

FUNGI OF GRAVES PARK

DECEMBER 2024

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10 February, 2009, recording fungi on large beech deadwood in grassland by Cobnar Wood in Graves Park. Bonzo and I recorded 17 species of fungi on a winter's day.

Contents

Introduction: 2006-2013 survey	3
Intensive Survey: Autumn 2024	11
Finding no.1 THERE ARE STILL LOTS OF FUNGI IN GRAVES PARK	16
Finding no.2 GRAVES PARK HAS SOME WOODLANDS RICH IN FUNG	22
Finding no.3 DEADWOOD IS THE TOP FUNGAL SUBSTRATE AT GRAVES PARK	27
Finding no.4 FUNGI PROPOSED AS OLD OR ANCIENT WOODLAND INDICATORS ARE IN GRAVES PARK	31
Finding no.5 THERE ARE PLENTY OF ECTOMYCORRHIZAL FUNGI IN GRAVES PARK'S OLD/ANCIENT WOODLANDS	34
Finding no.6 GRAVES PARK HAS AMAZING AQUATIC WOODLAND HYPHOMYCETES	40
Finding no.7 THERE HAS BEEN A CATASTROPHIC LOSS OF WOODLAND MARGINAL HABITAT AT GRAVES PARK	41
Finding no.8 FUNGI STILL FLOURISH IN GRAVES PARK WHERE THEY ARE PROTECTED	45
Finding no.9 <i>GANODERMA</i> IS GRAVES PARK'S MOST ICONIC FUNGUS!	48
Finding no.10 GRASSLAND FUNGI AT GRAVES PARK IS POOR	50
Finding no.11 GRAVES PARK HAS PLENTY OF LICHENS	61
Finding no.12 CHANTREYLAND MEADOW IS FULL OF FUNGI	67
Finding no.13 THERE ARE SOME GOOD MARGINAL ZONES FOR FUNGI AT GRAVES PARK	71
Finding no.14 BY AND LARGE, PEOPLE DON'T VANDALISE FUNGI AT GRAVES PARK	75
Finding no.15 FUNGI (AND ALL WILDLIFE) AT GRAVES PARK NEED TREATING WITH MORE CARE	77
Further fungi surveying at Graves Park.	82
Postscript: a glance at December fungi in Graves Park	84
References	87

Notes

Superscript numbers refer to the references.

All photos of fungi and their microscopy are from the Graves Park surveys covered in this report.

Names of fungi are constantly changing, especially following the introduction of DNA analysis. At the moment a fungus may have two Latin names which are both in use and are, in contradiction to the original intent of Latin nomenclature, frequently used interchangeably. Changing names or splitting species also has implications for the study of past records. I have left most names as they were last revised in 2014. English names are capitalised for fungi but not for trees, flowers etc.

Identification of fungi is sometimes very difficult. Any errors are mine. "The identification of fungi has parallels with the English legal system. Some species are so distinct and unique they can be identified 'beyond reasonable doubt'. But with others, where there are possible alternatives, identification is some times based 'on the balance of probability'" (Sterry & Hughes).⁹ The definition of fungal species is in a constant state of flux.

The national distribution of fungal species such as rare, occasional, common etc. are simply based on the number of records in the FRDBI (Fungal records Database of Britain and Ireland) and are taken from Buczacki.⁸

Acknowledgements

The maps were produced from Ordnance Survey data using freeware provided by Adrian Middleton.

Maps contain Ordnance Survey data © Crown copyright and database right 2011.

Old photos of Graves Park from Picture Sheffield. <https://www.picturesheffield.com>

Map of bluebells from *Norton Park Review* 2019. February 2020. Ian D. Rotherham with Christine Handley and Chris Percy.¹ Help with photography from Dave Cowley.

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Introduction

A survey of the fungi of Graves Park, Sheffield (SK3582) was undertaken by Steve Clements for the Friends of Graves Park, comprising over 20 visits between 1 September and 11 November 2024. Previous records are included from a seven year study of urban fungi in Sheffield (2006–2013) by Steve Clements, as Fungi Recorder for the Sorby Natural History Society, Sheffield. The survey was evidence-based, with field photographs, close-up photography using a dissecting microscope, and photomicrographs using digital measuring. The surveying technique used was based on those used by the National Trust Longshaw Volunteer Team Fungi and Lichen Surveys (2014–20)²⁴ and other fungi surveys (2017–2020) including surveys for the Sheffield & Rotherham Wildlife Trust, and the Friends of Bolehill Woods, Woodseats (2023).²⁵ The findings of the survey are outlined in the contents.

2006 – 2013 Sheffield Urban Fungi Study

A combined total of 211 records for Graves Park was obtained during this period. At least 107 different species/kinds of fungi were identified.

BASIDIOMYCETES

Mushrooms and Toadstools

<i>Armillaria mellea</i>	Honey Fungus
<i>Calocybe gambosa</i>	St. George's Mushroom
<i>Clitocybe nebularis</i>	Clouded Funnel
<i>Conocybe aporos / arrhenii</i>	Ringed Conecap
<i>Coprinellus domesticus</i>	Firebug Inkcap
<i>Coprinellus micaceus</i>	Glistening Inkcap
<i>Coprinopsis lagopus</i>	Hare'sfoot Inkcap
<i>Coprinus comatus</i>	Shaggy Inkcap / Lawyer's Wig
<i>Crepidotus mollis</i>	Peeling Oysterling
<i>Crepidotus variabilis</i>	Variable Oysterling
<i>Entoloma conferendum</i>	Star Pinkgill
<i>Entoloma porphyrophaeum</i>	Lilac Pinkgill
<i>Flammulina velutipes</i>	Velvet Shank
<i>Galerina sp.</i>	a Bell
<i>Hygrocybe conica</i>	Blackening Waxcap
<i>Hygrocybe glutinipes</i>	Glutinous Waxcap
<i>Hygrocybe pratensis var. pallida</i>	Pale Meadow Waxcap
<i>Hygrocybe virginea</i>	Snowy Waxcap
<i>Hygrophorus eburneus</i>	Ivory Woodwax
<i>Hypholoma fasciculare</i>	Sulphur Tuft
<i>Inocybe sp.1 (squarrosa?)</i>	a Fibrecap
<i>Lacrymaria lacrymabunda</i>	Weeping Widow
<i>Lepista saeva</i>	Field Blewit
<i>Lyophyllum decastes</i>	Clustered Domecap
<i>Macrocystidia cucumis</i>	Cucumber Cap
<i>Melanoleuca subpulverulenta</i>	a Cavalier
<i>Mycena flavoalba</i>	Ivory Bonnet
<i>Mycena flavoalba</i>	Ivory Bonnet
<i>Mycena galericulata</i>	Common Bonnet
<i>Mycena leptcephala</i>	Nitrous Bonnet
<i>Naucoria scolocena</i>	an Aldercap
<i>Panaeolina foenicisecii</i>	Brown Mottlegill
<i>Panellus serotinus (Sarcomyxa serotina)</i>	Olive Oysterling
<i>Parasola plicatilis</i>	Pleated Inkcap
<i>Pleurotus cornucopiae</i>	Branching Oyster
<i>Pleurotus ostreatus</i>	Oyster Mushroom
<i>Pluteus umbrosus</i>	Velvet Shield
<i>Psathyrella sp.</i>	a Brittlestem
<i>Psilocybe semilanceata</i>	Magic Mushroom / Liberty Cap
<i>Russula cicatricata (xerampalina)</i>	Crab Brittlelegill
<i>Russula sp no. 1.</i>	a Brittlelegill
<i>Schizophyllum commune</i>	Splitgill
<i>Stropharia aurantiaca</i>	Redlead Roundhead
<i>Stropharia caerulea</i>	Blue Roundhead
<i>Tricholoma saponaceum</i>	Soapy Knight

Volvariella gloiocephala

Stubble Rosegill

Bracket Fungi*Bjerkandera adusta*

Smoky Bracket

Bjerkandera fumosa

Big Smoky Bracket

Datronia mollis

Common Mazegill

Ganoderma applanatum

Artist's Bracket

Ganoderma australe

Southern Bracket

Meripilus giganteus

Giant Polypore

Oxyporus populinus

Poplar Bracket

Phellinus igniarius

Willow Bracket

Piptoporus betulinus

Birch Polypore / Razorstrop Fungus

Polyporus brumalis

Winter Polypore

Polyporus squamosus

Dryad's Saddle

Pseudoinonotus dryadeus

Oak Bracket

Trametes gibbosa

Lumpy Bracket

Trametes versicolor

Turkeytail

Crust Fungi*Chondrostereum purpureum*

Silverleaf Fungus

Cylindrobasidium laeve

a thin white Crust

Hyphodontia sambuci

Elder Whitewash

Peniophora lycii

A grey-lilac crust

Peniophora quercina

a crust fungus on Oak

Phlebia radiata

Wrinkled Crust

Schizopora paradoxa

Split Porecrust

Stereum gausapatum

Bleeding Oak Crust

Stereum hirsutum

Hairy Curtain Crust

Vuilleminia comedens

Waxy Crust

Jelly Fungi*Auricularia auricula-judae*

Jelly Ear

Dacrymyces stillatus

Common Jellyspot

Exidia glandulosa

Witches' Butter

Exidia nucleata

Crystal Brain

Exidia thuretiana

White Brain

Tremella mesenterica

Yellow Brain

Stomach Fungi*Lycoperdon pyriforme*

Stump Puffball

Scleroderma verrucosum

Scaly Earthball

Tooth Fungi*Hericium cirrhatum*

Tiered Tooth

Rust Fungi*Cumminsia mirabilissima*

Mahonia Rust

Melampsorium betulinum

Birch Rust

Phragmidium rubi-idaei

Raspberry Rust

Puccinia punctiformis

Creeping Thistle Rust

Puccinia urticata

Nettle Clustercup Rust

Uromyces ficariae

Bitter Chocolate Rust, Celandine Rust

Uromyces muscari

Bluebell Rust

ASCOMYCETES (AND LOWER FUNGI)**Larger Ascomycetes***Ascocoryne sarcoides*

Purple Jellydisc

Sarcoscypha austriaca

Scarlet Elfcup

Carbon Fungi*Biscogniauxia nummularia*

Beech Tarcrust

Daldinia concentrica

King Alfred's Cakes / Cramp Balls

Diatrype disciformis

Beech Barkspot

Diatrypella quercina

a Barkspot on Oak

Hypoxylon fragiforme
Kretzschmaria deusta
Xylaria hypoxylon
Xylaria longipes

Beech Woodwart
 Brittle Cinder
 Candlesnuff Fungus
 Dead Moll's Fingers

Powdery Mildews

Erysiphe alphitoides
Erysiphe berberidis
Erysiphe cruciferarum
Podospaera xanthii
Sawadaea bicornis

Oak Powdery Mildew
 Berberis Powdery Mildew
 Crucifer Powdery Mildew
 Calendula Powdery Mildew
 Sycamore Powdery Mildew

Smaller/Tiny Ascomycetes

Mollisia cinerea
Nectria cinnabarina
Nectria coccinea
Rhytisma acerinum

Common Grey Disco
 Coral Spot
 Beech Bark Disease
 Sycamore Tar Spot

Insectivorous Fungi

Entomophthora sp.

a Mould on flies (Diptera)

Slime Moulds

Lycogala sp.

Wolf's Milk

Boeremia hedericola (Phoma)
Hymenoscyphus fructigenus
Nectria cinnabarina
Trochila ilicina
Venturia maculiformis

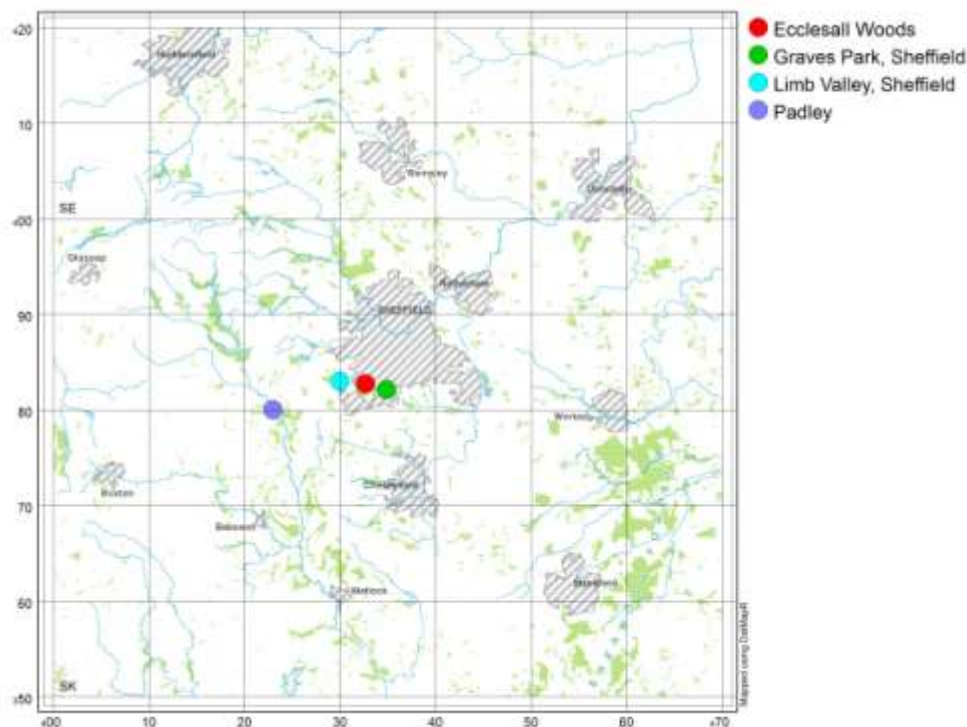
an Ivy Leaf Spot
 Nut Disco
 Coral Spot
 Holly Speckle
 a rust-like Asco on Willowherb

Rare, uncommon and occasional fungi (2006 – 2013)

Hericium cirrhatum – Tiered Tooth



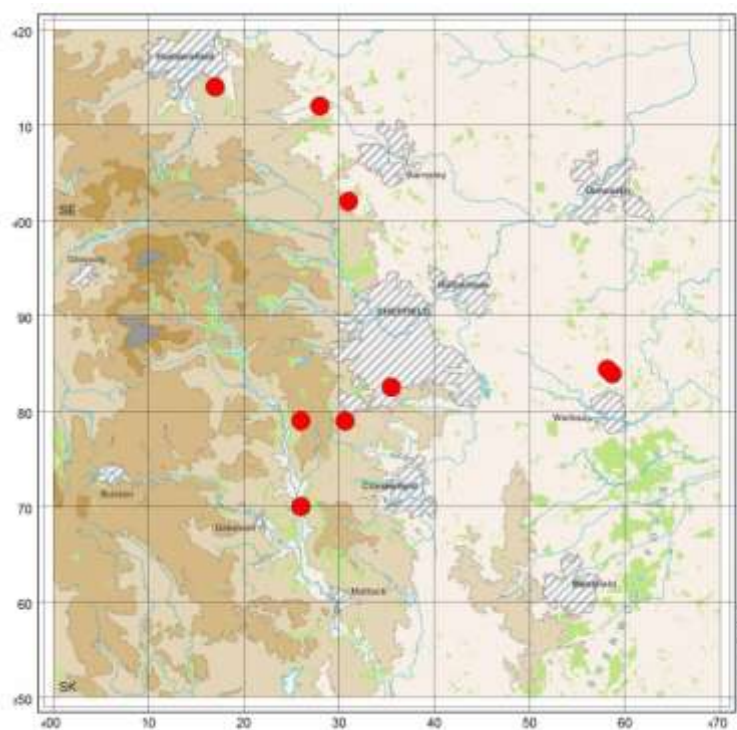
Tiered Tooth records for Sheffield area



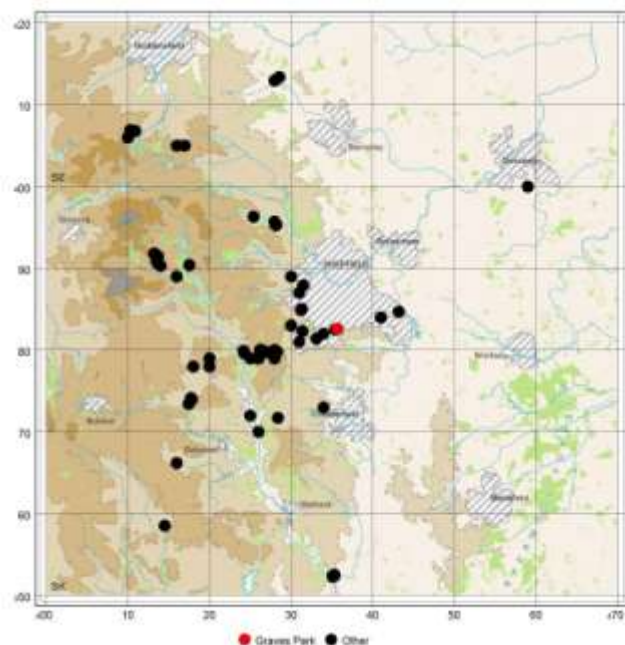
This was only the fourth ever record for the Sheffield (Sorby NHS) recording area of this typically southern English fungus. It was on a large beech snag at the junction of Cobnar Wood and Waterfall Wood. The fungus was protected from foraging or other damage as it was high up. The fruiting body lasts from summer to autumn and reappears for a few years. It's a highly prized edible species but is protected in the UK under Schedule B of the Wildlife and Countryside Act 1981. It has been proposed as a marker of high quality dead beech woodland, although it's not confined to beech. It has been recorded since 1999 in the Sheffield area.

Pseudoinonotus dryadeus – Oak Bracket

Above: Left: The fungus was exuding characteristic brown guttation drops. Right: Polypores have many pores! The pores in this species are very small – you have to zoom in to see them.



Just 10 records of this species in the Sheffield (Sorby NHS) recording area have recorder names. 3 are from anonymous sources. They date from 1888 -1919 and 1987 – 2013. The fungus at Graves Park has not been seen on the large oak behind Rose Garden Café for some years. The tree was subsequently vandalised by having initials carved into the bark just about where the fungus was fruiting. Many bracket fungi do not directly threaten old trees. They may actually perform a useful role by recycling dead heartwood.⁶

Entoloma porphyrophaeum – Lilac Pinkgill

This was found at the “Warminster End” in 2006, and on the field near where the large sycamore tree has fallen and become a new destination. The photos are of the first find. The species is a good record for any CHEGD survey.²¹ It’s globally rare (vulnerable on the IUCN Red List). We found it 7 times at Longshaw during our team surveys (2013-2020). However, a number of our 2015 Entoloma Workshop attendees from elsewhere in the UK had never seen it. Graves Park boasts one of the few records of the Lilac Pinkgill within the urban part of Sheffield. This is a large, handsome, imposing but very fragile fungus. Its position at Graves Park must be extremely vulnerable now due to the recent big increase in traffic on the grasslands there. This is literally from them being used as overflow car-parking, sometimes on a big scale, and also their intensive use for off-lead exercise of more and more dogs (see p. 42).³⁰⁻³⁴ Traditional use of park grasslands was for lads playing football or cricket (I once played for Meersbrook Rovers on one of Graves Park’s sloping pitches!) which generally tended to focus intense human activity on specific locations.

More uncommon to occasional fungi from 2006 – 2013

<i>Lepista saeva</i>	Field Blewit
<i>Hygrocybe pratensis</i> var. <i>pallida</i>	Pale Meadow Waxcap
<i>Hygrocybe glutinipes</i>	Glutinous Waxcap
<i>Macrocystidia cucumis</i>	Cucumber Cap
<i>Panellus serotinus</i> (<i>Sarcomyxa serotina</i>)	Olive Oysterling
<i>Stropharia aurantiaca</i>	Redlead Roundhead
<i>Volvariella gloiocephala</i>	Stubble Rosegill
<i>Naucoria scolocena</i>	an Aldercap
<i>Conocybe aporos</i> / <i>arrhenii</i>	Ringed Conecap
<i>Hygrophorus eburneus</i>	Ivory Woodwax
<i>Pluteus umbrosus</i>	Velvet Shield
<i>Schizophyllum commune</i>	Splitgill
<i>Bjerkandera fumosa</i>	Big Smoky Bracket
<i>Oxyporus populinus</i>	Poplar Bracket
<i>Phellinus igniarius</i>	Willow Bracket



Big Smoky Bracket - *Bjerkandera fumosa*

Although Buczacki⁸ labels this bracket as uncommon (100-500 FRDBI records) it's been recorded at least 47 times in the Sheffield (Sorby NHS) area, between 1891 and 2016. This one was found on 28 January 2012 on a pathside log. The spores were checked by microscopy. A dark line above the pores was visible on sectioning. Three of the finds were in winter-time. They would have been missed by the traditional mid-autumn fungus foray. Bracket fungi like this one are amongst some of the most difficult fungi to name. They can vary a great deal from being more or less crust-like to forming shelf-like brackets (as in the Smoky Bracket – *Bjerkandera adusta*, to a wide variation in colour and pattern (Turkeytail – *Trametes versicolor*). The microscopy of the pores and hyphae is especially challenging.

Other finds from 2006 – 2013



Top row: Winter Fungus – *Flammulina velutipes*, Turkeytail – *Trametes versicolor*, Hoof Fungus – *Fomes fomentarius*
 Bottom row: Split Porecrust – *Schizopora paradoxa*, *Cylindrobasidium laeve* – a common crust, Jelly Ear – *Auricularia auricula-judae*.

All found in the winter months.



Top row: Scarlet Elfcup – *Sarcoscypha austriaca*, Beech Bark Disease – *Nectria coccinia*, Rhododendron Bud Blast - *Seifertia azaleae*,

Bottom row: *Entomophthora* sp. – a Mould on *Diptera* flies, Purple Jellydisc anamorph – *Ascocoryne sarcoides*, Berberis Powdery Mildew - *Erysiphe berberidis*.

Intensive Survey: Autumn 2024

An intensive survey of the whole park was carried out from September 1 to November 16, 2024, comprising over 20 visits of varying length. The maximum number of finds made in one visit was 50. A method based on ten-metre circular “quadrats”²⁴ was used to make a snapshot study of diversity (fungal hotspots) and abundance (small, medium or large amounts). A combined total of 421 records was obtained during this period. At least 187 different species/kinds of fungi were identified, mostly by microscopy. Of these, 179 were named to species (or to genus in the case of *Cortinarius* and *Inocybe*, which are very difficult, but clearly of distinct kinds) with some level of confidence. In addition, 14 lichenised fungi were recorded, of which 13 were identified to species. Damage to fruiting bodies was also recorded. Ten-figure grid references were used for location data. However, the accuracy of this data in heavy woodland is often heavily compromised by the presence of large trees and is not necessarily accurate. However, they allow 10 metre diameter circular “quadrats” to be distinguished and allow a useful although approximate level of mapping from grid reference data.

BASIDIOMYCETES**Mushrooms and Toadstools**

<i>Agaricus campestris</i>	Field Mushroom
<i>Amanita rubescens</i>	Blusher
<i>Armillaria gallica</i>	Bulbous Honey Fungus
<i>Armillaria mellea</i>	Honey Fungus
<i>Bolbitius titubans</i>	Yellow Fieldcap
<i>Chlorophyllum rhacodes</i>	Shaggy Parasol
<i>Clitocybe nebularis</i>	Clouded Funnel
<i>Collybia butyracea</i> var. <i>asema</i> (<i>Rhodocollybia</i>)	Butter Cap
<i>Collybia dryophila</i>	Russet Toughshank
<i>Collybia erythropus</i> (<i>Gymnopus erythropus</i>)	Redleg Toughshank
<i>Conocybe arrhenii</i> / <i>aporos</i>	Ringed Conecap
<i>Coprinellus micaceus</i>	Glistening Inkcap
<i>Coprinopsis atramentaria</i>	Common Inkcap
<i>Coprinus comatus</i>	Shaggy Inkcap / Lawyer's Wig
<i>Cortinarius</i> sp.1	A Webcap
<i>Cortinarius</i> sp.2	A Webcap
<i>Crepidotus applanatus</i>	Flat Oysterling
<i>Crepidotus cesatii</i>	an Oysterling
<i>Crepidotus epibryus</i>	an Oysterling
<i>Dermoloma cuneifolium</i>	Crazed Cap
<i>Dermoloma pseudocuneifolium</i>	a Crazed Cap
<i>Flammulina velutipes</i>	Velvet Shank
<i>Gymnopilus penetrans</i>	Common Rustgill
<i>Hebeloma leucosarx</i>	a Poisonpie
<i>Hebeloma mesophaeum</i>	Veiled Poisonpie
<i>Hygrocybe ceracea</i>	Butter Waxcap
<i>Hygrocybe coccinea</i>	Scarlet Waxcap
<i>Hygrocybe pratensis</i> var. <i>pratensis</i>	Meadow Waxcap
<i>Hygrocybe psittacina</i> var. <i>psittacina</i>	Parrot Waxcap
<i>Hygrocybe quieta</i>	Oily Waxcap
<i>Hygrocybe virginea</i>	Snowy Waxcap
<i>Hypholoma fasciculare</i>	Sulphur Tuft
<i>Inocybe flocculosa</i>	Fleecy Fibrecap
<i>Inocybe geophylla</i> var. <i>geophylla</i>	White Fibrecap
<i>Inocybe griseolilacina</i>	Lilac Leg Fibrecap
<i>Inocybe</i> sp. no.2	a Fibrecap
<i>Inocybe</i> sp. no.3	a Fibrecap
<i>Inocybe</i> sp. no.4	a Fibrecap (knobbly spores)
<i>Laccaria amethystina</i>	Amethyst Deceiver
<i>Laccaria laccata</i>	Deceiver
<i>Lacrymaria lacrymabunda</i>	Weeping Widow
<i>Lactarius blennius</i>	Beech Milkcap
<i>Lactarius quietus</i>	Oakbug Milkcap
<i>Lepiota cristata</i>	Stinking Dapperling
<i>Lepista flaccida</i>	Tawny Funnel
<i>Lyophyllum decastes</i>	Clustered Domecap
<i>Marasmius rotula</i>	Collared Parachute
<i>Melanoleuca cognata</i>	Spring Cavalier
<i>Mycena acicula</i>	Orange Bonnet

Mycena aetites
Mycena arcangeliana
Mycena flavaalba
Mycena galericulata
Mycena galopus var. candida
Mycena haematopus
Mycena hiemalis
Mycena inclinata
Mycena olida
Mycena olivaceomarginata
Mycena speirea
Mycena tenerrima (adscendens)
Mycena vitilis
Naucoria escharoides
Panaeolina foenicisecii
Panaeolus cinctulus
Panaeolus fimicola
Parasola leiocephala
Parasola plicatilis
Pholiota gummosa
Pholiota squarrosa
Pluteus cervinus
Pluteus ephebeus
Pluteus salicinus
Pluteus thomsonii
Pluteus umbrosus
Psathyrella conopilus
Psathyrella corrugis
Psathyrella microrrhiza
Psilocybe semilanceata
Rhodotus palmatus
Russula cicatricata (xerampalina)
Russula puellaris
Russula silvestris
Schizophyllum commune
Stropharia aeruginosa
Stropharia aurantiaca
Tricholoma scalpturatum
Tricholoma sulphureum
Tricholoma terreum
Tricholoma ustale
Tubaria conspersa
Tubaria furfuracea
Xerula radicata

Boletes

Boletus reticulatus
Xerocomus chrysenteron gp.

Bracket Fungi

Bjerkandera adusta
Daedaleopsis confragosa
Ganoderma applanatum
Ganoderma australe
Inonotus radiatus
Laetiporus sulphureus
Meripilus giganteus
Polyporus durus
Skeletocutis nivea
Trametes gibbosa
Trametes versicolor

Drab Bonnet
 Angel's Bonnets
 Ivory Bonnet
 Common Bonnet
 White Milking Bonnet
 Burgundydrop Bonnet
 a Bark Bonnet
 Clustered Bonnet
 Rancid Bonnet
 Brownedge Bonnet
 Bark Bonnet
 Frosty Bonnet
 Snapping Bonnet
 Ochre Aldercap
 Brown Mottlegill
 Banded Mottlegill
 Turf Mottlegill
 a Pleated Inkcap
 Pleated Inkcap
 Sticky Scalycap
 Shaggy Scalycap
 Deer Shield
 a Shield
 Willow Shield
 Veined Shield
 Velvet Shield
 Conical Brittlestem
 Red Edge Brittlestem
 Rootlet Brittlestem
 Magic Mushroom / Liberty Cap
 Wrinkled Peach
 Crab Brittlestem
 Yellowing Brittlestem
 a Brittlestem
 Splitgill
 Verdigris Agaric
 Redlead Roundhead
 Yellowing Knight
 Sulphur Knight
 Grey Knight
 Burnt Knight
 Felted Twiglet
 Scurfy Twiglet
 Rooting Shank

Summer Bolete
 Red Cracking Bolete

Smoky Bracket
 Blushing Bracket
 Artist's Bracket
 Southern Bracket
 Alder Bracket
 Chicken of the Woods/Sulphur Polypore
 Giant Polypore
 Bay Polypore
 Hazel Bracket
 Lumpy Bracket
 Turkeytail

Crust Fungi

<i>Athelia epiphylla</i> sp.	a thin white crust
<i>Botryobasidium aureum</i>	a pale gold resupinate
<i>Botryobasidium candicans</i>	a thin white crust
<i>Brevicellicium olivaceous</i>	a white crust with subglobose spores
<i>Byssomerulius corium</i>	Netted Crust
<i>Chondrostereum purpureum</i>	Silverleaf Fungus
<i>Cylindrobasidium laeve</i>	a thin white Crust
<i>Exidiopsis calcea</i>	a crust-like Jelly Fungus
<i>Exidiopsis grisea</i>	a crust-like Jelly Fungus
<i>Fibulomyces mutabilis</i>	a thin white crust
<i>Hyphoderma praetermissum</i>	a thin waxy crust
<i>Hyphoderma puberum</i>	a minutely toothed crust
<i>Hyphodontia nesporei</i>	a white toothed crust
<i>Hyphodontia sambuci</i>	Elder Whitewash
<i>Peniophora limitata</i>	a greyish crust fungus with black edge
<i>Peniophora quercina</i>	a crust fungus on Oak
<i>Phlebia radiata</i>	Wrinkled Crust
<i>Physisporinus vitreus</i>	a whitish Porecrust
<i>Schizopora paradoxa</i>	Split Porecrust
<i>Sistotrema brinkmannii</i>	a floury white crust
<i>Stereum gausapatum</i>	Bleeding Oak Crust
<i>Stereum hirsutum</i>	Hairy Curtain Crust
<i>Stereum rugosum</i>	Bleeding Broadleaf Crust
<i>Stereum subtomentosum</i>	Yellowing Curtain Crust
<i>Subulicystidium longisporum</i>	a white crust fungus

Jelly Fungi

<i>Auricularia auricula-judae</i>	Jelly Ear
<i>Calocera viscosa</i>	Yellow Stagshorn
<i>Exidia nucleata</i>	Crystal Brain
<i>Tremella mesenterica</i>	Yellow Brain

Stomach Fungi

<i>Lycoperdon excipuliforme</i>	Pestle Puffball
<i>Lycoperdon pyriforme</i>	Stump Puffball
<i>Scleroderma citrinum</i>	Common Earthball
<i>Scleroderma verrucosum</i>	Scaly Earthball

Rust Fungi

<i>Melampsora caprearum</i>	Sallow Rust
<i>Melampsora hypericorum</i>	Hypericum Rust
<i>Phragmidium violaceum</i>	Violet Bramble Rust
<i>Puccinia arenariae</i>	Red Campion Rust
<i>Uromyces geranii</i>	Geranium Rust

ASCOMYCETES (AND LOWER FUNGI)**Larger Ascus**

<i>Ascocoryne sarcoides</i>	Purple Jellydisc
<i>Cudoniella acicularis</i>	Oak Pin
<i>Neobulgaria pura</i>	Beech Jellydisc

Powdery Mildews

<i>Erysiphe alphitoides</i>	Oak Powdery Mildew
<i>Erysiphe azaleae</i>	Azalea/Rhododendron Powdery Mildew
<i>Erysiphe heraclei</i>	Hogweed, Cow Parsley Powdery Mildew
<i>Erysiphe urticae</i>	Stinging Nettle Powdery Mildew
<i>Golovinomyces sordidus</i>	Broad Leaved Plantain Powdery Mildew
<i>Neoerysiphe galeopsidis</i>	Labiata Powdery Mildew
<i>Sawadaea bicornis</i>	Sycamore Powdery Mildew
<i>Sphaerotheca epilobii</i>	Willowherb Powdery Mildew
<i>Sphaerotheca fugax</i>	Cranesbill Powdery Mildew

Smaller/Tiny Ascomycetes*Boeremia hedericola* (*Phoma*)

an Ivy Leaf Spot

Hymenoscyphus fructigenus

Nut Disco

Nectria cinnabarina

Coral Spot

Scutellinia scutellata

Common Eyelash

Trochila ilicina

Holly Speckle

Venturia maculiformis

Rust-like Asco on Willowherb

Slime Moulds*Arcyria denudata*

a Slime Mould

Fuligo septica

Flowers of Tan

Trichia varia

a Slime Mould

Lichens*Arthonia radiata**Candelaria concolor**Candelariella vitellina**Evernia prunastri**Lecidiella elaeochroma**Lecanora chlarotera**Lecanora muralis**Lepraria incana**Melanelia subaurifera**Parmelia sulcata**Physcia tenella**Ramalina farinacea**Xanthoria parietina***UNIDENTIFIED FINDS****Mushrooms and Toadstools**

Mycenoid with rooting stem

Crusts

Unidentified brown anamorphic crust

Unidentified conidial pustulate anamorph

Unidentified grey crust

Unidentified small grey crusts

Slime Fungus

Unidentified white plasmodial Slime Mould

Lichen*Unidentified crustose lichen on Bolehill Barn*

Rare, uncommon and occasional fungi (Autumn 2024)**Mushrooms and toadstools**

<i>Conocybe arrhenii</i> / <i>aporos</i>	Ringed Conecap	occ
<i>Cortinarius sp.1</i>	a Webcap	occ
<i>Cortinarius sp.2</i>	a Webcap	occ
<i>Crepidotus applanatus</i>	Flat Oysterling	unc
<i>Crepidotus epibryus</i>	an Oysterling	occ
<i>Dermoloma cuneifolium</i>	Crazed Cap	occ
<i>Dermoloma pseudocuneifolium</i>	a Crazed Cap	rare
<i>Inocybe flocculosa</i>	Fleecy Fibrecap	occ
<i>Melanoleuca cognata</i>	Spring Cavalier	unc
<i>Panaeolus cinctulus</i>	Banded Mottlegill	unc
<i>Pluteus ephebeus</i>	a Shield	unc
<i>Pluteus thomsonii</i>	Veined Shield	unc
<i>Pluteus umbrosus</i>	Velvet Shield	unc
<i>Rhodotus palmatus</i>	Wrinkled Peach	occ
<i>Schizophyllum commune</i>	Splitgill	occ
<i>Stropharia aurantiaca</i>	Redlead Roundhead	occ

Boletes

<i>Boletus reticulatus</i>	Summer Bolete	occ
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Left: Summer Bolete.

This Bolete was very difficult to name, as its coloration didn't fit neatly with any of pictures in the many field guides which you have to consult. One field guide presents just one image, and you need lots of different images for fungi – they are so variable. I used the comprehensive guide by Geoffrey Kibby,¹⁵ which involves weighing up a large number of features, including the colour changes to the Bolete flesh on cutting. This one hardly changed. The reticulated stem was also an important feature. The precise length and width of the spores was a critical diagnostic feature. This was my interpretation, applying the balance of evidence as in English law (see p.2).

Crust Fungi and other non-gilled fungi

The majority of crust fungi are seldom recorded, as they are little studied. Many are in fact very common and important contributors to the woodland ecology. The same applies to most ascomycetes and other microfungi such as rusts and mildews, which may be of far greater importance ecologically (eg major tree diseases) and economically.

Just over half of the species recorded from 2006-2013 were re-found in autumn 2024. However, a three-year team survey of the fungi of Longshaw (2014-2016)²⁴, consisting of year-round fortnightly visits, showed clearly that approximately 40% of finds were made outside of the four traditional fungi-foray months of August, September, October and November. Many kinds of fungi such as Jelly Fungi and Smaller Ascomycetes are more easily found in the wetter and colder winter months when there is less undergrowth to conceal them. There are also a small but distinct group of mushrooms and toadstools which only appear in spring, as do most larger Ascomycetes.

Finding no.1**THERE ARE STILL LOTS OF FUNGI IN GRAVES PARK**

Both in terms of diversity and abundance, Graves Park has a potentially impressive mycota. It now has a species/kinds total of around 250. Most of these (approaching 180) were recorded by a single field mycologist (Steve Clements) during a survey of just over two months in 2024. From my experience in leading comprehensive, evidence-based team surveys at Longshaw (for the National Trust) and at Greno Wood (for the Sheffield and Rotherham Wildlife Trust), I suggest that a target of over 500 species of fungi for Graves Park is achievable within a few years. This would depend entirely on how the park is managed for wildlife in the future. Fungi underpin wildlife webs. They rot and recycle, providing nutrients for other wildlife by their work as primary woodland saprophytes, They are crucial for the health of well over 80% of green plants by forming mycorrhiza with them. Their fruiting bodies provide homes for a multitude of minibeasts. Where there are plenty of fungi there is plenty of other wildlife.



Some finds in Graves Park woodland habitats during autumn 2024. (s = saprobic, m = mycorrhizal)

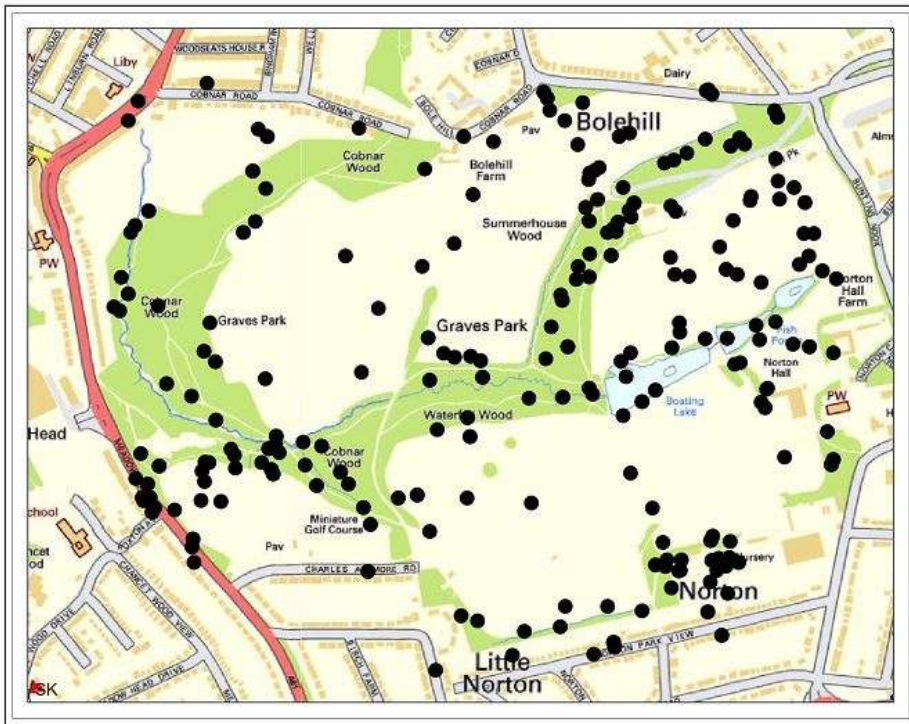
Top row. Left: Yellow Brain (s). Centre: Redleg Toughshank (s). Right: Splitgill (s). Far right: Burgundydrop Bonnet (s).

Middle row. Left: Purple Jellydisc, anamorph (s). Centre: Sulphur Knight (m). Right: Oakbug Milkcap (m).

Bottom row. Left: Grey Knight (m). Centre: Amethyst Deceiver (m). Right: Burnt Knight (m).

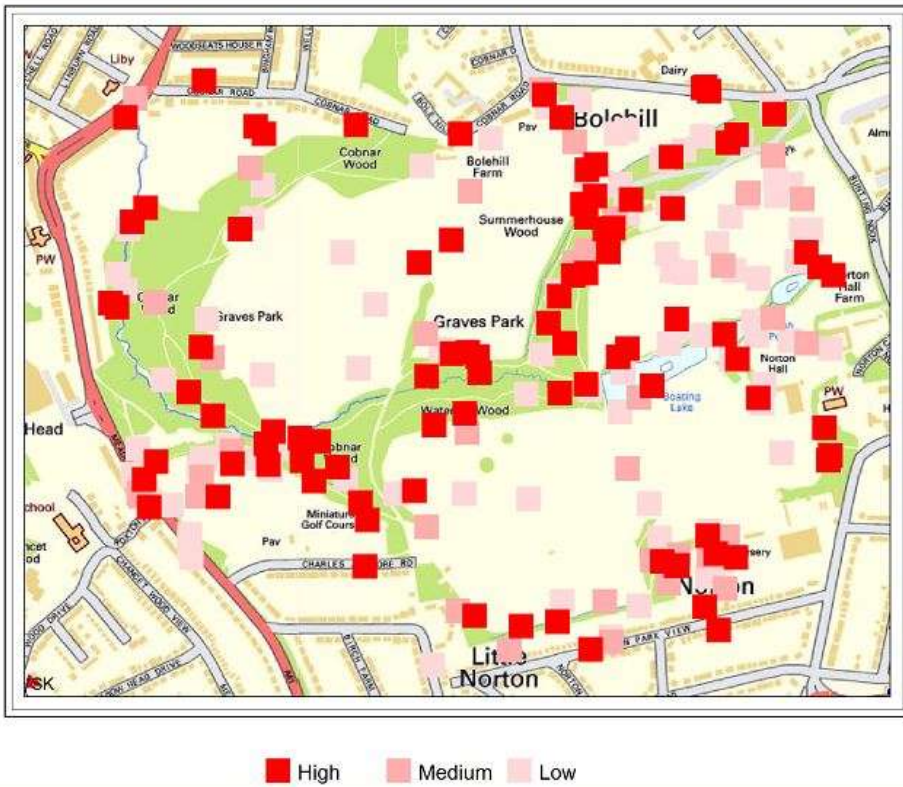
General Survey Maps

1) Area covered



The survey included all areas and habitats within the park, but some sites were visited more than others due to convenience (my wife and I visit Graves Park on a regular basis on our exercise walks from Meersbrook), accessibility (some slopes are too steep, others are fenced off) or because they were obviously more interesting (Chantreyland Meadow).

2) Fungal Abundance



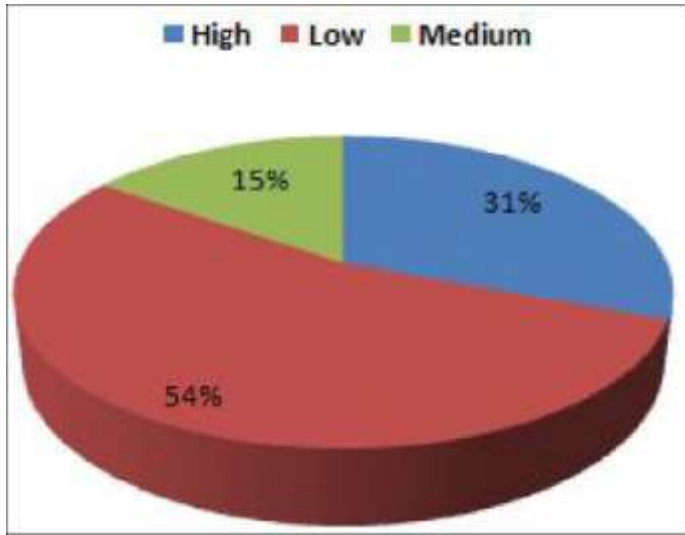
Fungi data rarely includes information on abundance, although in recent years the Fungus Conservation Trust (formerly Association of British Fungus Groups) began requesting some indication of abundance from its recorders.

For many groups of wildlife abundance data is taken for granted, such as in ornithology and botany. No birding record comes without the number of birds seen. Only by this can the fortune of our wildlife be assessed, as in the annual *State of Nature* report.³⁵

It is also ironic that whilst fungi experts provide long and bare lists of Latin names to wildlife managers, without doubt the chief topic of conversation of mushroom hunters is the relative abundance of fungi in a particular season.

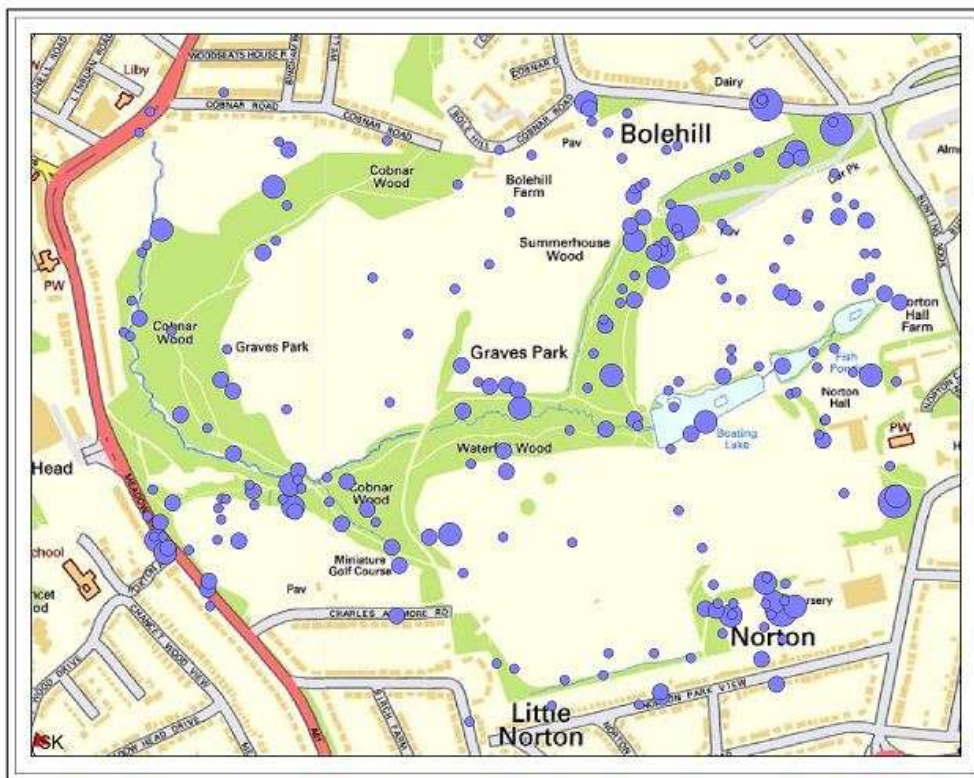
For our team surveys of National Trust and Local Wildlife Reserves we provided an estimate of abundance. This was for individual finds in ten

metre circles. It is not easy to provide an accurate assessment of organisms so diverse in form and size as fungi, but experience is a guide to what constitutes a relatively low, medium or high abundance for any particular species/kind. It's clear that many fungi are present in some abundance in Graves Park, and that some sites and habitats are better than others. Summerhouse Wood is an outstanding area, as is also the dead beech zone of Cobnar Wood and the nature reserve of Chantreyland Meadow. Graves Park's grasslands are very poor, and would be of no interest to a grassland fungi enthusiast accustomed to high quality CHEGD Waxcap grasslands such as Longshaw. Good fungal abundance data is hard to get – it takes many years due to annual variation.



Left: A pie chart shows that the majority of finds were of small quantities of fungi, often just a single toadstool, for example. This was especially true of the grassland areas. However, almost a third of finds were of healthy populations. Of course, a big caveat is that fungal abundance is weather dependent, and varies a good deal from year to year. Ideally a study of at least 5 years would provide a better picture, but as we found at the Longshaw Estate, a study like this is very difficult to do, not least because of the scarcity of competent mycologists. Snapshot surveys undertaken as thoroughly as possible are usually the only option, and may provide some meaningful data.

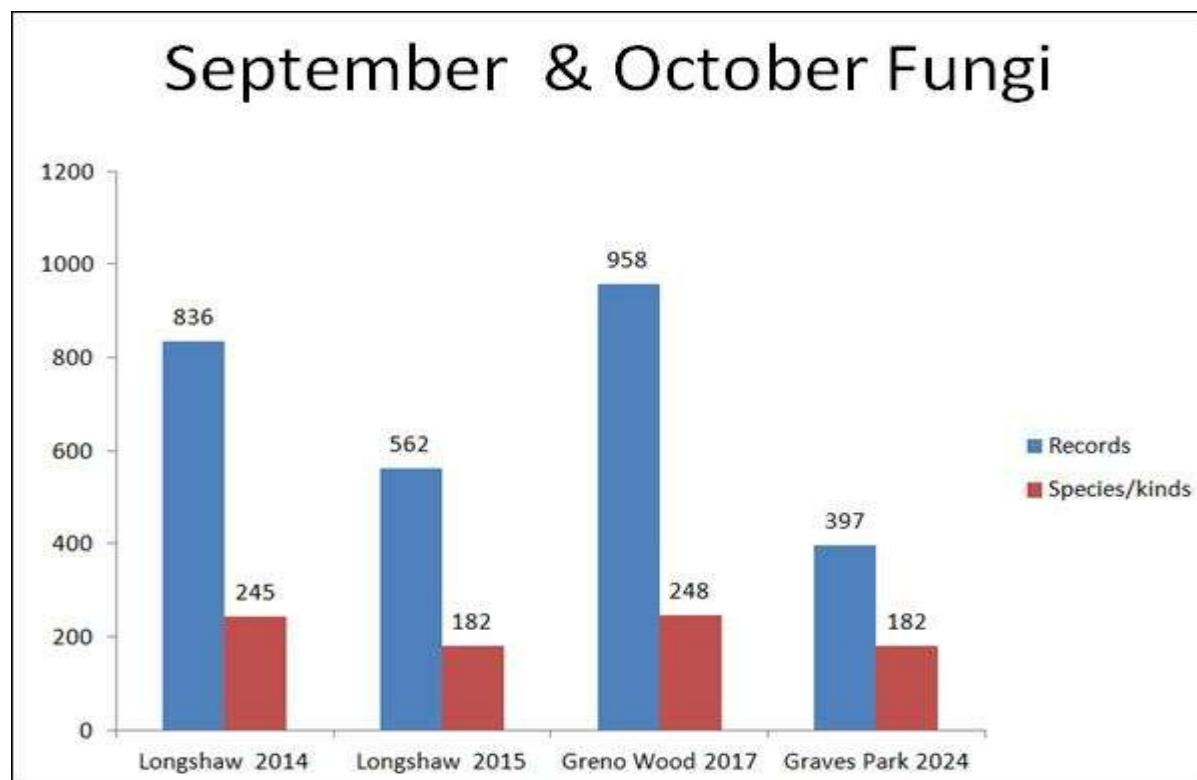
Fungal diversity



The dots each represent a locality in which up to 9 kinds of fungi were found. The approach used is based on the Longshaw National Trust Hay Meadow Monitoring method, whereby random small quadrats are carefully scrutinised for diversity and abundance. However, in the case of fungi, random quadrats are not appropriate. Fungi are too unpredictable and short-lived and must be sought out where they fruit, often in productive “hotspots”. 10 metre diameter circles are used (equivalent to traditional botanical one metre square quadrats) in which one or several recorders can comfortably work. Fungi generally fruit in a circular pattern. Research by Dahlberg & Mueller (2011) demonstrated that terrestrial fungi mycelia are generally separated by less than 10 metres (details in The Fungus Conservation Trust Red List of Fungi (2017)).²² Two

adjacent 10 metre circles containing the same species are therefore quite likely to represent two separate colonies. It’s very rough and ready, but it’s better than nothing – which is all many fungi surveys tell you about abundance and diversity on a scale which is meaningful for wildlife protection and management.

How good is Graves Park for fungi?



This is a comparison of the total fungi records accrued by a single survey during the months of September and October.

1) Longshaw 2014: this was the first year of a three years plus year-round survey of the Longshaw Estate. It was begun as a Sorby NHS project and after a few months became a National Trust Volunteer Team Survey. Over 30 people were involved.

2) Longshaw 2015 – this was a continuation of the same survey, using the same fortnightly all-day surveys. Several specialists were involved and all kinds of fungi were identified. This year was not such a good one for fungi.

3) Greno Wood 2017 – this was a weekly all-day survey which lasted for 8 months and consisted of a dedicated team of four surveyors including a specialist on smaller ascomycetes.. It was done for the Sheffield & Rotherham Wildlife Trust and provided the first in-depth mycological study of Greno Woods.

4) Graves Park 2024. This survey was completed by one recorder (Steve Clements) making visits to the park every few days.

The principal recorder and identifier for all the surveys was Steve Clements, so the data is comparable to a fair degree. Graves Park is apparently a very good site for fungi.

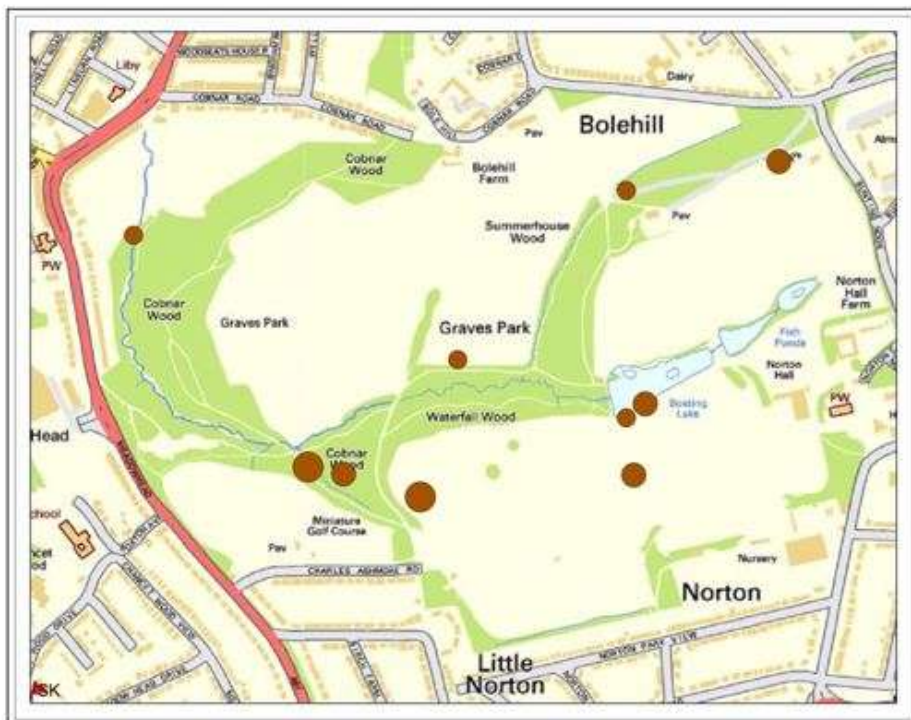
Images of fungal abundance



Top left: Stump Puffball were one of Graves Park’s most visible fungi, colonising stumps by the edge of paths. Some colonies were of hundreds of puffballs. I noted several parents sharing them with their children by taking photos and trying to identify them using Google Lens. I noted far less damage to this species in Graves Park than in Longshaw, where people go specifically to forage wild fungi. There were also far more in Graves Park than in Greno Wood where we found none! This was simply because there were no stumps, because as a recent Forestry Commission plantation, all the stumps of felled trees had apparently been clinically extracted.

Top right: Sulphur Tuft - a lovely autumn sight at Graves Park, rotting dead wood everywhere. It is incredibly bitter-tasting. Bottom left: a whole lawn full of Redlead Roundheads, Felted Twiglets and Brittlestems in grass and woodchip on the marginal zone between the lawn behind Rose Garden Café and Summerhouse Wood.

Bottom right: *Physisporinus vitreus*, a thick, soft, whitish porecrust fungus which has to be identified by microscopy. It was a dramatic sight as it appeared rapidly, covering large expanses of dead wood.



The abundance of Stump Puffball found at Graves Park in 2014. Numerous caveats have to be applied to fungi maps, one of which is access to habitats. Graves Park has many very steep slopes which host its ancient woodlands. Fungi such as Stump Puffball will undoubtedly be found in places too hazardous to reach. Large blank patches on the map in the woods will not necessarily be devoid of fungi – but of fungi records. Cobnar Wood’s extreme slopes are impossible to routinely survey. At the same time, they protect their fungi, as in nearby Bolehills Wood.²⁵

An image of fungal diversity



Summerfield Wood, 12 September, 2024.

Top row: Left: the hidden location of a site rich in fungi. Middle: Angel's Bonnets. Right: *Athelia epiphylla* (gp)
 Bottom row: Left: King Alfred's Cakes, and an unidentified crust which was too difficult to sample for microscopy.
 Centre: Bay Polypore. Right: Bleeding Broadleaf Crust.

Numerous kinds of fungi were found within one ten metre circle which is maybe passed by hundreds of visitors to the Rose garden Café and the children's playground on a nice autumn day. They probably don't notice a single fungus! The circle is just to the left of the evergreen bush, on which is a fairly large growth of Bleeding Broadleaf Crust. It's on a steep bank which is protected by obstructing logs, so it isn't disturbed. It's also on the way to a destination – a cafe and a playground - and on a steep hill, so people don't hang around here with their dogs. It's one of those special places out of the slipstream of human life at Graves Park. Nature is left alone and it flourishes.

This is a list of the eight kinds of fungi which were identified, and their diverse substrates. There will be many more to be found here during the rest of the year and in following years.

<i>Armillaria sp.</i>	Honey Fungus	Rhizomorph	on sycamore logs
<i>Athelia epiphylla gp.</i>	a thin white crust	Crust	on a small stick
<i>Daldinia concentrica</i>	King Alfred's Cakes / Cramp Balls	Carbon Fungus	on an ash log
<i>Mycena arcangeliana</i>	Angel's Bonnets	Mushroom/Toadstool	on a mossy log
<i>Pluteus cervinus</i>	Deer Shield	Mushroom/Toadstool	on a mossy log
<i>Polyporus durus</i>	Bay Polypore	Bracket	on a bare log
<i>Stereum rugosum</i>	Bleeding Broadleaf Crust	Crust	on a dead shrub stem
<i>Xylaria longipes</i>	Dead Moll's Fingers	Carbon Fungus	on sycamore logs

One ten metre circle at Longshaw based on a known large beech log "hotspot" produced 70 kinds of fungi!²⁵

Diversity and abundance of fungi must be considered hand-in-hand. Some mycologists concern themselves only with diversity – they are on a mission to ever increase their long list of Latin names. From a conservation point of view, common and abundant species in places such as Graves Park are far more important to the visitors there than species they will likely never see because of their rarity or difficulty to find. They may also be tomorrow's rare fungi, so we should assess their health too.

In this ten metre circle, Honey Fungus rhizomorphs, King Alfred's Cakes, Angels Bonnets, Bleeding Broadleaf Crust and Dead Moll's Fingers were all in good abundance. There was just a single young, developing cap of Deer Shield (later removed, perhaps eaten by a squirrel), a small bit of *Athelia epiphylla* crust fungus, and two well-nibbled brackets of Bay Polypore. Some fungi such as Dead Moll's Fingers and Jelly Ear were found in extraordinary abundance in Summerhouse Wood.

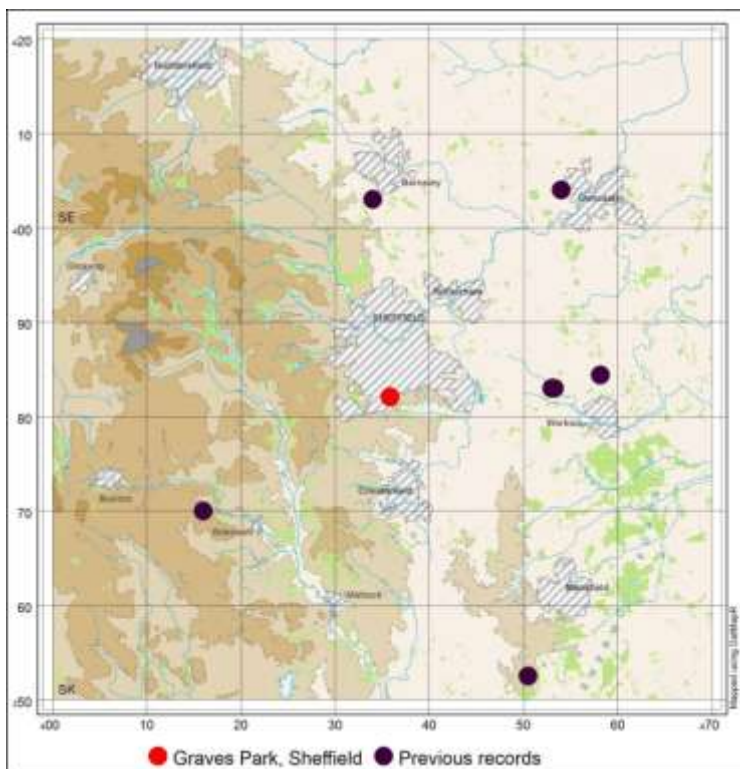
Wrinkled Peach – *Rhodotus palmatus*: Another rare fungus for Graves Park



ID No.	Data series	Date	Grid ref	Site	Recorder
104040	FRDBI	22 September 1914	SE5404	Cusworth	Anon.
1584930	FRDBI	20 October 1985	SE3403	Barnsley, Worsbrough Country Park	Lyon, Dr A.J.E.
833615	FRDBI	30 October 1994	SK5383	Anston Stones Wood	Hering, T.
1312606	FRDBI	30 September 1997	SK582844	Carlton Wood	Williams, H.
1145071	FRDBI	26 October 2004	SK1670	Deepdale	Darby, J.
1294600	FRDBI	1 December 2006	SK505525	Annesley Hall woodland	Williams, H.
1312079	FRDBI	19 September 2007	SK582844	Carlton Wood	Williams, H.
ZSN00360	ZiggyNew	9 October 2013	SK533830	Anston Stones Wood	Senkans, M. & S.
GP0445	Graves Park	09 October 2024	SK35867 82078	Graves Park, Sheffield	Clements, S.

Left: Summary records of all this species from a database of over 96,000 local records.

This southern species became more common on dead elm following



the outbreak of Dutch Elm Disease in the UK in the late 1960s.. The only specimen I've seen before was one found by Michael Senkans of the Sorby Natural History Society, who asked me to check out the tell-tale finely spiky spherical spores.

The specimens at Graves Park were on a large log in a small woodland, and were untouched for many weeks. Almost all guide book pictures of this fungus show a bright orange cap with prominent raised veins on the surface. Microscopy validated this pallid find, which slowly turned more orange over a period of several weeks. It was left untouched. The thick, removable translucent skin on the cap was a good identifying feature, in addition to orange gills and unique orange spore print. Below: spores from the Graves Park find.



Finding no. 2**GRAVES PARK HAS SOME WOODLANDS RICH IN FUNGI**

An unidentified Slime Mould in its plasmodial phase. It was one of the first finds of the 2024 survey, on a log in the stream at the bottom of Cobnar Wood, together with a rarely found Netted Shield toadstool, *Pluteus thomsonii*. I returned a few days later so a friend could photograph it, but the log had moved, and there was no sign of the Slime Mould. Slime Moulds are not, in fact, fungi at all. Neither is Potato Blight. But they both behave like fungi in many ways, and so are traditionally included in mycology.

The maps of fungal abundance and diversity reveal that for the data accrued, the woodlands at Graves Park are far superior to its grasslands for fungi. This contrasts with a site such as Longshaw, which has similar tracts of woodlands and grasslands, but is famous for its grasslands. These are rich in an assemblage of Waxcap Grassland species which placed it as the best CHEGD (Waxcap Grassland) site in Europe for a number of years following the publication of a landmark study by Shelley Evans in 2005.²¹



Left: Like Longshaw, Graves Park has the remnants of old parkland, with mature oak trees in open grassland. It also has some grazed areas like Longshaw, but these were not included in the survey. Especially reminiscent of Longshaw's medieval woodland pasture is the very top part of Cobnar Wood opposite the Waggon and Horses garage on the A61. Some of the best finds of mycorrhizal fungi were made here. Picture from Google Maps.

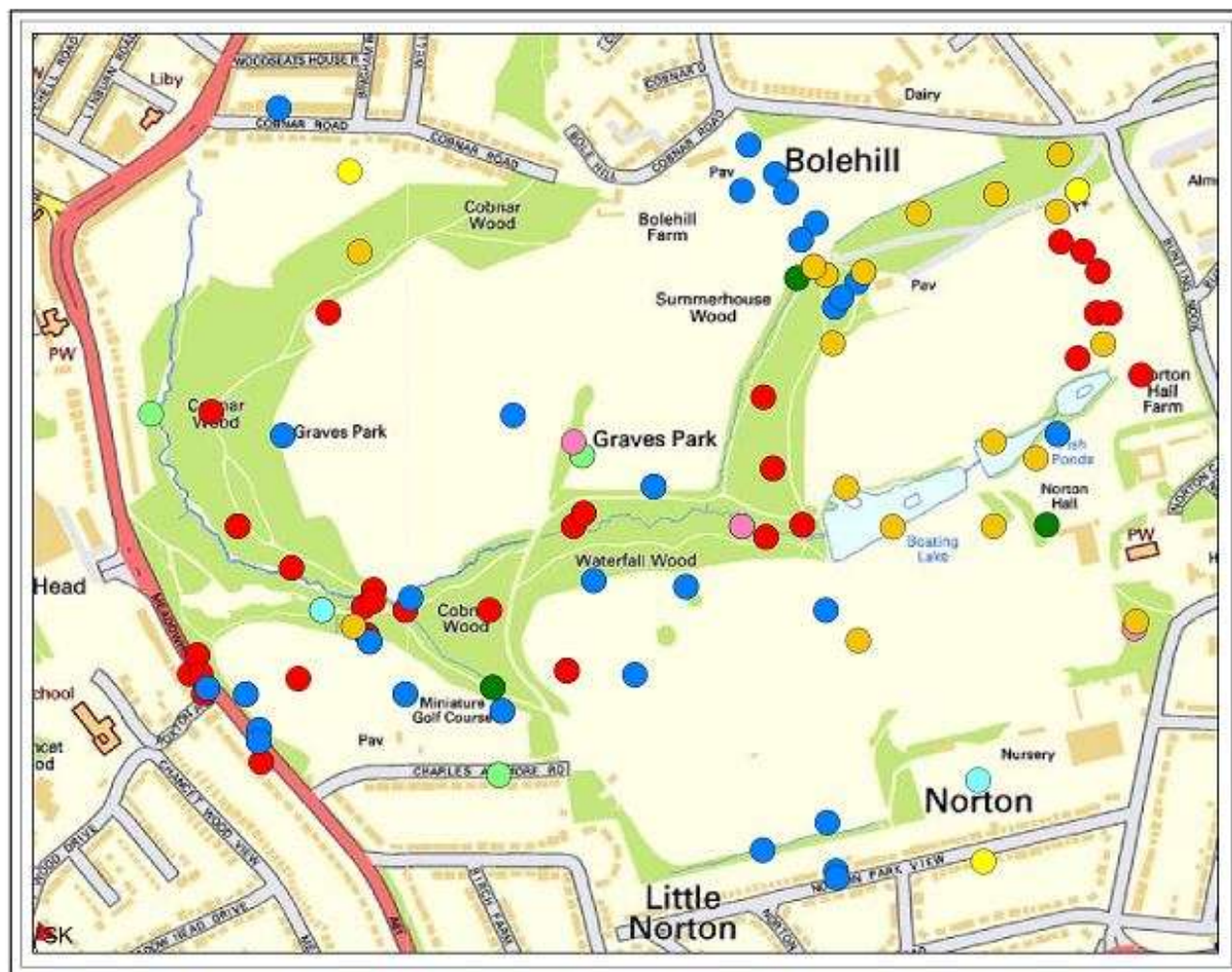


Cobnar Wood. To the left are steep slopes which are difficult to access but which, being untrodden and undisturbed, are likely to host a wide range of fungi as was shown in nearby Bolehill Wood during a survey in 2023.²⁵ Sycamore is a good substrate, as are beech and oak.



Cobnar Wood has broad tracts which seemed to be devoid of saprobic fungi and mycorrhizal fungi such as mushrooms and toadstools, boletes and corals. The former are absent because of a striking lack of deadwood, such as in the area of woodland pictured above. This is at the top of the steep slope up from Cobnar Road. Perhaps fallen branches and dead trees have been removed by over-zealous parks managers, ignorant of the necessity of deadwood for a healthy woodland.³⁻⁶ Some may have been foraged for wood-burning stoves. I saw some evidence of this during the survey of autumn 2024. The absence of mycorrhizal fungi is perplexing. I have noted this in other old Sheffield woods which are located on the steep slopes which have preserved them from human development. Maybe they are simply drying out with global warming. Or perhaps there is a more insidious factor at play – pollution. Fungi, especially mycorrhizal fungi, absorb large amounts of water with their dissolved nutrients, and concentrate them. Could we be poisoning our woodlands from the muck dispersed from our cars and buildings?

Beech, oak and sycamore are the most important trees associated with fungi at Graves Park



- ash
- beech
- birch
- elder
- holly
- oak
- sycamore
- willow

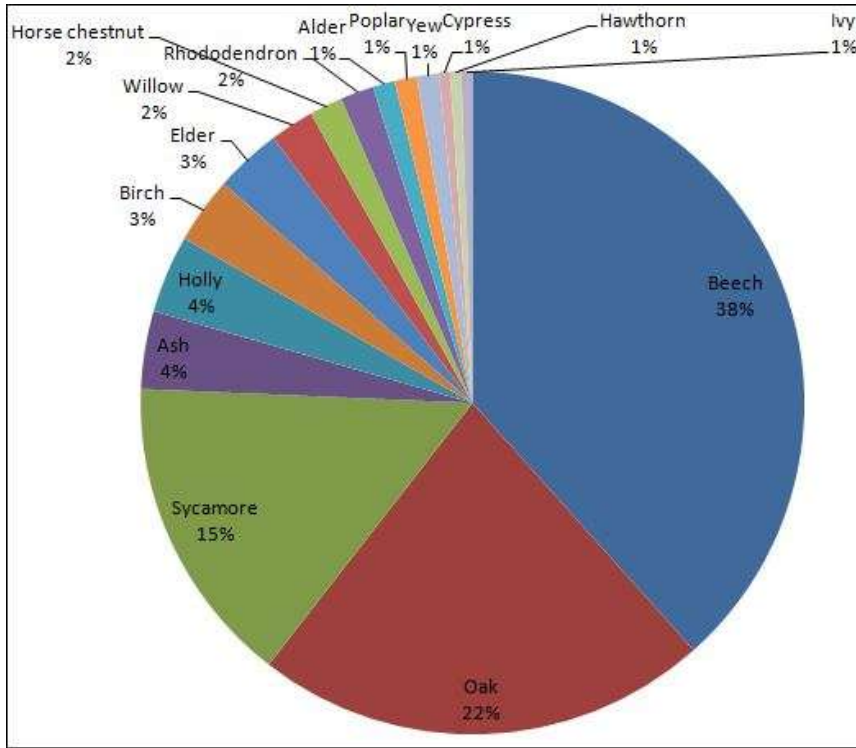
Some points are obviously outside of the park boundaries and on nearby streets and roads. Proximity to trees and buildings affects the accuracy of the data. At this scale, GPS data is just accurate enough to demonstrate the location of the fungi to show an overall pattern. The beech stands in Cobnar Wood opposite the Waggon and Horses garage and at the neck of Cobnar Woods is clear. So are the beech trees at the junction of Waterfall and Summerhouse Woods. The line of beech parallel to Bunting Nook is a hedge forming an important marginal zone for fungi.

Associated tree	Occurrences	%
Beech	71	38
Oak	41	22
Sycamore	28	4
Ash	7	4
Holly	7	4
Birch	6	3
Elder	6	3
Willow	4	2
Horse chestnut	3	2
Rhododendron	3	2
Alder	2	1
Poplar	2	1
Yew	2	1
Cypress	1	1
Hawthorn	1	1
Ivy	1	1

The above map shows the most important trees for fungi in which they are obviously associated i.e. growing on live or dead wood which is possible to identify to species. The map is limited in that some fungi were associated with two or three tree species as these were found in a 10 metre circle in which more than one tree was growing. For example, ash-associated species were found in the Warminster Road end of Summerhouse Wood, together with sycamore. Only one species per circle is permitted on the map. Lichenised fungi were excluded from the GPS data as they are ubiquitous on trees such as oak and sycamore throughout the park.

A big difference with a site such as Longshaw or Greno Woods is the scarcity of conifer trees at Graves Park. A single find with Yew was a large colony of Grey Knight, typically found with pine.

Beech is clearly the most important tree for fungi at Graves Park, and the same holds true of Longshaw. Oak is also very important for fungi. Together, beech and oak were associated with 60% of the woodland fungi recorded on the 2024 autumn survey.



A pie chart reveals the importance of beech, oak and sycamore.

Chief tree species associated with fungi in Graves Park

Beech

- Amanita rubescens*
- Armillaria mellea*
- Ascocoryne sarcoides*
- Biscogniauxia nummularia*
- Botryobasidium aureum*
- Clitocybe nebularis*
- Cortinarius sp.2*
- Ganoderma applanatum*
- Ganoderma australe*
- Hebeloma mesosphaeum*
- Hericium cirrhatum*
- Hymenoscyphus fructigenus*
- Hyphoderma praetermissum*
- Hypholoma fasciculare*
- Hypoxylon fragiforme*
- Hypoxylon fragiforme*
- Inocybe griseoilacina*
- Kretzschmaria deusta*
- Lactarius blennius*
- Lepista flaccida*
- Lycoperdon pyriforme*
- Lyophyllum decastes*
- Meripilus giganteus*
- Meripilus giganteus*
- Mycena flavoalba*
- Mycena galopus var. candida*
- Nectria cinnabarina*
- Nectria coccinea*
- Phlebia radiata*
- Pleurotus ostreatus*
- Pluteus cervinus*
- Pluteus ephebeus*
- Schizopora paradoxa*
- Scutellinia scutellata*
- Stereum hirsutum*
- Trametes versicolor*
- Trichia varia*
- Tricholoma scalpturatum*
- Tricholoma ustale*
- Xerocomus chrysenteron gp.*
- Xylaria hypoxylon*

Oak

- Collybia dryophila*
- Erysiphe alphitoides*
- Hebeloma leucosarx.*
- Hyphoderma praetermissum*
- Inocybe flocculosa*
- Inocybe sp. no.2*
- Inocybe sp. no.3*
- Laccaria laccata*
- Mycena aetites*
- Mycena flavoalba*
- Parasola leiocephala*
- Peniophora quercina*
- Pseudoinonotus dryadeus*
- Russula cicatricata (xerampalina)*
- Russula puellaris*
- Russula silvestris*
- Scleroderma citrinum*
- Tremella mesenterica*
- Tricholoma sulphureum*
- Vuilleminia comedens*

Sycamore

- Armillaria mellea*
- Auricularia auricula-judae*
- Exidia nucleata*
- Exidiopsis grisea*
- Flammulina velutipes*
- Hyphodontia sambuci*
- Lycoperdon pyriforme*
- Mycena hiemalis*
- Mycena olida*
- Nectria cinnabarina*
- Rhytisma acerinum*
- Rhytisma acerinum*
- Sawadaea bicornis*
- Trametes versicolor*
- Xylaria longipes*

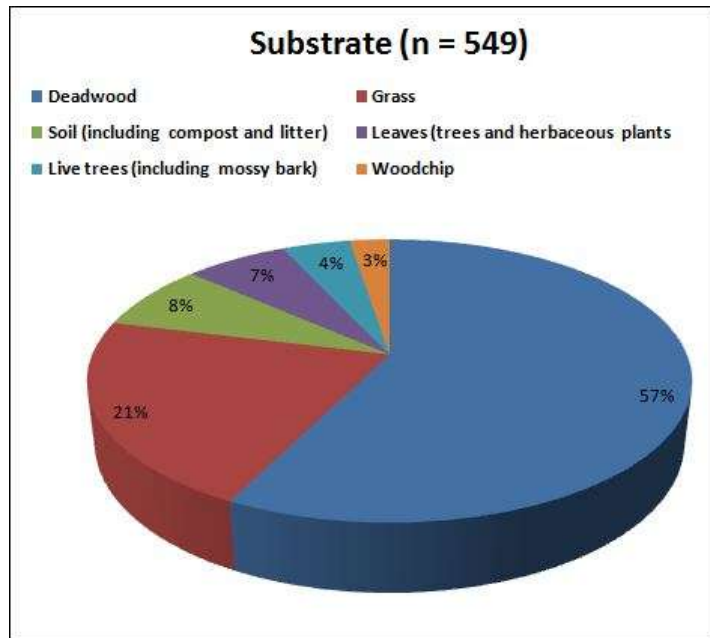
Ash

- Chond*. purpureum*
- Daldinia concentrica*
- Inonotus radiatus*
- Peniophora limitata*
- Tremella mesenterica*

* *Chondrostereum*

Finding no.3

DEADWOOD IS THE TOP FUNGAL SUBSTRATE AT GRAVES PARK



Data from 2006-2013 and 2024 was included to indicate which substrates were of most importance for fungi. Logs and stumps were most significant, but sticks, twigs and attached dead wood were also included. Some of the most dramatic deadwood substrates recorded were the large beech snags (dead standing stumps) which host numerous bracket fungi as well as very rare species such as the Tiered Tooth. Sycamore logs host an extraordinary number of Jelly Ears and Dead Moll’s Fingers in Summerhouse Wood.



Habitat	Finds	%
Deadwood	315	57
Grass	118	21
Soil (including compost and litter)	42	8
Leaves (trees and herbaceous plants)	36	7
Live trees (including mossy bark)	24	4
Woodchip	14	3
Total	549	

Jelly Ear (above) and Dead Moll’s Fingers (below).



Standing deadwood

Beech snags in Graves Park.

The trunk on the left is possibly striped by Spiral Tarrust – *Eutopa spinosa*, which is considered to be an indicator of high quality beech deadwood habitats.²³ Effete (dead) specimens of this or a similar species were collected, but could not be assigned to species with confidence.

Lying deadwood

Top left: Further up Cobnar Wood a good deal of deadwood has been left to host fungi and then bacteria, then slowly rot to provide homes for innumerable minibeasts which will feed birds and other animals. This deadwood may also help reduce erosion and also hold up water to prevent flooding. Re-wilding of the eroded stream banks and woodland pathsides could have a similar beneficial effect.

Top right: A pile of logs and sticks at the bottom of a Cobnar Wood slope. This provided the following species of fungi:

<i>Botryobasidium candicans</i>	a thin white crust
<i>Daedaleopsis confragosa</i>	Blushing Bracket
<i>Fibulomyces mutabilis</i>	a thin white crust
<i>Mycena tenerrima (adscendens)</i>	Frosty Bonnet
<i>Stereum rugosum</i>	Bleeding Broadleaf Crust

Bottom left: Large deadwood on the top part of Cobnar Wood. Much of this higher woodland is in fact very poor in deadwood.

Bottom right: “Dead hedges” in Chantreyland Meadow are an excellent way of using deadwood such as prunings from the arboretum. They host many fungi and also provide protection for marginal zones from trampling. These dead hedges on their own would provide a good list of saprobic fungi on close inspection.



Flooding near the junction of Cobnar and Waterfall Woods on 24 November 2024.
Photo by Dave Cowley.



Here is a fine example of managing deadwood at Graves Park. This large sycamore was uprooted by Storm Elin in December 2023, the deadwood was simply left in situ. It's now become a meeting place where people can sit and admire the famous sunsets over the Peak District viewed from Graves Park. Astonishingly, it is producing fungi in some abundance already.



These big sycamore logs and lumps on 30 November, 2024

Top left: Winter Fungus (Velvet Shank) – *Flammulina velutipes* is present in several clusters on vertical surfaces and in crevices.

Top right: A crust fungus is colonising the rough under surface of one of the hunks of deadwood. This species can only be identified by careful microscopy when it is mature enough to produce spores.

Bottom left: Silverleaf Disease – *Chondrostereum purpureum*. So-called because it causes damage to the leaves on cherry trees which it can parasitize and kill. However, in my experience it's a very beautiful crust fungus which helps recycle many kinds of deadwood.

Bottom right: A third crust fungus. This one is *Cylindrobasidium laeve* (no English name). A tiny scraping sufficed to confirm it by revealing the tear-shaped spores.

Also present was Coral Spot – *Nectria cinnabarina*, and another possible crust species underneath the large log. (Additionally, see p. 85 for a large colony of the slime mould *Badhamia affinis* found on the sycamore in December 2024).

Fungi on or closely associated with large deadwood at Graves Park

Bracket Fungus

Bjerkandera adusta
Bjerkandera fumosa
Daedaleopsis confragosa
Ganoderma applanatum
Ganoderma australe
Inonotus radiatus
Laetiporus sulphureus
Meripilus giganteus
Phellinus igniarius
Polyporus brumalis
Polyporus durus
Skeletocutis nivea
Trametes gibbosa
Trametes versicolor

Carbon Fungus

Biscogniauxia nummularia
Daldinia concentrica
Diatrype disciformis
Diatrype stigma
Hypoxylon fragiforme
Kretzschmaria deusta
Xylaria hypoxylon
Xylaria longipes

Crust Fungus

Athelia epiphylla sp.
Botryobasidium aureum
Botryobasidium candicans
Brevicellicium olivaceum
Byssomerulius corium
Chondrostereum purpureum
Cylindrobasidium laeve
Exidiopsis calcea
Exidiopsis grisea
Fibulomyces mutabilis
Hyphoderma praetermissum
Hyphoderma puberum
Hyphodontia nespori
Hyphodontia sambuci
Peniophora limitata
Peniophora lycii
Peniophora quercina
Phlebia radiata
Physisporinus vitreus
Schizopora paradoxa
Sistotrema brinkmannii
Stereum gausapatum
Stereum hirsutum
Stereum rugosum
Stereum subtomentosum
Subulicystidium longisporum
Vuilleminia comedens

Jelly Fungus

Auricularia auricula-judae
Calocera viscosa
Dacrymyces stillatus
Exidia glandulosa
Exidia nucleata
Tremella mesenterica

Larger Asco

Ascocoryne sarcoides
Cudoniella acicularis
Neobulgaria pura
Sarcoscypha austriaca
Scutellinia scutellata
Xylaria longipes

Mushroom/Toadstool

Armillaria gallica
Armillaria mellea
Clitocybe nebularis
Collybia dryophila
Collybia erythropus (Gymnopus erythropus)
Coprinellus domesticus
Coprinellus micaceus
Coprinus comatus
Crepidotus applanatus
Crepidotus cesatii
Crepidotus mollis
Flammulina velutipes
Gymnopilus penetrans
Hebeloma mesophaeum
Hypholoma fasciculare
Marasmius rotula
Mycena acicula
Mycena arcangeliana
Mycena galericulata
Mycena haematopus
Mycena inclinata
Mycena olida
Mycena tenerrima (adscendens)
Mycenoid with rooting stem
Panellus serotinus (Sarcomyxa serotina)
Pleurotus cornucopiae
Pleurotus ostreatus
Pluteus cervinus
Pluteus ephebeus
Pluteus salicinus
Pluteus thomsonii
Psathyrella corrugis
Rhodotus palmatus
Schizophyllum commune
Stropharia aurantiaca
Xerula radicata

Slime Mould

Arcyria denudata
Fuligo septica
Trichia varia

Small/Tiny Asco

Mollisia cinerea
Nectria cinnabarina

Stomach Fungus

Lycoperdon pyriforme
Scleroderma verrucosum

Tooth Fungus

Hericium cirrhatum

Finding no. 4

FUNGI PROPOSED AS OLD OR ANCIENT WOODLAND INDICATORS ARE TO BE FOUND IN GRAVES PARK

Some fungi which have been proposed as indicators of quality ancient/old woodland/deadwood habitats have been found in Graves Park, e.g. *Pluteus* (Shields), *Mycena inclinata* (Clustered Bonnet), *Hericium cirrhatum* (Tiered Tooth), *Eutopa spinosa* (Spiral Tarcrust) (likely), *Polyporus durus* (Bay Polypore), and *Stereum subtomentosum* (Yellowing Curtain Crust).²³ Other fungi associated with older woodlands are ectomycorrhizal such as *Russula* (Brittlegills). It must be emphasised that there is no agreed use of fungal indicators of ancient or old woodlands such as there is with plants such as bluebells.

***Pluteus* (Shields)**

Shields are stately toadstools with pink gills which don't meet the stem (free attachment). The spores are pink, oval and smooth which separates them from Pinkgills (*Entoloma*) which have angular pink spores. They are rarely found in large numbers. Some species are very difficult to name and probably often confused. Microscopy is usually essential because some features such as gill cystidia (sterile cells) are diagnostic. These fungi are usually not difficult to find, often standing on large logs or stumps. It's assumed that all Shields are saprobes, and it's well-known that they are to be found on wood in the last stages of decomposition. They are suspected as being one of the few reliable fungal indicators of ancient woodland – especially southern English beech woods - a welcome addition to the well-established lists of woodland herb indicators. So they may well be the woodland equivalent of CHEG grassland species. As such they flourish in old woodlands which have been managed in the best way possible for wildlife – with minimal or no interference by man.



Left top and bottom: *Pluteus cervinus* (Deer Shield). Middle top and bottom – *Pluteus ephebeus* (no English name). Right top: *Pluteus thomsonii* (Veined Shield). Right bottom: *Pluteus salicinus* (Willow Shield). Horned cystidia from the gill edge of a broken specimen.



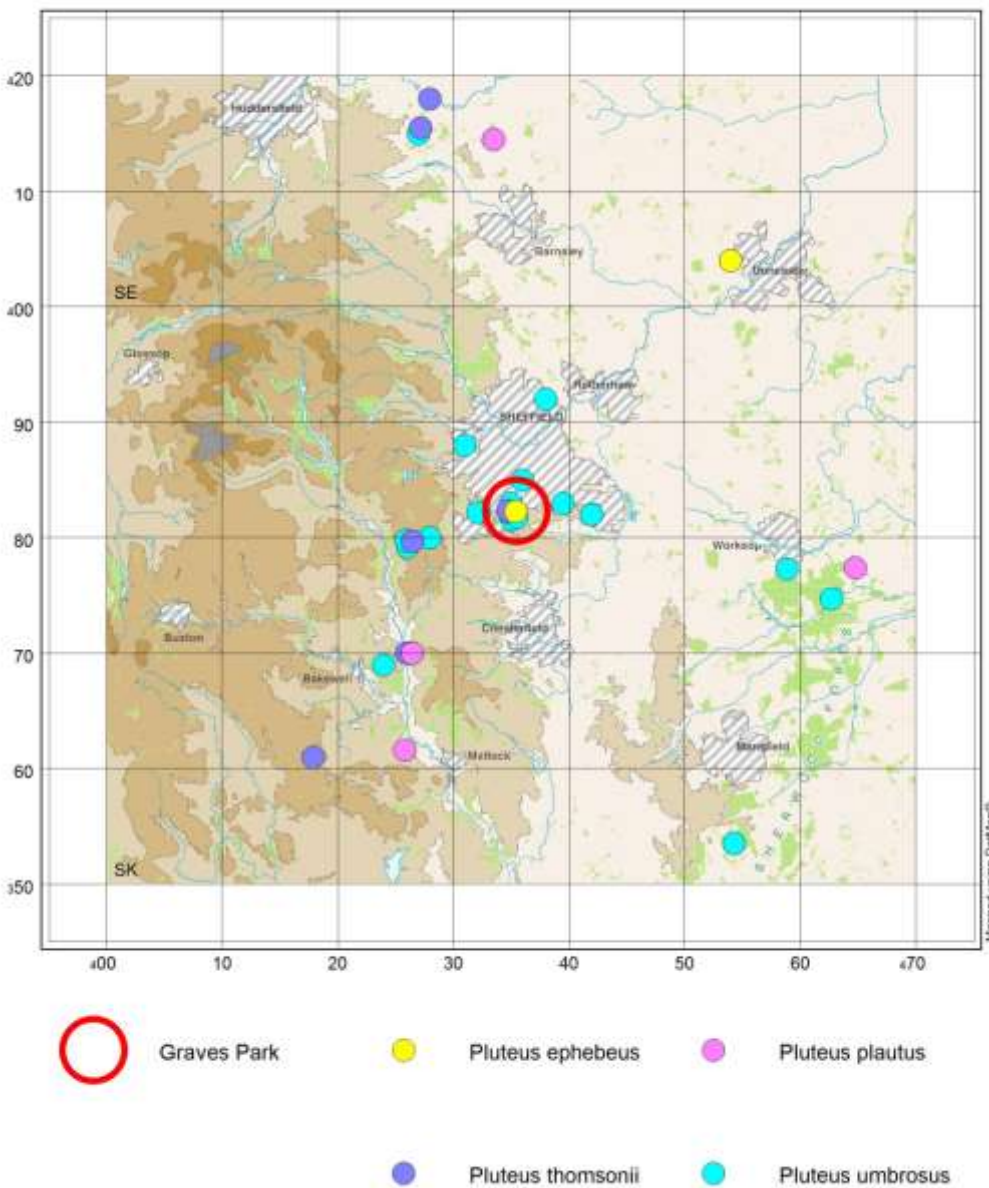
Left: Deer Shield is the commonest *Pluteus* species in the UK and also in the Sheffield area – but never “common” like Sulphur Tuft or Jelly Ear. For this reason it's a weaker indicator than some other *Pluteus* such as *P. umbrosus*. It was considered but rejected for use as an indicator for high value southern English beech woodlands by Martyn Ainsworth. However, beech is much more common there than it is in our region.

At Longshaw, from 1956 to 2016 from 12,100 records, just 52 were *Pluteus*, of which 31 were found during our team survey (2014-2016). At Graves Park in autumn 2024 a total of 9 finds was made including some infrequently reported species such as *Pluteus thomsonii* and *P. ephebeus*. The latter was separated from the very similar *P. plautus* chiefly on the basis of spore size and cap cuticle microscopy.

Name	English name	Date	Location	Abundance
<i>Pluteus umbrosus</i>	Velvet Shield	05 September 2013	Waterfall Wood	single toadstool
<i>Pluteus cervinus</i>	Deer Shield	03 September 2024	Summerhouse Wood	single toadstool
<i>Pluteus thomsonii</i>	Veined Shield	03 September 2024	Cobnar Wood	single toadstool
<i>Pluteus cervinus</i>	Deer Shield	12 September 2024	Summerhouse Wood	single toadstool
<i>Pluteus salicinus</i>	Willow Shield	20 September 2024	Cobnar Wood	2 broken toadstools
<i>Pluteus cervinus</i>	Deer Shield	24 September 2024	Summerhouse Wood	3 large toadstools
<i>Pluteus ephebeus</i>	a Shield	29 September 2024	Waterfall Wood	2 toadstools
<i>Pluteus umbrosus</i>	Velvet Shield	22 October 2024	Serpentine Walk	single toadstool
<i>Pluteus cervinus</i>	Deer Shield	28 October 2024	Central grassland margin with Cobnar Wood	single toadstool

Above: Abbreviated records for Graves Park (recorded by Steve Clements). This is an impressive tally when compared to Longshaw with its acknowledged ancient woodlands and a long history of fungi recording, including visits by the British Mycological Society. *Pluteus* is mostly found on large deadwood, but our finds of *P. umbrosus* were on buried wood. All three large Graves Park woods are represented, including the more recently planted part of Summerhouse Wood, as well as the protected strip of woodland behind the ditch on Serpentine Walk. *Pluteus* is clearly present in low abundance.

Rare *Pluteus* species
n = 40



Left: It's a truism of biological records, (and especially of records which have few competent recorders such as those field mycologists who validate their finds by microscopy), that records record the movements of recorders.

One way to ameliorate this bias is to accumulate as large a number of records as possible. I assembled 96,835 records from many sources as Recorder for the Sheffield Sorby Natural History Society.

Not all are validated and scarcely any will have voucher samples to check identifications, such as by DNA testing. Fungi are low down on the list for DNA investigation at Kew anyway.

A large database does at least allow some chance of estimating local distribution despite the numberless caveats which can be aimed at it. It does show that Graves Park, in the context of the biggest collection of fungi data in the Sheffield region, is good for local rare *Pluteus*, and that supports describing the site as one of value for fungi of old and ancient woodlands.

More possible indicators of Graves Park’s old/ancient woodlands

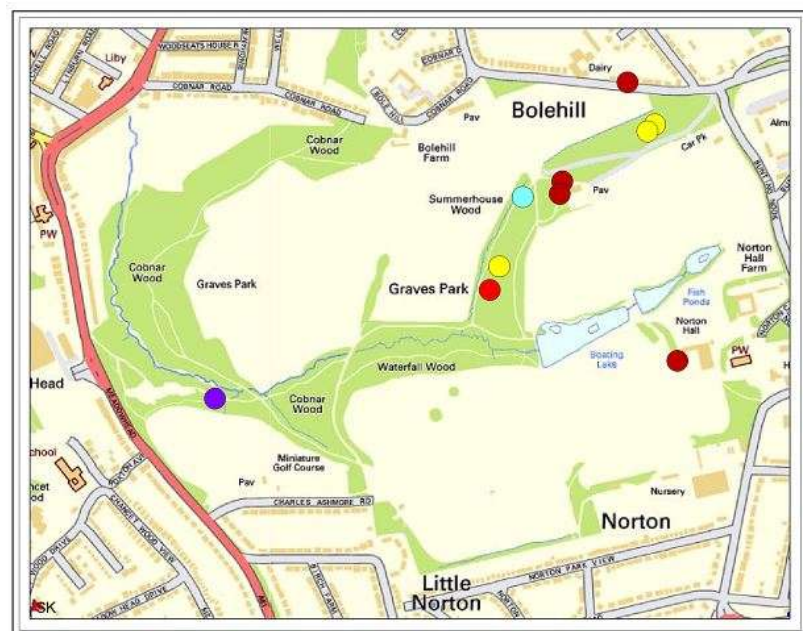


Top left: *Mycena inclinata* (Clustered Bonnet). Top right: *Cudoniella aciculata* (Oak Pins)
 Bottom left: *Polyporus durus* (Bay Polypore). Bottom right: *Stereum subtomentosum* (Yellowing Curtain Crust)

Mycena inclinata (Clustered Bonnet). was found as several large clusters on old stumps in a quiet part of Summerhouse Wood. It has been associated by Thomas Læssøe with old oaks in ancient woodland (*Mushrooms*, (1998) Dorling Kindersley, p. 133). It has been said that oak takes 300 years to grow, stands for 300 years, and then takes 300 years to rot!

Cudoniella aciculata (Oak Pins) is a similar case. I have only ever found them associated with the very end stage of oak tree decomposition, usually on small stump remnants almost buried in compost.

Polyporus durus (Bay Polypore) was considered by Martyn Ainsworth as an indicator of high quality beech deadwood habitats, but not included in his final list as it’s not exclusive enough to beech. However, that was for southern England and may, possibly, not be so relevant in the Sheffield area. Four finds were made in Graves Park in autumn 2024, three in Summerhouse Wood and one in Chantreyland Meadow. All were on large, well-rotted deadwood logs or stumps.



Stereum subtomentosum (Yellowing Curtain Crust) is present in remarkable abundance on large deadwood in Summerhouse Wood and Cobnar Wood. It is probably much misidentified as Turkeytail (*Trametes versicolor*) or Hairy Curtain Crust (*Stereum hirsutum*), to which it bears a superficial resemblance. However, it is easily identified by a little careful microscopy or use of a hand lens. This is another species considered by Martyn Ainsworth to identify high quality beech deadwood habitats, but declined because of its poor specificity for beech. It appears to occur most often on Sycamore at Graves Park.

- Bay Polypore
- Clustered Bonnet
- Oak Pin
- Tiered Tooth
- Yellowing Curtain Crust

Finding no.5

THERE ARE PLENTY OF ECTOMYCORRHIZAL FUNGI IN GRAVES PARK'S OLD/ANCIENT WOODLANDS



Top left and right: Crab Brittle Gill (*Russula cicatricata /xerampalina*)
 Bottom left: Yellowing Brittle Gill (*Russula puellaris*), Bottom right: *Russula silvestris* with spores.

Ectomycorrhizal fungi
 n = 56



Cobnar Wood has few records of mycorrhizal fungi on this map. It is mostly inaccessible due to steep slopes, which may also be drying out due to climate change. This seems to have happened in the old woodlands of Gleadless Valley close to my home. Those woods used to be rich in purple and yellow *Russulas* thirty years ago, but I have not seen one there for many years now. Isolated parkland trees (mostly oak) or the “woodland pasture” type of landscape at the Waggon and Horses end of Cobnar Wood were good for mycorrhizal species. Also notable was the long beech hedge by the Rare Breeds/Animal Farm, and the Fishponds area. Sycamore is the symbiotic partner of endomycorrhizal arbuscular fungi which don’t produce toadstools. It’s a very important species for deadwood and also for lichens. In addition, it produces vast quantities of aphids for birds, insect predators etc.

List of ectomycorrhizal fungi at Graves Park

Name	English Name	Finds
<i>Boletus reticulatus</i>	Summer Bolete	1
<i>Xerocomus chrysenteron</i> gp.	Red Cracking Bolete	7
<i>Amanita rubescens</i>	Blusher	1
<i>Cortinarius</i> sp.	a Webcap	1
<i>Cortinarius</i> sp.2	a Webcap	1
<i>Hebeloma leucosarx</i> .	a Poisonpie	1
<i>Hebeloma mesophaeum</i>	Veiled Poisonpie	2
<i>Hebeloma</i> sp.	a Poisonpie	1
<i>Inocybe flocculosa</i>	Fleecy Fibrecap	1
<i>Inocybe geophylla</i> var. <i>geophylla</i>	White Fibrecap	1
<i>Inocybe griseoililacina</i>	Lilac Leg Fibrecap	1
<i>Inocybe</i> sp. no.1	a Fibrecap	1
<i>Inocybe</i> sp. no.2	a Fibrecap	1
<i>Inocybe</i> sp. no.3	a Fibrecap	1
<i>Inocybe</i> sp. no.4	a Fibrecap	1
<i>Laccaria amethystina</i>	Amethyst Deceiver	1
<i>Laccaria laccata</i>	Deceiver	12
<i>Lactarius blennius</i>	Beech Milkcap	1
<i>Lactarius quietus</i>	Oakbug Milkcap	1
<i>Lyophyllum decastes</i>	Clustered Domecap	4
<i>Naucoria scolocena</i>	an Aldercap	1
<i>Russula cicatricata</i> (<i>xerampalina</i>)	Crab Brittlelegill	3
<i>Russula puellaris</i>	Yellowing Brittlelegill	2
<i>Russula silvestris</i>	a Brittlelegill	1
<i>Tricholoma saponaceum</i>	Soapy Knight	2
<i>Tricholoma sculpturatum</i>	Yellowing Knight	1
<i>Tricholoma sulphureum</i>	Sulphur Knight	1
<i>Tricholoma terreum</i>	Grey Knight	1
<i>Tricholoma ustale</i>	Burnt Knight	7
<i>Scleroderma citrinum</i>	Common Earthball	1

It's important to include the caveat that not all of these fungi are acknowledged to be as mycorrhizal as each other. *Lyophyllum* and *Tricholoma*, for example, may also show saprophytic traits. However, these fungi are nonetheless usually seen in older woodlands and are associated with older trees. They are also to be found at the base of street trees in Sheffield. Outside my own home on a busy road in Meersbrook I have recorded fungi such as *Russula*, *Inocybe* and *Xerocomus* which are all mycorrhizal with lime trees which are over 100 years old.



Inocybe is a huge genus of mostly small brown mushrooms found in woodlands rich in wildlife. They were abundant in parts of the Limb Valley two decades ago. Unfortunately, they are also fungi of path or woodland ride edges, which have suffered recent catastrophic erosion. Our 2017 survey of Greno Wood showed that they were still there in a rich marginal zone by the forestry tracks. In Graves Park they were mostly found in sheltered sites.

Top left: White Fibrecap (*Inocybe geophylla*) in scrub by a path in Summerfield Wood. Top right: an unidentified species. Bottom left: another unidentified species. Bottom right: spores from four different kinds of *Inocybe* found at Graves Park. Few Fibrecaps can be identified without careful and exacting microscopy, requiring specimens at different stages of development.



Top left: My first ever find of an *Amanita* (Death Cap Family) toadstool at Graves Park was in autumn 2024. This is *Amanita rubescens* (The Blusher), in the exceptionally fungi-rich open woodland/parkland opposite the Waggon and Horses garage. This area is close to the busy and dangerous A61 road, and so isn't much used by dog-walkers who allow their pets to run free. I noted little damage to some large troops or clusters of mycorrhizal fungi here, within a few yards of incessant heavy traffic. They included Lilac Leg Fibrecap, Amethyst Deceiver, Deceiver and Clustered Domecap.

Top right: A troop of Yellowing Knights was also found in the same location. For identification, this species needed to be observed turning yellowish around the cap and gills after a good few days.

Bottom left: Boletes were notable by their scarcity during our survey of the Longshaw Estate. They are relentlessly foraged as almost all species are edible and easy to recognise as a group. This was how our single 2024 Graves Park woodland Bolete (a Red Cracking type) was found – picked and placed on a pathside log.

Bottom right: A cluster of Summer Boletes (see p. 16) was found close by the path edge by the Fishponds, but soon disappeared. The best Bolete finds were along the marginal zone between a beech hedge and a grassy area. Fungi are not afforded the same respect now generally paid to wild flowers. It is assumed and claimed by food-for-free-foragers that picking doesn't damage the fungus because a mushroom or toadstool is simply equivalent to an apple on a tree, and the mycelium is the everlasting tree.

“But then there are plenty who, once properly educated, actively exploit that other 1% and descend on the autumnal forest in a ruthless horde to harvest the edibles. Spurred on by the likes of the enigmatic Carluccio and an increased interest in fine dining, they enjoy the great range of flavours that can be found for free in the woods and fields. There is, however, a cost to this. These are the 'flowers' of the fungi, the organs which release the 'seeds' in spore form. If they are over-collected might this not have a negative impact on the future population of these species?

Some elementary research has been conducted. It actually seemed to show that such harvesting has no impact on fungal population densities. But I cannot believe that sustained, constant collecting will not have an effect on future abundance. Nature can only afford to produce what it needs; it never tolerates wastage, so it wouldn't produce all these toadstools if they were not actually needed.

For my part, I picked not a single thing this year. Instead I enjoyed watching big, fat, ripe, edible species get naturally nibbled by molluscs and mice and then turn to jelly after productively casting their spores on the wind.”

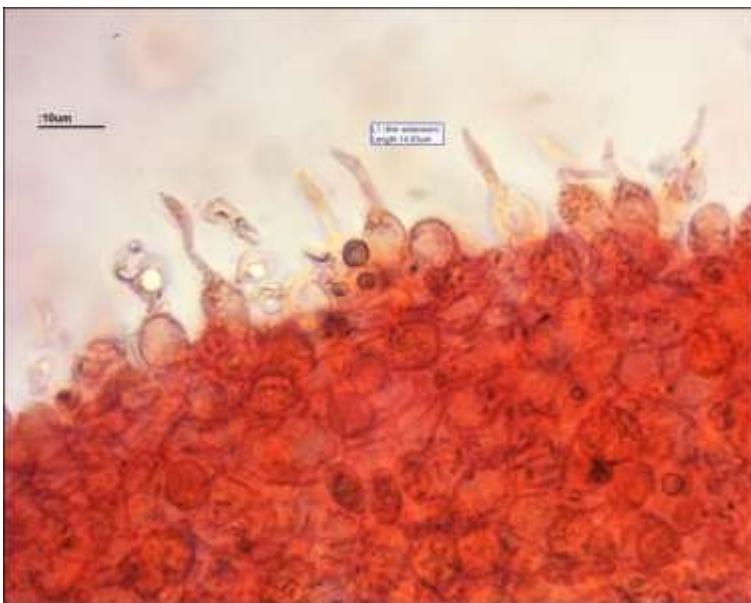
Chris Packham (2009), Autumnwatch, BBC.

A wealth of woodland fungi at Graves Park



Top left: Bulbous Honey Fungus (*Armillaria gallica*). Top right: *Armillaria* rhizomorphs, more likely to be seen than the toadstools. Honey Fungus was once fairly easy to name, but has now been split into several confusingly similar species. Although other fungi produce rhizomorphs to spread and to perennate, large growths of black bootlaces are likely to be Honey Fungus. Honey Fungus is subject to a degree of what appears to be trampling at Graves Park. It's seen as a threat to woods and gardens. Although it can be a nuisance (by killing apple trees and many flowering shrubs, for example), it does an important job for Nature by disposing of weak and dead trees and shrubs. It's been doing this for thousands if not millions of years.

Bottom left: One of the most dramatic fungal sights at Graves Park is of huge clusters of the Glistening Inkcap (*Coprinellus micaceus*). They are generally perched up on large logs and stumps, and so are afforded a degree of protection.



Bottom right: This find of the beautiful but tiny Frosty Bonnet (*Mycena tenerrima/adscendens*) was on a pile of deadwood at the bottom of one of the extremely steep slopes of Cobnar Wood. It can be found by careful searching, but only reliably identified by microscopy.

The Frosty Bonnet found in Graves Park illustrates many of the features which describe fungi in general:

Fugacious – short-lived.

Capricious - unpredictable.

Cryptic – hidden.

Legion – huge numbers of different kinds. There are perhaps 10 fungi species to every green plant.

Very hard to ID the vast majority.

Generally impossible without microscopy.

Only a small fraction can be accurately named in the field i.e. 2-300 from many thousands of UK species.

Above: Microscopy of these gill-edge sterile cells (cheilocystidia) confirms the identification as Frosty Bonnet. There are other tiny white toadstools found in similar deadwood habitats.



Top left: Hairy Curtain Crust (*Stereum hirsutum*). This is the most commonly recorded fungus in the Sheffield Sorby NHS recording area. It can be strikingly beautiful and is often present as large, bright growths on logs by woodland paths. That is the simple explanation for its position as top local fungus. Less showy and more cryptic species such as the Split Porecrust are likely to be far more prevalent in Graves Park's woods.

Top right: Crested Coral (*Clavulina coralloides*). This was the only woodland Cub/Coral Fungus made at Graves Park. It was protected by pathside brambles. We recorded a good sized colony in Longshaw, which, being on the edges of a path has since disappeared due to erosion. In *Collins Complete Guide to Mushrooms and Toadstools* (2009) it is described as "widespread and common"⁹. This is simply no longer true in Sheffield area woodlands. (For a second Club/Coral find (Wrinkled Club) see p. 86).

Bottom left and right: Common Eyelash (*Scutellinia scutellata*). Very few people have ever seen this astonishing fungus at Graves Park. I found it twice on large logs, both in difficult-to-reach places in Waterfall Wood – places that were like bits of the long lost Wildwood just a few yards from big footpaths. Again, we are told that it's "widespread and common"⁹. But it isn't. It's now present in a few protected places and is generally in low abundance. To identify it you have to take a specimen, or if there is just one specimen, either record it to genus or remove a small piece for microscopy. The microscopy is breath-taking. Features such as the spores and the roots of the hairs have to be carefully examined, as there are several extremely similar-looking species. Fungi are microscopic organisms, whether they are over thirty-five feet long (*Phellinus ellipsoideus* in China) or a few microns across (yeasts). Almost all their diagnostic features are measured in microns. At least half their beauty is in their microscopy. It's hard to understand how any lover of the Kingdom of Fungi can ignore the microscopy in mycology.



Left: The roots of Common Eyelash "lashes" found at Waterfall Wood, September 29, 2024.

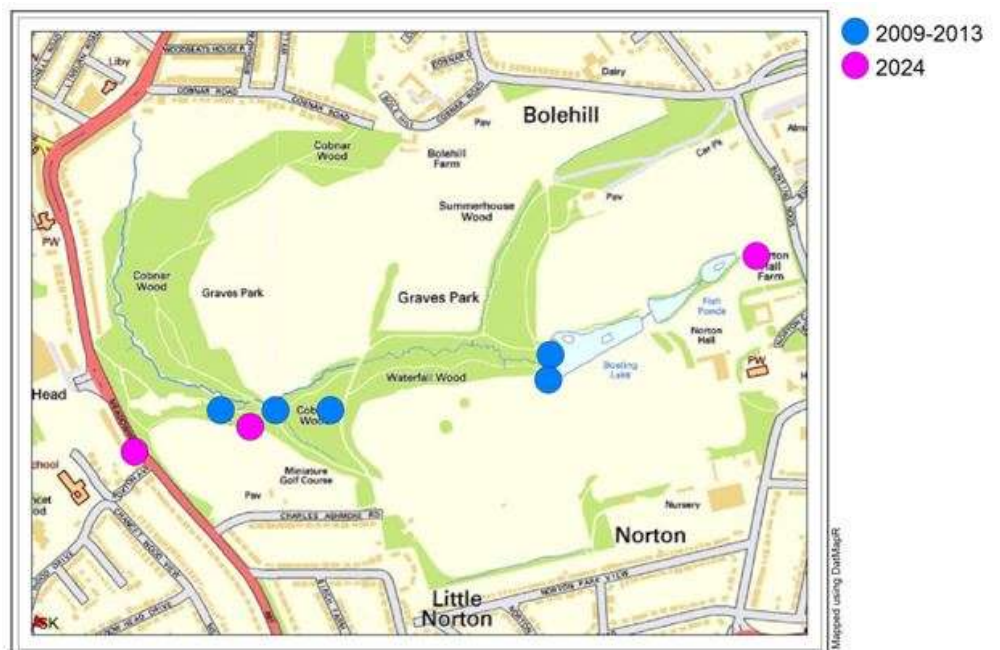
Grave’s Park’s Giant Polypores



The Giant Polypore (*Meripilus giganteus*) is a spectacular autumnal sight in Graves Park, sitting up to a metre or more across at the base of a large beech stump or dead standing tree (snag). 2024 was a good year with three finds: This growth was between the Animal Farm and the wildfowl pond in October 2024. These are my records for this species at Graves Park:

- 21 September 2009
- 28 September 2009
- 18 December 2011
- 13 September 2012
- 05 September 2013
- 04 October 2024
- 20 September 2024
- 03 October 2024

The first and fourth records probably refer to the same specimen by the duck pond. The stump and fungus have now rotted away completely. This fungus rots the roots of beech trees and it results in the felling of the tree due to risk of wind throw. There has been some question about the necessity of this as it appears that some races of the Giant Polypore are less aggressive than others.³⁷ The attack of fungi such as Beech Bark Disease, Brittle Cinder, *Ganoderma* and Giant Polypore on Graves Park’s beeches is resulting in a wealth of deadwood on which many other fungi and other wildlife can thrive. But the majestic trees and their often abundant mycorrhizal fungi are lost.



Finding no.6**GRAVES PARK HAS AMAZING AQUATIC WOODLAND HYPHOMYCETES**

Above: foam in the stream at the bottom of Cobnar Wood, consisting almost entirely of fungi living in woodland water.



Top left: little is visible at low power magnification. Top right and bottom: Stained with ammoniacal Congo Red at high power the great diversity and abundance of conidial fungi is revealed.

A large section of John Webster's seminal work "*Introduction to Fungi*" (1974) is devoted to these microscopic but ecologically very important fungi. They are crucial for the decay of leaves from woodland trees which are carried by fast-flowing streams. Nutrients are released for all life in the freshwater habitats supplied. It's possible that the tetrahedral branched forms may have evolved to allow the spores to grip onto dead leaves like grappling hooks. As these fungi are anamorphic forms of diverse kinds of fungi, it's a case of parallel or convergent evolution. Graves Park list of Latin fungal names could be significantly lengthened by identifying these numerous species.²¹ However, common sense tells you that it's probably best not to include too many microfungi in a species list. Most fungi "experts" have little interest in them, unless they cause the mass death of trees such as elm and ash – and threaten oak. Microfungi are, of course, immensely important as crop diseases, and it is said that they kill more people than malaria. Poisonous macrofungi such as the Death Cap actually kill very few people in comparison.

Finding no.7

THERE HAS BEEN A CATASTROPHIC LOSS OF WOODLAND MARGINAL HABITAT AT GRAVES PARK



On my return to the bottom of Cobnar Wood in September 2024 I could not recognise the woodland that I had surveyed from 2006-2013. Instead of path edges lined with abundant deadwood hosting numerous gleaming white shelves of Lumpy Bracket (*Trametes gibbosa*) and many other fungi, I was faced with a scene of apocalyptic desolation (top left). On either side of the path stretched yards of trampled mud. A dog dragged its lead in the muck while its owner walked on unaware of whether her pet was leaving a mess for fellow walkers to tread in (I had the misfortune of suffering this fate this October when I returned to the big beech log which I had surveyed in 2009 with my own, well-tended Border Terrier, Bonzo – see this report cover picture). No mushrooms, toadstools, corals or clubs could grow on the broad margins of this path. It was erosion and “muddification” on an industrial scale. There was no evidence of summer flowers either. The dead wood had almost all gone, except for one eroded log hosting some decaying thin white crust fungi. I almost turned round to go home. However, I found that further up Cobnar Wood there is, fortunately, a wealth of deadwood (see p. 28), especially of beech.

It has become clear to me that almost all of Sheffield’s precious ancient woodlands are now under siege. I know this because I had begun leading fungi forays for the Sheffield Sorby Natural History Society in September 2008 at Limb Valley. The path edges then were intact with vegetation and abundant fungi. The large party in the foray stayed almost entirely on the path from

<i>Amanita exoleta</i> var. <i>spissa</i>	Gray Spotted Amanita	<i>Xyethneromyces mutabilis</i>	Sheathed Woodtuft
<i>Amanita fulva</i>	Tawny Grisette	<i>Laccaria amethystina</i>	Amethyst Decayer
<i>Amanita rubescens</i>	Busher	<i>Laccaria leccata</i>	Deceiver
<i>Ascocoryne sarcoides</i>	Purple Jellydisc	<i>Lactarius quietus</i>	Oakbug Milkcap
<i>Auricularia auricula-judae</i>	Judas Ear	<i>Lactarius subdulcis</i>	Mild Milkcap
<i>Bjerkandera adusta</i>	Smoky Bracket	<i>Lecanum acabrum</i>	Brown Birch Bolete
<i>Boletus chrysenteron</i>	Red Cracking Bolete	<i>Leotia lubra</i>	Jellybaby
<i>Boletus subtomentosus</i>	Suads Bolete (Yellow Cracking Bolete)	<i>Mycena galericulata</i>	Common Bonnet
<i>Calocera cornu</i>	Small Stagshorn	<i>Phaeolus involutus</i>	Brown Rollin
<i>Calocera cornu</i>	Pale Stagshorn	<i>Phaeolus schwenitzii</i>	Dyer’s Mazegill
<i>Calocera inaequalis</i>	Yellow Stagshorn	<i>Phaeolus impudicus</i>	Stinkhorn
<i>Cantharellus tubaeformis</i>	Trumpet Chanterelle	<i>Piptoporus betulinus</i>	Birch Polypore / Razorstrip Fungus
<i>Clavaria fragilis</i>	White Spindles	<i>Poatia subcaesia</i>	Bluising Bracket
<i>Clavulina cornea</i>	Gray Coral	<i>Rhizina acerinum</i>	Sycamore Tanspot
<i>Coprinus</i> sp.	an Inkcap	<i>Russula atropurpurea</i>	Purple Britlegill
<i>Cortinarius</i> sp.	a Webcap	<i>Russula cyanocrantha</i>	Charcoal Burner
<i>Cudonella aciculata</i>	Oak Pin	<i>Russula nigricans</i>	Blackening Britlegill
<i>Dacrymyces stillatus</i>	Common Jelly Spot	<i>Russula nobilis</i>	Beechwood Sickener
<i>Daedaleopsis confragosa</i>	Bushy Bracket	<i>Russula ochroleuca</i>	Ochre Britlegill
<i>Ganoderma australe</i>	Southern Bracket	<i>Scleroderma aneolatum</i>	Leopard Earthball
<i>Collybia confusus</i>	Clusters Toughshank	<i>Scleroderma citrinum</i>	Common Earthball
<i>Collybia peronata</i>	Wood Woollyfoot	<i>Scleroderma vermicopium</i>	Scaly Earthball
<i>Hebeloma</i> sp.	a Poisonpie	<i>Stereum hirsutum</i>	Hairy Curtain Crust
<i>Helvella crispa</i>	White Saddle	<i>Stereum rugosum</i>	Bleeding Broadleaf Crust
<i>Heterobasidium annosum</i>	Root Rot	<i>Stereum sanguinolentum</i>	Bleeding Conifer Crust
<i>Hydnum repandum</i>	Wood Hedgehog	<i>Trametes versicolor</i>	Turkeytail
<i>Hygrocybe ceracea</i>	Butter Waxcap	<i>Tricholoma ustale</i>	Burnt Knight
<i>Hymenoscyphus fagineus</i>	a small white Asco	<i>Tricholoma virgatum</i>	Ashen Knight
<i>Hypoloma faeculans</i>	Sulphur Tuft	<i>Xerula radicata</i>	Rooting Shank
<i>Hypoloma marginatum</i>	Snakeskin Browne	<i>Xylaria hypoxylon</i>	Candlesnuff Fungus
<i>Hypomyces chrysocephalus</i>	Bolete Mould	<i>Xylaria polymorpha</i>	Dead Man’s Fingers
<i>Hypoxylon fragiforme</i>	Beech Woodwart		
<i>Inocybe asterospora</i>	Star Fibrecap		
<i>Inocybe nappes</i>	Bulbous Fibrecap		

Whirlow Brook Hall up beyond the top of the beech plantation and the Ringinglow Coal seam to Copperas. The result was a set of records which would be incredible today. Limb Valley’s paths are now flanked by wide margins of trampled and lifeless mud, just like most of Graves Park’s larger woodland paths.

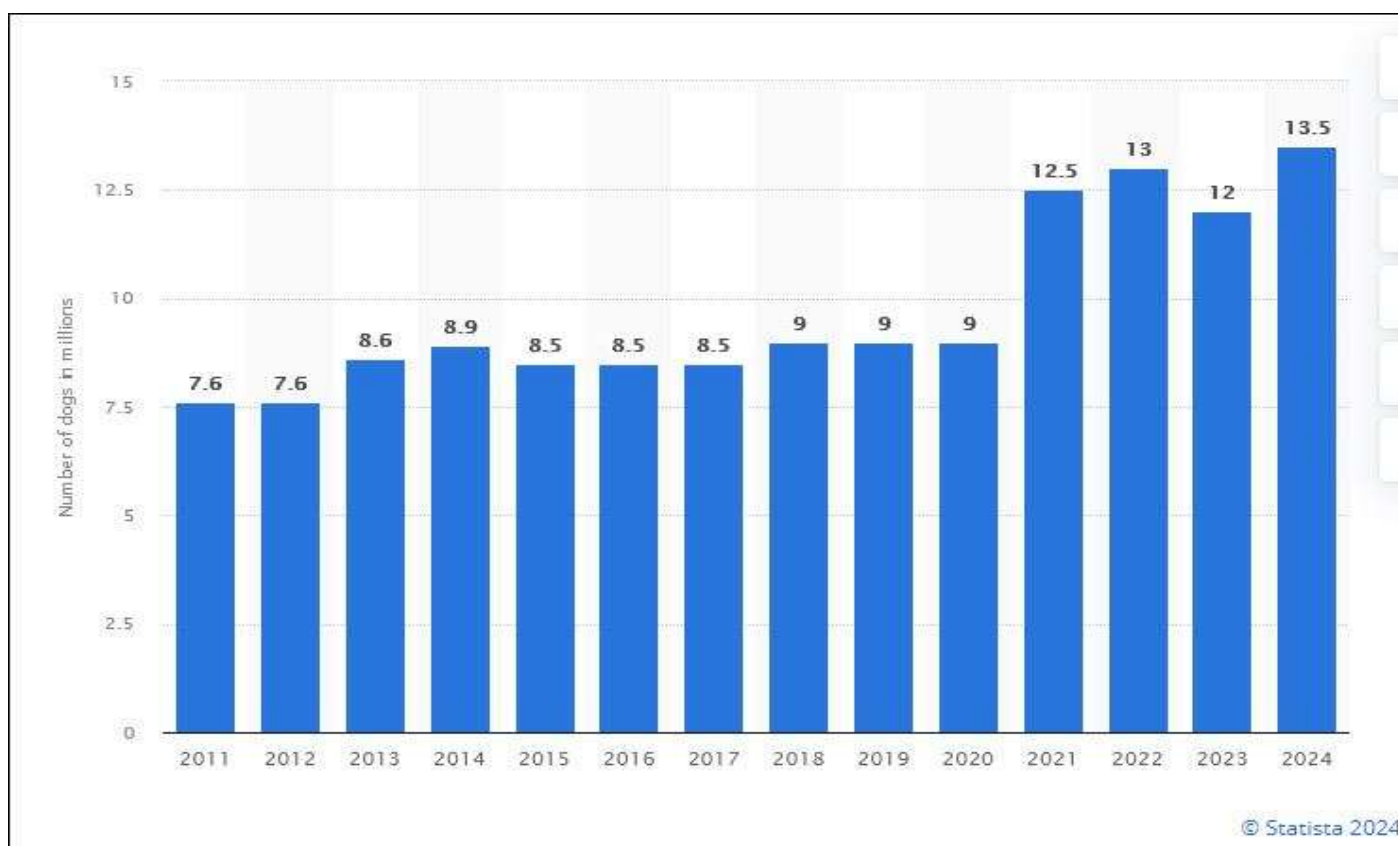
Left: A list of 66 species of mostly large fungi almost all from path-sides at Limb Valley in 2008.

Marginal zones and dogs

This is from our Longshaw NT Volunteer Team Survey Report (2016). It's in the section about Fibrecaps (*Inocybe*)

Finally, and of immediate concern ecologically, *Inocybe* is the archetypal pathside toadstool. They have a tendency to fruit in bare ground by the side of woodland paths, in fact, in the marginal zone which is such a rich habitat. It is an axiom of woodland ecology that half of the species there are found in the ten metres at the edge of the woodland. As the number of visitors and their free-running dogs to Longshaw grows, the narrow woodland paths become converted all too quickly into muddy highways, several metres wide, with trampled areas extending right across the precious marginal zones. As the footfall increases, the Fibrecaps diminish. They prove that trampling kills fungi. All that is left is mud, with none of the precious woodland flowers. What use are all the *Inocybe* records, based on such painstaking microscopy? Perhaps they are of no use except as a testimony to what was once a woodland full of toadstools, from which they are now disappearing, as are too many other kinds of wildlife.

I've studied fungi for over 55 years. I began in the then unspoiled, wild woods at Ecclesall and Hutcliffe in the 1960's. The decline of fungi (and wild flowers) in our woodlands is mainly due to trampling of the pathside marginal zone by a phenomenal rise in free-running dogs. Their paw print is now huge and increasing. It's damaging effect will be exponential and sudden.



Above: The population of pet dogs in the UK has almost doubled since 2011.³⁰⁻³⁴

I first noted with alarm that the margins of woodland paths were being rapidly eroded in the woods of the Porter Valley, where human and dog traffic is restricted to a narrow route along the ribbon of old and ancient woodland. On Flickr, I posted a picture of a large bare, muddy path, where I could find little fungi to record. That was in 2013. A recent study in Germany has concluded that a moderate amount of dog walking in urban grasslands doesn't reveal significant disturbance to the grassland ecology. Other studies from the USA and elsewhere show that free-running dogs have an alarming effect on wild birds and mammals. It's obviously a matter of scale and balance.

In 2023 an NFU study revealed that 68% of dog-owners let their pets off leads in the countryside, and the number is increasing year on year with an accompanying increase in attacks on farm animals.³⁴ I have found that local wildlife managers, whilst acknowledging the concern of dogs running free amongst ground-nesting birds, as at Longshaw, are nevertheless reluctant to do much about it for fear of the potential hostile reaction from a huge cohort of dog-owners. One Longshaw Ranger was asked by a dog-owner (whose pet was running free) why she had her dog on a lead. That was in the nesting season. Off-lead dog walking is the new normal. The complacency of many dog-owners in environmentally sensitive wild places, like woodland, is concerning.

The scale of pathside trampling at Graves Park is shocking: the fungi and flowers have gone



The bottom of Waterfall Wood as it meets Cobnar Wood. The stream banks are denuded of the woodland flowers which were once there. In quiet a quiet woodland not far from Graves Park near Holmesfield we found a rich variety of old woodland plants in abundance.

Missing here: opposite leaved golden saxifrage; wood sorrel; bluebell; yellow archangel; woodruff and possibly wood anemone, and yellow pimpernel. These are the ancient woodland indicator plants that we found festooning the banks of a stream in a NE Derbyshire woodland a few miles from Graves Park this August, along with numerous ferns, grasses, mosses and liverworts.



Extensive bare zones are found throughout much of Graves Park's historic woodland. Left is in Summerfield Wood, perhaps the most fungi-rich of Graves Park's three larger woodlands. Right is Cobnar Wood, which has, in addition to trampled path edges, a very extensive area used for mountain-biking. This is composed of manufactured earth slopes which besides being too dangerous to tread on foot, have destroyed the soil structure.

A lot of Cobnar Wood, especially, is devoid of large deadwood. It is also very dry, being situated at the top of a very steep slope. It's possible, if not probable, that warming due to climate change is helping to dry the sloping woodlands, suppress or kill the fungal mycelium and prevent the production of sporophores. This almost certainly seems to have occurred in the nearby woods of the Gleadless Valley. I have rarely seen any mycorrhizal fungi fruiting in these kinds of landscapes.

How the woods at Graves Park used to look: a case of changing baselines

This looks like Cobnar Wood in on 29 May, 1987, with its steep slopes and winding path which our children loved to cycle along in the 1990s. There is vegetation up to the very edges of the paths. Numerous mycorrhizal and saprophytic fungi would have been found fruiting in this rich marginal zone, as well as microfungi on the herbs. It's a beautiful scene. Today's paths at Cobnar Wood are empty and depressing. It's a case of changing baselines and people just get used to it.



There have been wide pathways at Graves Park for many decades, but they have always been bordered by flourishing wildlife. All these haunting images of a bygone woodland landscape provided by Picture Sheffield vindicate our memories.²



More images from Picture Sheffield of bygone carpets of woodland flowers, grasses and herbs. Where there are flowers, grasses and herbs then there are fungi. People are forgetting these scenes or have never known them, and are becoming accustomed to a new baseline of degraded environments.

Finding no.8

FUNGI STILL FLOURISH IN GRAVES PARK WHERE THEY ARE PROTECTED



Top left: In Waterfall Wood just below the waterfall. Here there is a ravine whose slopes are impossible to climb, where nobody brings their dogs, and where there are some fine communities of mycorrhizal and saprobic fungi. A huge beech log is just a few yards down a steep slope and hosted numerous fungi including *Pluteus ephebeus*, Common Eyelash and *Trichia varia*, a Slime Mould.

Top right: The steep slopes of Cobnar Wood may be drying with climate change. Nonetheless, on a similar inaccessible slope in nearby Cobnar Wood, an astonishingly rich variety and abundance of crust fungi on deadwood was recorded in 2023.²⁵

Bottom left: What appear to be intended as habitat heaps in Waterfall Wood bottom are excellent places for both fungi and minibeasts to flourish.

Bottom right: The ditch along Serpentine Walk is a very effective defence for the narrow strip of woodland that it protects (see p.76).



Top left: A small path on the side of Summerhouse Wood is bordered by an understory of herbaceous plants, in which fungi such as the smaller *Mycena* (Bonnets) can be found, as well as crust fungi on sticks.

Bottom left: Shaggy Inkcap – *Coprinus comatus*, protected by holly on the pathside from the Fishponds to Norton Hall.

Top right: Bramble flanking the path to the quarry.

Bottom right: The Ringed Conecap – *Pholiotina/Conocybe aporos/arrhenii*. This was under the bramble pictured above, a foot from the path.



Left: The Rooting Shank was found in two protected locations. The one shown was in a thicket of bramble and other vegetation very close to a path in Cobnar Wood. A small bit of the cap was taken to check the microscopy e.g. the relatively large spores.

Right: Dave Cowley photographing fungi next to a busy path in Cobnar Wood. A large log protects a colony of Collared Parachutes-*Marasmius rotula*. Three other fungal species were found, all in good abundance and with no damage noted.



Top left: The ditch along the Hemsworth Road side of Summerhouse Wood acts as an effective barrier to people and dogs. Within it undergrowth flourishes, and so do fungi.

Right top and bottom: Yew is growing well here, it's a nice coniferous addition to Graves Park and has its own associated mycota such as the Grey Knight – *Tricholoma terreum*, recorded with yew at the Fishponds, and the crust fungus *Amylostereum laevigatum*, yet to be found at Graves Park.

Bottom left: Logs positioned around, and brash within marginal land at the Warminster Road entrance, protects wildlife.

Protecting path margins at Ecclesall Woods



Erosion of path edges in Ecclesall Woods is severe. A few years ago a sign was put up informing visitors that wild flowers were being encouraged to grow by this muddy path. They once carpeted this grim landscape. Logs and brash are being used to keep people and dogs to the paths. A chestnut paling fence has also been erected in this area close to the busy Sheffield Round Walk. At least there are many bracket and crust fungi growing on the deadwood fence here.

Finding No. 9**GANODERMA IS GRAVES PARK'S MOST ICONIC FUNGUS!**

Ganoderma is present on beech at Graves Park in great abundance and is one fungus that nobody is likely to miss. It's also perennial, lasting many years as a new layer of spore-producing tubes is added each year. The brackets can be dated by their number of pore layers, like trees can by their rings. But these hard, tough, resilient features of the landscape are composed not of lignin and cellulose like wood, but rely on chitin for their strength, just like fragile toadstools. They grow on living trees as parasites and then on dead ones as saprobes. Unlike some other deadly fungal diseases of beech such as Giant Polypore, they don't pose an imminent threat of wind throw to the tree, so the beech stem is allowed to stand and provide a home to a lot of wildlife.



Left: Dead beech trees are allowed to stand as tall "snags" and are a host to numerous long-lived brackets of *Ganoderma*.

Right: The Yellow Flat-footed platypezid fly *Agathomyia wankowiczii* forms galls on *Ganoderma applanatum* – The Artists's Bracket/Conk. This gall isn't at all common in the Sheffield area. We found it just once at Longshaw Estate during several years of fortnightly surveying. The Artists's Bracket is

rather less common at Graves Park than the extremely similar *Ganoderma australe* – The Southern Bracket. Bottom middle: Spores are easily collected from nearby vegetation and are simple to separate by size using microscopy and thereby distinguish the two species. These were from an old decaying bracket but still enabled identification as Southern Bracket.



Above: I recorded *Ganoderma* at 9 locations this year, there may be more. In some places its is present as dozens of brackets, such as in the “neck” of Cobnar Wood where it is on logs and snags as both species.

Ganoderma would be an excellent fungus to use in an effort to educate visitors to Graves Park about the essential recycling role which fungi such as *Ganoderma* plays in a healthy woodland, as well as providing a home to other wildlife.

As noted on page 37, and worthy of repeat,

The vast majority of fungi is

Fugacious – short-lived.

Capricious - unpredictable.

Cryptic – hidden.

Legion – enormous numbers of kinds.

Very hard to ID the vast majority.

Generally impossible without microscopy

But *Ganoderma* is

Long-lasting.

Very predictable once it’s established.

Highly visible.

Restricted to just two species at Graves Park (to date) and they are easy to identify from the abundant spores with a student microscope. The pore surface scratches dark brown allowing pictures to be drawn, so this feature is used to identify them to genus in the field. If insect galls are present you can name it as Artist’s Bracket.

Easy to ID to genus without microscopy.

Finding no. 10**GRASSLAND FUNGI AT GRAVES PARK IS POOR**

Although grasslands like this at Graves Park have a long, long history including as medieval parkland and therefore as grazed areas¹, similar to those at nearby Longshaw Park, they are by now extremely depleted in terms of their mycota, and no local grassland fungi surveyor of repute would waste long hours traversing these largely green fungi deserts for the occasional find of a Waxcap, an Earthtongue, a Pinkgill or a Club. Autumn 2024 was a very good year for fungi, and I tramped up and down in every direction across all of Graves Park's grassy areas and generally made very scattered finds of very low abundance.

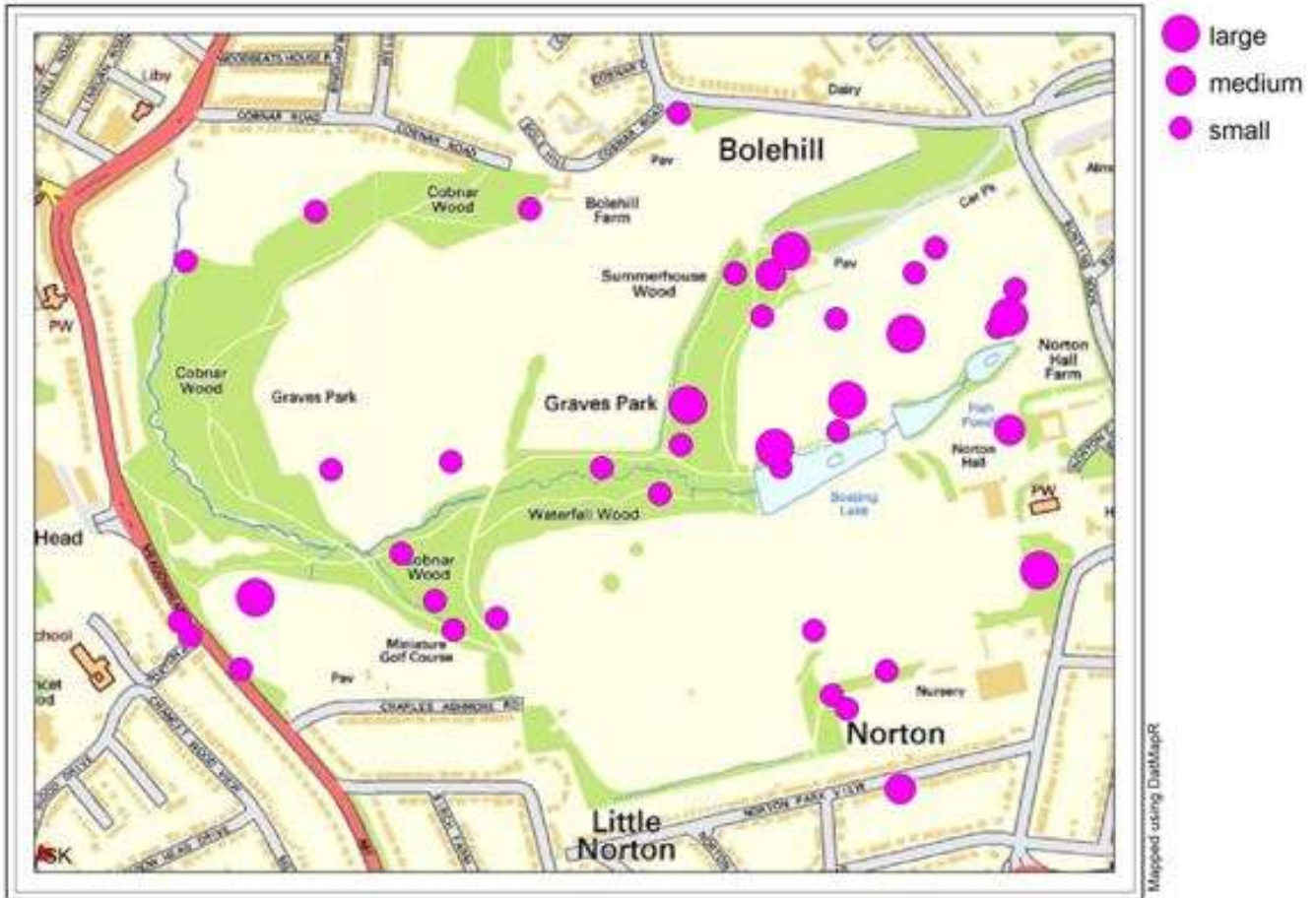


Typical grassland fungi at Graves Park.

Top left and right: Hay Cap (*Panaeolina foenesecii*) This species is easily separated from similar Mottlegills (*Panaeolus*) by its speckled spores.

Bottom left: Brittlestems (*Psathyrella*) are amongst the most difficult Little Brown Mushrooms (LBMs) to identify to species.

Bottom right: The Drab Bonnet (*Mycena aetites*). It was the commonest grassland toadstool at Graves Park in 2024.



Above: Bonnets are present in good diversity and abundance in Graves Park's woodlands – but are also a feature of its grasslands. The Drab Bonnet (actually a pretty grey and white little toadstool) was especially frequent on the grassland which is used for events. Ironically, I think this grassland is also the best for Waxcaps, and I have always found them there.

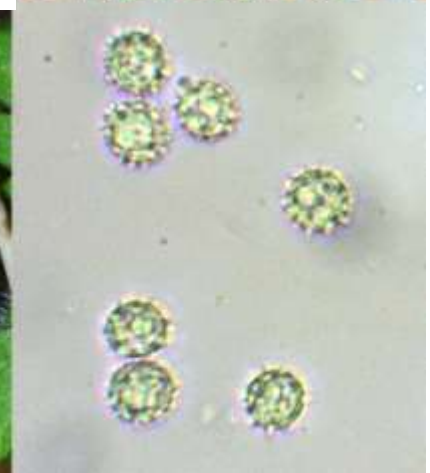
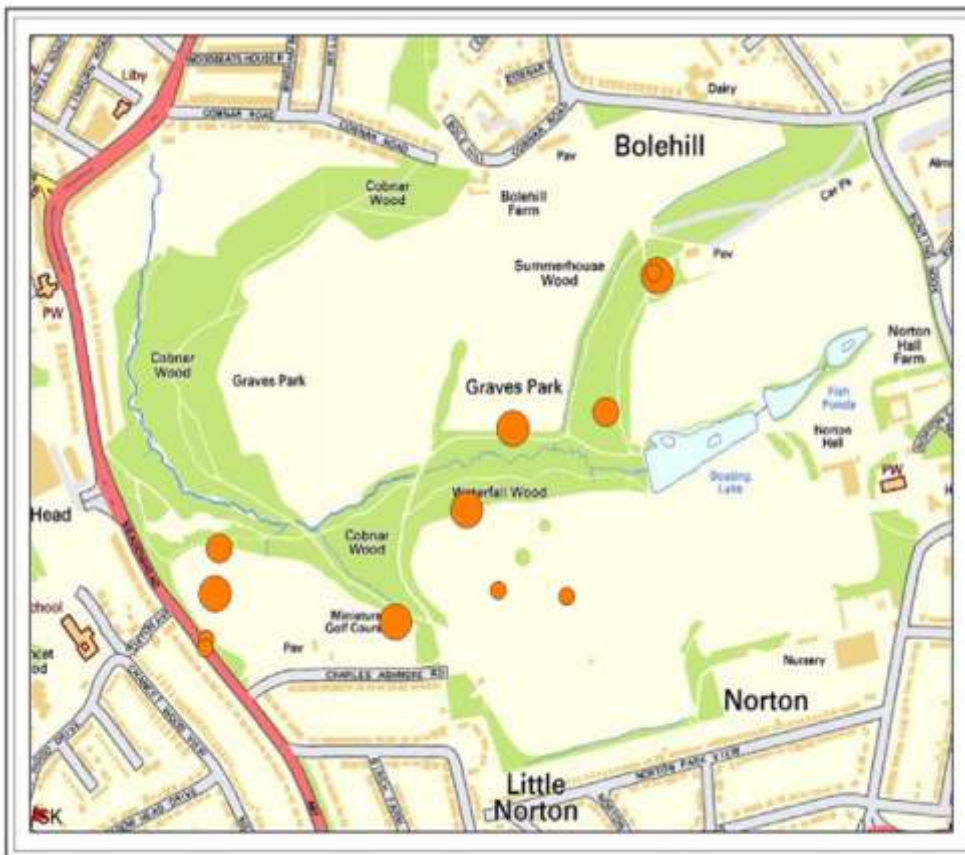
Grassland species at Graves Park

<i>Agaricus campestris</i>	Field Mushroom
<i>Bolbitius titubans</i>	Yellow Fieldcap
<i>Claviceps purpurea</i>	Ergot
<i>Clavulinopsis helvola</i>	Yellow Club
<i>Crepidotus epibryus</i>	an Oysterling
<i>Dermoloma cuneifolium</i>	Crazed Cap
<i>Dermoloma pseudocuneifolium</i>	a Crazed Cap
<i>Entoloma conferendum</i>	Star Pinkgill
<i>Entoloma porphyrophaeum</i>	Lilac Pinkgill
<i>Entomophthora</i> sp.	a Mould on flies (Diptera)
<i>Galerina</i> sp.	a Bell
<i>Hygrocybe ceracea</i>	Butter Waxcap
<i>Hygrocybe coccinea</i>	Scarlet Waxcap
<i>Hygrocybe pratensis</i> var. <i>pratensis</i>	Meadow Waxcap
<i>Hygrocybe psittacina</i> var. <i>psittacina</i>	Parrot Waxcap
<i>Hygrocybe quieta</i>	Oily Waxcap
<i>Hygrocybe virginea</i>	Snowy Waxcap
<i>Mycena aetites</i>	Drab Bonnet
<i>Mycena flavoalba</i>	Ivory Bonnet
<i>Mycena olivaceomarginata</i>	Browndge Bonnet
<i>Panaeolina foenisecii</i>	Brown Mottlegill
<i>Panaeolus cinctulus</i>	Banded Mottlegill
<i>Panaeolus fimicola</i>	Turf Mottlegill
<i>Parasola plicatilis</i>	Pleated Inkcap
<i>Psilocybe semilanceata</i>	Magic Mushroom / Liberty Cap

These species are confined to grassland, but there are a great many other kinds of fungi which fruit on grass but which are just at home in woods, such as St George's Mushroom (*Calocybe gambosa*) or are associated with trees in parkland or on the edge of woodland. These latter include Brittlegills such as the Crab Brittlegill (*Russula cicatricata* (*xerampalina*)), The Blusher (*Amanita rubescens*) and the Deceiver (*Laccaria laccata*). In fact, almost all our Graves Park Deceivers were found growing in grass.

Location and habitat of the Deceiver (*Laccaria laccata*) at Graves Park

Golf course woodland margin	by hawthorn hedge under oak, beech and holly grass
Golf course woodland margin	in grass and moss in bramble near oak and beech
Waterfall Wood	in grass under oak and beech
Cobnar Wood	in grass under oak sapling
Cobnar Wood	in mown grass with parkland trees
Miniature Golf Course area	in short grass near large oak
Summerhouse Wood	mown grass
Central grassland area	mown grass at back of café
Summerhouse Wood	soil/litter
Waterfall Wood	under medium sized oak
Central grassland margin with Cobnar Wood	in grass under small oak



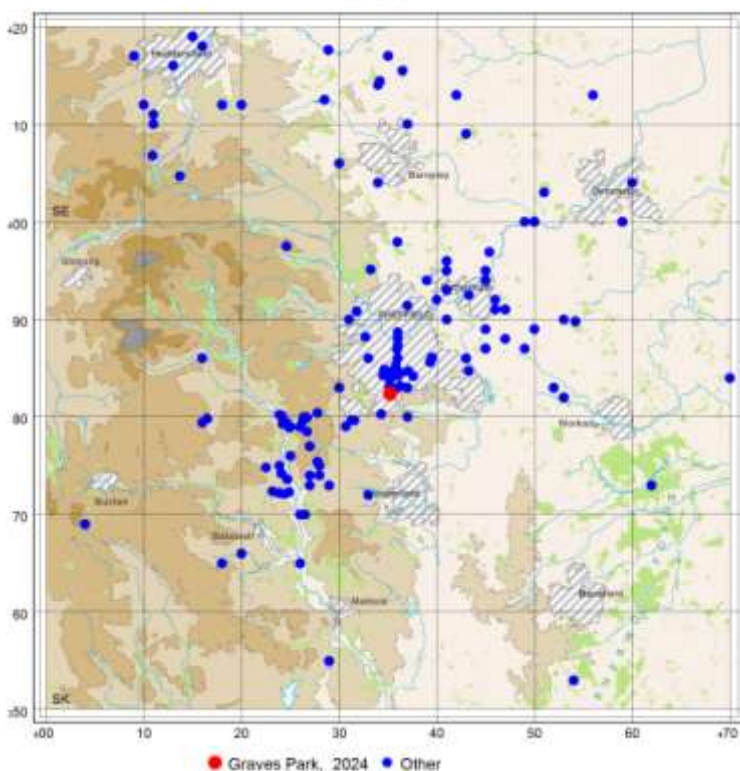
Top left: Abundance of the Deceiver. At Graves Park you are more likely to find this typical woodland species singly or scattered around old oaks on grassland or on the marginal zone in grass by woodland than in a typical woodland habitat. In grassland they are easy to misname as *Galerina* (Bells). Microscopy of the spiky, globular spores is a certain way to identify them correctly.

Ergot (*Claviceps purpurea*)



Top left: Long grass on the site of the old London Road, hosting abundant poisonous sclerotia of Ergot (*Claviceps purpurea*).
 Top right: This fungus is very easy to miss – it is small and cryptic.
 Bottom: on rye grass, false oat grass and cock’s foot grass.

Ergot (*Claviceps purpurea*) in the Sheffield area
 n = 166



Local Ergot records date from the end of the nineteenth century. They show an irregular distribution, and clearly represent the activities of recorders as much, if not more, than the actual distribution of the fungus.

I have found this fungus in numerous locations in Sheffield, usually on false oat grass.

166 records from database of 96,835 fungi records:

Recorder	Records
Clements, S.	60
Yeates, C.S.V.	31
Gilfedder, K.	9
Cooper, J.A.	7
Lyon, Dr A.J.E.	6
Anon.	5
Moore, A.J.	5
Braddock, A.T.	4
Farmer, I.	4
Not Given	3
Evans, L.L.	2
Martin, A.	2
Recorders with 1 record	28

Chris Yeates and myself account for almost 55%!

Finding no 10**GRAVES PARK'S GRASSLANDS ARE TOO BUSY TO SUSTAIN WAXCAPS**

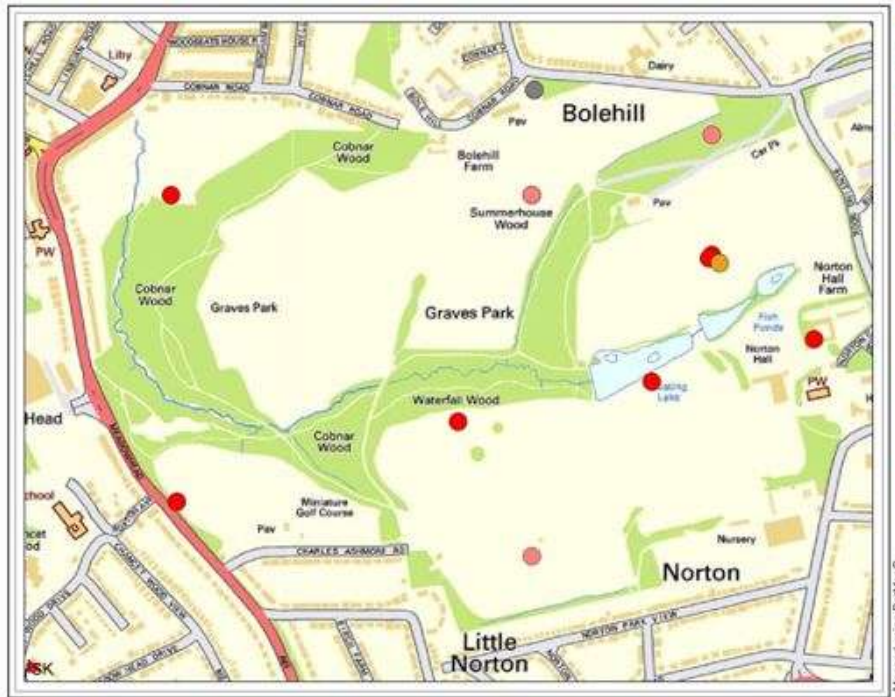
Top and bottom left: Scarlet Waxcap (*Hygrocybe coccinea*). Top centre: Meadow Waxcap (*Hygrocybe pratensis*). Top right: Parrot Waxcap (*Gliophorus psittacinus* or *Hygrocybe psittacina*). Bottom centre and right: Oily Waxcap (*Hygrocybe quieta*).

No. of Waxcap finds. The surveys recorded few finds of Waxcaps, which were almost always low in abundance:

<i>Hygrocybe ceracea</i>	Butter Waxcap	3
<i>Hygrocybe coccinea</i>	Scarlet Waxcap	1
<i>Hygrocybe conica</i>	Blackening Waxcap	1
<i>Hygrocybe glutinipes</i>	Glutinous Waxcap	1
<i>Hygrocybe pratensis</i> var. <i>pallida</i>	Pale Meadow Waxcap	1
<i>Hygrocybe pratensis</i> var. <i>pratensis</i>	Meadow Waxcap	1
<i>Hygrocybe psittacina</i> var. <i>psittacina</i>	Parrot Waxcap	1
<i>Hygrocybe quieta</i>	Oily Waxcap	2
<i>Hygrocybe virginea</i>	Snowy Waxcap	5

None of these species would be normally considered to be of high value as indicators of old or ancient grassland. That would require species such as Crimson Waxcap (*Hygrocybe punicea*) and the Ballerina (*Hygrocybe calyptriformis*) which occur at Longshaw and other local high-value Waxcap sites. Nearby, in urban Sheffield, Snowy Waxcap grew in plentiful numbers in the garden of my wife's parents on Warminster Road, whilst Blackening Waxcap appears on our Meersbrook Allotment. These are my total finds of Waxcaps during the 2006-2013 period and the autumn of 2024 - just sixteen. They compare with lists of thousands of finds of dozens of species and forms at Longshaw Estate. Our Longshaw Waxcap Counts surveys of 2017 – 2020 produced hundreds of finds and thousands of fruiting bodies following two single transects across two areas not much larger than the grasslands at Graves Park. During October 2024 I found far more abundance of Waxcaps in the front gardens of houses on Chancet Wood View just across the A61. Previously I have also found lawns carpeted with hundreds of Earthtongues (*Geoglossum* and allies) in the same location. It's clear and obvious to me that Graves Park is far too busy for a flourishing population of Waxcaps to survive. What we are finding is the dying remnant of a bygone landscape.

CHEGD fungi at Graves Park, 2006-13 and autumn 2024



- Club
- Crazy Cap
- Pinkgill
- Waxcap

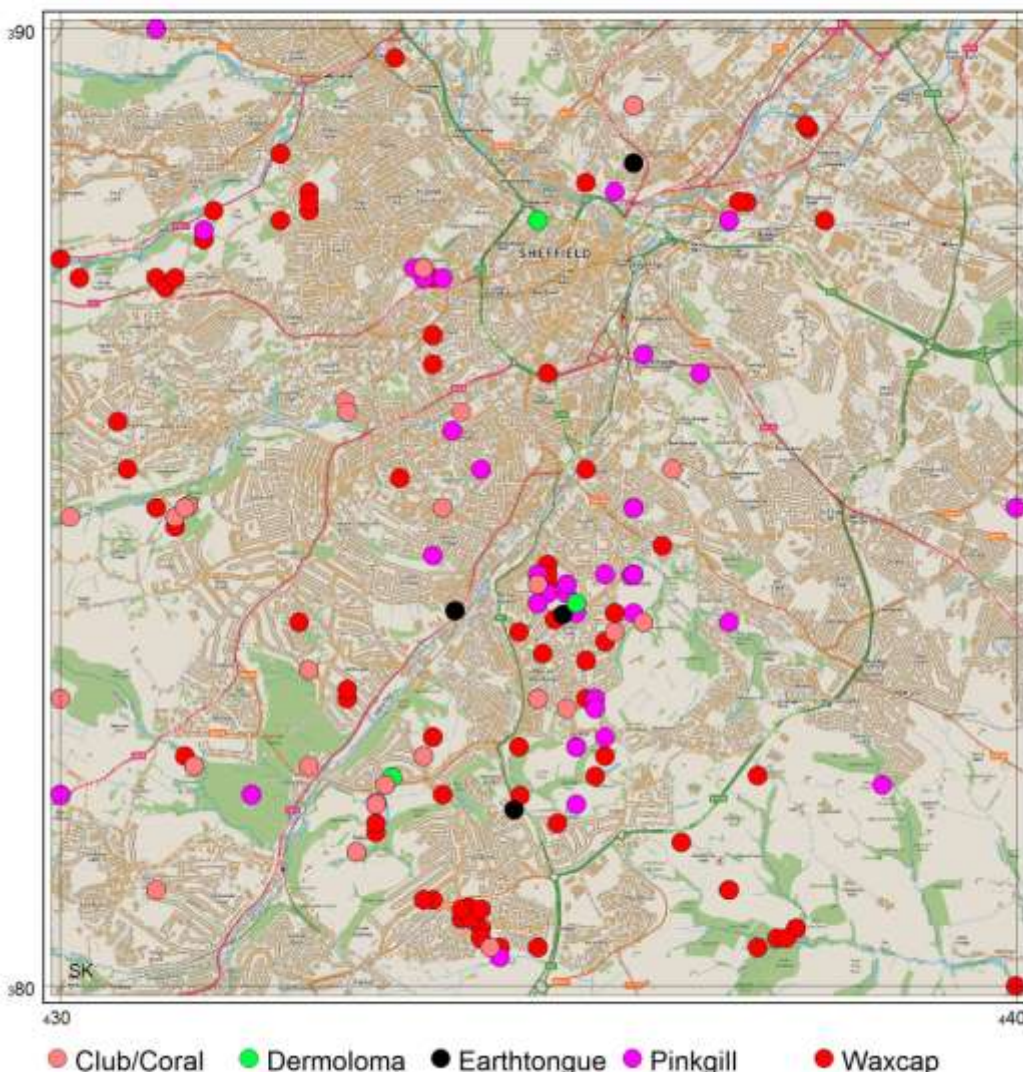
In total I made records of 1 Clavulinopsis, 16 Hygrocybe, 3 Entoloma, (no Earthtongues) and 2 Dermoloma.

My CHEGD tally for Graves Park would be **C1 H9 E2 G0 D2**

This barely denotes Graves Park as of regional Waxcap Grassland importance according to Vesterholt et al (1999), assuming that all the Hygrocybes are correctly identified..

However, there is, as far as I am aware, no kind of assessment of or value attributed to abundance in this scoring system.

SK 38 CHEG records 2006-2014
395 records



CHEGD Waxcap data plotted from a total of 8,546 records for the Sheffield area.

Meersbrook Park was better than Graves Park. This was because it had a couple of keen fungi recorders living close by at the time – M. Senkans and myself. Between 2008 - 2012 we made 59 CHEGD records, comprising 1 Club, 3 Pinkgill, 11 Waxcap and 1 Dermoloma species.

Low Edges was surveyed by Roger Butterfield and myself 2009 - 2012. We got 24 CHEGD records. From Greenhill Park, grass verges and front gardens we found 1 Club, 1 Pinkgill and 8 Waxcap species. Better than Graves Park.

Graves Park was surveyed by myself 2006 - 2013 and produced just 9 CHEGD records comprising 3 Pinkgill and 3 Waxcap species (a single additional Waxcap was added by M. Senkans) in 2012.

There is a lot of activity on the grasslands at Graves Park



Top left: At busy times, drivers now pay a private firm contracted to the Animal Farm to park their cars on the grass when the Warminster Road car park is full. Waxcaps are found a short distance away. I recorded the nationally rare Lilac Pinkgill not so far from here in 2006 and 2013. Parking heavy cars on grassland isn't good for grassland fungi!

Top right: This picture was taken in the early morning, and by now there are multiple trails showing where dogs have been running off-lead. The paw print caused by dogs at Graves Park is enormous, but nobody seems to be worried by it.

Bottom left: A Field Mushroom which has likely been knocked over by a free-running dog. I found only 3 Field Mushrooms at two places in 2024. They are a sad reminder of the days when these mushrooms were plentiful in our fields and grasslands. Now, even in the Peak District, they are rarely seen in abundance.

Bottom right: Magic Mushrooms are scattered in low abundance over the Park. Dogs very frequently now come in pairs or more.



November snow reveals the scale of trampling by dogs. The morning after a night of snow. By noon the entire surface of this part of the Park had been well trodden.

Erosion and “muddification of grassland areas.

Top left: Grass path edges are far more resilient to trampling than woodland path edges.

Top right and bottom left: However, some areas of grass are becoming denuded, showing that even grassland can be so degraded that it's “muddified”. This is bad news for fungi and flowers.

Bottom right: A single cross country running event has a big impact on the grassland due to the huge numbers of participants.

Protecting grassland areas

This is a notable bit of grassland for fungi, as it's protected in two ways from trampling by free-running dogs. Firstly, the obvious railings. Secondly, dogs coming into the park on being released will excitedly run ahead into the open grassland.

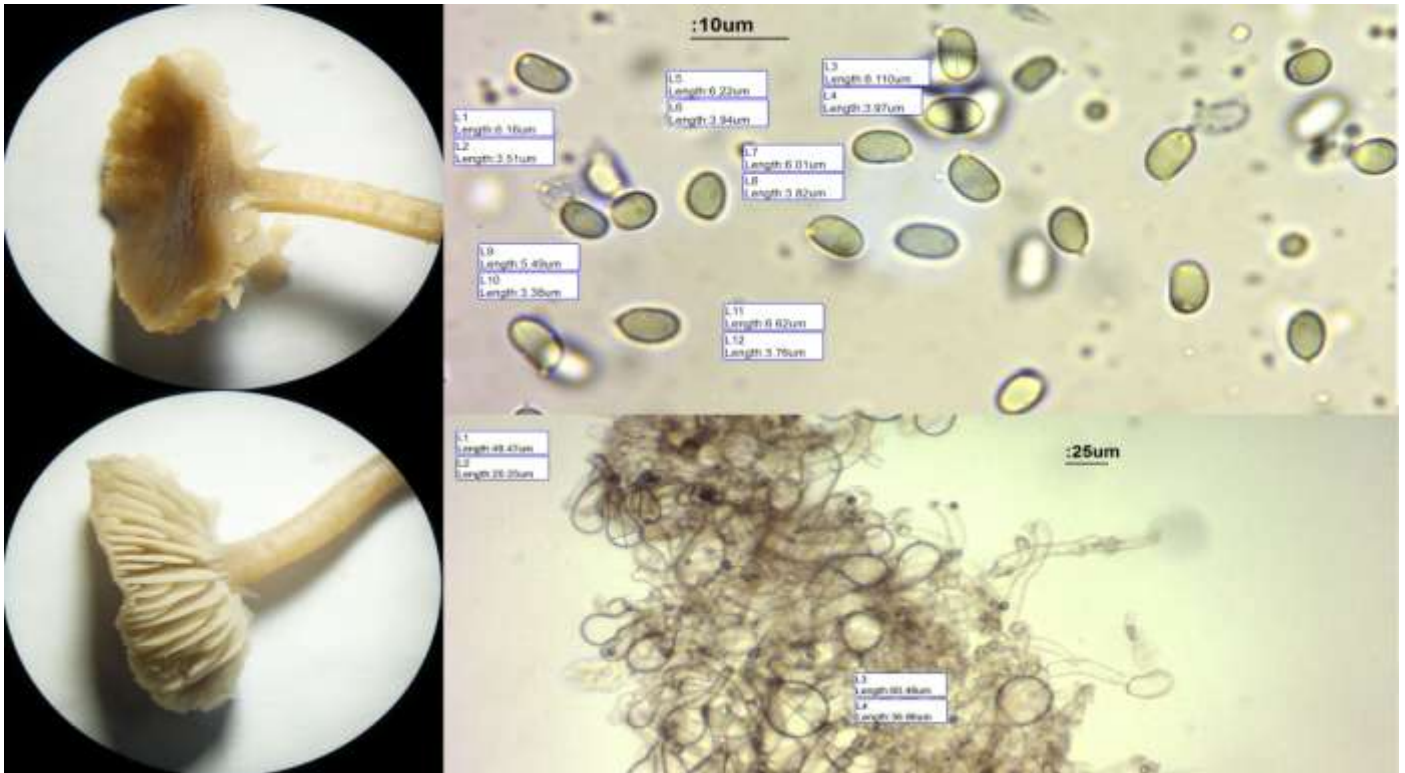
A remarkable range of species was recorded from this small area, in good abundance.

<i>Armillaria gallica</i>	Bulbous Honey Fungus
<i>Coprinellus micaceus</i>	Glistening Inkcap
<i>Coprinus comatus</i>	Shaggy Inkcap / Lawyer's Wig
<i>Dermoloma cuneifolium</i>	Crazed Cap
<i>Dermoloma pseudocuneifolium</i>	a Crazed Cap
<i>Hebeloma leucosarx.</i>	a Poisonpie
<i>Hygrocybe ceracea</i>	Butter Waxcap
<i>Inocybe sp. no.3</i>	a Fibrecap
<i>Mycena flavoalba</i>	Ivory Bonnet
<i>Panaeolina foenisecii</i>	Brown Mottlegill
<i>Parasola leiocephala</i>	a Pleated Inkcap
<i>Podosphaera xanthii</i>	Calendula Powdery Mildew
<i>Psathyrella sp.</i>	a Brittlestem
<i>Russula cicatricata (xerampalina)</i>	Crab Brittlestem
<i>Stropharia caerulea</i>	Blue Roundhead
<i>Tricholoma saponaceum</i>	Soapy Knight

Dermoloma at Graves Park: infrequently or rarely recorded grassland fungi



Above: *Dermoloma cuneifolium* (Crazed Cap). Left: The cap is cracked. Top right: spores which don't turn blue in Meltzer's iodine reagent. Below right: cap cuticle of rounded cells.



Above: *Dermoloma pseudocuneifolium* (a Crazed Cap). with amyloid spores which turn dark blue in Meltzer's iodine reagent. Left, non-cracking cap surface. Top right: spores. Bottom right: rounded cap cuticle cells. This was hard to identify. *Dermoloma* with amyloid spores are poorly delimited. I consulted six authorities^{7,8,11,12,13,18} *Funga Nordica* fitted best.¹⁸

Almost all the Sorby area *Dermoloma* records are from Peak District Waxcap surveys, and all but a tiny handful are Crazed Cap. In Sheffield, *Dermoloma* has only been recorded by Jim Horsfall at Beauchief and myself at Burngreave, Limb Valley, Meersbrook Park and Totley (database of 96,835 Sheffield (Sorby area) fungi records from 1900's to January 2018). Two finds of *Dermoloma* in the same tiny patch of grassland at Graves Park is remarkable.

Fungi in shrubberies

Shrubberies at Graves Park are frequently cut out of grassland, and represent a marginal zone with an interesting variety of woody shrubs. They are also mulched with woodchip which has its own influence on the mycota. Left and bottom right : troops of Brittlestems were in great abundance on shrubbery woodchip mulch in autumn 2024. However, they are small and brown and therefore rather cryptic, and are hard to see in the left hand picture. Top right: The Redlead Roundhead (*Stropharia aurantia*) is a beautiful recent addition to the fungi of woodchipped shrubberies.



This display on the grassland border to a shrubbery at the back of Rose Garden café has numerous Redlead Roundheads, Felted Twiglets (*Tubaria conspersa*) at middle distance, and Brittlestems (*Psathyrella spp.*) in a large troop further back.



Shrubs themselves are substrates for interesting fungi. These tiny fruiting bodies of Azalea Powdery Mildew (*Erysiphe azaleae*) are totally invisible to an observer, unless a magnifying glass is used. However, they have all the microscopic features of Ascomycete fungi such as Scarlet Elf Cups.¹⁹ Right top and bottom: Fruiting bodies called cleistothecia are decorated with strangely shaped appendages. They contain asci, which in turn contain spores. The spores overwinter to re-infect leaves the following year. Although Powdery Mildews can cause severe economic losses in agriculture, they rarely kill ornamental plants. They are most obvious on oak trees at Graves Park.

Fungi which were found in or by shrubberies at Graves Park

- | | |
|--|--------------------------|
| <i>Chlorophyllum rhacodes</i> | Shaggy Parasol |
| <i>Conocybe arrhenii / aporos</i> | Ringed Conecap |
| <i>Coprinellus micaceus</i> | Glistening Inkcap |
| <i>Cumminsia mirabilissima</i> | Mahonia Rust |
| <i>Hebeloma leucosarx.</i> | a Poisonpie |
| <i>Hebeloma sp.</i> | a Poisonpie |
| <i>Inocybe sp. no.3</i> | a Fibrecap |
| <i>Lycoperdon pyriforme</i> | Stump Puffball |
| <i>Macrocystidia cucumis</i> | Cucumber Cap |
| <i>Parasola leiocephala</i> | a Pleated Inkcap |
| <i>Polyporus durus</i> | Bay Polypore |
| <i>Psathyrella conopilus</i> | Conical Brittlestem |
| <i>Psathyrella corrugis</i> | Red Edge Brittlestem |
| <i>Psathyrella corrugis</i> | Red Edge Brittlestem |
| <i>Psathyrella corrugis</i> | Red Edge Brittlestem |
| <i>Psathyrella sp.</i> | a Brittlestem |
| <i>Pycnostysanus azaleae (Seifertia azaleae)</i> | Rhododendron Bud Blast |
| <i>Pycnostysanus azaleae (Seifertia azaleae)</i> | Rhododendron Bud Blast |
| <i>Stereum rugosum</i> | Bleeding Broadleaf Crust |
| <i>Stropharia aeruginosa</i> | Verdigris Agaric |
| <i>Stropharia aurantiaca</i> | Redlead Roundhead |
| <i>Stropharia aurantiaca</i> | Redlead Roundhead |
| <i>Tricholoma terreum</i> | Grey Knight |
| <i>Tubaria conspersa</i> | Felted Twiglet |
| <i>Tubaria furfuracea</i> | Scurfy Twiglet |

Brittlestems are the most frequent find, and are usually in big troops. One of these contained an unusual albino form.

Finding no.11**GRAVES PARK HAS PLENTY OF LICHENS**

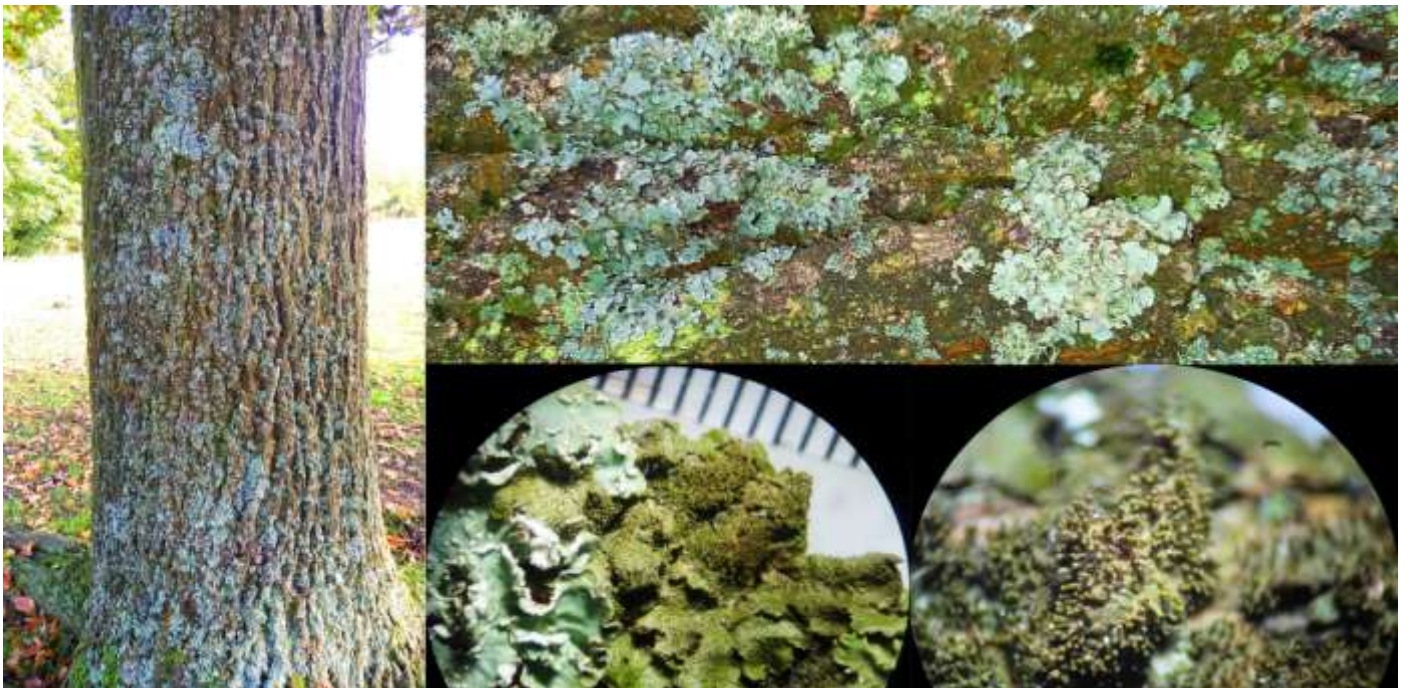
The best places to look for lichens in Graves park are on large rough-barked trees such as Oak and Sycamore which are in a light, open position. The lichens need plenty of light to photosynthesise. They are more luxuriant higher up the tree, and fallen crown branches after a windy night are good to inspect. They are, however, relatively few in species, to my eye at least.



The tree above at the Derbyshire Lane entrance had the following range of large, mostly fruticose or foliose lichens: *Evernia prunastri*, *Melanelia subaurifera*, *Parmelia sulcata*, *Physcia tenella*, *Ramalina farinacea*, *Xanthoria parietina*, *Lepraria incana*.

Lichens on Oak

Top row: Left is *Parmelia sulcata*, middle is *Evernia prunastri*, right is *Lepraria incana*.
Bottom row: Left is *Physcia tenella*, middle is *Xanthoria parietina*, right is *Ramalina farinacea*.

Lichens on Ash

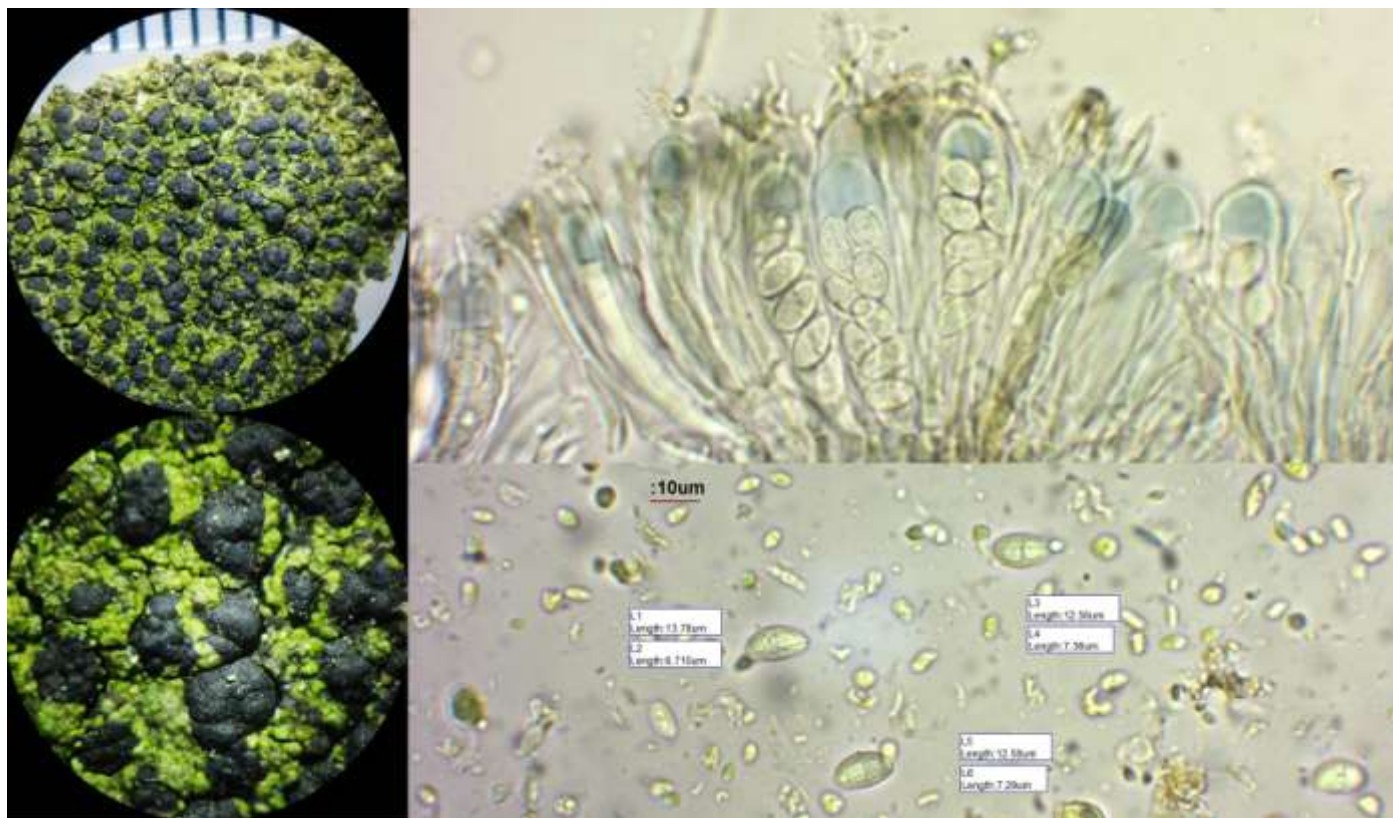
Similar species to those found on oak were on this ash. Bottom right *Melanelia subaurifera* with reproductive isidia. Lichens are extremely sensitive to air pollution, which may either kill them or stimulate their growth in unexpected places, depending on whether they like nitrogen-rich air, sulphur-rich air or neither. All these lichens are rather resistant to polluted air, although they mostly become scarcer as you go closer into town. About fifteen years ago my wife and I noticed that there was a remarkable re-colonisation of bushy lichens on the street trees of the Hollythorpe estate and along Warminster Road. Trees were becoming festooned in bushy and foliose lichens. This was probably for the first time since the beginning of the Industrial revolution. However, a few years later we noticed that almost all had disappeared. We suspect that this is due to the increasing popularity of wood-burning stoves which produce smoke which kills the lichens. The lichen community is constantly changing. At Graves Park there is little to be easily seen in the denser parts of the woods. However, lichens may be extremely small and require dedicated lichenologists to seek them out.¹⁷

Lichens on sticks

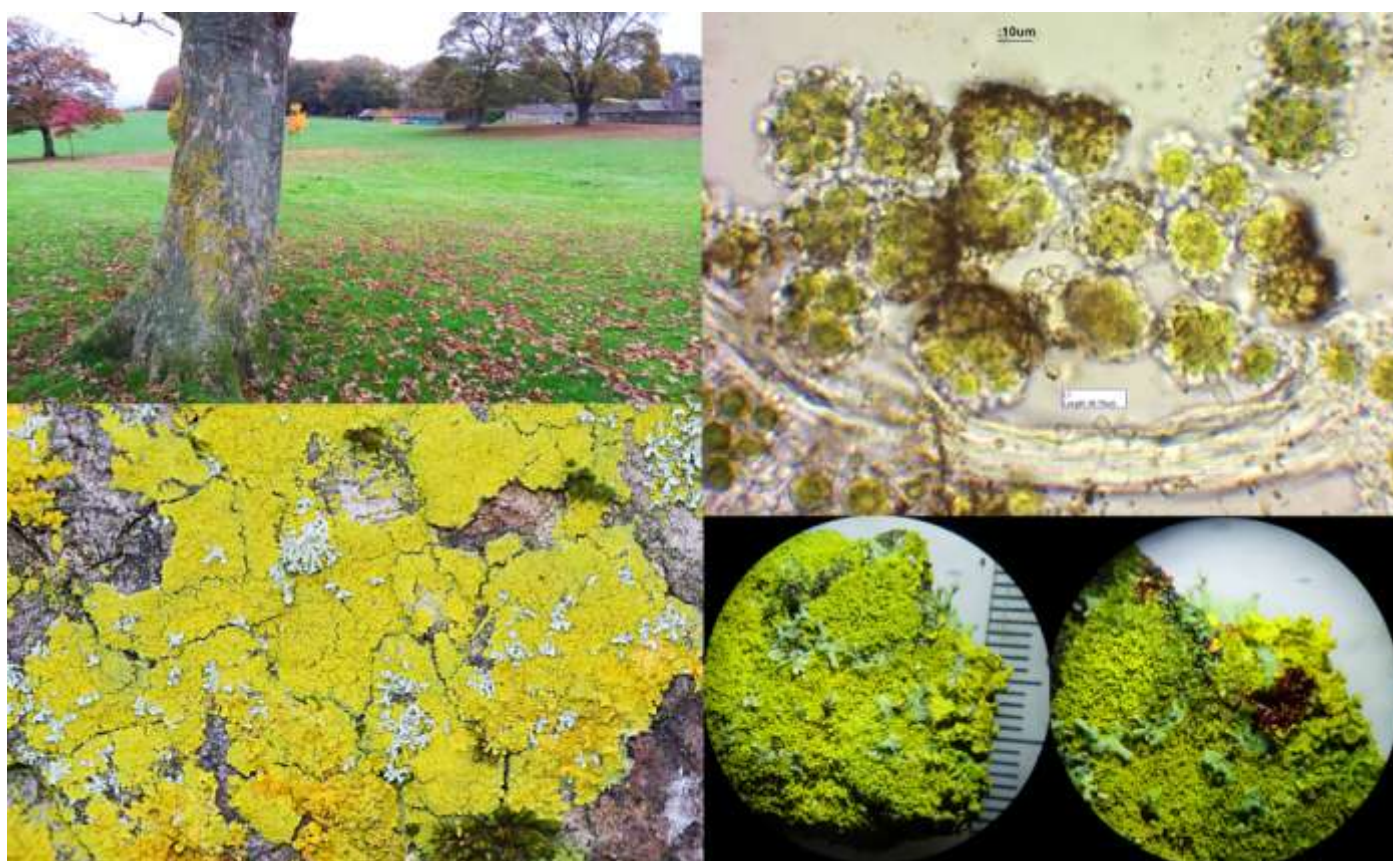
Lichens at Graves Park are easy to find on fallen sticks. Left top and bottom is *Parmelia sulcata*, the most common large foliose lichen on trees at Graves Park, easily recognised by the soralia. Middle is *Ramalina farinacea*, the most common bushy lichen, which also has soralia. Right is *Xanthoria parietina*, the commonest bright yellow lichen, with ascocarps.

Light and shade

Left is a big growth of *Lepraria incana*, a powdery lichen found in deep shade. Right top are good growths of foliose lichens (*Xanthoria* and *Parmelia*) in full sun. Bottom right is *Evernia prunastri*, which has fallen from the sunny canopy onto the woodland floor.



Numerous lichens were on ash prunings from ash which is dead or dying from Dieback (caused by yet another fungus). This one required microscopy just like most other fungi do. The microscopy is also the same: spores, asci and sterile cells, staining blue with Meltzer's iodine reagent. I concluded that this was a luxuriant growth of *Lecidiella elaeochroma*.¹⁷

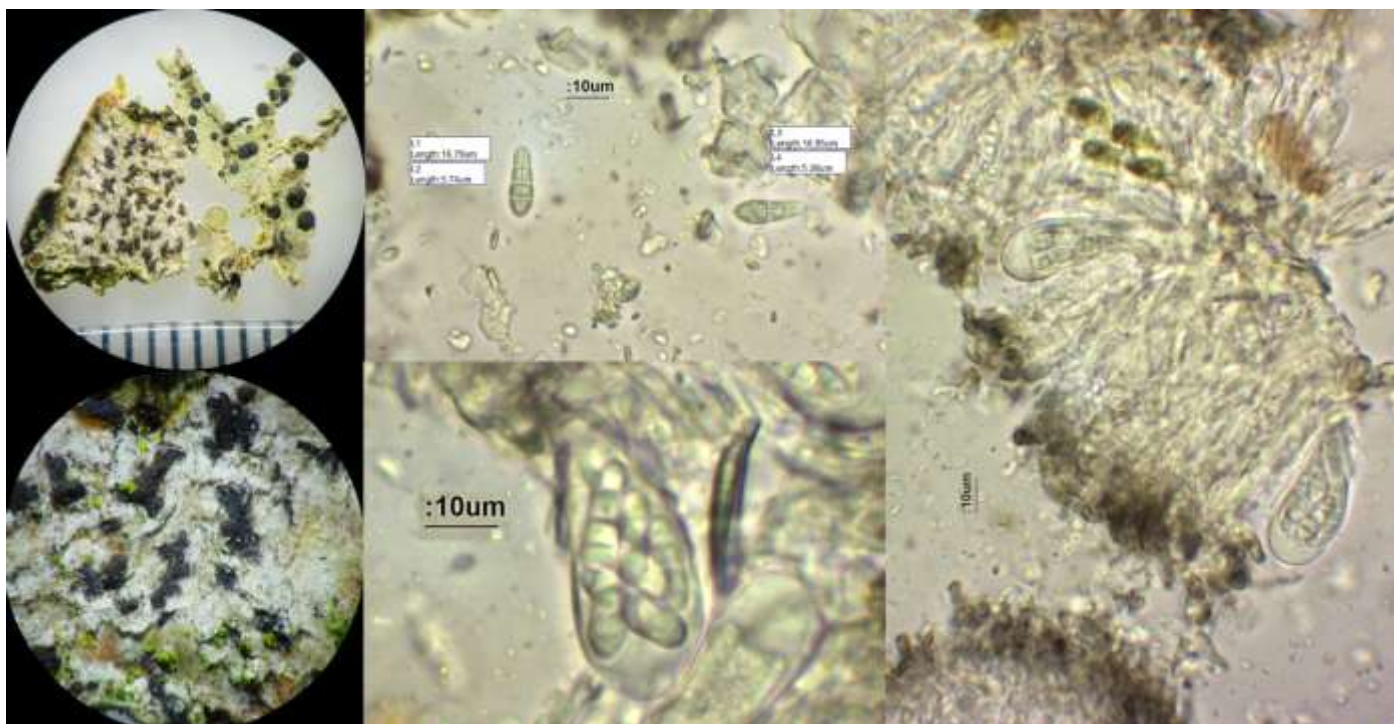


At first sight this lovely yellow lichen consisting of tiny scales looked like a *Xanthoria*, but a drop of potassium hydroxide didn't turn it crimson, as it did the *Xanthoria parietina* with which it was growing (bottom right). It was on an oak in an open position near Bolehill Barn. It reproduces by soralia (top right). I identified it as *Candelaria concolor*.

Crustose lichens



Left is a lichen mosaic on young, smooth-barked trees by the old London Road not far from Bolehill Barn. The three main species were *Lecanora chlarotera* (pinkish ascocarps), *Lecidiella elaeochroma* (rounded black ascocarps) and *Arthonia radiata* (stellate ascocarps – see below). On stones by the Warminster entrance car park were *Lecanora muralis* (top right) and *Candelariella vitellina* (bottom right). This last species was checked with a drop of potassium hydroxide. It didn't turn crimson, which separated it from the very similar *Caloplaca citrina*.



Arthonia radiata (bottom left) is a tiny species which was noted on examining a small scrape from a smooth-barked tree (top left). It has vaguely star-shaped black ascocarps. Microscopy is really needed to be sure about most crustose lichens (right). It isn't difficult. Lichens are easy to keep for a long time without deteriorating, unlike most non-lichenised fungi.

An unidentified crustose lichen on Bolehill Barn

The greatest work on fungi ever produced is the *Fungi of Switzerland*⁷ – and it has quite a few unidentified species described in it!

I searched Frank Dobson's *Lichens*¹⁷ from end to end but couldn't get a match for this pale grey, very thin and fragile lichen with flat, inset brown ascocarps and simple spores. It covers a good area of stonework on Bolehill Barn. However, it is still another species, even without a name.

Finding no. 12**CHANTREYLAND MEADOW IS FULL OF FUNGI**

Chantreyland Meadow has a great variety of habitats, with plentiful deadwood and numerous plant species, and is in fact a mosaic of marginal zones. I have found 48 kinds of fungi so far, but there will be many more.



Top left: Weeping Widow (*Lacrymaria lacrymabunda*) on woodchip. Top right: Stinking Dapperling (*Lepiota cristata*) in scrub. Bottom left: Orange Bonnet (*Mycena acicula*) on a mossy log. Bottom right: Mist Fungus/Clouded Agaric (*Clitocybe nebularis*) in front on woodchip, with Bulbous Honey Fungus (*Armillaria gallica*) on a rotting log behind.

List of fungi found at Chantreyland Meadow... so far

Bracket Fungi

<i>Bjerkandera adusta</i>	Smoky Bracket
<i>Ganoderma applanatum</i>	Artist's Bracket
<i>Laetiporus sulphureus</i>	Sulphur Polypore
<i>Polyporus durus</i>	Bay Polypore
<i>Trametes gibbosa</i>	Lumpy Bracket
<i>Trametes versicolor</i>	Turkeytail

Carbon Fungi

<i>Daldinia concentrica</i>	King Alfred's Cakes
<i>Kretzschmaria deusta</i>	Brittle Cinder

Crust Fungi

<i>Chondrostereum purpureum</i>	Silverleaf Fungus
<i>Cylindrobasidium laeve</i>	a thin white Crust
<i>Hyphoderma praetermissum</i>	a thin waxy crust
<i>Hyphoderma puberum</i>	a minutely toothed crust
<i>Hyphodontia sambuci</i>	Elder Whitewash
<i>Stereum gausapatum</i>	Bleeding Oak Crust
<i>Subulicystidium longisporum</i>	a thin white Crust

Jelly Fungi

<i>Auricularia auricula-judae</i>	Jelly Ear
<i>Exidia nucleata</i>	Crystal Brain

Larger Ascomycete

<i>Ascocoryne sarcoides</i>	Purple Jellydisc
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Mushrooms/Toadstools

<i>Armillaria gallica</i>	Bulbous Honey Fungus
<i>Chlorophyllum rhacodes</i>	Shaggy Parasol
<i>Clitocybe nebularis</i>	Clouded Funnel
<i>Coprinus comatus</i>	Shaggy Inkcap
<i>Crepidotus mollis</i>	Peeling Oysterling
<i>Gymnopilus penetrans</i>	Common Rustgill
<i>Hebeloma sp.</i>	a Poisonpie
<i>Hypholoma fasciculare</i>	Sulphur Tuft
<i>Inocybe sp. no.1 (squarrosa?)</i>	a Fibrecap
<i>Lacrymaria lacrymabunda</i>	Weeping Widow
<i>Lepiota cristata</i>	Stinking Dapperling
<i>Mycena acicula</i>	Orange Bonnet
<i>Mycena arcangeliana</i>	Angel's Bonnets
<i>Mycena galericulata</i>	Common Bonnet
<i>Mycena olida</i>	Rancid Bonnet
<i>Mycenoid</i>	unidentified species – a Mycena-like toadstool with a rooting stem
<i>Naucoria scolocena</i>	an Aldercap
<i>Psathyrella conopilus</i>	Conical Brittlestem
<i>Schizophyllum commune</i>	Splitgill
<i>Stropharia aeruginosa</i>	Verdigris Agaric

Powdery Mildews

<i>Neoerysiphe galeopsidis</i>	Labiata Powdery Mildew
<i>Sphaerotheca fugax</i>	Cranesbill Powdery Mildew

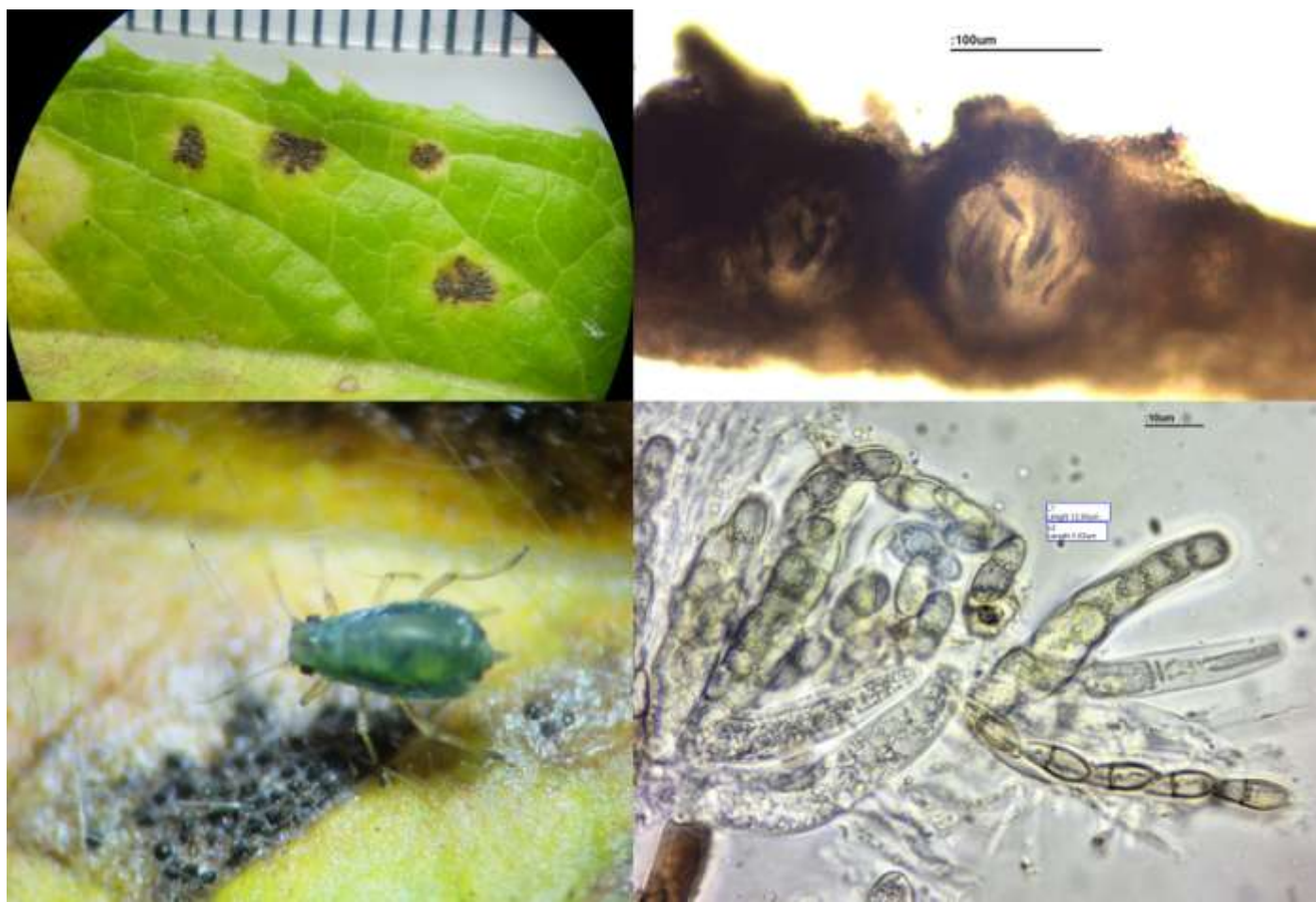
Rusts

<i>Melampsora caprearum</i>	Sallow Rust
<i>Melampsorium betulinum</i>	Birch Rust
<i>Uromyces geranii</i>	Geranium Rust

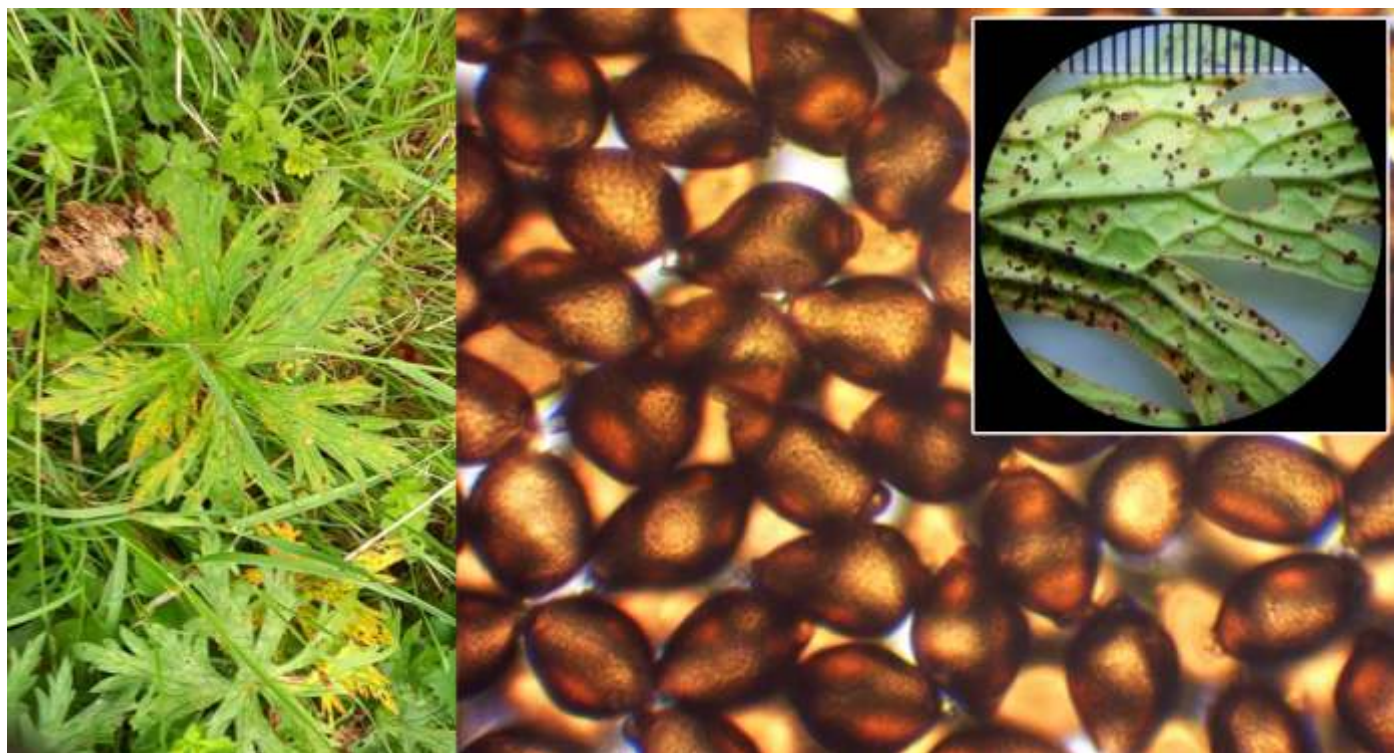
Slime Moulds

<i>Mucilago crustacea</i>	a whitish Slime Mould
<i>Arcyria denudata</i>	a red Slime Mould
<i>Trichia varia</i>	a yellow Slime Mould
<i>Nectria cinnabarina</i>	Coral Spot
<i>Venturia maculiformis</i>	a tiny Asco on Willowherb

Microfungi on plants in Chantreyland Meadow



Venturia maculata is a simple Ascomycete on Codlins and Cream Willowherb¹⁹. Top left, upper surface of affected leaf. Top right: cross section of the immersed asci. Bottom left: an aphid on the fungus. Bottom right: septate spores in asci.



Geranium Rust (*Uromyces geranii*)¹⁹ was one of three rusts recorded in Chantreyland Meadow in autumn 2024. The others were on birch and willow. Left: yellow spots on the leaf indicate infection. Middle: Spores come in up to 5 forms during the complex life-style of rusts. Inset: the rust forms brown pustules on the underside of the leaves.

More Chantreyland fungi



Top left is mycelium on the underside of a log (photo by Dave Cowley). Top right: Turkeytail (*Trametes versicolor*) is easily the most conspicuous fungus in the site. Bottom: a Slime Mould *Trichia varia*²⁰ which can only be reliably identified by microscopy, in its white, late plasmodial stage and then as its fungus-like yellow state, several weeks later.



A nice find on woodchip in a shrubbery at Chantreyland Meadow: Verdigris Agaric (*Stropharia aeruginosa*). This is tricky to separate from other blue-green Roundheads.

Finding no. 13**THERE ARE SOME GOOD MARGINAL ZONES FOR FUNGI AT GRAVES PARK****1. The Fishponds**

The fishponds represent a long marginal zone which produced a fair number of fungi. It's also an example of a protected habitat. Top left: the old boating-lake margin is well protected by a fence. Top right: Rancid Bonnet (*Mycena olida*) was untouched on a mossy tree bole within the railings. Bottom left: a large troop of Yellowing Knights (*Tricholoma scalpturatum*) inside the wildfowl enclosure. There were a good number of inaccessible fungi fruiting here later on in the autumn of 2024. Bottom right: an infrequent Sheffield area find of a Webcap (*Cortinarius sp.*). It was in vegetation just inside the boating-lake railings.



This Webcap was not possible to name with any confidence at all, even with some microscopy. It had a violet tinge on collection but this soon disappeared. Courtecuisse and Duhem state that there are 500–2,500 species of Webcap in Europe depending on the authority¹³. Roger Phillips state that there are 230 British species¹⁰. Frequently collectors assign ones like this to the “dustbin” of *Cortinarius anomalus* – itself a very variable species. It was, however, quite obviously different from a second *Hebeloma*-like Webcap found trooping under beech in Cobnar Wood.



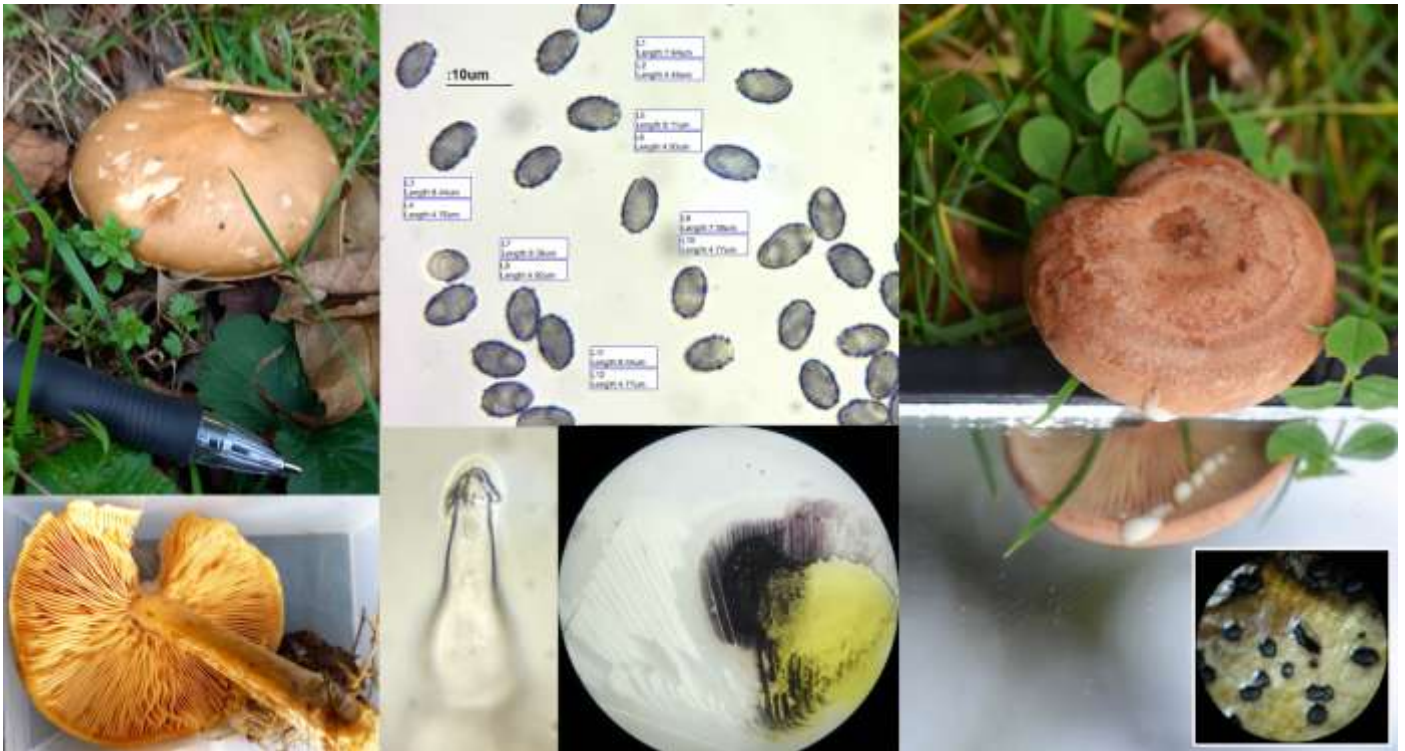
Left: Ivy along the path by the boating-lake. It hosted numerous growths of the simple fungus *Phoma hedericola* (bottom left). Right: unnoticed by many, an impressively large growth of Bleeding Broadleaf Crust on rhododendron growing next to the wildfowl pond. Rose Garden Cottage is in the distance, in the middle of the grassland between are found small groups of Waxcaps in October.

Fishponds area fungi

<i>Armillaria mellea</i>	Honey Fungus	Mushroom/Toadstool
<i>Auricularia auricula-judae</i>	Jelly Ear	Jelly Fungus
<i>Boeremia hedericola</i> (<i>Phoma</i>)	an Ivy Leaf Spot	Small/Tiny Asco
<i>Boletus reticulatus</i>	Summer Bolete	Bolete
<i>Collybia erythropus</i> (<i>Gymnopus</i>)	Redleg Toughshank	Mushroom/Toadstool
<i>Coprinellus micaceus</i>	Glistening Inkcap	Mushroom/Toadstool
<i>Coprinus comatus</i>	Shaggy Inkcap / Lawyer's Wig	Mushroom/Toadstool
<i>Cortinarius</i> sp.	a Webcap	Mushroom/Toadstool
<i>Ganoderma</i> sp.	Artist's / Southern Bracket	Bracket
<i>Lycoperdon pyriforme</i>	Stump Puffball	Stomach Fungus
<i>Meripilus giganteus</i>	Giant Polypore	Bracket
<i>Mycena arcangeliana</i>	Angel's Bonnets	Mushroom/Toadstool
<i>Mycena galericulata</i>	Common Bonnet	Mushroom/Toadstool
<i>Mycena hiemalis</i>	a Bark Bonnet	Mushroom/Toadstool
<i>Mycena olida</i>	a Bark Bonnet	Mushroom/Toadstool
<i>Psathyrella conopilus</i>	Conical Brittlestem	Mushroom/Toadstool
<i>Sawadaea bicornis</i>	Sycamore Powdery Mildew	Powdery Mildew
<i>Stereum rugosum</i>	Bleeding Broadleaf Crust	Crust
<i>Tricholoma scalpturatum</i>	Yellowing Knight	Mushroom/Toadstool
<i>Tricholoma terreum</i>	Grey Knight	Mushroom/Toadstool
<i>Tubaria conspersa</i>	Felted Twiglet	Mushroom/Toadstool
<i>Xerula radicata</i>	Rooting Shank	Mushroom/Toadstool
<i>Xylaria hypoxylon</i>	Candlesnuff Fungus	Carbon Fungus

(See p. 85 for more finds at the Fishponds in December).

2. The southern edge of Cobnar and Waterfall Woods



Left: Spring Cavalier (*Melanoleuca cognata*), which also appears in autumn. This is only my second find ever of this toadstool. We found a broken one during our Longshaw Team Fungi and Lichen Survey. The spiky amyloid spores and harpoon-shaped cystidia help with its ID.

Right: Oakbug Milkcap (*Lactarius quietus*) is one of just two Milkcap species found in Graves Park. A mirror shows the milk. Bottom right inset: the microfungus Holly Speckle (*Trochila ilicina*) on dead holly leaves.

Woodland marginal zone
23 records on 28 October 2024



<i>Armillaria mellea</i>	Honey Fungus	Parasitic/saprobic
<i>Bjerkandera adusta</i>	Smoky Bracket	Saprobic
<i>Bolbitius tibubans</i>	Yellow Fieldcap	Saprobic
<i>Clitocybe nebularis</i>	Clouded Funnel	Saprobic
<i>Collybia butyracea</i> var. <i>asema</i>	Butter Cap	Saprobic
<i>Ganoderma applanatum</i>	Artist's Bracket	Parasitic/saprobic
<i>Hygrocybe coccinia</i>	Scarlet Waxcap	Saprobic
<i>Hygrocybe pratensis</i>	Meadow Waxcap	Saprobic
<i>Hygrocybe quieta</i>	Oily Waxcap	Saprobic
<i>Laccaria laccata</i>	Deceiver	Mycorrhizal
<i>Lactarius quietus</i>	Oakbug Milkcap	Mycorrhizal
<i>Lycoperdon pyriforme</i>	Stump Puffball	Saprobic
<i>Melanoleuca cognata</i>	Spring Cavalier	Saprobic
<i>Mycena haematopus</i>	Burgundydrop Bonnet	Saprobic
<i>Pluteus cervinus</i>	Deer Shield	Saprobic
<i>Schizophyllum commune</i>	Splitgill	Saprobic
<i>Stereum hirsutum</i>	Hairy Curtain Crust	Saprobic
<i>Trametes gibbosa</i>	Lumpy Bracket	Saprobic
<i>Trochila ilicina</i>	Holly Speckle	Saprobic
<i>Xerocomus chrysenteron</i> sp.	Red Cracking Bolete	Mycorrhizal

A hawthorn hedge runs below the mini golf-course and above the edge of Cobnar Woods. It runs under beech, oak and holly. Mycorrhizal species associated with oak are the Oakbug Milkcap, the Deceiver and the Red Cracking Bolete. On buried dead wood and logs are numerous saprobic species. This marginal zone stretches into the edge of Waterfall Woods where one of the few displays of Waxcaps was found. Three species, the Scarlet, Meadow and Oily Waxcaps were growing in fairly short turf next to uncut grass in a secluded part of the park. This marginal zone has a mixture of woodland and grassland, saprobic, parasitic and mycorrhizal, deadwood, soil/humus and herbaceous substrate species. It should provide an ever-increasing list of Latin names on continued surveying!

(See also p.84 for more observations on this important fungal habitat).

3. New paths



On the inside edges (east and south) of Cobnar Woods are some lovely unspoiled, un-eroded, un-trampled and not yet “muddified” paths, whose borders are home to a good population of fungi. They are excellent marginal zones.

Top left: This grass path is bordered with herbaceous vegetation which will doubtless host numerous microfungi – a whole host of these species are awaiting discovery at Graves Park. It is also home to the Common Earthball (*Scleroderma citrinum*) shown bottom left. This mycorrhizal Stomach Fungus was one of three specimens under oak by the grass edge. It’s a species you’d expect to find in any decent old oak woodland. It’s a very common find at Longshaw and in Greno Wood.

Top right: Another idyllic path bordered by Willowherb. Amongst the stalk bases were numerous *Crepidotus epibryus*, shown bottom right. This species is only satisfactorily named after microscopy. Other species of Oysterlings share similar herbaceous habitats. All along this path were troops of Deceivers – hundreds of them. Fungi need to be left alone to thrive – daily exercise walks by gangs of excited dogs is incompatible with Nature.



There are plenty of wild corners within Graves Park where I was able to feel that Nature was being allowed to thrive. They are out of the trajectory of the daily dog exercising which is now degrading a lot of the park’s wild heritage. These are some I found and enjoyed.

It’s also good to see that parks

managers are no longer organising the clearing away and burning of deadwood from the woodland floor, as I used to do when I worked as a Sheffield Council Parks Gardener from 1979 to 1984. Each winter we would “clean” the nearby Chancet Wood of all its deadwood, including standing deadwood, and burn it in enormous bonfires. I would photograph the fungi before it was thrown into the flames. This benign neglect is a huge step forward for woodland fungi, and all woodland wildlife.

4. The Serpentine Walk marginal zone



The ditch alongside the Serpentine Walk is a highly effective protective barrier to the long strip of woodland behind it (see p. 45). It's one of the best fungal habitats in Graves Park, but not so easy to survey being full of deadwood the other side of the deep ditch – and you are regarded with some suspicion by passers-by!

Four visits were made, but only parts of the strip were accessible, as the ditch had just been cleaned out.



Left: Under oak in the margin of woodland was a troop of Sulphur Knights (*Tricholoma sulphureum*), which were easily recognised by their strong smell of coal gas.

Right top and bottom: Sticky Scalycap (*Pholiota gummosa*) on buried wood in the side of the ditch. Neither of these two species are at all locally common.

Other finds here were Oak Powdery Mildew, (*Erysiphe alphitoides*), Willowherb Powdery Mildew (*Sphaerotheca epilobii*), Turkeytail (*Trametes versicolor*), Fleecy Fibrecap (*Inocybe flocculosa*), Common Inkcap (*Coprinopsis atramentaria*), Red Cracking Bolete (*Xerocomus chrysenteron* sp.), Velvet Shield (*Pluteus umbrosus*), Clouded Funnel (*Clitocybe nebularis*), Ochre Aldercap (*Naucoria escharoides*) and an unidentified brown Bark Bonnet.

Finding no. 14

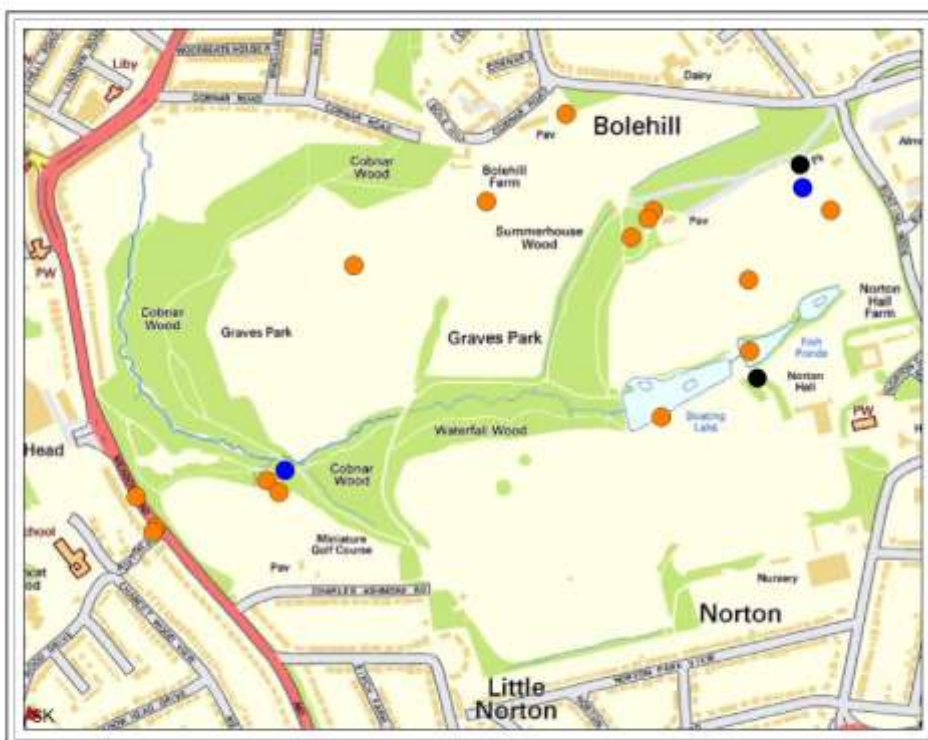
BY AND LARGE, PEOPLE DON'T VANDALISE FUNGI AT GRAVES PARK



I was pleasantly surprised at the fairly minimal amount of damage to fungi at Graves Park. My feeling is that the situation at Longshaw Park is worse, especially in the busier “visitor hub” areas. This was perhaps the worst case in autumn 2024, at the base of a sycamore by the Warminster Road entrance car park. After a week or so, all of a medium sized colony of Stump Puffball had been completely trampled, and there was nothing to be seen.

Fungi appearing to be intentionally damaged

n = 19



Interestingly, most of the damage was to mushrooms and toadstools. Presumably because this is because the issue of edibility and toxicity is confined to them in the minds of most people.

Tough fungi such as brackets are resistant to damage anyway.

Most damage was in busy areas such as the café area, the Fishponds, the “neck” of Cobnar Wood (which has a lot of fungi to be damaged, anyway) and by the pedestrian crossing at the Waggon and Horses garage.

Honey Fungus appeared to be targeted – it has a bad reputation.



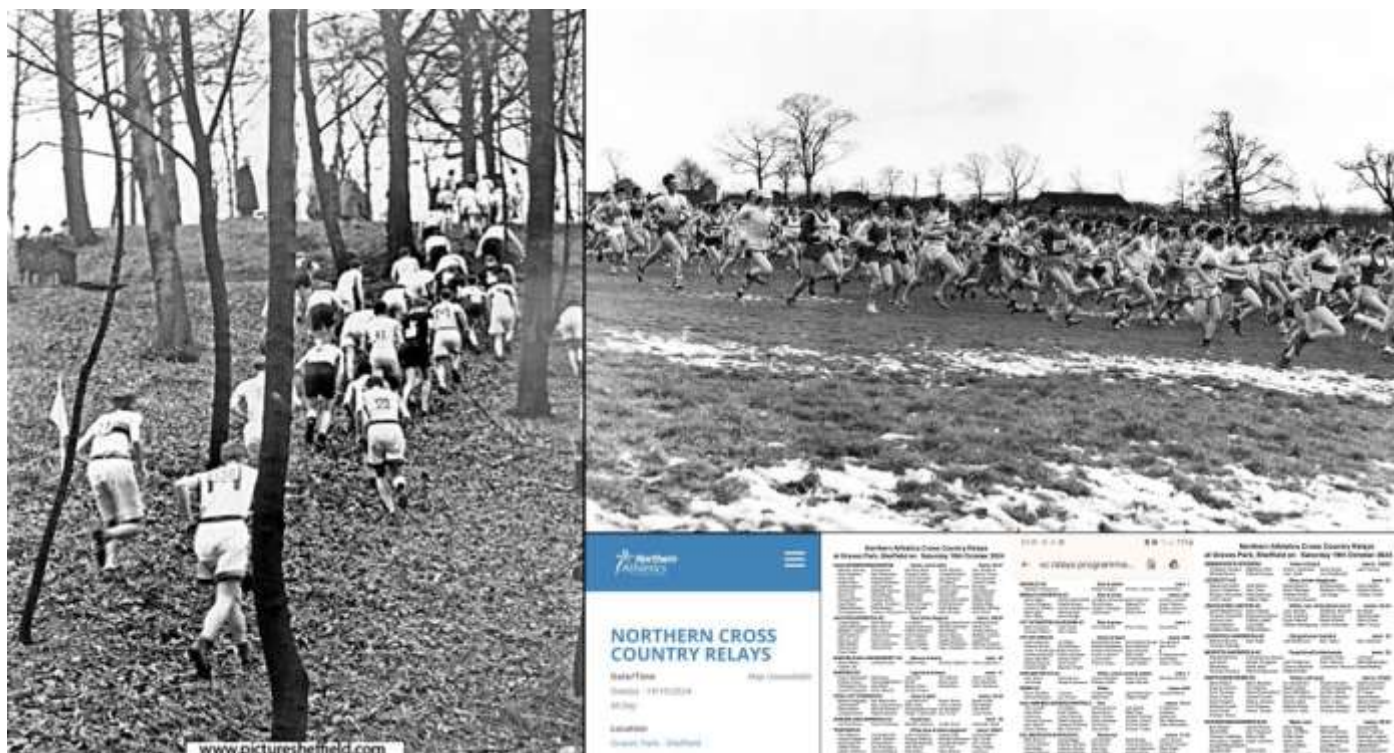
Top left: a trampled Red Cracking Bolete by the beech hedge alongside the Animal Farm. Top right: Honey Fungus by the Fishponds. Bottom left: Large and impressive Clouded Agaric spoiled by a mindless visitor to Chantreyland Meadow. Bottom right: Pestle Puffball (*Lycoperdon excipuliforme*) near the Fishponds, close to the path edge. This was a first Graves Park find of a not-so-common fungus. All three puffballs were knocked over but not trampled. A large dog could have possibly caused it, but it's more likely to have been a curious foot. They were "re-planted" out of sight in the undergrowth, where they will probably mature and release at least some of their millions of tiny spores.

Forensic microscopy

Below: Some very interesting finds were made which required "forensic" microscopy. Top left: this was how I found a toadstool on grass at the back of Rose Garden café. Microscopy showed it to be a Fibrecap, but I was unable to assign it to species. Top right: This was an important find. It had been broken up and left on a log in the A61 section of Cobnar Wood. There was just



enough cap and stem left to allow a positive identification of the Willow Shield, a possible indicator of old/ancient woodland. Bottom left: I had just written "No Russulas found" in my notebook as I was leaving the park when a moment later I found, on grass on the path edge, ...a Russula! It was up-ended and snapped at the base, but there was sufficient data to be gleaned from it to give an ID of Yellowing Brittlestem (*Russula puellaris*). Bottom right: This was the same species but identified by a few broken bits of cap.

Finding no. 15**FUNGI (AND ALL WILDLIFE) AT GRAVES PARK NEED TREATING WITH MORE CARE**

Graves Park has been hosting cross-country events since the 1930's (left, in 1938, right top, in 1974). It's part of what the park is all about, and we went there to cheer on our own children in the 1990's. This year (2024) a single cross-country event apparently had around 2,000 competitors (bottom right). At least that's what I was told by the man I met who was painting the tree roots in Summerhouse Wood white the day before the races. Trip hazard warning! I had just surveyed the edges of two smallish paths cutting through this lovely wood, and recorded a rust on one of my scarce finds of red campion. I was surprised to see where the race for the Seniors was routed: straight through the wood...twice! And just past the Waxcaps on the grassland.



The left hand map shows where bluebell grows, and is from a detailed study of the ancient woodland indicator plants in Graves Park led by Professor Ian Rotherham.¹ The right hand map was for Senior competitors in the all-day relay races. The part of Summerhouse Wood which was cut through twice by around 300 runners is one of the most fungi-rich parts of Graves Park.



The damage to both parts of the wood was obvious. After the race, sand had been tipped into the deep ruts which had been cut into the woodland floor.

Fungi found so far in Summerhouse Wood

The mycological survey of Summerhouse Wood has been very cursory, and represents just a fraction of its mycota. However, it has lots of dead wood much of which is protected by a dense understory of bramble and other woodland herbaceous vegetation. It seems to be a wood under siege, especially at the Warminster end. During the recent decade or so I have witnessed large, muddy paths being trodden through it. On the other hand, it appears that woodland management is more sensitive than it once was, and

that it is being allowed to grow in the way it wants to i.e. is being left to thrive as a wood and not as a tree garden. That's why there is such an abundance of deadwood fungi there. It illustrates the contradiction which faces an historic landscape like Graves Park. Its special wild places should be respected and protected, but its prime purpose is of course as a place of diverse recreation for large numbers of Sheffielders and their dogs. But for some, that recreation is about engaging with unspoilt Nature.

Summerhouse Wood Fungi

Armillaria sp.
Athelia epiphylla gp.
Auricularia auricula-judae
Coprinellus micaceus
Crepidotus cesatii
Cudoniella acicularis
Cylindrobasidium laeve
Daldinia concentrica
Exidia nucleata
Flammulina velutipes
Ganoderma sp.
Hyphodontia sambuci
Inocybe geophylla var. *geophylla*
Inocybe sp. no.2
Inocybe sp. no.4
Laccaria laccata
Lycoperdon pyriforme
Marasmius rotula
Marasmius rotula
Mycena arcangeliana
Mycena flavoalba
Mycena galericulata
Mycena inclinata
Mycena olida
Nectria cinnabarina
Neobulgaria pura

Honey Fungus
 a thin white crust
 Jelly Ear
 Glistening Inkcap
 an Oysterling
 Oak Pin
 a thin white Crust
 King Alfred's Cakes
 Crystal Brain
 Velvet Shank
 Artist's / Southern Bracket
 Elder Whitewash
 White Fibrecap
 a Fibrecap
 a Fibrecap
 Deceiver
 Stump Puffball
 Collared Parachute
 Collared Parachute
 Angel's Bonnets
 Ivory Bonnet
 Common Bonnet
 Clustered Bonnet
 Rancid Bonnet
 Coral Spot
 Beech Jellydisc

Parasola sp.
Peniophora limitata
Peniophora quercina
Pholiota squarrosa
Pluteus cervinus
Polyporus durus
Psathyrella corrugis
Psathyrella microrhiza
Psathyrella sp.
Puccinia arenariae
Rhytisma acerinum
Russula puellaris
Sawadaea bicornis
Schizopora paradoxa
Sistotrema brinkmannii
Stereum hirsutum
Stereum rugosum
Stereum subtomentosum
Stropharia aurantiaca
Subulicystidium longisporum
Trametes versicolor
Tubaria conspersa
Tubaria furfuracea
 Brown anamorphic crust
Xylaria longipes

a Pleated Inkcap
 a greyish crust
 a crust fungus on Oak
 Shaggy Scalycap
 Deer Shield
 Bay Polypore
 Red Edge Brittlestem
 Rootlet Brittlestem
 a Brittlestem
 Red Champion Rust
 Sycamore Tar Spot
 Yellowing Brittlestem
 Sycamore Powdery Mildew
 Split Porecrust
 a Resupinate
 Hairy Curtain Crust
 Bleeding Broadleaf Crust
 Yellowing Curtain Crust
 Redlead Roundhead
 a white crust fungus
 Turkeytail
 Felted Twiglet
 Scurfy Twiglet
 Unidentified crust
 Dead Moll's Fingers

Why paths through woods matter



Ecclesall Woods, November 2024. Top: The Sheffield Round Walk route runs through Ecclesall Woods. I walked this route many times in my teens. It has turned from a pleasant bridleway to a sea of mud. Bottom left: this used to be a tiny stream of iron-coloured water from a spring by the Limb Brook. Bottom right: This was a small path winding through the woodland undergrowth.

Ecclesall Woods provides a vision for the probable future of the woods at Graves Park. Bridleways have become muddy highways, and idyllic winding paths have grown as wide as bridleways. This has happened to one of my favourite woods where I looked for fungi in the 1960's. It was Hutcliffe Wood opposite Millhouses Park. There I found an abundance of larger fungi, such as Wood Hedgehog, Spotted Toughshank and the Miller. Now the woods are little more than a margin to the broad cycle-track which cuts through it, obliterating the winding little path I once knew. The same has happened at Gillfield Wood in Totley.

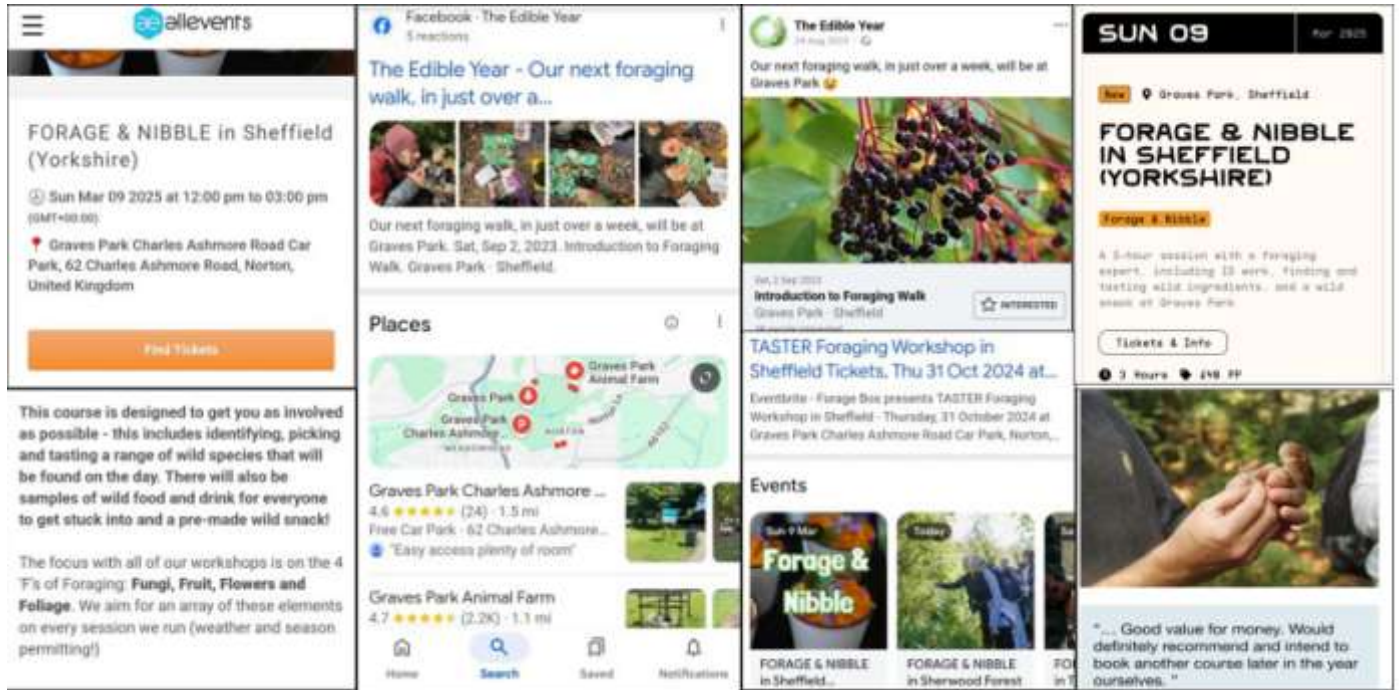
At the moment, every woodland path seems to be getting bigger and bigger. Woodland habitats are shrinking as a result. The more paths there are, the more the woods are eroded, as the wood becomes divided up into smaller zones which are subject to erosion from their perimeters. Instead of looking to the former productive marginal zone extending from the path edge to about 10 metres into the wood, you now have to venture deep into the heart of the wood in order to find habitats that sustain wildlife such as mycorrhizal fungi. Summerhouse Wood at Graves Park is experiencing exactly this, and it will look like Ecclesall Woods within a few years.

The process of driving broad paths through ancient woods isn't a new one. As a Sheffield Council Gardener from 1978-1984, I worked with a small gang which looked after Chancet Wood, as well as a large chunk of urban Woodseats, Fraser Road and Abbey Lane. During those five years, as the new Chancet Wood housing estate was being built, we witnessed heavy machinery bull-dozing wide paths through the narrow strip of Chancet Wood, and filling them with limestone chippings, which were inappropriate for the woodland's Coal Measures sandstone geology. It has taken decades for the wood to heal its scars.

Of course, the big, broad paths provide access to more people who rightly wish to benefit from the peace and beauty of our old woods. But the problem is that the current level of urbanisation of these places is destroying wild habitats and diminishing their therapeutic value.

It's also as well to remember that many of Sheffield's ancient woodland trees depend upon ectomycorrhizal fungi for healthy growth. The loss of our woodland floor fungi can't be helping trees such as oak, now under serious threat of disease by *Phytophthora* species.

Food-for-free foraging of fungi at Graves Park is not sustainable



There is clearly money to be made in enticing people to join expensive food-for-free events such as these shown here. It’s hard to believe that people should be encouraged to pick flowers to eat, never mind the paltry amounts of edible fungi that Graves Park has to offer. We have shown that even at places as renowned for their edible fungi as Longshaw, there is insufficient to meet the current demand. The National Trust states on its Precious Landscapes website:

“The trend for foraging for fungi has increased, which could lead to a negative impact on their populations, and the organisms they support. Therefore we don’t support or allow picking on any of our land. This is in line with our policy on foraging for wild food”.

In addition, fungi from sites in cities, like Graves Park, are likely to contain high levels of toxins from traffic and past industrial pollution and should not be collected for consumption. Fungi are adept at absorbing heavy metals via their extensive network of mycelium and concentrating it in their fruiting bodies. How wild fungi are rated as comestibles depends on the individual.²⁶ This is a list of edible fungi which foragers might possibly target at Graves Park, rated by myself from good to potentially leading to illness (“dodgy”). The edibility of individual species of fungi is not straightforward – authorities don’t necessarily agree. “Edible” fungi are also not necessarily always acceptable as food.²⁷ A good example is Jelly Ear.

<i>Agaricus campestris</i>	Field Mushroom	Good
<i>Boletus reticulatus</i>	Summer Bolete	Good
<i>Hygrocybe pratensis var. pallida</i>	Pale meadow Waxcap	Good
<i>Hygrocybe pratensis var. pratensis</i>	Meadow Waxcap	Good
<i>Lepista saeva</i>	Field Blewit	Good
<i>Lyophyllum decastes</i>	Clustered Domecap	Good
<i>Pleurotus ostreatus</i>	Oyster Mushroom	Good
<i>Russula cicatricata (xerampalina)</i>	Crab Brittlegill	Good
<i>Flammulina velutipes</i>	Velvet Shank	Fair
<i>Laccaria amethystina</i>	Amethyst Deceiver	Fair
<i>Laccaria laccata</i>	Deceiver	Fair
<i>Russula puellaris</i>	Yellowing Brittlegill	Fair
<i>Russula puellaris</i>	Yellowing Brittlegill	Fair
<i>Russula silvestris</i>	a Brittlegill	Fair
<i>Coprinus comatus</i>	Shaggy Inkcap	Mediocre
<i>Armillaria gallica</i>	Bulbous Honey Fungus	Mediocre
<i>Armillaria mellea</i>	Honey Fungus	Mediocre
<i>Auricularia auricula-judae</i>	Jelly Ear	Poor
<i>Lycoperdon excipuliforme</i>	Pestle Puffball	Poor
<i>Lycoperdon pyriforme</i>	Stump Puffball	Poor
<i>Sarcoscypha austriaca</i>	Scarlet Elfcup	Poor
<i>Xerocomus chrysenteron gp.</i>	Red Cracking Bolete	Poor
<i>Amanita rubescens</i>	Blusher	Dodgy
<i>Chlorophyllum rhacodes</i>	Shaggy Parasol	Dodgy
<i>Clitocybe nebularis</i>	Clouded Funnel	Dodgy
<i>Coprinellus micaceus</i>	Glistening Inkcap	Dodgy
<i>Coprinopsis atramentaria</i>	Common Inkcap	Dodgy
<i>Lacrymaria lacrymabunda</i>	Weeping Widow	Dodgy
<i>Lactarius blennius</i>	Beech Milkcap	Dodgy
<i>Lactarius quietus</i>	Oakbug Milkcap	Dodgy
<i>Laetiporus sulphureus</i>	Chicken of the Woods	Dodgy
<i>Meripilus giganteus</i>	Giant Polypore	Dodgy
<i>Hericium cirrhatum</i>	Tiered Tooth	Illegal to pick

This autumn I found the following edible fungi at Graves Park which I would rate as good and not coming with a risk of poisoning to those who may be allergic, such as Chicken of the Woods.

<i>Agaricus campestris</i>	Field Mushroom	one mushroom and one promordium
<i>Agaricus campestris</i>	Field Mushroom	2 broken mushrooms
<i>Boletus reticulatus</i>	Summer Bolete	7 large boletes
<i>Hygrocybe pratensis</i> var. <i>pratensis</i>	Meadow Waxcap	single large toadstool
<i>Lyophyllum decastes</i>	Clustered Domecap	large cluster
<i>Lyophyllum decastes</i>	Clustered Domecap	2 toadstools
<i>Russula cicatricata</i> (<i>xerampalina</i>)	Crab Brittlegill	2 mushrooms, one knocked over
<i>Russula cicatricata</i> (<i>xerampalina</i>)	Crab Brittlegill	3 toadstools

Only one find, a large cluster of Clustered Domecap, was substantial, and this was a few yards of the busy A61 main road. They would almost certainly contain high levels of toxic substances from vehicular emissions such as platinum.

There are also a good number of poisonous or likely poisonous fungi at Graves Park. These were my finds:

<i>Cortinarius</i> sp.	a Webcap	2 finds
<i>Hebeloma mesophaeum</i>	Veiled Poisonpie	2 finds
<i>Hebeloma</i> spp. (<i>chunky</i> sp.).	a Poisonpie	2 finds
<i>Hypoholoma fasciculare</i>	Sulphur Tuft	6 finds
<i>Inocybe</i> spp.	White Fibrecap	5 finds
<i>Scleroderma citrinum</i>	Common Earthball	1 find
<i>Stropharia aeruginosa</i>	Verdigris Agaric	1 find

It is illegal to gather the following fungi found at Graves Park which might be consumed as food or for their drug content:

<i>Psilocybe semilanceata</i>	Magic Mushroom / Liberty Cap (also a number of other Little Brown Mushrooms).
<i>Hericium cirrhatum</i>	Tiered Tooth (protected by law as it is so rare).

Waxcaps are actually mostly edible but should not be picked because they are under great threat due to changing farming and wildlife management practice. For example, an important area for Waxcaps at Longshaw by Rough Wood (of international importance according to the CHEGD criteria) has been recently allowed to turn to rank grassland as the old farming homestead of Greenwood Farm has been converted to lucrative National Trust holiday lets. Fields once rich in Waxcaps between Eyam and Foolow have been “improved” by wall-to-wall manuring and are now typical White Peak green deserts. It is good to see grass being allowed to grow into meadows in Sheffield parks, benefitting insects especially, but at Meersbrook Park it is at the expense of its Waxcaps.

Turkeytail (*Trametes versicolor*) is a beautiful bracket found in some plenty at Graves Park, and is claimed to have medicinal properties, which are unproven. As the stock of choice wild edible fungi diminishes, less palatable kinds are targeted.

From the National Trust Longshaw Team Fungi and Lichen Survey (2014- 2016).

Findings: based on our data (74 day surveys over 3 years) there is an insufficient abundance of edible fungi at Longshaw to justify the encouragement of picking for personal consumption. Many sought-after edible species previously recorded were not found. In addition, anecdotal evidence of a lack of fungi from pickers themselves supports this view.

From Carol Hobart, Chair of British Mycological Conservation Committee (02/11/15).

We recognise that circumstances differ around the country for instance small amounts of picking of edible fungi might be acceptable in remote areas of Scotland but should not be allowed near large conurbations or on SSSI where the citations include fungi. We have recently supported a total on areas within the new Forest where commercial pickers have been active. (Personal communication)

Hunting and gathering is not sustainable in Britain today.

Britain was once a land of hunters and gatherers. That was in the Mesolithic Age (from around 8,800 BC to 4,500 BC). Estimates of the human population that could be sustained vary, but are usually around up to about 5,000 or slightly more at its highest. For comparison, in October 2024, a single cross-country event was said to have attracted around 2000 attendees, which is equivalent to almost half of the whole population of the Mesolithic Age! A study by the United Nations²⁷ highlights the importance of wild edible fungi in some developing countries, such as where small populations inhabit vast forested areas. In the UK, especially in England, foraging is obviously unsustainable as a practical lifestyle today. It's a hobby which damages wildlife and despoils the autumn landscape of the fascinating fungi which parents want to show to their children in Graves Park.

Further fungi surveying at Graves Park

More fungi

There are many more fungi to be found in Graves Park. These include the 40% of fungi which are typically found outside of the autumn foraging months of August, September, October and November. During the winter months when there is little leafy undergrowth, jelly fungi, crust fungi, carbon fungi, slime moulds and smaller ascomycetes are most easily found. Wetter conditions make these fungi more visible, swelling fungi which dry up in summer. In the spring, larger ascomycetes and a select number of mushrooms and toadstools are to be found as they prefer this time to fruit. In the summer months, powdery mildew, rusts and other microfungi on plants are best sought.

Groups of fungi especially under-represented at Graves Park to date

Crust Fungi

A survey of Bolehill Woods, adjacent to Graves Park, was carried out by Steve Clements in autumn of 2023. An unexpected wealth of crust fungi (these represent a resupinate lifestyle of very diverse fungi, commonly referred to as *Corticaceae*) was discovered on the steep slopes of Bolehill Wood. Several very rare species were identified. There's no reason not to expect a similar situation on the equally steep slope of woods such as Cobnar Wood and Waterfall Wood in Graves Park.

Smaller fungi and microfungi

As the two finds of Common Eyelash at Summerhouse Wood show in this report, smaller fungi can be especially beautiful. All that is needed is a good eye and a hand lens. "Microfungi" may in fact be very large in size if they constitute large colonies/growths. With fungi, there is no real significance to size except for those who would forage them for food. Smaller fungi are just as important and often more important than the so-called macrofungi which many mushroom-hunters make their sole field of study.

Aquatic Hyphomycetes

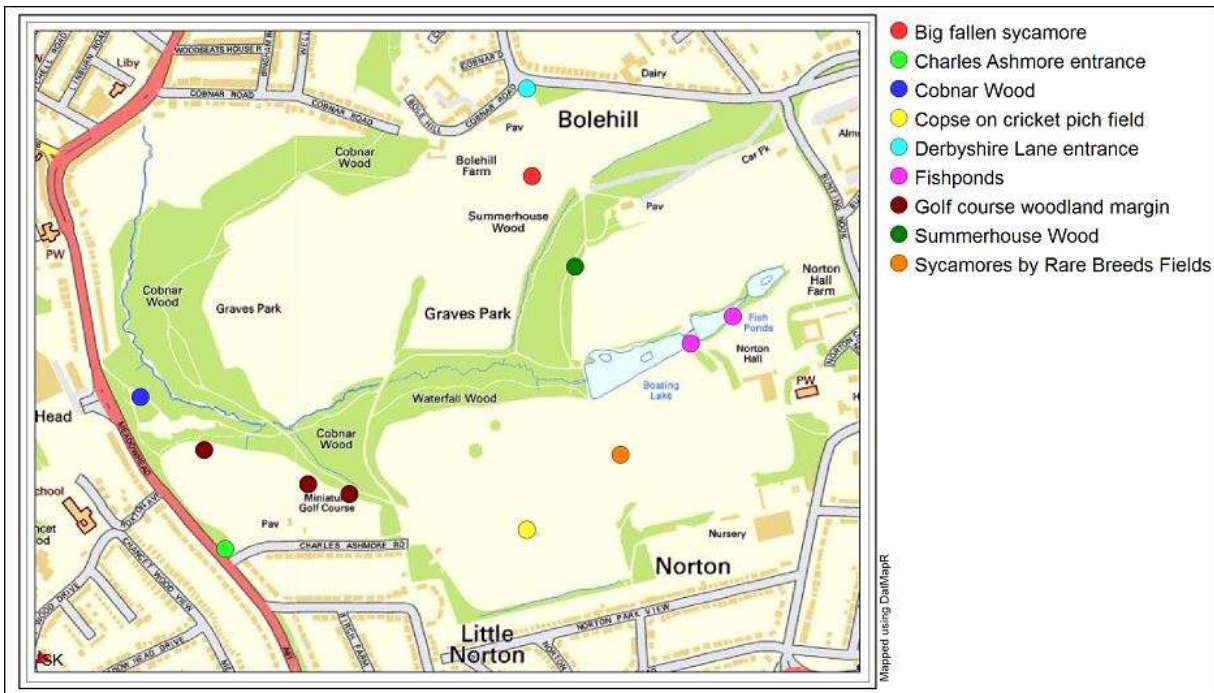
There are almost certainly dozens of kinds of these important fungi to be named from the foam which collects in Graves Park's streams.

How many fungi are there likely to be in Graves Park?

Fungi species lists grow and grow. The fungal species list at the 900 acre site of Esher Common in Surrey has increased from just over 800 in 1992 to around 3,300 today. There are 16,500 species presently recorded in the British Fungi Records Database, from an estimated total of 18,000. Beech has an associated fungal species list of 2,261, followed by oak at 2,252. These are Graves Park's top two trees. Our Team Survey at Longshaw increased the fungi list from just over 700 to over 1,100 within three years. Precise figures mean little as many fungi are clearly different, but cannot always be named. One of our finds at Longshaw, the Ermine Bonnet (*Mycena erminea*) was determined to be the first UK find. Globally, each year around 1,500 new species of fungi are discovered, with dozens new to the UK. With figures like these, I would expect Graves Park to have a list of at least 500 species of all kinds of fungi within something like 5 years. That, however, would depend on two things. Firstly, maintaining at least fortnightly surveys throughout the year supported by microscopy. Secondly, and far more important, **protecting Graves Park's biodiversity.**

Postscript: a glance at December fungi in Graves Park

A brief look at the fungi of Graves Park was made on December 13 and 14, 2024. A number of new species were added to the list, including an impressive, but precarious colony of Wrinkled Coral - *Clavulina rugosa*, the beautiful blue form of Common oyster - *Pleurotus ostreatus* var. *columbinus*, and a large colony of the slime mould *Badhamia affinis*. Two fungi were likely new species, one a bracket on sycamore, and the other a small brown Psilocybe. Neither of these was identified.



Above: some important locations for fungi were included in this small survey, such as the marginal zone between the mini golf course and Cobnar Wood, and the Fishponds. At least 17 different kinds of fungi were recorded within a few hours.

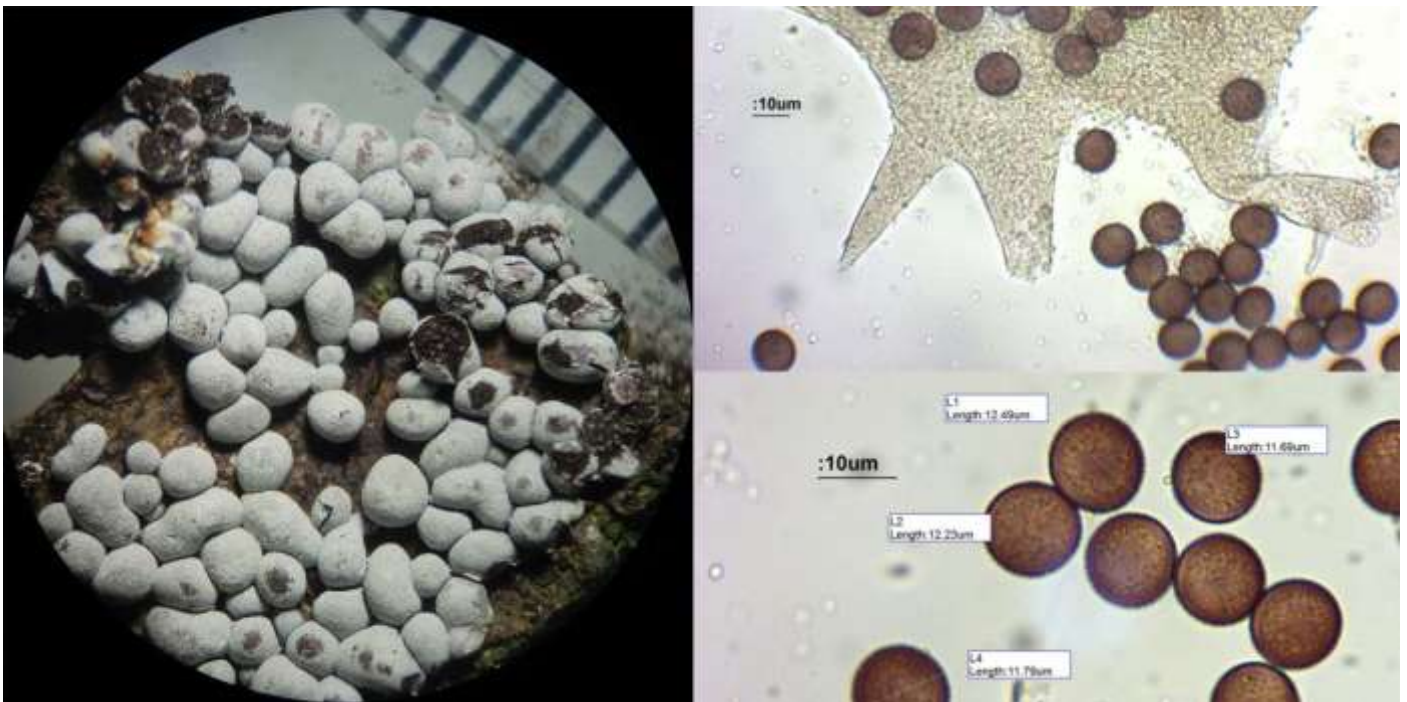


The Cobnar Wood –golf course marginal zone. Both grassland and woodland fungi were found here. Top left: there were many bracket fungi and other fungi saprobic on dead wood in good abundance, such as Hairy Curtain Crust – *Stereum hirsutum*. Bottom right: Fallen from trees onto the grass were a foliose lichen *Evernia prunastri*, a jelly fungus, Yellow Brain – *Tremella mesenterica*, and Netted Crust – *Byssomerulius corium*. Two toadstools in the grass were Scurfy Twiglet – *Tubaria furfuracea*, and Ivory Bonnet – *Mycena flavo-alba*. Jelly Ear – *Auricularia auricula-judae* had also fallen from trees onto the grass.



Top left: a bracket fungus on the bole of a veteran sycamore, not currently producing spores. so not identifiable. Bottom left: the blue form of Common Oyster - *Pleurotus ostreatus* var. *columbinus*, at the Fishponds, where parallel paths and shrubberies form marginal zones between different ecologies.

Middle: a small cluster of Common Bonnet on a mossy stump in Summerhouse Wood. Right: a stick which had fallen from one of the big trees at the Charles Ashmore-Meadowhead entrance. It was inside the Christmas tree enclosure. In addition to *Physcia* lichens it hosted the Yellow Brain fungus – *Tremella mesenterica*.



This slime mould was found as a substantial colony on a vertical side of the large sycamore which fell during Storm Elin in December 2023. Right: slime moulds are mostly tiny, but can be conspicuous in large colonies. Top right: the absence of a true capillitium and the presence of plates of lime indicated *Badhamia*. Bottom right: finely spiny dark brown spores within the appropriate size range. Myxomycetes are difficult to identify, not least because of the difficulty in obtaining good literature. This deadwood species was named as *Badhamia affinis* using the newly re-issued guide to British species by Bruce Ing²⁰. Fungi is colonising this popular dead tree because it has lots of vertical and inaccessible surfaces which aren't disturbed much. They are another example of the protected wildlife spaces which are crucial for fungi and other wildlife at Graves Park.



The Wrinkled Coral - *Clavulina rugosa* is a new addition to my list of Graves Park's mycota. It was in the largest numbers I have ever seen, in a small copse which included oak and beech. The interior of the copse was heavily trampled – the Wrinkled Coral was tucked behind a log. Despite this, many of the clubs were broken or stunted. The only other fungus I found in the copse was the ubiquitous Split Porecrust – *Schizopora paradoxa*, on a couple of small sticks.



Wintertime reveals the pressures facing Graves Park's ecological heritage, and especially its fungi.

Top left: The Derbyshire Lane entrance was a good area for mycorrhizal fungi such as *Russula*, *Hebeloma* and *Inocybe*, associated with the large oaks and protected by the shrubberies, which act as obstacles to running dogs. The level of "muddification" now occurring is an existential threat to a lot of Graves Park's wildlife – especially its fungi.

Top right: dogs are now allowed to sit on benches intended for people. Bottom right: Paw prints are more easily seen in wintertime. Bottom left: Graves Park is a busy park. Its fungi and wildlife are now under pressure as never before.

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Giant Polypore

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