Herefordshire Fungus Survey Group

News Sheet Nº 5: Spring 2003

Clitocybe houghtonii (Haffield - 20/11/02)

Contents

President & Recorder:	Ted Blackwell
Chair & Secretary:	Sheila Spence
Treasurer:	Ray Bray

Welcome to the Spring 2003 News Sheet

Once again, it is time for another issue of our News Sheet. I hope you will find it enjoyable, instructive and entertaining.

May I thank the many of you who have contributed to the issue and for your hard work – in one way or another, ten members of HFSG have been involved this time, making it truly a shared enterprise. Apart from our regular items, we have

- Heather's very helpful and interesting first article on 'An Introduction to Lichens';
- Ted and Sheila's summary of our work at Leintwardine churchyard;
- Bryan's article on his *Hydnotrya cubispora* find; and
- Vaughan's 'Mycological Musings', with samples of his stunning photography - some of you may already have seen this in his web magazine, 'The Forester'.

On the subject of photographs, there has recently been mention that the HFSG News Sheet regularly includes photomicrographs. These, of course, require the preparation of slides of sufficiently high quality and, in this context, both Ted and Shelly deserve to be 'mentioned in despatches' for their work in producing such material. Thank you both!

Still thinking about photographs in our News Sheet, some of you are now starting to forward me these for inclusion – for which, many thanks. Please, though, could you endeavour to make the file size *at least 75KB*, especially if the photographs are of fungi: otherwise, I have problems in printing them with reasonable clarity. However, do keep them coming in!

Mike Stroud

CHAIRMAN'S MESSAGE, AGM 2003

Well, it has been an exciting year! We have put a lot of work into recording fungi in Herefordshire and I hope that we have all got a lot out of it.

In 2002 we were involved with the "Caring for God's Acre" scheme, recording fungi in Leintwardine Churchyard. During this coming year we are going to be even more involved, with another six churchyards to survey around the County and there will, no doubt, be another exhibition at the end of the season.

Last year we also spent time surveying four sites for the Herefordshire Nature Trust in the Doward area. This year they have asked us to survey some grassland sites for them and also one at Nupend near Fownhope. In an old Nature Reserve book it is noted that it is a good place for finding fungi – we shall see!

In early December I attended, on your behalf, the BMS Group Leaders meeting, this time held at Keele. It was a very good meeting and there was a huge amount of work to get through. However, Shelley Evans and Liz Holden, from the Grampian Group (her new replacement as Network Co-ordinator) managed it very well.

We started with Liz Holden's project to get children interested in mycology and also looked at Maggie Holden's new book, 'Fungus Fred goes Foraying'. I have a copy available, if anyone would like to borrow it.

The following day Brian Moore, the Webmaster, led us through the updated website and suggested that newsletters be posted on the web for all to read. Henry Beker then talked about a new Portal Project, due to take place over the next two to three years, subject to funding. It would be almost like an encyclopaedia offering information on fungi – molecular, microscopic and macroscopic.

One of the livelier discussions was about insurance. It would appear that some of the fungus groups, that are part of larger botanical societies, obtain their insurance cheaply through their parent society. Other groups are mostly with ABFG. Shelley has been approached by several groups, asking her to try to persuade the BMS into arranging insurance for affiliated BMS fungus groups. This way groups would, at the very least, have a choice as to where they go to obtain their insurance.

We also talked about Conservation, Red Data List, 'Field Mycology', Recording and Database issues, BMSFRD copyright issues, BMS Affiliation and the new BMS Membership Structure.

The meeting ended on a positive note and I shall do the same.

The Herefordshire Fungus Survey Group is very much alive and kicking and I, for one, am looking forward to a full and rewarding foraying season! See you there!

Sheila Spence

RECORDER'S REPORT, SEPTEMBER 2002 - FEBRUARY 2003

Due to low rainfall during September and October, this autumn was unusual in that many of the mycorrhizal fungi, such as Waxcaps, Boletes, and Russulales failed to appear in their usual numbers.

Coles Hill Wood & Kinsham Court: 4th September:
The party assembled at Kinsham Court before moving by way of a rugged hill climb to the main foray site at Coles Hill Wood, enjoying magnificent panoramic views from near the summit. In marked contrast to our last visit, the lawns at Kinsham Court were almost devoid of fungi, due to little rain in past weeks, but yielded *Hygrocybe glutinipes*, only the eighth Herefordshire record.

From Coles Hill Wood, it was interesting to see *Leucocoprinus brebissonii* of which there are only two previous Herefordshire records, a small attractive "*Lepiota*-like" Agaric with dark cap scales and centre.

Leucocoprinus brebissonii – Coles Hill Wood (4/9/02)

Another interesting species was *Amanita porphyria*. This is close to *A. citrina* and microscopically indistinguishable from it, but separable by the grey-brown cap colour with a hint of purple, and the volva shape; there are only five previous records. A greenish *Russula* turned out to be the less common *R. virescens*. Due to arid conditions only about 30 species were recorded.

Great Doward Nature Reserves, 18th September (Leeping Stocks; White Rocks; King Arthur's Cave; Lord's Wood Quarry and Lord's Wood general area):
Despite continuing low rainfall on the area of free-draining Carboniferous Limestone, underlying all the Doward reserves, 115 species were recorded.

Leeping Stocks produced the infrequently recorded *Humaria hemisphaerica*, a marble-sized cup-fungus with a white disc and fringe of interestingly structured hairs - only two recent records on the database; and *Hypomyces rosellus* on a Birch Polypore, conspicuous by its rosy-pink colour, of which there are also only two recent records on the database - this is the cause of "Cobweb disease" of mushrooms in cultivation.

Humaria hemisphaerica (microscope at x100) – Leeping Stocks, Great Doward (18/9/02)

At White Rocks there was an impressive example of *Abortiporus (Heteroprus) biennis* in the infrequently occurring poroid form, which is more commonly found in a distorted conidial form. Two not uncommon microfungi, but new to the database, were *Herpotrichia macrotricha* and *Brachysporium dingleyae*.

King Arthur's Cave yielded *Amanita echinocephala*, one can say 'again', as the only other records on the database are both from Great Doward in 1997 and 1999.

Lord's Wood Quarry provided *Asteromera impressum*, a parasite of Colt's-foot, probably not very rare, but seldom recorded, there being only four other records on the database.

In the general area of Lord's Wood outside the nature reserve, one fungus worthy of note was *Macrolepiota rhacodes* var. *hortensis*, there being only two other records, from Brampton Bryan in 1992, and Eastnor in 2000.

Mousecastle Wood, near Hay-on-Wye, 9th October:
This was an exceptionally dry site after an almost rainless month but, nevertheless, the finds were not without interest and 91 species were recorded. The 20 Agarics found were mainly on wood or litter, amongst which were the uncommon *Gymnopilus spectabilis* (= *G. junonius*) and the seldom recorded *Lacrymaria pyrotricha*, the only previous Herefordshire record of the latter being from the BMS Hereford Foray of 1926 at Moccas and

Credenhill.

There is only one previous record of *Oligoporus ptychogaster* on the Herefordshire database, at Goodrich as recently as 2000. This is a Polypore usually seen, as here, in its anamorphic state, the inner part disintegrated to a loose cinnamon-coloured powder of chlamydospores (thick-walled resting spores), when it can easily be mistaken for some strange kind of puffball. Although *Albugo candida* has been recorded occasionally on other hosts, (it attacks lettuce and other Crucifers) its occurrence here on *Cardamine flexuosa* is the first record on this host on the Herefordshire database and it appears to be rare on this host.

There are only six previous records of the Sow-thistle rust, *Miyagia pseudosphaeria*, on the Herefordshire database. The Myxomycete *Arcyria minuta* is uncommon according to Bruce Ing (*The Myxomycetes of Britain and Ireland*. 1999) and is the first Herefordshire record. There are also only three previous records of *Collaria elegans*.

A Hyphomycete mould thickly covering dead *Tilia* leaves is *Cercospora microsora*, not previously recorded in Herefordshire, although not rare.

Mains Wood, Putley, 23rd October:
Although the wood is mainly conifer plantation with broadleaved margins, it also contains an SSSI of several hectares of broadleaved trees, chiefly oak plantation. About 122 species were recorded.

The deceptive fungus *Flagelloscypha minutissima* (B&K vol. 2, no. 228) occurred here in both areas, as only the third Herefordshire record - having been found in June at Bringsty Common and having been first recorded in 2000 at Green Drive Wood, Holme Lacy. It appears under the hand-lens like a minute tubular *Dasyscyphus*, but microscopically reveals itself to be a Basidiomycete (Tricholomataceae) with curiously encrusted whip-like 'hairs'.

Psathyrella obtusa appears to be uncommon and the record here is only the second for the county, the first being at Crow Wood, Turnastone, in 1994.

Hyphodontia (Grandinia) arguta (B&K vol. 2, no. 77) is also a third Herefordshire record, the first two being at Humber Marsh during the BMS Centenary Foray of 1996. It is an 'odontioid' resupinate, rather like a short-bristled scrubbing brush under the hand lens.

There are few records on the database of *Macrotyphula fistulosa* and its var. *contorta*, or of *Polyporus varius* var. *nummularium*, the latter last recorded at King Arthur's Cave, Great Doward, in September this year.

Hyphodontia arguta – Mains Wood (23/10/02)

Macrotyphula fistulosa – Mains Wood (23/10/02)

Although not rare, the Bird's Nest fungus *Cyathus striatus* is an interesting find, as also the minute club-like *Typhula quisqiliaris*, always on dead bracken stems.

Typhula quisqiliaris – Mains Wood (23/10/02)

Hymenoscyphus pileatus is not rare, but happens not to have been recorded before on the Herefordshire database - another case of filling in the gaps - which almost applies to *H. albopunctus*, recorded once before on an alder leaf by Douglas Graddon in "South Herefordshire" at an unknown date. The three earlier database records of the Mucorales, *Spinellus fusiger,* are as recent as 1997, suggesting that it was unrecognised until relatively

recently and 1997 having been, perhaps, a good year for it.

Spinellus fusiger on Collybia dryophylla – Mains Wood (23/10/02)

It is parasitic on Agarics, forming an almost felt-like mass of hyphae on the cap with sporangia at the hyphal tips. A coloured plate is also given in Keizer's Encyclopedia of Fungi, (1997) p12.

The Myxomycete, *Didymium nigripes,* which was found earlier this year at Fishpool Valley, turned up again and, as remarked on that occasion, not recorded in Herefordshire since 1951, but is common and widespread on holly litter. *Didymium megalosporum* is the first record on the database, although not rare.

A very fine specimen of another seldom recorded fungus, *Paecilomyces farinosus*, was found, making it only the fourth Herefordshire record. This is parasitic on the larvae of various insects which pupate in the soil and takes the form of slender white or yellowish 'stags horns', liberally dusted with conidia, from which the species name 'farinosa' (floury, mealy) is derived.

Paecilomyces farinosus – Mains Wood (23/10/02)

Hergest Croft Garden & Wood, 6th November: Amongst the 112 species identified, the lawn yielded a reasonable selection of Waxcaps and grassland species. These included *Hygrocybe calyptriformis*, long considered rare, but perhaps now less so than originally thought, and *Hygrocybe conica*, both currently the subject of a national survey by Plantlife.

Also found in the lawn area was the Ear-pick fungus *Auriscalpium vulgare* growing from a pine cone. Further cases of "filling-in the gaps" were *Entoloma griseocyaneum* and *Entoloma lucidum*, both appearing for the first time on the Herefordshire database and *Entoloma corvinum,* which is only the second record. *Conocybe kuehneriana*, (=*C. ochracea*) is a first Herefordshire record.

Marasmius bulliardii f. *bulliardii,* on broadleaved litter, is the first Herefordshire record. There is only one previous record of *Mycena pseudocorticola* and two of *Marasmius recubans* (=*setosus*) - all recent.

Mycena pseudocorticola – Hergest Croft (6/11/02)

Hebeloma strophosum has been recorded only twice before, at Garnons in 1987 and Crow Wood, Turnastone in 1993.

Eutypa flavovirens occurs only once before in the records, in Haugh Wood in 1951 - it can't be that rare! It is characterised by the stroma being yellow-greenish internally, easily seen if sliced across.

Phaeolus schweinitzii, found last year on the same estate in nearby Park Wood, occurred here. It is a parasite [illegible]s and the source of a natural yellow dye. Another conifer parasite, *Sparasis crispa*, was found in the wood and is an edible species if in good condition. *Heterobasidion annosum*, a common parasite, was found on both coniferous and broadleaved trees, but its occurrence on broadleaved is uncommon.

A pink Myxomycete, *Arcyria incarnata,* was last recorded in 1966 at three sites, Symonds Yat, Eastnor and Mains Wood. Ing describes it as very common throughout the British Isles, so another gap

in the records is filled.

Haffield Estate, 20th November:

The pink-gilled *Clitocybe houghtonii* (photograph on front cover) recurred, having first been found here last year. *Clitocybe subspadicea*, *Lepiota ochraceafulva*, and *Panaeolus fimicola* are all first Herefordshire records and *Marasmius setosus* has been recorded only twice before, but as *M. recubans*.

Lepiota ochraceafulva – Haffield (20/11/02)

Panaeolus fimicola – Haffield (20/11/02)

Two species, *Auricularia mesenterica* (Tripe Fungus) and *Rhodotus palmatus* were reminiscent of earlier times, before Dutch Elm disease, when they were common on decaying elm logs and the occurrence of both suggests that the substrate was elm in this instance too.

Rhodotus palmatus – Haffield (20/11/02)

Hapalopilus nidulans, although not rare, has been recorded only nine times in the last 25 years – strangely, mostly in east Herefordshire. *Baeospora myosura* and *Diderma umbilicatum* were found again, for the second time this year - the earlier finds both being first records.

Mains Wood, Putley, 4th December:

Traditionally autumn forays ceased after October, the 'flush' of Agarics waning immediately at the first frosts. From this "nearly Christmas" foray the number of species was about 95, surely evidence of a continuing season - not all due to climate change, although absence of frosts is a factor, but more due, perhaps, to perspicacious forayers, better books such as B&K, Ellis & Ellis, and Courtecuisse and a keenness to keep going as long as there is a chance of finding something.

The only previous record of *Fusidium griseum*, a greyish mould on dead oak leaves, was at an unrecorded date and site in the C19, but with the comment "common everywhere". How then has it escaped notice for the last hundred years plus?

Another relatively common fungus, found easily on the dead seed capsules and scapes of dead bluebells, but remaining unrecorded until recently, is *Colletotrichum lilacearum*. However, unless examined microscopically it can be confused with *Botrytis cinerea,* which is also frequent on dead seed-heads.

There are two previous records of *Vuilleminia coryli* - in 2001, plus another in November this year (mentioned below), so it is a recent arrival to our scene. Also relatively new to the database is *Psathyrella laevissima*, this apparently being a less robust or less fleshy form of the more familiar *P. piluliformis* (= *P. hydrophila*). *Psathyrella multipedata*, easily recognised by the stems emerging from a common base, although hardly rare, is less commonly recorded. A winter Ascomycete fungus, which emerges through the bark of hazel and alder and which ought to be recorded more often, is *Encoelia furfuracea*: it is a matter of specifically looking for it among the bare winter branches.

Although *Tricholoma saponaceum*, the soapy smelling *Tricholoma*, is regarded as common, there have been few Herefordshire records of it this autumn. In contrast, *Macrotyphula fistulosa* var. *contorta* occurred for the second time here, as well as two recent records of it from Leintwardine churchyard.

Leintwardine Churchyard, November 2002:

An account of the survey of Leintwardine churchyard appears elsewhere in this issue. The Hyphomycete *Illosporiopsis christiansenii,* parasitising the lichen *Scoliciosporum chlorococcum,* was found on dead

twigs of elder at Leintwardine churchyard, determined by Dr. Spooner. Few British records exist and it is a first record for Herefordshire.

Macrotyphula fistulosa var. *contorta – 13/11/02 (Leintwardine churchyard)*

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In addition to those from Group-organised forays, interesting records have been received from Group members and others since the August issue.

Ray Bray reported *Phyllactinia guttata* on the unusual host, *Crataegus*, at Durlow Common 10/10/02. This was confirmed by Dr. Brian Spooner, who mentions that Braun, the authority on Erysiphales, does not include *Crataegus* as a host (only *Rubus* among the Rosaceae) and comments "So it is an interesting collection". It is the first Herefordshire record on this host.

Ray also reports the uncommon *Puccinia behenis* on *Silene dioica* on 17/10/02 at Durlow - first Herefordshire record. Durlow is also the site of the recurring *Geastrum berkeleyi*, no longer extinct!

Jo Weightman recorded a number of interesting finds:

- *Psathyrella cotonea* at Bircher Common 2/1/03: there is no previous Herefordshire record, although there is one from a few metres across the border in Shropshire, at Haye Park Wood in 1993.
- *Omphalina (Chrysomphalina) grossula* Mary Knoll Valley 5/12/02: first Herefordshire record
- *Aurantioporus fissilis* at Moccas Park 24/10/02: only previous record from Crow Wood in 1993.
- *Typhula setipes* on Alder leaves, at Moccas 5/12/02: first Herefordshire record.
- *Vuilleminia coryli* at Barnett Wood 16/11/02: only two previous records in 2001.
- *Cyphellostereum laeve* Barnett Wood 13/9/02: only 5 previous records - all in 2000 and 2001.
- *Microsphaera baeumleri* on *Vicia sylvatica*, Sned Wood 15/9/02: infrequent, only one previous record at Haugh Wood, in 1999.
- *Limacella glioderma* at Mary Knoll Valley 12/9/02: only one previous record at Wigmore Rolls in 1999.

George Spence found *Schizophyllum commune* recurring on straw bales 29/11/02 at Stony Cross.

Cherry Greenway found *Crinipellis corticatus* on *Syringa* in her garden at Birchwood 13/12/02 - first Herefordshire record.

Out of County:

Several interesting species were found in other counties by members and correspondents:

Hydnotrya cubispora collected by Bryan Lack at Llyn Lech Owain Country Park near Llandeilo 19/9/02: reported in detail elsewhere in this issue.

Postia (*Tyromyces*) *placenta* on conifer debris collected by John and Denise Bingham at Catherton Marshes, South Shropshire 9/7/02, confirmed by Dr. P. Roberts: a rare strikingly pink resupinate Polypore, illustrated in B&K vol.2, no. 339.

Auriculariopsis ampla (*Schizophyllum amplum*) on Poplar collected by Cherry Greenway and Dave Champion at Slimbridge Wildfowl Trust carpark 19/1/03. Cherry has since reported finding it again, this time at Leigh Sinton, Worcestshire, on Poplar. This is similar to *Auricularia auricula-judae,* but creamy coloured and smaller, the fruitbodies about 1-1.5 cm diameter.

Trichonectria rubifaciens, parasitic on the lichen *Parmelia saxatilis,* collected by the writer at Chestnuts Inclosure, Forest of Dean 22/6/02: determined by Dr. Spooner, who remarks it is scarce and the only records otherwise are from Suffolk and Huntingdonshire. In appearance *Nectria*-like, the pinkish-orange perithecia scattered over the lichen thallus; microscopically the perithecia have bubble-like cells protruding from the base.

My thanks to all who have contributed records and carried out 'home-work' identifications, and to Heather Colls for lichen records.

Ted Blackwell (Recorder)

FUNGAL FRAGMENTS

- There is fungus parasitic on some lichens with the name *Blarneya hibernica* "not uncommon in Co. Kerry, also known from Co. Waterford".

- There is a Canadian fungus genus called *Tyrannosorus.*

- A certain fungus of hot arid areas is called *Monosporascus* ***CANNONBALLUS***

- John Ramsbottom, in 'A Handbook of the Larger British Fungi', notes that our infamous pathogen, *Armillaria mellea,* has been tamed by an orchid:

- '…… The saprophytic Japanese orchid, *Gastrodia elata*, has, as its vegetative structure, merely a tuberous rhizome about five inches long. This, unless infected [by *Armillaria mellea*] gives rise to offsets which each year repeat the process, the offsets becoming progressively smaller, until, finally, they are incapable of growth. If, however, a rhizomorph encounters the mother tuber it attacks it in the manner recalling that in which dodder fastens on to ling or clover and the strand sends its hyphae into the cells of the tuber. A complicated union is formed, the orchid being able to hold the fungus in check and make use of the food brought it, instead of succumbing and giving up its reserve food-material as in the potato. The direct result of this is that the offset given off by the infected mother tuber is fully grown and develops an inflorescence axis the following year. Without the co-operation of the rhizomorph no flowers are produced.'

- Part of an e-mail from Shelley Evans:

  The BMS residential Upland Foray this year will be held in the Brecon Beacons area. The venue is not fixed yet but the organisers will be Andrea and Adam Rowe, who work for the Brecon Beacons National Park and the local Records Centre respectively. The planned dates are 14 - 20th October. Costs will be kept as low as possible, dependent on what accomodation can be found.

- A suspected murder case in Wales in 1932 was solved when an investigation on moulds growing on the green wallpaper of the death room revealed the culprit to be a fungus *Scopulariopsis brevicaulis*. During its growth this species had converted arsenic in the green pigment to the toxic gas trimethylarsine and so "murdered" several people in the process.

- The "17-year locust" so called from the pupa spending 16 years 9 months in the soil before the adult emerges, is prey to a fungus *Massospora cicadina.* The fungus mycelium invades the abomen and converts most of the supposedly vital organs into a mass of spores. As the spore mass develops, the infected but living locust sheds successive segments of its abdomen thus liberating the spores. Infected locusts still crawl around with only a head and thorax and one or two remaining segments. Enviable sang-froid!

- From the Royal Horticultural Society's journal, 'The Garden' (February 2003 issue) comes this:

  Fungus Prevents a Roasting

  Scientists from the US Geological Survey have discovered a plant and fungus that can grow together in temperatures in excess of 50 ^{o}C (122 ^{o}F), but cannot survive this heat when grown separately in a laboratory.

  Dichanthelium lanuhinosum (hot spring panic grass) grows in the Yellowstone and Lassen Volcanic National Parks with an underground fungus from the genus Curvularia entwined with its roots.

  It is suggested that the two organisms may exchange chemicals, allowing them to tolerate such high temperatures.

- The following extract from "Rust, Smut, Mildew & Mould" (6th edition, 1898) by M.C. Cooke may be of interest:

  'Collectors of minute fungi must expect to overhear occasionally even hints touching their sanity from those who, without the remotest idea of their mission, think they must be slightly "wrong in the head" to gaze so narrowly and intently, amongst nettles, groundsel, grass, or dried leaves, and only take an occasional fragment of a rotten stick, or two or three sickly leaves, carefully deposit them in their wallet, hat, or pocket, and then move on ……. a possible title could be: "Barmy mycoarmy"'

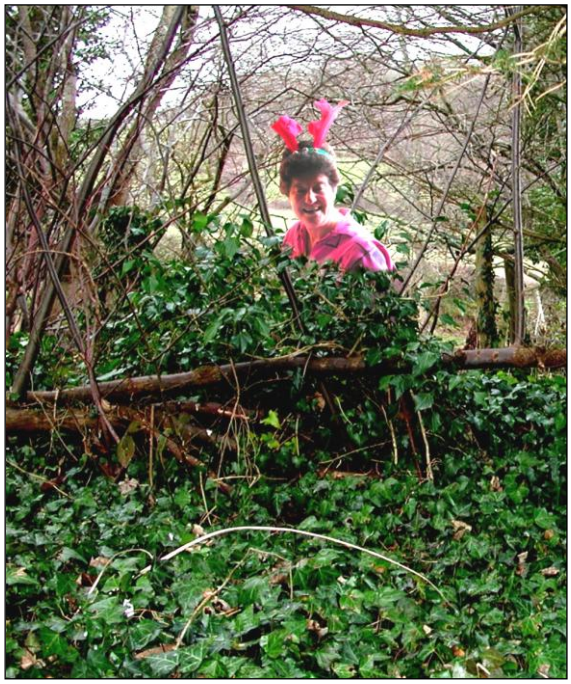
- The bright, honey-coloured spermogonia of *Puccinia punctiformis* appear on the under-side of the leaves of *Cirsium arvense,* creeping thistle. Their strong smell has been variously described as peculiar, like that of orange flowers (Cooke,1880s); sweet-scented (Plowright,1889); pleasant, resembling that of privet flowers (Grove, 1913); pleasant, strong and sweet (Wilson and Henderson, 1966) and honey-like (Ellis and Ellis, 1997). What do you

think? Keep your eyes peeled and your nose at the ready in April/May."

- Opposite is a photograph from Dave Champion, showing the stipe of the *Boletus (Xerecomus) communis* he found at Fishpool valley on the foray of 21st August 2002 – reported on p5 of the Autumn 2002 News Sheet.

OCCASIONAL PORTRAITS – Cherry Greenway and Mary Hunt

In HFSG we take the art of stalking new species very seriously.



Cherry favours disguising herself as one of the local fauna;

whereas Mary lurks under a suitably placed large agaric, hoping to catch sight of her prey. (Note how her careful attention to dress colour detail contributes to an almost perfect camouflage).

AN INTRODUCTION TO LICHENS: 1. I DON'T THINK IT'S A FUNGUS; PERHAPS IT'S A LICHEN…….??

Fungi have many and varied forms and, from a mycological standpoint, I suppose you could say that that is what a lichen is - a fungus that has a rather bizarre friendship with an alga, or sometimes with a cyanobacteria.

There is much about lichens which is still not fully understood, although we have come a good way over the last two hundred years. They used to be considered to be akin to mosses and liverworts and the presence of a fungal element was only detected in lichens by Morison in Oxford towards the end of the seventeenth century.

Perhaps with this bryophyte background, lichenology has tended for the past two hundred years to have been a separate field of study from mycology, although the paths of the two sciences are certainly now converging. We talk happily of the lichenised and non-lichenised fungi, but from my experience there are still many lichenologists with little or no knowledge or interest in 'mushrooms and toadstools'. However, when it comes to describing what exactly constitutes a lichen, lichenologists start to struggle a bit – indeed, I have on several occasions sat through lectures dedicated solely to discussing the pros and cons of various one- sentence 'dictionary' definitions! This reflects both thecomplexity of the lichen state and our level of understanding of it.

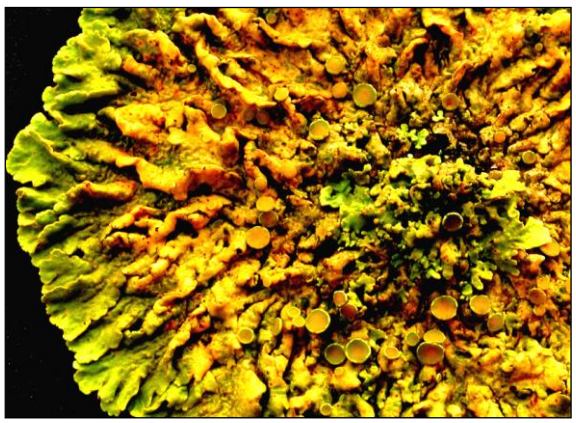
Lichens are divided into four main groups according to their growth form:

Leprose lichens consist of crusts formed of powdery granules, such as the green or slightly blue-green *Lepraria* species which commonly coat sheltered tree trunks and walls. In many of the woodlands we visit *Lepraria incana* is the only lichen present in any abundance.

Then we have the **crustose** lichens, the grey, white or greenish patches firmly affixed to wood or stone. *Lecanora chlarotera* is an example of a crustose lichen on trees.

Lecanora chlarotica

The next lichen group is the **foliose** lichens. These have both an upper and a lower cortex and therefore their little fronds can be removed from the surface on which they are living. *Xanthoria calcicola* is an example of a foliose lichen.



Xanthoria calcicola

Lastly we have a group of lichens called **fruticose** lichens. These are like miniature trees attached only at their base. The Beard Lichens, (*Usnea* species) fall into this category.

The two constituents of a lichen are a fungus and an alga - presumably living in a symbiotic relationship. They could perhaps be considered to be partners in a battle for life in the harsh conditions in which many lichens grow, the fungal tissue protecting the alga and the alga providing food for them both by photosynthesis. On the other hand, it appears that the fungus produces substances that make the cell walls of the alga more permeable, so that up to 80% of the sugars made by the alga are gained by the fungus. Whether the alga considers having 80% of its hard work stolen as being acceptable pay for the shelter it gets from the fungus in return, I know not.

Each Lichen has a different fungal partner, but there are only a relatively small number of algal species involved. The algal partner can live independently; the fungal partner, however, is not successful by itself and never develops beyond a small group of random hyphae on its own.

The algae, on the other hand, seem to do very well without the fungus - witness the rusty coloured covering of *Trentepohlia* we sometimes see on tree trunks, or the slippery brown jelly of *Nostoc* which forms on wet pathways. A lichen is, however, greater than the sum of its parts: the fungus and alga together are needed for the individual characters to develop which we are then able to recognise as the lichen.

It is important to note that because every lichen contains a different fungus (but many lichens contain the same alga species), when we name a lichen we are in fact naming the fungal partner.

Heather Colls

CARING FOR GOD'S ACRE

Part of the display at Leominster Library
(photograph by George Spence)

The Caring for Gods Acre group promotes and supports churchyards and cemetery conservation within the Diocese of Hereford. We were approached by them, in October, to do a fungus survey of Leintwardine Churchyard, as part of a more general survey of churchyards all over Herefordshire.

Leintwardine churchyard produced species, typically representative of a churchyard environment. This is characterised by the mixed habitats of grassland and woodland, often with scrubby marginal wild areas and provides a diversity of haunts and substrates for the development of fungi.

The mown grassy parts are a refuge for many grassland fungi now becoming scarce which hitherto were a common feature of meadows and pastures. Modern agricultural practices of applying fertilisers inhibit the growth of many fungi, and only in places where 'improvement' of the sward has not taken place, such as in churchyards, are these fungi now to be found. Three of the colourful Waxcaps, *Hygrocybe* species, were recorded here and also amongst the grassland fungi were the Leaden Funnel Cap *Clitocybe dealbata*, and the diminutive *Rickenella setipes* and *Galerina pumila*.

Clitocybe dealbata

Fallen wood from trees and, occasionally, branches and trunks, are productive substrates. Here they yielded such as the Cellar Fungus *Coniophora puteana* on yew logs, Common Stump Flap, *Stereum hirsutum*, Coral Spot *Nectria cinnabarina*, and several gelatinous fungi, Witches Butter *Exidia glandulosa*, and Yellow Brain, *Tremella mesenterica*.

Growing from the fallen litter of decaying leaves were the Deceiver *Laccaria laccata*, the Fragrant Agaric *Clitocybe fragrans* and Tawny Funnel Cap *Clitocybe flaccida* - the latter in profusion.

Various living leaves of plants carried microscopic parasitic fungi such as Bramble Rust *Phragmidium bulbosum*, Rose-of-Sharon Rust *Melampsora hypericorum*, Nettle Powdery Mildew *Erysiphe urticae*, Dock Leaf-spot *Ramularia rubella*, and a minute dark cup-fungus on Creeping Buttercup, *Leptotrochila ranunculi*.

A rare Hyphomycete parasite of a lichen, conspicuous as minute bright pink spots growing on the lichen *Scloliciosporum chlorococcum* itself growing on elder twigs, was sent to Kew for identification. Dr. Spooner named it as *Illosporiopsis christiansenii*, of which there are very few records in the British Isles, this being the first record for Herefordshire. It has the peculiarity of helically coiled conidia, and was first described under the generic name *Hobsonia* in 1986.

Illosporiopsis christiansenii

The final tally gave some 46 recorded species. Many thanks to those who gave their time and effort to complete the survey - Bryan, Shelly and Mike, Sheila and George and of course, in particular, Ted, who put together the final records. The wonderful photos, courtesy of Mike and George, received excellent comments from the many people who visited the display put on at Leominster Library during December.

We are planning to do more Churchyard surveys this year through Caring for God's Acre. If you are interested in joining in please contact Sheila for more information.

Ted Blackwell & Sheila Spence

MYCOLOGICAL MUSINGS

A close relative of the Cep, the Red-stalked Bolete, Boletus queletii

Wednesday, November 6th 2002 marked the 50th anniversary of the exploding of the world's first thermonuclear device, otherwise known as a hydrogen bomb, at Eniwetok Atoll in the Pacific. Just like an atomic bomb (which in this instance is used merely as a detonator) the resultant explosive force throws a superheated column of radioactive gas and engulfed debris rolling upward through the sky. The spectacle creates an unmistakable image, which we have come to describe in comparison to the small and often secretive denizens of our countryside. It is of course a "mushroom cloud".

It is perhaps slightly surprising to discover just how few people, even among fellow fungal enthusiasts, are familiar with the derivation of some of the most common words used to describe the subject of their interest, so here is an explanation of just two.

Many have encountered some of the vernacular names given to the impressive and much prized mushroom *Boletus edulis*. Known as King Bolete in the USA, Steinpilz in Germany, Porcini in Italy, Cépe, or Cépe de Bordeaux in France and Cep or Penny Bun here in the UK. This is also the species which probably most interested the ancient Greeks. Because of the similarity of their under-surface with sponges, they applied the same name, which translates as sphonggo's. From the same stem the modern Spanish equivalent is still hongos.

Over time the name sphonggo's was reduced to phongos or fongos, and so on until we arrived at the word "fungus" which we all use today.

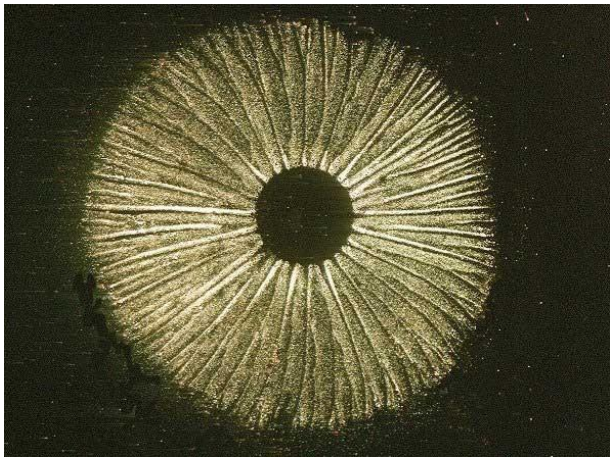
In about 1250AD Bartholomaeus Anglicus published an observation in "De Proprietatibus Rerum" (translated from the Latin to contemporary English by Cornishman John de Trevisa in 1398). In attempting to describe those organisms we now know of as fungi, he considered the poisonous properties shared between some of them and the frogs and toads that seemed to inhabit similar dark and damp areas. He therefore decided to name them by their habitat and

adopted the descriptive term "frog place". In 14th century English, the word "stole" was used instead of "place", so this was translated and published by John de Trevisa as "Frogge stoles". As a better taxonomic understanding between amphibians developed this later became "tode stoles" and eventually the name "toadstools" became a part of our language.

We may now dwell upon all those quirky and amusing illustrations of the past, of toads resting in stately posture upon the broad caps of magnificent mushrooms, which may have once seemed purely fanciful to the serious mycologist, but which we must now accept is at least an indication of that association from the past that led to the very creation of the word toadstool!

Fungi multiply by the production of millions of spores, which are so small they may be carried away in currents of air over vast distances. Although very small, spores may prove a significant diagnostic feature to be considered when attempting to identify a

wild mushroom. Apart from size and shape, the spore colour is also often important. Anyone may observe this character, as it does not require a microscope or specialist equipment of any sort. Simply lay the separated cap of a specimen over one piece of black and one piece of white paper, covered by a glass or bowl to maintain high humidity for a few hours. When inspected later, the colour should easily be recognised from the large number of deposited spores. Alternatively, as in my accompanying photograph of *Cystoderma amianthinum*, I have rested the cap on a piece of glass to collect the spores.



Spore-print of Cystoderma amianthinum on glass, illuminated with a golden light.

The central stipe and the position of each gill is clearly delineated by the silhouette of spores. The resultant image suggests the reason it is often referred to as a "spore-print". In this case the spore colour was simply plain white, so to make the picture a little more attractive I have illuminated it with gold light! This species of small toadstools occurs with regularity each autumn in my front lawn, delighting the observer with its warm golden-colour delicately covered with a tangibly granular texture.

The beautiful "Powdered Saffron Parasol" Cystoderma amianthinum

A finely ragged edge to the cap shows where that part was once attached to the stipe before it grew out and expanded and from where there also remains a lingering ornamentation in the form of an equally delicate ring.

It has been a relatively poor season this autumn because of the lack of rain, but I have still been lucky enough to enjoy the delights of chanterelles and parasol mushrooms, cooked lightly in olive oil for a very special treat and the season may well continue for a while longer if recent trends towards later winters becomes the norm.

Although the number of fungi has been significantly lower due to the drought, it has still not denied us the pleasure of making some particularly interesting finds this season. I feel grateful and honoured to be able to foray amongst such fine mycologists who attend the Dean Fungus Group, and in such company even I have been lucky enough to stumble across three new additions to our Dean list this autumn. For any fungal twitchers out there, they are the initially unassuming *Porpoloma spinulosum*; the most beautiful encrusting and finely toothed *Cerocorticium molare* and a small bracket *Loweomyces wynnei*. It is exciting to realise that we can all share an equal chance of making an important find in the living world around us, providing we take the opportunity to communicate with those specialists whose expertise is as much a part of our living heritage as the immediate object of our interest. This now gives me the opportunity to dedicate this page to two of our most highly respected mycologists. I know I will not be alone when I say how indebted and grateful I am to both Ted Blackwell of the Herefordshire Fungus Group and to Dr. Jack Marriott of our own Dean Fungus Group.

The "Trooping Crumble-cap" or "Fairies Bonnets" Coprinus disseminatus, may not be edible but will always be sure to delight us with its great displays erupting from the dead stumps of trees.

Vaughan Fleming – from 'The Forester'

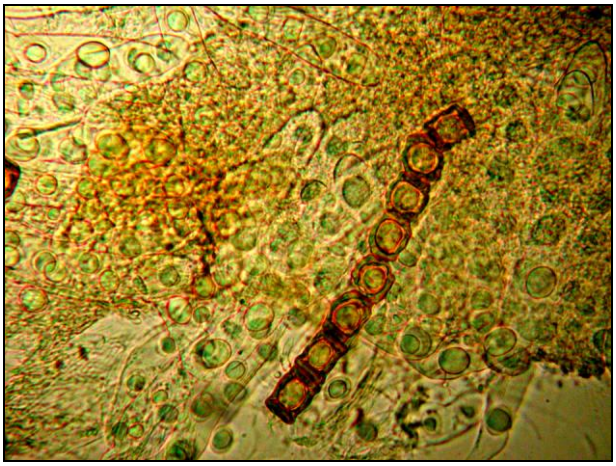
AN INTERESTING FIND – *HYDNOTRYA CUBISPORA*

An interesting find - unfortunately not in our county - was made by Bryan Lack in September 2002. It was a single fruit body of *Hydnotrya cubispora*, a hypogeous fungus, related to truffles. It is associated with coniferous woodland, particularly pines, and develops underground before emerging as a soft, hollow, convoluted, subglobose ascoma, about 3cm diameter.

Hydnotrya cubispora (photograph by Bryan Lack)

The identification was made by Dr. B. Spooner, at Kew, and is only the fourth record from the UK. It appears the fungus was first named in 1939, in the USA and it is also known from Canada, although not from elsewhere in Europe. It was probably introduced to Britain on imported conifers.

H. cubispora is notable for the size and shape of the mature spores, which has given rise to its name: each can be up to 47 □m long, including the ornamentation. Within the ascus they look rather like a series of vertebrae. It is fully described in '*BRITISH TRUFFLES. A revision of British Hypogeous Fungi*', by Pegler, Spooner and Young. (1993. Royal Botanic Gardens).



Hydnotrya cubispora spores (microscope at x160)

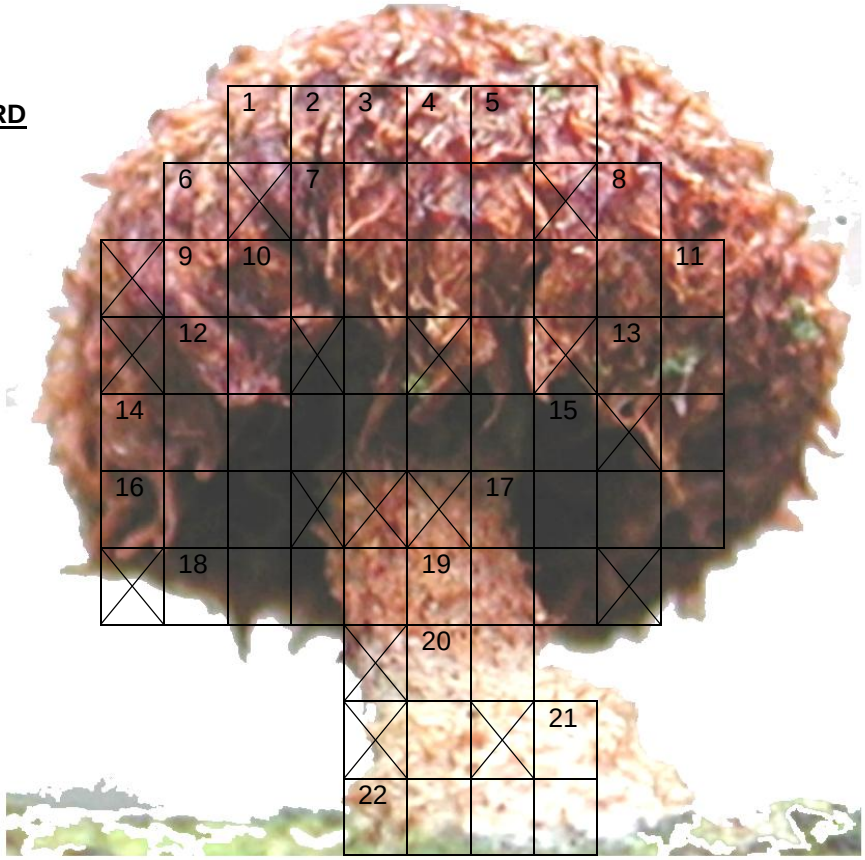
The fungus was found at the Llyn Llech Owain Country Park near Llandeilo, Carmarthenshire. This is designated an SSSI on account of the rare plants that live in the peat bog surrounding the lake, rather than its fungal associations. There are plans to clear-fell all the conifers around the outside of the bog, so that the area reverts to what it was like many years ago. However this plan is now to be reconsidered.

Bryan Lack

HFSG CHRISTMAS PARTY

I have got some spare space, so I thought that you might like to be reminded of this:

MYCROSSWORD



Across

1 Cloth (6)

7 King of Beasts (4)

9 Relating to catkins (9)

12 3rd note in sol-fa (2)

13 Belonging to me (2)

14 Like the background, specifically (8)

16 He of 11 down fame (3)

17 Novice, but heads a genus (4)

18 Earthy *Tricholoma* (7)

20 Kind of gas (2)

Serpula lachrimans does this (4)

Down

2 Best avoided with *Coprinus atramentarius*……(3)

3 … more so with this excess (5)

4 Parasitic fungi may lead to this (3)

5 Unit soon in disarray. Fibrous {} {} (8)

6 Wail (4)

8 Odd — see 2 (3)

10 Small person had no tea for a gnat (5)

11 Slime mould (4)

14 Hello! (2)

15 Work-out here (3)

19 Type of Mycorrhiza (4)

21 The HFSG (2)

Ray Bray

Autumn 2002 crossword answers:

Across: 3 arm, 5 Suillus, 6 hen, 9 root, 10 veil, 12 old, 15 prince.
Down: 1 mu, 2 fly, 3 ash, 4 man, 7 grevillei, 8 sori, 11 lac, 13 cap, 14 lac