

Malvern Hills (North) Fungi Report 2007

Introduction

The survey of the fungi of the northern part of the Malvern Hills and Commons during the autumn of 2007 took place during October and November for the main part but also includes lists of fungi found during initial visits to some of the outlying sites from July onwards. At least one visit to the sites covered by the Malvern Hills Conservators from the Wyche Cutting northwards has been made during the autumn and a full survey undertaken of the fungi found during each visit. It should be pointed out at this stage however, that fungi can only be identified whilst fruiting, which is often a very short space of time, from a few hours to several days at the most, so there may well be several species which have not been recorded but have fruited outside the surveying times.



Looking north from the Worcestershire Beacon

The Survey

A full systematic field survey of each area was conducted covering each site so that within the time allowed all the MHC hills and commons were included. Some sites proved to be excellent for waxcaps and other grassland fungi whereas others held only very few records. This could be due to many reasons; fruit-bodies occurring earlier or later than the survey was conducted, traditional management of the area not conducive to the growth of fungi, in particular the length of the herbage and grazing/cutting regimes, weather conditions etc.



Looking south from Worcestershire Beacon, not just dog walkers were out on the hill, but a film crew were also in evidence. The area behind the crew was rich in fungi when surveyed later in the year.

The Sites

The following pages give details for the majority of sites visited, though not all, as some sites showed so little fungal interest they were not worth a separate report. Others were visited more than once during the fruiting season.

Birches Farm

This site produced no records at all during the first visit but this was completely made up for during a visit at the end of October when 29 species of fungi were recorded, including a total of 13 species of waxcaps. Certainly the side of the field that runs alongside the Malvern Hills Outdoor Centre saw the greatest number of waxcaps, the other side of the field yielding far fewer specimens. Other grassland fungi such as *Panaeolus* and *Entoloma* species were also found in large quantities, together with many clusters of Golden Spindles, *Clavulinopsis fusiformis* but overall the quantities of waxcaps were the most notable.



Hygrocybe punicea showing the gills



Hygrocybe punicea, side view

Colwall Lands

The first visit here in July yielded three species of fungi, one being a particularly good edible fungus *Calocybe gambosa*, the St George's Mushroom. Later on in the year a further eight species of fungi were found, including four species of waxcap. None were very prolific but yet another good edible also cropped up; the Field Blewit, *Lepista saeva*. Although the field was being grazed by Galloway cattle there were still quite large areas of long grass which did not contain any fruit-bodies - and certainly made it harder to spot any that were there.

The Hacketts

The first visit to this site in July only gave one record, a rust on *Sonchus*, however about 27 species were recorded during the October visit including three species of waxcap. Although there were only three species of these good indicator species they were in high numbers in the field nearest the road, being found growing prolifically throughout several areas of the first field. The field away from the road, the far side of the hill, was very poor for fungi with only a few records and of those very few specimens found.

Also growing in quantity were *Bolbitius vitellinus*, the Yellow Fieldcap; a pretty yellow capped, white stemmed fungus which commonly grows on dunged ground, and *Armillaria mellea*, Honey Fungus, which was found growing well away from any of the trees but was perhaps most prolific in the area of grass just above the small line of trees half way up the first field. The mycelium of this fungus can run for a very long way and although usually associated with trees can be found, as in this case, growing many metres away from its 'host'.



Ganoderma adspersum infecting an old Beech stump



Bolbitius vitellinus

Lodge Fields

This area of grassland did not produce many grassland species during the first visit, it did however have quite a list of fungi found on the fallen wood from a tree at the top of the field. Later in the year was much more fruitful when a large quantity of *Hygrocybe conica*, the Blackening Waxcap, was found near to the bottom field gate (SW) together with the Magic Mushroom *Psilocybe semilanceata*. Elsewhere in the field quite large quantities of waxcaps were also recorded including: the Parrot Waxcap; *Hygrocybe psittacina*; the Meadow Waxcap; *Hygrocybe pratensis* and the Ivory Waxcap; *Hygrocybe virginea*. In all 10 species of waxcap were recorded in this field, plus one that I have recorded as a *H. virginea* var. *rosea* which is presently under dispute as to whether or not it is actually a different species or carries an infection which makes the base of the stem pink.



Hygrocybe conica, the Blackening Waxcap, found in profusion near the eastern gateway of the meadow.

Malvern Common

The larger area of common known as Malvern Common was surveyed in several visits and did not prove to be particularly interesting. A few waxcaps were found in an area to the south east of the common but only two species, the better area for fungi being just north west of the railway line where several species of waxcaps were found plus a wonderful display of Fly Agaric, *Amanita muscaria*, growing under what I believe is a Blue Cedar tree. There were several of these trees in this area but only one had fungi growing underneath it, in fact it had three species growing in profusion in the soil underneath it; *Amanita muscaria*, Fly Agaric, *Boletus piperatus*, Peppery Bolete and *Collybia butyraceae*, the Buttercup. The one fungus found in all areas of the common was *Macrolepiota procera*, The Parasol, a very large, elegant, fungus which grows in open grassland and renowned as being an easily recognisable good edible fungus.



Macrolepiota procera, The Parasol showing the clean white gills underneath the cap

Overall the common did not have as good a range of fungi and I had expected, considering the size and diversity of the site there were huge areas where no fungi were evident at all. Only one fungus that could be said to be prolific is *Cystoderma amianthinum*, the Earthy Powdercap, which seems to have had a good year almost everywhere.

Malvern Link Common

This area did not give any interesting results this year with few grassland species and none of the amanitas and boletes recorded the previous year. Some of the lime trees along the road are showing signs of the Brittle Cinder fungus, *Kretzschmaria deusta*, (previously known as *Ustulina deusta*) which was recorded in 1966 just north of the Wyche at SO7745 one of only 3 records for the county.

Newland Common

Only one small area of the common showed any large amount of fungal interest and that was the area to the north east of the common, almost opposite the Swan public house. Here both waxcaps were found together with the three quite interesting species of *Hebeloma*.

One particularly interesting species recorded here was a fungus growing on a fungus; *Paecilomyces marquandii*, a lilac coloured mould growing on several specimens of *Hygrocybe virginea* - The Snowy Waxcap. It is as far as I can see otherwise unrecorded in both Herefordshire and Worcestershire so is a new county record for Worcestershire.



In all 23 records for this site but mostly in the northern end except for three small fungi growing on fallen *Quercus* found not far from the bus stop area. The piece of fallen Oak branch was in a ditch and very wet and had three fungi growing on it, two very small cup fungi plus a slightly larger brown one; *Humaria hemisphaerica*. This fungus which grows on very wet rotting wood and soil has been recorded 19 times in Worcestershire mostly by M C Clark during the 1980's, but not before at this site.

Hygrocybe virginea, the Snowy Waxcap

Old Hills

This site is of course famous for Berkeley's Earthstar - *Geastrum berkeleyi*, however this year the brambles and fallen wood defeated us and we could not access the area where it certainly used to be found. Hence its present status is still unknown.

Of the 26 species of fungi recorded on the Old Hills only 12 were grassland species, the rest growing either with or on trees, both living and as fallen wood or growing in soil/litter in association with trees. Of the grassland species there were three waxcap species in the grassy area above the grass car parking area going away from the road. Further up towards the trig point circles of Field Mushrooms, *Agaricus campestris*, were found showing a distinct dark ring where the fungus gives nourishment to the grass making it a darker and more 'lush' green.



Agaricus campestris, Field Mushroom often grows in large circles on open land

The Malvern Hills, from the Wyche Northward

I decided to start at the Wyche Cutting and work my way northwards in order that I could ensure that each area of the hills was covered in turn. Some areas were high in fungal content whilst others showed hardly any at all.

The first area showed no waxcaps at all during the first visit, but several other grassland species, including a wealth of *Lycoperdon nigrescens*, Dusky Puffball, with its very dark brown spiny covering, the small round Grey Puffball, *Bovista plumbea*, and the Meadow Puffball, *Vascellum pratense*. All these are types of puffball which get blown around in the windy places on top of the hills thus freely spreading their spores.

The only other species of particular note was the delightfully coloured Yellow Brain Fungus, *Tremella mesenterica*, which was during both visits growing on the living branches of Gorse bushes in several areas.



Tremella mesenterica, Yellow Brain Fungus
growing on Gorse branches



The Birch Polypore, *Piptoporus betulinus*,
Growing on a Birch tree near the car park
at the Wyche Cutting (right)

During the second visit in late November a few different species were found including a large crop of *Hygrocybe laeta var laeta* on the north facing side of this first hill almost on the saddle with Worcestershire Beacon itself. Two further waxcaps were recorded during this visit; *Hygrocybe virginea*, the Snowy Waxcap and *Hygrocybe chlorophana*, the Golden Waxcap but only a very few specimens of each. One unusual species found at this time was *Octospora (Neottiella) rutilans*, a tiny bright orange cup fungus growing in moss and not previously recorded in Worcestershire. There are just over 100 records of this fungus nationally, mostly under its previous name of *Neottiella rutilans*.

Once on the Worcestershire Beacon things changed, 8 *Entolomas* (Pinkgills) and 6 waxcap species were recorded over the whole area plus many other grassland species mostly quite high up on the hill. One species of particular note, whilst not rare, only four records in Worcestershire on the BMS database to date, one of which is in the Hollybush area of the Malvern Hills, is *Clavulinopsis fusiformis*. These Golden Spindles were found in the upper part of the gully area to the north west of the Worcestershire Beacon and was particularly large for this species. It is usually found growing in much shorter grass but was in this case growing with quite long grass and its bright yellow 'tongues' were considerably longer than normal; approximately 12-15 cms long rather than 5 - 8 cms found elsewhere. Some of the records pertaining to this site came from the West of England Quarry area so contain several species growing with or on wood rather than in grassland.

Moving northwards onto Sugar Loaf one of the interesting finds was a waxcap not previously recorded in Worcestershire; *Hygrocybe persistens* var *konradii*, the Persistent Waxcap. Whilst *Hygrocybe persistens* var *persistens* has been recorded once before in Worcestershire this particular var. is new to the County records and has only twice been recorded in Herefordshire (near the Welsh border I believe). One record from this area, seen on the western side below the open hill and is very much tree based, is the *Eutypa spinosa*, a black encrusting fungus that grows on the bark of living Beech trees. It damages the bark and although it does not otherwise harm the tree by itself, causes enough weakness to the bark to let other fungi in which can cause harm to the tree. There are no records for Worcestershire for *E. spinosa* on the BMS database but again this may be due to a lack of competent recorders in the county or simply under-recording, there are just under 250 records nationally and mostly on *Fagus sylvatica* (Beech).



Panaeolus semiovatus, the Egghead Mottlegill found growing in several of the old cow-pats

Another species of note in this area was the amount of *Panaeolus semiovatus*, the Egghead Mottlegill, found growing in cow-pats. Whilst not a particularly rare fungus it is most probably very under-recorded as there is only one other record on the BMS database for Worcestershire and that is in the Wyre Forest, it is however recorded in the WBR for Castlemorton Common but unfortunately is one of many not apparently sent in to the National database. To put this in perspective there are well over 1,000 records countrywide for this species. Whilst this and some other species specialise in growing in old cow-pats, in the areas where there had been some fairly concentrated grazing there was no sign of any high quality grassland fungi, whereas other areas which had not been grazed at all had a richer wealth of species. This may not of course be down to the cattle dunging and thus enriching the soil but that these areas have different species of grasses.

Moving across to Table Hill there was little of any consequence on the hill itself but in the saddle between Table Hill and End Hill there was a good selection of waxcaps including *Hygrocybe laeta* var. *laeta*, the Heath Waxcap, which has only been recorded once before in the county. Also recorded in this area were two species of yellow spindles; *Clavulinopsis helvola*, Yellow Club and *Clavulinopsis luteoalba*, the Apricot Club. *Clavulinopsis helvola* has been recorded 9 times in the county, a couple of times somewhere near the Gullet, whereas *Clavulinopsis luteoalba* has only been recorded once before, in 1997.



Looking northwards towards End Hill

Hygrocybe reidii, the Honey Waxcap, was the only waxcap found on North Hill and that was just a very few specimens in one tight area on the eastern slopes just down from the top of the hill, in the wavy grass. There may have been more but it is extremely difficult both to find fungi in very long grass but also for them to grow and spread their spores freely. There was however a fair amount of *Lycoperdon nigrescens*, the Dusky Puffball, and just one specimen of *Macrolepiota procera*, The Parasol, on the western slopes.



Macrolepiota procera, The Parasol

End Hill proved to be quite a good area with a total of 5 different species of waxcap, including the unusual *H. laeta* var. *laeta* again and *H. quieta*, the Oily Waxcap (more for its smell than its feel!). This latter species has been recorded before on Castlemorton Common in 1962, there are only 6 records on the BMS database for Worcestershire.

Twenty-eight species in all were recorded on this last hill, on top of those recorded as on the saddle between End Hill and Table Hill. The three species of *Clavulinopsis* found there; *Clavulinopsis fusiformis*, Golden Spindles; *Clavulinopsis luteoalba*, Apricot Club and *Clavulinopsis helvola*, Yellow Club, were in great profusion with most across the north facing area just over the top of the highest point. Another interesting find in this area was *Psilocybe coprophila* growing in cow-pats and surrounding well-manured grass. Although there are over 600 records on the national database it does not appear to have been recorded in either Herefordshire or Worcestershire before, and has no English name.

Other areas of the Hills and Commons not mentioned separately here have also been surveyed but either gave no fungi records at all or only a few species and it was deemed not worth a separate site report for each of them. It should also be remembered that this can only be a snapshot of the fungi which grow on the Malvern Hills and Commons, because they are so ephemeral it would be almost impossible to record every single species for each and every site over the whole area.

Overall, about 465 records have been collected of the fungi found on the Malvern Hills & Commons so far this year, mostly from the specified areas north of the Wyche cutting. Where species have not been recorded on the BMS national database before I have tried to mention it but where records have not been lodged either with the local record centre or the national database their status is not known. The list includes over 24 species of *Hygrocybe* or waxcap, found and identified, on the Hills and Commons this autumn; making the site of national importance (see note).



This colourful waxcap, very easily recognised by the green colours which are almost always evident somewhere on the stem, and most particularly towards the top of the stem where it meets the gills, was found both at Birches Farm and on the Worcestershire Beacon in several places.

Hygrocybe psittacina, The Parrot Waxcap

Note: 'The Genus *Hygrocybe*' by David Boertmann is one of the foremost publications on waxcap fungi and is highly regarded by all grassland surveyors and identifiers today. Boertmann, along with several other notable authors, particularly from Scandinavia, proposes the following chart for determining the conservation value of grasslands. They often represent valuable landscape elements and many organisms included in 'red data books' can be found there. The numbers of *Hygrocybe* species have been used as indicators of the quality of Danish grasslands by Rald who separated four classes of grassland by the number of species found:

Conservation Value	Total number of <i>Hygrocybe</i> species per site
Of national importance	17-31 (11-20 during a single visit)
Of regional importance	9-16 (6-10 during a single visit)
Of local importance	4-8 (3-5 during a single visit)
Of no importance	1-3 (1-2 during a single visit)

Nitare from Sweden proposed the use of a diversity of species to classify grasslands in a similar way but using *Geoglossaceae*, *Clavariaceae*, *Hygrocybe*, *Dermatoloma* and *Leptonia* species. This

system may be more flexible but it requires a huge amount of knowledge about all the aforementioned families of fungi.

Jordal and Gaarder used a similar system but weighted the species differently, they included some further species and worked it out on a point system. However, it has been found that whichever of these three systems are used the outcome appears to arrive at the same conservation value, hence using *Hygrocybe* species alone to determine the quality of an area of grassland gives a similarly accurate result but in a simpler way.



Hygrocybe pratensis, the Meadow Waxcap (left)

Below - *Hygrocybe coccinea*, the Scarlet Waxcap



Focussing on Waxcaps

The list below gives the number of records on the BMS national database for Waxcap (*Hygrocybe*) species previously found in Worcestershire to help give some idea of the importance of waxcap fungi recorded on the Malvern Hills and Commons during autumn 2007. Note that this year's survey records have not yet been included in any databases so are not included in the numbers.

Name of Fungus	No. of Records in Worcestershire (BMS)	No. of Records in Herefordshire (BMS)
<i>Hygrocybe aurantiosplendens</i>	2	12
<i>Hygrocybe calyptriformis</i>	27	35
<i>Hygrocybe cantherellus</i>	2	2
<i>Hygrocybe ceracea</i>	13	66
<i>Hygrocybe chlorophana</i>	26	104
<i>Hygrocybe coccinea</i>	17	72
<i>Hygrocybe conica</i>	24	91
<i>Hygrocybe glutinipes</i> var <i>glutinipes</i>	2	14
<i>Hygrocybe insipida</i>	4	41
<i>Hygrocybe irrigata</i>	5	13
<i>Hygrocybe laeta</i> var <i>laeta</i>	1	12
<i>Hygrocybe marchii</i>	0	2
<i>Hygrocybe mucronella</i>	4	5
<i>Hygrocybe nitrata</i>	2	7
<i>Hygrocybe persistens</i> var <i>persistens</i>	1	3
<i>Hygrocybe pratensis</i> var <i>pratensis</i>	18	89
<i>Hygrocybe psittacina</i> var <i>psittacina</i>	23	93
<i>Hygrocybe punicea</i>	10	50
<i>Hygrocybe quieta</i>	6	17
<i>Hygrocybe reidii</i>	8	9
<i>Hygrocybe russocoriacea</i>	11	16
<i>Hygrocybe virginea</i> var <i>virginea</i>	27	144

It should be noted that some of these records go back to the early 1800's making any additional records from this survey of huge importance. For example, apart from those completely new records such as *Hygrocybe persistens* var *konradii*, *Hygrocybe laeta* var *laeta* was previously recorded only once before in Worcestershire, over the last two centuries, (12 records in Herefordshire) and now four more records of this particular fungus found on the Worcestershire side of the Malvern Hills can be added to those already on the database.

Many of the records already held were collected during the waxcap survey in 2000 organised by the British Mycological Society.

This report was put together by Sheila Spence following the survey of fungi, in particular grassland fungi, on the Malvern Hills (North) during 2007.

Surveying and recording was carried out by Sheila and George Spence. All identification was carried out by Sheila Spence using the following books and field guides:

Boertmann, David - *The Genus Hygrocybe*

Bon, Marcel - *The Mushrooms and Toadstools of Britain and North-Western Europe*

Breitenbach J. and Kranzlin F. - *The Fungi of Switzerland (Books 1 - 6)*

Jordan, Michael - *Encyclopedia of Fungi of Britain and Europe*

Phillips, Roger - *Mushrooms*

Taxonomic orders are shown in accordance with the British Mycological Society guidelines. Some names may differ from those quoted in previous databases where they have been changed by the BMS, however the most up-to-date names have been used where possible.

Photographs taken by Sheila and George Spence

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