L; M; N2, 3, 4; S; SV.

E. polygoni DC. ex St.-Am.
On *Polygonum aviculare* stems and leaves; S; SV.

E. ranunculi Grev.
On *Ranunculus repens* leaves; E6.

E. sordida Junell
On *Plantago major* leaves, frequent; B (IMI 178237); C; E6; H (IMI 178248); I1; N3; S; SV.

E. trifolii Grev.
On leaves of Leguminosae (including *Lathyrus, Lupinus* and *Trifolium*); I1 (IMI 178245); S; SV (IMI 178236).

E. ulmariae Desm.
On *Filipendula* leaves; D1.

Microsphaera alphitoides Griffon & Maubl.
On *Quercus* leaves, frequent, sometimes abundant; CY; H; I1, 3; J1, 2, 6; K; L; N3, 4; S; SV.

M. euonymi (DC. ex Mérat)Sacc.
On *Euonymus* leaves; J4.

Onygena corvina Alb. & Schw. ex Fr.
On owl pellets; J1.

O. equina Willd. ex Fr.
On sheep remains; J2.

Phyllactinia guttata (Wallr. ex Fr.)Lév.
On *Fraxinus* leaves; K.

Podosphaera tridactyla (Wallr.)de Bary
On *Prunus spinosa* leaves; SV.

Pseudeurotium zonatum van Beyma
On cow dung; I1 (IMI 188775*e*).

Sphaerotheca alchemillae (Grev.)Junell
On leaves of Rosaceae (including *Filipendula, Geum* and *Rubus*); D1; E6; SV.

S. erigerontis-canadensis (Lév.)Junell
On *Lapsana* and *Taraxacum* leaves, frequent; C; E6 (IMI 170282); I1; nr J1 (IMI 178239); S; SV.

S. fugax Penz. & Sacc.
On *Geranium dissectum* leaves; H (IMI 178249).

S. fuliginea (Schlecht. ex Fr.)Poll.
On *Veronica chamaedrys* leaves; J1 (IMI 178238); SV.

S. melampyri Junell
On *Odonites* leaves; N3.

S. pannosa (Wallr. ex Fr.)Lév.
On *Rosa* leaves and young stems, locally abundant; DM; E6; S (IMI 184954); SV.

S. plantaginis (Cast.)Junell
On *Plantago lanceolata* leaves; E6; I1 (IMI 178244).

S. xanthii (Cast.)Junell
On *Calendula* and *Pulicaria* leaves; D1; SV (IMI 178247).

Uncinula adunca (Wallr. ex Fr.)Lév.
On *Populus* × *euamericana* leaves; E6.

U. bicornis (Wallr. ex Fr.)Lév.
On *Acer* leaves; J1

PYRENOMYCETES

Anthostomella punctulata (Rob.)Sacc. (incl. *A. minima* Sacc.)
On dead *Phragmites* leaves, very rare; DM (IMI 183869).
Francis (1975).

A. rubicola (Speg.)Sacc. & Trott. (syn. *A. appendiculosa* (Berk. & Br.)Sacc.)
On dead *Rubus* canes; G2 (IMI 197837); H (IMI 186862); I1 (IMI 178241).
Francis (1975).

A. tomicoides Sacc. (syn. *Entosordaria tomicoides* (Sacc.) Höhn.)
On dead *Phragmites* stems; DM (IMI 182254).

Apiocrea chrysosperma (Tul.)Syd.
On decaying caps of *Armillaria* and particularly *Boletus*, as st. conid. *Sepedonium chrysospermum* Bull. ex Fr.; I1 (IMI 178255); J1; S (IMI 179378).

Apioporthe vepris (de Lacr.)Wehm.
On dead *Rubus* stems, as st. conid. *Phomopsis vepris* (Sacc.)Höhn.; C (IMI 166780).

Apiospora montagnei Sacc.
On *Agropyron junceiforme* stems and *Sambucus* wood, as st. conid. *Arthinium* sp. (syn. *Papulospora arundinis* (Corda) Fr.; A (IMI 194057); I1 (IMI 178316).

Appendiculella calostroma (Desm.)Höhn. (syn. *Irene calostroma* (Desm.)Höhn.)
On green *Rubus* canes, locally abundant; DM; I1; J1 (IMI 182122, 183883), 2, 3; S (IMI 197833*b*).

Calonectria sp.
On fallen *Ilex* leaves; DM (IMI 198123*a*); K (IMI 189523); S (IMI 182245*a*, 182246*c*).
Hawksworth and Sivanesan (1976*a*).

Calyculosphaeria collapsa (Rom.)Fitzp.
On *Fraxinus* wood; I1 (IMI 180127).

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

Ceratocystis sp.
On rotting *Castanea* cupules; J5 (IMI 184567*c*); S (IMI 184569*d*).
Apparently an undescribed species.

Ceratostomella vestita Sacc.
On rotting log; N4 (IMI 188751*a*).

Ceriophora palustris (Berk. & Br.)Höhn.
On dead *Carex paniculata* leaves; F2 (IMI 186857).

Chaetomium 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).

Chaetosphaerella phaeostroma (Dur. & Mont.)E. Müll. & C. Booth (syn. *Thaxteria phaeostroma* (Dur. & Mont.) C. Booth)
On rotting wood, common; CY; DM (IMI 182870); I1, 3; J1 (IMI 178224), 2, 5; K; M; N4; S.

Chaetosphaeria callimorpha (Mont.)Sacc.
On rotting *Castanea* cupules (as st. conid. *Codinaea* sp.) and on *Rubus* stems; G2; J1 (IMI 178331, 178294*a*), 6 (IMI 184565*f*).

C. myriocarpa (Fr.)C. Booth
On rotting wood; N4 (IMI 196202*b*).

C. pulviscula (Curr.) C. Booth
On rotting wood and fallen *Fagus* cupules; I1 (IMI 178286); J1 (IMI 168619), 3 (IMI 184272).

Claviceps purpurea (Fr.)Tul.
On spikelets of *Dactylis*, with st. conid. *Sphacelia segetum* Lév., local; H (IMI 186842, 186846*b*).

Clypeosphaeria mamillana (Fr.)Lambotte
Immersed in decorticate wood; SV (IMI 182256).

C. notarisii Fuckel
On *Rubus* canes, probably common; C (IMI 178204); CY; DM; I1; J1.

Coniochaeta ligniaria (Grev.)Massee
On cow dung; I1 (IMI 184996*a*).

Cordyceps militaris (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 188736).

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

Daldinia concentrica (Bolt. ex Fr.)Ces. & de Not.
On dying and fallen *Fraxinus* trees, very common, more rarely on burnt bushes of *Crataegus* and *Ulex*, stromata preceded by st. conid. *Nodulisporium* sp.; CY; F1, 2; I1 (IMI 183881), 2, 3; J1 (IMI 183407), 2, 5; K; L (IMI 180155); N4; S; SV.

Diaporthe arctii (Lasch)Nits.
On dead *Artemisia*, *Heracleum* and *Urtica* stems; C (IMI 178281*b*), G2 (IMI 197835); H (IMI 166739); N3.

D. leiphaemia (Fr.)Sacc.
On dead *Quercus* twig, as st. conid. *Phomopsis quercina* (Sacc.)Höhn.; CY (IMI 165008).

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

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

D. sp.
On *Acacia* sp. stems; C (IMI 178323).

Diaporthopsis angelicae (Berk.)Wehm.
On dead *Angelica* and particularly *Heracleum* stems, as st. conid. *Phomopsis astericus* Grove, very common; B; C (IMI 159851); CY; DM (IMI 159869, 166802); E1, 6; F1; G1, 2 (IMI 168539, 168536*b*); H; I1, 2, 3 (IMI 168535); J1, 2; K; N3, 4; S; SV.

Diatrype 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.

Diatrypella favacea (Fr.)Sacc.
J1 (?), 1965, *Greenhalgh*.

D. quercina (Pers. ex Fr.)Cooke
On dead *Quercus* twigs and branches; I1; J1 (IMI 193303*a*).

Eutypa acharii Tul.
On decorticate *Acer* wood, common; I1 (IMI 166803), 2; J1, 2, 6 (IMI 183862); K; S.

E. flavovirens (Pers. ex Fr.)Tul.
On decorticate *Acer* wood; N4 (IMI 188750).

E. sp.
On decorticate *Acer* wood; I1 (IMI 188772).

Eutypella acericola (Sacc.)Berk.
On dead *Acer* branches; J2 (IMI 188725, herb. Chesters).

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

Gibberella baccata (Wallr.)Sacc.
Isol. ex lesions in *Frullania dilatata* colonies, with st. conid. *Fusarium lateritium* Nees ex Link; H.

G. zeae (Schw.)Petch
Isol. ex vole 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. cerastis* (Riess)Ces. & de Not.)
On dead *Acer* leaves and petioles; J1 (IMI 164992, 182251).

Gnomoniella rubicola Pass.
On dead *Rubus* canes; I1 (IMI 177202), 3 (IMI 168548).
Hawksworth and Sivanesan (1976*b*).

Hypocrea pilulifera J. Webst. & Rifai
Isol. ex vole dung, as st. conid. *Trichoderma piluliferum* J. Webst. & Rifai; DM (IMI 185308).

Hypomyces aurantius (Pers. ex Fr.)Tul.
On decaying *Armillaria* caps, as st. conid. *Cladobotryon varium* Nees ex Duby; J1 (IMI 188718, herb. Arnold).

Hypoxylon confluens (Tode ex Fr.) West.
On dead wood, frequent; J1, 3 (IMI 194091); K; N4 (IMI 188762); S.
Whalley and Greenhalgh (1973).

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

H. fuscum (Pers. ex Fr.)Fr.
On dead wood, particulary of *Corylus*; CY (IMI 178271); J1 (IMI 178258); K.
Whalley and Greenhalgh (1973).

H. howeianum Peck
On dead branches, particularly of *Betula;* J1; K.
Whalley and Greenhalgh (1973).

H. multiforme (Fr. exFr.)Fr.
On dead branches, particularly of *Betula* and *Corylus;* J1 (IMI 178259), 2, 3; K; S.

H. rubiginosum (Pers. ex Fr.)Fr.
On dead wood, particulary of *Fraxinus*; DM; I1 (IMI 194064); J1; K; M (DAOM).

H. serpens (Pers. ex Fr.)Kickx
On dead wood of various trees, frequent; CY; DM; I1, 3; J1, 3 (IMI 188744); M; S (IMI 165015).

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

L. ovina (Fr.)Ces. & de Not.
On rotting wood; N4 (IMI 183886); S.

L. racodium (Pers. ex Fr.)Ces. & de Not.
On rotting wood, ? *Salix;* G2 (IMI 197836).

L. spermoides (Hoffm. ex Fr.)Ces. & de Not.
On rotting wood, often in large swarms; J1; K; N3; S (IMI 183852*c*).

Microascus longirostris Zukal
On vole dung; DM (IMI 184263).
Hawksworth and Sivanesan (1975).

Micronectriella cucumeris (Kleb.) C. Booth
Isol. ex vole dung; DM (IMI 192452).

Nectria candicans Plowr. (syn. *Nectriopsis candicans* (Plowr.)Maire)
On *Stemonitopsis typhina*, as st. conid. *Acremonium* sp.; J1.

N. cinnabarina (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 180158, 188740); N4 (IMI 178252); S.

N. coccinea (Pers. ex Fr.)Fr.
On dead logs and twigs (perfect state) but also associated with lesions in *Frullania dilatata* colonies (as st. conid. *Cylindrocarpon candidum* (Link)Wollenw.); H (IMI 178172); J1 (IMI194052); S (IMI 180133).
A *Cylindrocarpon* from lesions in moss colonies on a wall in S (IMI 193305) may also belong here but failed to grow in culture.

N. episphaeria (Tode ex Fr.)Fr. aggr.
On dead *Ruscus* cladodes; L (IMI 188737*c*).
Fusarium aquaeductum Lagh. obtained from cultures of the ascospores.

N. flammea (Tul.)Dingley
On insect remains on *Salix*, as st. conid. *Fusarium coccophilum* (Desm.)Wollenw. & Reink.; F2 (IMI 194072).
Hawksworth and Sivanesan (1976*a*).

N. cf. *magnusiana* Rehm
On effete *Diatrypella* sp.; J1 (IMI 193303*b*).
Indentification tentative as material very poor.

N. sinopica Fr.
K, 1965, *Richardson.*

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

Paradidymella clarkii D. Hawksw. & Sivanesan
On dead *Rubus* stems; G2 (IMI 197831 **T**).
Hawksworth and Sivanesan (1976*b*).

P. holci D. Hawksw. & Sivanesan
On dead *Holcus lanatus* stems; C (IMI 186873 **T**).
Hawksworth and Sivanesan (1976*a*).

Phomatospora berkeleyi Sacc.
On dead *Phragmites* canes in water; E1 (IMI 178336).

Phyllachora graminis (Pers. ex Fr.)Fuckel
On dead leaves of various grasses (see Table 10), common; C (IMI 178203, 170275); CY (IMI 180131); I1; nr J1 (IMI 180139); N3; S; SV.

Podospora decipiens (Wint. ex Fuckel) Niessl
On rabbit dung; nr J1 (IMI 186888); nr J6 (IMI 188776*a*).

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

Rhamphoria pyriformis (Fr.)Höhn.
On rotting wood; K (IMI 187992*a*).

Rosellinia mammiformis (Pers. ex Fr.)Ces. & de Not.
On dead *Hedera* stems in swarms, often common; I1, 3; J1 (IMI 178223), 2 (IMI 186832), 5; K.

R. sp.
On rotting wood; K (IMI 187992*c*).
A single perithecium *c.* 1.2 mm diam with non-appiculate ascopsores *c.* 21 × 8 μm.

Schizothecium conicum (Fuckel)Lundq. (syn. *Podospora curvula* (de Bary)Niessl)
On cow and rabbit dung, common; nr CY (IMI 164979*b*); I1 (IMI 184996*b*); nr J6 (IMI 188776*e*); S (IMI 180935).

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

Sordaria fimicola (Rob.)Ces. & de Not.
On rabbit dung; M (IMI 186889*b*).

S. humana (Fuckel)Wint.
On cow, dog and horse dung; C (IMI 178307, 180163*b*, 186834*a*); I1 (IMI 184995).

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

Trichosphaeria sp.
On rotting wood; J1 (IMI 183857*a*).
Close to *T. brevispina* Munk but differing in having larger ascospores.

Valsa ceratophora Tul.
On dead *Ilex* twigs; J2 (IMI 194053).

V. sordida Nits.
On *Populus* twigs, as st. conid. *Cytospora chrysospermum* Fr.; CY (IMI 168513).

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; I1; J1, 2, 3, 4, 5; K; L; 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; CY; E6; F1; I1 (IMI 178309); J1, 2, 5; K; S (IMI 180145).

Zignoella ovoidea (Fr.)Sacc.
On *Salix* bark; DM (IMI 194099).

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

LOCULOASCOMYCETES

Abrothallus parmeliarum (Sommerf.)Arnold
On thalli of *Parmelia caperata*, *P. carporrhizans*, *P. perlata*, *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 (*Biatoropsis usnearum* Räs.) on *Usnea*, very common; C; CY (IMI 164972); DM (IMI 159809, 159865); F1 (IMI 159892), 2; G2; H; I1 (IMI 188770); J2; N4 (IMI 166730); SV.

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

Berlesiella nigerrima (Blox. ex Curr.)Sacc.
On *Hypoxylon multiforme;* J1 (IMI 182554).
This species is generally regarded as confined to *Eutypa;* the spores of the Slapton 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 philoprina (Berk. & Curt.)v. Arx & E. Müll.
On dead *Ilex* leaves; J1 (IMI 168644).

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

Coleroa robertiani (Fr.)E. Müll. (syn. *Stigmatea robertiani* (Fr.)Fr.)
On live *Geranium robertianum* leaves, common; DM; J1 (IMI 182841); SV (IMI 183866).

Cymadothea trifolii Wolf (syn. *Mycosphaerella killiani* Petr.)
On live *Trifolium repens* leaves, as st. conid. *Polythrincium trifolii* Schm. & Kunze ex Fr., locally abundant; N2, 3 (IMI 168532).

Didymella applanata (Niessl)Sacc.
On old *Rubus* canes, often as the st. conid. (unamed), common; C (IMI 170277); I1, 3; J1; K; L.

D. holosteae Syd.
On dead and dying *Stellaria holostea* leaves; SV (IMI 184258).
Hawksworth and Sivanesan (1975).

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

D. proximella (Karst.)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 *Arrhenatherum* leaves; C (IMI 168488*b*).

Didymosphaeria conoidea Niessl
On decorticate old *Ulex* stems; I1 (IMI 188768).

(*D. micula* (Körb.)Vain., see *Microthelia micula* Körb. in Hawksworth (1972).)

Dimerium meliolicola (Petr.)Hansf.
On *Appendiculella calostroma* on *Rubus* stems; S (IMI 197833*a*).

Dothithyrella litigiosa (Sacc.)Höhn.
On dead *Pteridium* stems, as st. conid. *Pycnothyrium litigiosum* (Desm.)Died.; I1 (IMI 165023*b*).

Eudarluca caricis (Fr.)O. Erikss.
On old pustules of *Puccinia coronota* and *P. obscura*, as st. conid. *Darluca filum* (Fr.)Cast.; E6 (IMI 168528, 168529*b*); J1 (IMI 168578*b*).

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

Gloniopsis praelonga (Schw.)Zogg (syn. *G. levantica* Rehm)
On decorticate wood, dead *Rosa* and *Rubus* canes, bark of *Corylus*, *Sambucus* and *Ulex*, very common; B; C (IMI 166781, 178310); CY; DM (IMI 166789, 178314, 194110); E1, 6; F1, 2; H (IMI 168522*b*); I1 (IMI 166773), 3; J1, 2, 3, 4, 5; K; L; M; N2, 3, 4; S (IMI 165013, 183853).

Guignardia istriaca Bubák
On dead *Ruscus* cladodes; J6 (IMI 184285*a*).
Hawksworth and Sivanesan (1976*a*).

Hysterium angustatum Alb. & Schw. ex Mérat
On decorticate wood, bark of *Acer*, *Fraxinus*, *Quercus* and *Ulmus*, dead *Rosa* canes, and cork, very common; B; C (IMI 166726); DM; F1; H; I1 (IMI 168516), 3; J1 (IMI 168638), 2, 6; K (IMI 183882); L; M; N4 (IMI 166759); S; SV (IMI 165043).

Keissleriella caudata (E. Müll.)Corbaz
On decorticate logs; A (IMI 194019*a*, herb. Kohlmeyer).
Hawksworth and Sivanesan (1976*b*).

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

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

Lecanidion atratum (Hedw. ex Fr.)Endl. (syn. *Patellaria atrata* Hedw. ex Fr.)
On decorticate logs, rare; A (IMI 194020).

Leciographa inspersa (Flörke ex Tul.)Rehm
On thalli of *Ochrolechia turneri*, *Pertusaria hymenea* and *P. pertusa*, locally abundant; I1 (IMI 154733, 178312); N4 (IMI 194037).

Leptosphaeria acuta (Fr.)Karst.
On dead *Urtica* canes, very common; C (IMI 178282, 178280*b*); D1; DM (IMI 178315); E1, 4, 6; F1; G1 (IMI 178321*d*); H; I1, 3; J1, 2, 3, 4, 5, 6; K; L; M; N3, 4; S; SV.

L. doliolum var. *conoidea* (de Not.)Sacc.
On decorticate *Sambucus* wood; I1 (IMI 165021).

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

L. haematites (Rob.)Niessl
On dead *Clematis* stems; SV (IMI 194068*b*).

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. rusci (Wallr.)Sacc.
On dead and dying cladodes of *Ruscus*, often in necrotic patches, common; I1 (IMI 164993, 178261*c*); J1 (IMI 164981), 6 (IMI 184285*c*); L (IMI 188737*a*).

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

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

L. sp.
On rotting wood; J1 (IMI 186865).
Ascospores 4–7 septate, 18–22 × 2–3.5 μm.

Lophiostoma angustilabrum (Berk. & Br.)Cooke
On dead stems of *Digitalis*, *Teucrium* and *Ulex*, and on rotting wood; C (IMI 111459, 111464): E1 (IMI 111146); J1 (IMI 168630); N4 (IMI 178343).

L. arundinis (Pers. ex Fr.)Ces. & de Not.
On dead *Phragmites* canes, common; D1, 2; DM; E1 (IMI 111472, 111160*a*, 183875), 6; F1; G1 (IMI 183867), 2.

L. caulium (Fr.)Ces. & de Not.
On dead stems of *Centaurea*, *Dipsacus*, *Rumex*, *Teucrium* and an unnamed umbellifer; C, 1957–8, *Francis* (IMI 111161, 111469, 111467, 111466, 111461).
Chesters and Bell (1970).

L. fuckelii Sacc.
C, on dead *Teurcrium* stems, 1958, *Francis* (IMI 111463).

L. semiliberum (Desm.)Ces. & de Not.
On dead *Phragmites* canes, very common, more rarely on dead *Brachypodium sylvaticum* stems; CY; D1, 2; (IMI 184302*a*); E1 (IMI 111473, 111160*b*, 165012, 178335), 2, 3, 4, 5, 6; F1, 2; G2; N3 (IMI 182250).
Chesters and Bell (1970).

L. vagabundum Sacc.
On dead stems of *Centaurea*, *Dipsacus*, *Rumex* and *Teucrium;* C, 1957–8, *Francis* (IMI 111147, 111470, 111468, 111462, 111465).

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

Melanomma fuscidulum Sacc.
On decorticate wood of *Acer* and *Fraxinus;* I1 (IMI 178288); J1 (IMI 166787).

M. pulvis-pyrius (Pers. ex Fr.)Fuckel
On dead *Ulex* stems and decorticate wood; I1 (IMI 166668); J1 (IMI 186863).

Metasphaeria sp.
On decorticate fallen branch; J6 (IMI 183863).

Microthyrium ciliata Greann. & Kam
On dead *Ilex* leaves; S (IMI 182246*e*).

M. cystisi Fuckel
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. versicolor (Desm.)Höhn.
On dead *Rubus* twig; G2 (IMI 197838).

Mycosphaerella euphorbiae Niessl ex Schröt.
On dead *Euphorbia paralias* stems; A (IMI 194058).
Hawksworth and Sivanesan (1976*a*).

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

M. iridis (Desm.)Schröt.
On dead tips of *Iris* leaves; F1 (IMI 186835).

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

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

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

M. pteridis (Desm.)Schröt.
On dead *Pteridium* fronds; I3 (IMI 182254).

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

M. recutita (Fr.)Johanson
On dead or aged *Juncus effusus* stems; D2 (IMI 186845); J1 (IMI 168635).

M. slaptoniensis 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*b*, 182248*a*).

M. sp.
On dead *Lonicera* stems; DM (IMI 194031*a*).
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 *Cirsium* stems; C (IMI 178265).

O. herpotrichus (Fr.)Sacc.
On dead *Typha* debris by Ley; E2 (IMI 178324*a*).

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

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

O. typhae Feltg.
On dead *Typha* debris by Ley; E2 (IMI 178324*a*).
Hawksworth and Sivanesan (1976*b*).

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

Pleospora herbarum (Fr.)Rabenh.
On dead or aged stems of *Armeria*, *Pilosella*, *Ulex* and *Urtica*, sometimes as st. conid. *Stemphylium botryosum* Wallr.; B (IMI 168556); C (IMI 159850*b*, 178276); M (IMI 166788).

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

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

P. scrophulariae (Desm.)Höhn.
On dead *Artemisia* and *Umbilicus* stems; C (IMI 178281*c*); SV (IMI 194036).

P. vagans Niessl
On dead stems and leaves of *Arrhenatherum* and *Dactylis*, sometimes as or with st. conid. *Stagonospora arenaria* (Sacc.)Sacc.; C (IMI 170281, 186870); G2 (IMI 168540).

P. sp.
On dead *Anthyllis* stems; C (IMI 178274).
Apparently not *P. anthyllidis* Auersw. & Niessl but Slapton material sparse.

P. sp.
On dead *Digitalis* stems; I1 (IMI 164987*a*).

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

Pyrenophora typhaecola (Cooke)E. Müll.
On dead *Typha* stems, locally abundant; E1 (IMI 164996).

Rhopographus filicinus (Fr. ex Fr.)Nits. ex Fuckel
On dead and aged *Pteridium* stems, as st. conid. *Leptostroma filicinus* Fr., very common; C; CY; DM; H; I1 (IMI 165023*a*), 2, 3; J1, 2,; N4 3; L; S.

Scirrhia rimosa (Alb. ex Schw. ex Fr.)Fuckel
On dead *Phragmites* canes; D2 (IMI 166763).

Sporormiella intermedia (Auersw.)Ahmed & Cain (syn. *Sporormia intermedia* Auersw.)
On rabbit dung; nr J6 (IMI 188776*f*).

S. minima (Auersw.)Ahmed & Cain (syn. *Sporormia minima* Auersw.)
On cow dung; I1 (IMI 188775*d*).

Thaxteriella pezizula (Berk. & Curt.) Petrak
On rotting wood, as st. conid. *Helicoma muelleri* Corda; J1 (IMI 188746*b*).

Venturia minuta Barr
On decorticate *Salix* wood, rare; DM (IMI 194106).
This species is generally considered as confined to *Salix* leaves.

V. rumicis (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); I1, 2, 3; J1 (IMI 168628*d*), 2, 3, 4, 5, nr 6; L; M; N3, 4; S; SV.

Wentiomyces sibiricus (Petr.)E. Müll.
On dead *Filipendula* stems; DM (IMI 197830*a*).
Hawksworth and Sivanesan (1976*b*).

DEUTEROMYCOTINA

COELOMYCETES

(*Actinonema rosae* (Lib.)Fr., see *Diplocarpon rosae* Wolf)

Apomelasmia urticae (Lib.)Sacc.
On dead *Urtica* stems; S (IMI 164984).

Aposphaeria agminalis Sacc.
On *Betula* twigs; J1 (IMI 188735*b*).

A. sp.
On dead *Armeria* shoots; C (IMI 186869).

A. sp.
On dead *Ruscus* cladodes; J6 (IMI 184285*b*).

Ascochyta desmazieri Cav.
On dead *Lolium* shoots; N3 (IMI 188757).

A. glaucii (Cooke & Massee)Died.
On old *Glacium* stems; B (IMI 168553).

A. vulgaris Kab. & Bub. (incl. var. *lonicerae* Grove)
On *Lonicera* leaves; C (IMI 168496); J1 (IMI 194090).

A. sp.
On *Carex pendula* leaves; SV (IMI 186849).
This material may be an immature *Septoria* (E. Punithalingam, *in litt.*).

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

A. ulicis Grove
On dead *Ulex* leaves; I1 (IMI 166798*b*).

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

(*Ceuthospora phacidioides* Grev., see *Phacidium multivalve* Fr.)

Coleophoma cylindrospora (Desm.)Höhn.
On fallen *Ilex* and *Prunus laurocerasus* leaves; J1 (IMI 168658*a*).

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

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

C. dematium (Pers. ex Fr.)Grove
On dead stems or old leaves of *Endymion*, *Heracleum*, *Ilex* and *Iris*, common on old dead *Endymion* flowering stalks; C (IMI 159832); CY (IMI 180143); DM; E3; J1 (IMI 180140), 2, 3; K; L; S.

C. fuscum Laub.
On living *Digitalis* leaves, forming large leaf-spots; C (IMI 168497).

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

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

Coniothyrium fuckelii Sacc.
On living *Prunus spinosa* leaves; J3 (IMI 188743).

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

C. sp.
On *Dinemasporium graminum* on *Holcus*, rare; C (IMI 186871*b*).

Cornutispora lichenicola D. Hawksw. & Sutton
On *Parmelia sulcata* thalli, rare; CY (IMI 186831 **T**).
Hawksworth (1976).

Cryptomela 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. clypeata Sacc.
On dead *Rubus* canes; L (IMI 180154).

(*Darluca filum* (Fr.)Cast., see *Eudarluca caricis* (Fr.) O. Erikss.)

Dinemasporium graminum Lév. (incl. var. *strigosulum* Karst.)
On dead stems and leaves of Gramineae, *Galium verum* and *Urtica*, common; B; C (IMI 186871*a*, 186868); DM (IMI 182855); G1 (IMI 178321*f*); I1; N3, 4; S; SV.

Diplodia pinea (Desm.)Kickx
On fallen *Pinus* cones and twigs; J1 (IMI 178242), 3 (IMI 184288*a*); L (IMI 197536*c*).

(*D. sarmentorum* (Fr.)Fr. (syn. *D. crataegi* Westend.), see *Otthia spiraeae* (Fuckel)Fuckel)

Diplodina equiseti Sacc.
On dead *Equisetum* stems; G1 (IMI 178260).

D. salicis Westend.
On *Salix* twigs; H (IMI 166783).

cf. *Elachopeltis* sp.
On old *Rubus* canes; C (IMI 182121).
Probably undescribed but material sparse.

Hendersonia culmicola Sacc. var. *minor* Sacc. (? syn. *H. culmiseda* Sacc.)
On dead *Phragmites* canes, locally abundant; E1 (IMI 178334), 4 (IMI 168544), 6.

H. sp.
On dead *Foeniculum* stems; H (IMI 186848*b*).

(*Heteropatella bonordenii* (Haszl.)Lind, see *Heterosphaeria patella* (Tode ex Fr.)Grev.)

(*Leptostroma filicinum* Fr., see *Rhopographus filicinus* (Fr. ex Fr.)Nits. ex Fuckel)

Leptothyrium medium Cooke
On unamed fallen leaf; J1 (IMI 188824).

Libertella salicis A.L.Sm.
On dead *Salix* branch; I1 (IMI 188764).

Lichenoconium sp.
In apothecia of *Ramalina calicaris* on *Salix*, rare; DM (IMI 186833).
Hawksworth (1976).

Marssonina delastrei (Delacr.)Magnus
On *Silene dioica* leaves; C (IMI 168493).

M. potentillae (Desm.)Magnus
On *Potentilla anserina* leaves, locally frequent; I1 (IMI 168524, 178342).

Melaconium sp.
On dead *Urtica* canes; S (IMI 182247*a*).
Probably undescribed but previously collected in Norfolk on the same host (Wheatfen Broad, 26 December 1947, *E. A. & M. B. Ellis*, IMI 21273*b*).

(*Melasmia acerina* Lév., see *Rhytisma acerinum* (Pers. ex St.-Am.)Fr.)

Myxocyclus polycistis (Berk. & Br.)Sacc.
On dead *Betula* twigs; J1 (IMI 188734).

Neottiospora caricina (Desm.)Höhn.
On dead *Carex* leaves; DM (IMI 184303).

Pestalotiopsis sp.
On dead *Thuja* leaves; SV (IMI 194022).

Phloeospora aceris (Lib.)Sacc.
On fallen dead *Acer* keys; I1 (IMI 188766).

P. heraclei (Lib.)Petr.
On living *Heracleum* leaves, frequent; C (IMI 168559); E1, 6 (IMI 168545); F1; G1, 2; H; I1; J2; N3 (IMI 188758), 4; S; SV.

Phoma armeriae-sibiricae Allesch.
On *Armeria* rooting stems; B (IMI 168489).

P. cytospora (Vouaux)D. Hawksw.
On thalli of *Parmelia caperata* and *P. perlata*, frequent; CY (IMI 164975); DM; F1; I1; J2; N4.
Hawksworth and Punithalingam (1973*a*); Hawksworth (1976).

P. glomerata (Corda)Wollenw. & Hochapf.
On dead *Cirsium* stems; J6 (IMI 184293).

P. herbarum Westend.
On dead stems or twigs of *Digitalis*, *Fraxinus*, *Trifolium* and *Urtica*, very common on *Urtica;* C (IMI 178263*b*, 168555); D1; E1, 2, 5, 6; F1; G1 (IMI 178321*c*); H; I1, 3; J1; M (IMI 166800); N3, 4; S (IMI 164986, 164988, 165016*a*, 182248*b*); SV.

P. libertiana Sacc. & Speg.
On dead *Larix* twigs; J1 (IMI 168631).

(*P. lingam* Desm., see *Leptosphaeria maculans* (Desm.) Ces. & de Not.)

P. medicaginis Malbr. & Roum. var. *pinodella* (L. K. Jones)Boerema
On *Trifolium pratense* leaves; C (IMI 188748*b*).

(*P. ramalinae* Nordin, see *Abrothallus suecicus* (Kirscht.) Nordin)

P. rubella Grove
On dead *Cirsium* stesm; N3 (IMI 188754).

P. sp.
On dead *Calystegia* stems; DM (IMI 184281).

P. sp.
On cut end of *Castanea* log; J1 (IMI 186866).

Phomopsis albicans (Rob. & Desm.)Syd.
On dead *Hypochaeris* flowering shoots; C (IMI 186875).

(*P. astericus* Grove, see *Diaporthopsis angelicae* (Berk.) Wehm.)

P. controversa (Sacc.)Trav.
On dead *Fraxinus* twigs, frequent; C (IMI 178263*a*); I1; J1 (IMI 178254); N4; S; SV.

P. cruciferae Grove
On dead *Raphanus maritimus* stems; C (IMI 178333*a*).

P. digitalis D. Hawksw. & Punith.
On old dead *Digitalis* stems; I1 (IMI 164987*b* **T**).
Hawksworth and Punithalingam (1973*a*).

P. durandiana (Sacc. & Roum.)Died.
On dead *Rumex* stems; H (IMI 166761); J1 (IMI 168628*a*).

P. elliptica (Peck)Grove (syn. *P. mazzantioides* Petr.)
On dead *Galium aparine* stems; J1 (IMI 180136).

P. eupatoriicola Petr.
On dead *Eupatorium* stems; SV (IMI 178266).

P. hieracii Greene
On dead *Pilosella* flowering shoots; C (IMI 159850*a*).
Hawksworth and Punithalingam (1973*a*).

P. hydrangeae Lucas & Da Camara
On dead *Hydrangea* stems; SV (IMI 184271, 186841).

P. iridis (Cooke) D. Hawksw. & Punith.
On old *Iris* flowering shoots; SV (IMI 178330).
Hawksworth and Punithalingam (1975).

P. occulta (Sacc.)Trav.
On dead twigs and rotting wood of *Picea* and *Pinus;* J1 (IMI 186867*d*), 3 (IMI 184286).

P. polygonorum (Cooke)Grove
On dead *Reynoutria* stems; E1 (IMI 166724*a*), 6.

(*P. pulla* Trav., see *Diaporthe pulla* Nits.)

P. pustulata (Sacc.)Died.
On dead *Acer* branch; I1 (IMI 196212).

(*P. quercina* (Sacc.)Höhn., see *Diaporthe leiphaemia* (Fr.) Sacc.)

P. rusci (Westend.)Grove
On dead *Ruscus* cladodes; L (IMI 188737*d*).

P. salicina (Westend.)Died.
On dead *Salix* twigs and leaves; I1 (IMI 178270), 2 (IMI 180166).

(*P. sambucina* Trav., see *Diaporthe spiculosa* (Alb. & Schw. ex Fr.)Nits.)

P. scobina Höhn.
On dead *Fraxinus* twigs; M (IMI 186855*c*).

P. silenes D. Hawksw. & Punith.
On dead *Silene dioica* stems; J1 (IMI 168623 **T**).
Hawksworth and Punithalingam (1975).

P. subordinaria (Desm.)Trav.
On dead *Plantago lanceolata* and *P. media* stems; B (IMI 168606); C (IMI 170280).

P. syringina (Sacc.)Trav.
On *Syringa* leaves; SV (IMI 186840*a*).

(*P. vepris* (Sacc.)Höhn., see *Apioporthe vepris* (de Lacr.) Wehm.)

P. verbasci D. Hawksw. & Punith.
On dead *Verbascum thapsus* stems; I1 (IMI 165026 **T**).
Hawksworth and Punithalingam (1973*a*).

P. sp.
On dead *Prunus laurocerasus* leaves; J1 (IMI 168658*b*, 168661).

Phyllosticta hedericola Dur. & Mont.
On *Hedera* leaves; J1.

P. ruscicola Desm.
On dead *Ruscus* cladodes, frequent; I1 (IMI 178261*b*); J1; L (IMI 188737*b*); S.

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

Pirostoma circinans Fr.
On dead *Phragmites* canes, common on standing canes; D1, 2; DM (IMI 184302*b*); E1, 3, 5, 6; F1; G1 (IMI 184274), 2.

Pleurophomopsis sp.
On dead *Ilex* twigs under the bark; J6 (IMI 195530*b*).

Polymorphum rugosum (Fr.)D. Hawksw. & Punith. (syn. *Dichaena faginea* (Fr.)Sacc.)
On *Fagus* bark, forming extensive patches on old trunks, very common; DM; J1 (IMI 166793), 2, 3; K; L; N3.
Hawksworth and Punithalingam (1973*b*).

Pycnofusarium rusci D. Hawksw. & Punith.
On dead *Ruscus* cladodes; I1 (IMI 166113 **T**).
Hawksworth and Punithalingam (1973*a*).

(*Pycnothyrium litigiosum* (Desm.)Died., see *Dothithyrella litigiosa*(Sacc.)Höhn.)

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

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

Rhabdospora hypochoeridis Grove
On dead *Hypochaeris* flowering shoots; C (IMI 168584).

Sclerophoma pythiophila (Corda)Höhn.
On fallen *Pinus* needles, locally abundant; J1 (IMI 180138), 3; L.

(*Scolecosporiella typhae* (Höhn.)Petr., see *Leptosphaeria typharum* (Desm.)Kernst.)

Seiridium unicorne (Cooke & Ellis)Sutton
On dying *Thuja* leaves; SV (IMI 184280).

Septoria galeopsidis Westend.
On *Galeopsis tetrahit* leaves; I1 (IMI 168551).

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

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

S. minuta Schröt.
On dead *Luzula sylvatica* leaves; J1 (IMI 188720).

S. slaptoniensis D. Hawksw. & Punith.
On dead *Ulex* leaves; I1 (IMI 166798*a* **T**).
Hawksworth and Punithalingam (1973*a*).

(*Stagonospora arenaria* (Sacc.)Sacc., see *Pleospora vagans* Niessl)

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

S. elegans (Berk.)Sacc. & Trav.
On dead *Phragmites* canes; E6 (IMI 186877).

Steganosporium pyriforme Corda
On *Acer* twigs, C; I1, 3 (IMI 168546).

Vouauxiella lichenicola (Linds.)Petr. & Syd.
In apothecia of *Lecanora chlarotera*, very common; C; DM; F1; H (IMI 186861*a*); I1 (IMI 178325), 3; J2; N3 (IMI 188759), 4; S; SV.

V. verrucosa (Vouaux)Petr. & Syd.
In apothecia of *Lecanora chlarotera*, rare; H (IMI 186861*b*).
Hawksworth (1976).

HYPHOMYCETES

Acremonium persicinus (Nicot)W. Gams (syn. *Paecilomyces persicinus* Nicot)
On decorticate *Acer* wood; J1 (IMI 168575).

A. strictum W. Gams (syn. *Cephalosporium acremonium* auct.)
Isol. ex rabbit dung and decaying *Calvatia excipuliformis;* nr J1 (IMI 196205*b*), nr 6 (IMI 188776*i*).

(*A.* sp., see *Nectria candicans* Plowr.)

Acrogenospora sphaerocephala (Berk. & Br.)M. B. Ellis
On dead perithecia of *Lasiosphaeria spermoides;* S (IMI 183852*b*).

Alatospora acuminata Ingold
In stream foam; J2.

Alternaria alternata (Fr.)Keissl.
On dead herbaceous stems and wood; C (IMI 178337*b*); E1, 3, 6 (IMI 166735); I1 (IMI 168523).

A. tenuissima (Kunze ex Pers.)Wiltsh.
On dead herbaceous stems, aged or dead leaves, etc., common; C (IMI 178317, 178333); DM (IMI 159810*b*); E1 (IMI 168557*a*); H (IMI 186847*a*); I1 (IMI 178332*b*).

Alysidium resinae (Fr.) M. B. Ellis
On rotting wood; J1 (IMI 180134).

Anavirga dendromorpha Descals
On twig in stream; J2.

A. laxa Sutton
On rotting *Castanea* cupules; DM (IMI 184568*d*).
Sutton (1975).

Anguillospora crassa Ingold
In stream foam; J2.

Aphanocladium album (Preuss)W. Gams
On *Comatricha nigra;* J1.

Arthrinium phaeospermum (Corda) M. B. Ellis
On dead culms of *Bromus*, dead *Phragmites* canes, and student's transect cane; E3 (IMI 180129); J1 (IMI 178327); M (IMI 166733).

(*A.* sp., see *Apiospora montagnei* Sacc.)

Arthrobotrys cf. *superba* Corda
On nematodes on cow dung; I1 (IMI 189313).

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

A. sp.
In stream foam, abundant; J2.
Probably an undescribed species (E. 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 181040*g*).

Aureobasidium pullulans (de Bary)Arnaud
On leaves of *Acer* and *Iris*, and on dead *Salix* twigs; CY (IMI 168514); DM (IMI 168483*b*); I1 (IMI 168527*b*).

Bactrodesmium abruptum (Berk. & Br.)Mason & Hughes
On rotting ? *Fraxinus* stump; S (IMI 164998).

Blistum ovalisporum (A.L.Sm.)Sutton (syn. *Stilbella ovalispora* (A.L.Sm.)B. Ing)
On *Trichia affinis* and *T. botrytis;* J1; S.

B. tomentosum (Schrad. ex Fr.)Sutton (syn. *Stilbella tomentosa* (Schrad. ex Fr.)Bres.)
On *Trichia botrytis* and *T.* sp.; J1.

Botryosporium longibrachiatum (Oud.)Maire
On dead plant material; K.

(*Botrytis cinerea* Pers. ex Pers., see *Sclerotinia fuckeliana* (de Bary)Fuckel)

Brachysporium bloxami (Cooke)Sacc.
On rotting wood associated with *Trichosphaeria* sp.; J1 (IMI 183857*b*).

Candelabrum spinulosum van Beverwijk
On rotting *Castanea* cupules; J1 (IMI 178273*b*, 184566*b*, 188823*b*), 6 (IMI 184565*b*). Sutton (1975).

Centrospora acerina (Hartig)Newhall
In stream foam; J2.

Ceratosporium fuscescens Schwein.
On dead *Ulex* stems; I1 (IMI 188771*c*).

Cercospora depazeoides (Desm.)Sacc.
On *Sambucus* leaves; DM (IMI 168486).

C. rubi Sacc.
On *Rubus* leaves; J1; K (IMI 165010).

Cheiromycella microscopica (Karst.)Hughes
On decorticate logs; B (IMI 153130).

Chromelosporium ochraceum Corda
On dead *Heracleum* stems; G1 (IMI 179380).

(*Cladobotryum varium* 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 166755); J1 (IMI 168647).

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 168500, 168563); C (IMI 159850*c*, 159829*b*, 165009, 168562, 168589, 170278, 178333*c*, 178283*b*, 186834*b*); CY (IMI 194065); D1, 2); DM (IMI 159810*a*, 168482); E1 (IMI 168509, 168557*b*), 2 (IMI 182553*b*), 3, 5, 6 (IMI 166724*b*, 168504, 168505); F1, 2; G1, 2; H (IMI 178250, 186847*b*); I1 (IMI 168527*a*, 168520, 178261*a*, 178332*c*), 3 (IMI 168537*a*); J1 (IMI 166786, 168652, 184273*b*), 2, 3, 4, 5, 6; K (IMI 165004*b*, 165022); L; M; N2, 3, 4; S (IMI 186840*c*); SV.

C. macrocarpum Preuss
On dead and aged herbaceous stems, flowers and leaves; B (IMI 168675); C (IMI 178337*e*); SV (IMI 168659).

C. uredinicola Speg.
On old sori of a rust (? *Puccinia coronata*) on dead grass leaves; I1 (IMI 188775*c*). Hawksworth (1976).

Clathrosphaerina zalewskii van Beverwijk
On rotting *Castanea* cupules; J1 (IMI 188822*a*, 184566*e*), 5 (IMI 184567*c*), 6 (IMI 184565*a*). Sutton (1975).

Clonostachys compactiuscula (Sacc.) D. Hawksw. & W. Gams
On dead *Salix* twigs; DM (IMI 178256). Hawksworth and Punithalingam (1975).

Codinaea fertilis Hughes & Kendrick
On rotting *Fagus* mast (cupules); J3 (IMI 194096*a*).

(*C.* sp., see *Chaetosphaeria callimorpha* (Mont.)Sacc.)

Corynespora smithii (Berk. & Br.) M. B. Ellis
On dead *Ilex* twigs, locally abundant; J1, 2 (IMI 194054), 6 (IMI 183864); K (IMI 178292).

(*Cylindrocarpon candidum* (Link)Wollenw., see *Nectria coccinea* (Pers. ex Fr.)Fr.)

Cylindrocladium sp.
On dead *Arrhenatherum* leaves; C (IMI 168488*a*). Material too poor for certain determination.

(*Cylindrocolla urticae* (Pers.)Bonord., see *Calloria fusarioides* (Berk.)Fr.)

Dendrodochium sp.
On *Fuligo septica* var. *flava;* J1 (IMI 178170*a*).

Dendryphiella infuscans (Thüm.) M. B. Ellis
On dead ? *Oenanthe* stems; C (IMI 184304*c*). Hawksworth (1976).

D. vinosa (Berk. & Curt.) Reisinger
On dead *Urtica* canes; DM (IMI 178277).

Dendryphion commosum Wallr.
On dead stems of *Anagalis*, *Lamium album* and *Urtica;* B (IMI 168554); C (IMI 178280); nr J1 (IMI 184290*a*); S.

Dictyosporium toruloides (Corda)Guéguen
On dead *Phragmites* canes in water, dead *Filipendula* stems and in stream foam; DM (IMI 197830); E1 (IMI 178293); J2.

Didymaria linariae Pass.
On old *Linaria* leaves; C (IMI 168499).

Endophragmia atra (Berk. & Br.)M. B. Ellis
On dead *Urtica* canes; S (IMI 182847*a*).

E. boewei J. Crane, *Mycologia* **64**: 658 (1972)
On fallen *Pinus* cones; L (IMI 197536*a*). New to the British Isles; to be discussed in a forthcoming paper.

E. uniseptata M. B. Ellis
On dead *Ulex* stems; I1 (IMI 188771*b*).

Endophragmiella cambrensis M. B. Ellis
On rotting wood; K (IMI 187992*d*).

Epicoccum purpurascens Ehrenb. ex Schlecht.
On rotting wood and decaying grass leaves; H (IMI 180151); I1 (IMI 178187*b*, 188775*b*).

Flabellospora sp.
In stream foam; J2. The undescribed but common large-spored species of Ingold (1975).

Fusarium aquaeductum Lagh. aggr. (see also under *Nectria episphaeria* (Tode ex Fr.)Fr.)
Isol. ex stream; J2.

F. avenaceum (Corda ex Fr.)Sacc.
On plant debris on Ley shore; E2 (IMI 182553*a*).

(*F. coccophilum* (Desm.)Wollenw. & Reink., see *Nectria flammea* (Tul.)Dingley)

F. culmorum (W.Sm.)Sacc.
Isol. ex rabbit dung; nr. J6 (IMI 188776*c*).

(*F. graminearum* Schwabe, see *Giberella zeae* (Schw., Petch)

(*F. lateritium* Nees ex Link, see *Gibberella baccata* (Wallr.) Sacc.)

F. solani (Mart.)Sacc.
Isol. ex stream; J2.

Fusidium griseum Link
On fallen leaves, particularly of *Castanea*, occasional; J1 (IMI 179376, 180135), 3 (IMI 184288*b*), 6.

Gliocladium roseum (Link)Bain. (incl. *G. catenulatum* Gilman & Abbot)
On aged *Ulex* stems and isol. ex rabbit dung; I1 (IMI 188769); nr J6 (IMI 188776*h*).

Graphium sp.
On rotting wood; N4 (IMI 188752*b*).

(*Helicoma muelleri* Corda, see *Thaxteriella pezizula* (Berk. & Curt.)Petrak)

Heliscus lugdunensis Sacc. & Therry
In stream foam; J2.

Helminthosporium cylindraceum Corda
On dead *Ulex* stems; I1 (IMI 188771*d*).

H. velutinum Link ex Fic. & Schub.
On dead twigs; I1 (IMI 194041); J1 (IMI 184289).

Hormiactis alba Preuss
On decaying apothecia of *Peziza repanda*; CY (IMI 184301*b*).

Hyalodendron sp.
On underside of fallen *Fraxinus* log; I1 (IMI 194081).
Conidia unusually large (15–25 × 6.5–10 μm).

Illosporium roseum Mart. ex Fr.
On thallus of *Physcia tenella* on *Sambucus*, rare; I1 (IMI 180128).

Lemonniera 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; I1 (IMI 194081).
Conidia 15–25 × 6.5–11 μm.

(*Monocillium tenue* W. Gams, see *Niesslia* sp.)

Nematogonium 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 ? *Acer;* K (IMI 178329).

N. verrucosum (van Beyma)G. Sm.
On twigs by stream; J2 (IMI 185588).

Oidiodendron tenuissimum (Peck)Hughes
On rotting *Castanea* cupules; DM (IMI 184568*c*).

Oidium sp.*
On *Parietaria* leaves; SV (IMI 186851).

O. sp.*
On *Sambucus* young stems; I1 (IMI 168525).

O. sp.*
On *Silene dioica* leaves; E6.

Oncopodiella hyperparasitica D. Hawksw.
On dead perithecia of *Lasiosphaeria spermoides;* S (IMI 183852 **T**).
Hawksworth and Punithalingam (1975).

Ozonium auricomum Link *s.l.*
On rotting *Ulmus* branch; N4 (IMI 178251).

Paecilomyces farinosus (Dicks. ex Fr.) A. Brown & G.Sm.
On insect larvae on dead herbaceous stems and fallen logs; DM (IMI 182843); I1 (IMI 194079); J1 (IMI 183870).

P. tenuipes (Peck)R. Samson (syn. *Isaria peckoltii* Lloyd, *I. tenuipes* Peck)
On *Acer* bark; I1 (IMI 168519).

(*Papulospora arundinis* (Corda)Fr., see *Apiospora montagnei* Sacc.)

Penicillium brevicompactum Dierckx
On cap of decaying *Boletus* sp. and on old *Calvatia excipuliformis* sporocarps; J1 (IMI 179379, 196205*a*).

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. funiculosum Thom
On dog dung; C (IMI 179377).
A collection from rotting wood (I1, IMI 178187*a*) in the *P. funiculosum-variabile* series was also obtained.

P. patulum Bain.
On vole dung in *Carex* tussock; DM (IMI 184262).

P. variabile Sopp (see also under *P. funiculosum* Thom)
As culture contaminant; SV (IMI 178170*b*).

Periconia byssoides Pers. ex Mérat
On dead herbaceous stems and aged or diseased leaves, common, particularly on dead *Urtica* stems; C; CY (IMI 168576); D1, 2; DM (IMI 166771*a*, 168481); E1, 6; F1, 2; G1 (IMI 178321*e*), 2 (IMI 168536*a*); H; I1 (IMI 166736, 166753*a*, 178332*a*, 183414*a*), 3; J1 (IMI 168628*b*), 2, 3, 5, 6; L; M (IMI 186855*b*); N3, 4; S (IMI 183854*a*); SV.

P. cookei Mason & M. B. Ellis
On dead *Heracleum* and *Urtica* stems; C (IMI 182253); I3 (IMI 188761).

P. minutissima Corda
On old *Reynoutria* stems; E1 (IMI 166734).

P. shyamala A. K. Roy
On dead *Pteridium* fronds; G2 (IMI 180165).
Hawksworth and Punithalingam (1975).

Phialocephala fumosa (Ellis & Everh.)Sutton
On rotting *Castanea* cupules; DM (IMI 184568*e*); J1 (IMI 184560*d*), 3 (IMI 188881), 5 (IMI 184567*d*), 6 (IMI 184565*d*).
Sutton (1975).

P. truncata Sutton
On rotting *Castanea* cupules; J6 (IMI 184565*c* **T**).
Sutton (1975).

Pleurotheciopsis pusilla Sutton
On rotting *Castanea* cupules; DM (IMI 184568*b*); J1 (IMI 178273*a*, 184566*a*, 188821), 3 (IMI 194095*a*), 5 (IMI 184567*b*).

Polyscytalum fecundissimum Riess
On rotting *Castanea* cupules; J1 (IMI 180146*a*).

(*Polythrincium trifolii* Schm. & Kunze ex Fr., see *Cymadothea trifolii* (Kill.)Wolf)

Pseudomicrodochium aciculare Sutton
On rotting *Castanea* cupules; J1 (IMI 188823*a*), 3 (IMI 188884).

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

Pseudospiropes simplex (Kunze ex Fr.) M. B. Ellis
On dead *Ilex* wood; J1 (IMI 168651).

Ramularia didymarioides Briosi & Sacc.
Forming necrotic patches on *Silene dioica* leaves; nr J1 (IMI 194085).
Hawksworth (1976).

R. primulae Thüm.
Forming necrotic patches on *Primula* leaves; J1 (IMI 196204).

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

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

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

Scolecobasidium echinophilum (Massal.)Sutton
On rotting *Castanea* cupules, common; DM (IMI 184568*a*); J1 (IMI 178294*b*, 178273*c*, 184566*c*, 188823*c*), 3 (IMI 188880, 194095*b*), 5 (IMI 184567*a*), 6 (IMI 184565*e*); S (IMI 184569*a*).

Scopulariopsis brevicaulis (Sacc.)Bain. s. lat.
On grass clippings; DM (IMI 197535).

(*Sepedonium chyrsosporum* Bull. ex Fr., see *Apiocrea chrysosperma* (Tul.)Syd.)

Spadicodes grovei M. B. Ellis
On rotting wood; J1 (IMI 188746*a*).

(*Sphacelia segetum* Lév., see *Claviceps purpurea* (Fr.)Tul.)

Sporidesmium adscendens Berk.
On decorticate log; J1 (IMI 183858).

S. cambrense M. B. Ellis
On dead *Ulex galli* leaves; C (IMI 184265).

S. folliculatum (Corda)Mason & Hughes
On decorticate *Fraxinus* wood; I1 (IMI 194066).

S. sp.
On dead *Rubus* canes; J1 (IMI 184283*b*).
This material has 4-septate conidia and may be undescribed but is rather scant.

Sporobolomyces roseus Kluyver & van Niel
Isol. ex rotting wood; J1 (IMI 186867*c*).

Sporobolomyces sp.
On fallen *Pinus* cones; L (IMI 197536*b*).
A white-spored species.

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

(*Stemphylium botryosum* Wallr., see *Pleospora herbarum* (Pers. ex Fr.)Rabenh.)

S. vesicarium (Wallr.)Simmons
On dead *Heracleum* stem; C (IMI 178337*a*).

Stilbella erythrocephala (Ditm. ex Fr.)Lindau
On cow and rabbit dung, frequent; nr J1 (IMI 181553), 6 (IMI 188254); M.

(*Symphyosira* sp., see *Symphyosirinia angelicae* E. A. Ellis)

Taeniolella scripta (Karst.)Hughes
On decorticate wood in ruined building; K (IMI 184254).

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

Tetrachaetum elegans Ingold
On incubated leaf skeletons from stream; J2.

Tetracladium marchalianum de Wild.
In stream foam; J2.

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

Tilletiopsis minor G. Nyland
On *Cribraria persoonii;* J1 (IMI 186867*b*).

Torula herbarum Pers. ex Gray
On dead herbaceous stems, vegetable debris by the Ley and *Pinus* resin, frequent; C (IMI 178279); DM; E2 (IMI 178324*b*); I1 (IMI 166790, 178332*d*); nr J1 (IMI 184290*b*); L (IMI 180153); S (IMI 183854).

T. sp.
On dead *Urtica* canes; S (IMI 182247*b*).
A segragate from *T. herbarum* distinguished in having longer conidia to be described shortly by Dr J. L. Crane.

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

(*T. pilulíferum* J. Webst. & Rifai, see *Hypocrea pilulifera* J. Webst. & Rifai)

T. viride Pers. ex Gray
On rotting wood and *Rubus* canes; CY (IMI 178183); H (IMI 180150); J1 (IMI 194049, 196206).

Tricladium 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 *Acer* and *Salix* twigs and branches, also on cow dung; CY (IMI 178306); DM (IMI 194035*b*); I1; J1 (IMI 181607), 2 (IMI 159815).

Trimmatostroma betulinum (Corda)Hughes
On dead *Salix* twigs, common, more rarely on *Quercus* twigs; CY (IMI 194062); DM; H (IMI 166732, 180148, 186859, 194059*a*); I1.

T. sp.
On *Acer* twigs; I1 (IMI 165020).
Sporodochia not developed.

Tripospermum myrti (Lind)Hughes
On *Acer* leaves and in stream foam; DM (IMI 168483*a*); J1 (IMI 168634), 2.

Triposporium elegans Corda
On rotting *Fagus* mast (cupules) and dead *Rubus* canes; J1 (IMI 184283*a*), 3 (IMI 194096*b*).

(*Tubercularia vulgaris* Tode ex Fr., see *Nectria cinnabarina* (Tode ex Fr.)Fr.)

T. sp.
On *Acer* bark; I1 (IMI 195529).

(*Verticicladium trifidum* Preuss, see *Desmazierella acicola* Libert)

Verticillium agaricinum (Link)Corda
On *Lepista nuda;* C.

V. fungicola (Preuss)Hassebr.
On decaying leaf litter; J1 (IMI 178174*a*).

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

V. rexianum (Sacc.)Sacc.
On *Arcyria cinerea*, *Stemonitopsis typhina* and *Trichia floriformis;* J1, 4; K; S.

V. tenuissimum Corda
On rotting *Castanea* cupules; J1 (IMI 188822*b*); S (IMI 184569).
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).

Volucrispora ornithomorpha (Trott.)Hask.
On live *Urtica* leaves; E6; H (IMI 186844*a*). Hawksworth (1976).

V. sp.
In stream foam; J2.

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

Xanthoriicola physciae (Kalchbr.)D. Hawksw.
On apothecia of *Xanthoria parietina*, locally abundant; C; DM; H; I1 (IMI 164974, 178313). Hawksworth and Punithalingam (1973*a*).

Xylophypha nigrescens (Pers. ex Fr.)Mason
On dead *Fraxinus* log; J1 (IMI 188717).

X. pinicola D. Hawksw.
On decorticate *Pinus* wood; J1 (IMI 166782 **T**). Hawksworth and Punithalingam (1975).

DISCUSSION

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 litt.*), south-east England (Dennis, 1973), Warwickshire (M. C. Clark, *in litt.*) 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 12. *Numbers of species of fungi (excluding Myxomycota British Isles compared with*

	Berkshire[1]	Halifax parish[2]	Hertfordshire[3]	Monks Wood (Hunts.)[4]	Mull[5]	New Forest[6]
(a) "Phycomycetes"[a]	0 (0%)[b]	30 (2·2%)	55 (4·6%)	1 (0·3%)	47 (2·7%)	1 (0·1%)
(b) Basidiomycotina	805 (80·9%)	740 (55·4%)	806 (67·7%)	250 (82·0%)	862 (49·6%)	617 (89·0%)
Teliomycetes	*0*	*54*	*117*	*8*	*91*	*2*
Hymenomycetes	*785*	*666*	*654*	*239*	*756*	*595*
Gasteromycetes	*20*	*20*	*35*	*3*	*15*	*20*
(c) Ascomycotina	190 (19·1%)	426 (31·9%)	162 (13·6%)	41 (13·4%)	531 (30·6%)	72 (10·4%)
(d) Deuteromycotina	0 (0%)	141 (10·5%)	167 (14·0%)	13 (4·3%)	298 (17·1%)	3 (0·4%)
Totals	995	1,337	1,190	305	1,738	693

[a] Zygomycotina + Mastigomycotina. [b] Numbers of species in each subdivision (i.e. (a)-(d) are expressed as a percentage
[1] Bowen (1968); [2] Watling (1967); [3] Gregory (1951, 1953); [4] Houlton (1973); [5] R. Watling (*in litt.*); [6] Rayner (1911);
[12] 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

Northaw Great Wood (Herts.)[7]	Rhum[8]	South-east England[9]	Stanmore Common (Middx.)[10]	Warwickshire[11]	Yorkshire[12]	SLAPTON
0 (0%)	37 (4·2%)	236 (5·7%)	1 (0·4%)	30 (1·6%)	83 (2·5%)	17 (1·8%)
77 (93·6%)	419 (47·4%)	1,916 (46·6%)	223 (93·7%)	1,008 (53·4%)	1,969 (59·3%)	336 (35·4%)
1	*37*	*190*	*22*	*103*	*218*	*55*
266	*374*	*1,666*	*197*	*880*	*1,705*	*264*
10	*8*	*60*	*4*	*25*	*46*	*17*
17 (5·7%)	241 (27·3%)	982 (23·9%)	12 (5·0%)	710 (37·6%)	849 (25·5%)	357 (37·6%)
2 (0·7%)	187 (21·1%)	979 (23·8%)	2 (0·8%)	140 (7·4%)	422 (12·7%)	239 (25·2%)
)6	884	4,113	238	1,888	3,323	949

)f the total number of fungi recorded from each area.
' White and White (1966); [8] Watling (1970); [9] Dennis (1973); [10] Ing (1969); [11] 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.

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* These were, however, both spring forays and so the Agaricales would certainly be under-represented in these lists also.

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