



Herefordshire Fungus Survey
Group

News Sheet N° 22: Autumn2011



Pluteus hispidulus – Lady's Coppice (27/7/2011)

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President:	Ted Blackwell
Recorder:	Jo Weightman
Chairman:	Roger Evans
Secretary:	Mike Stroud
Treasurer:	Margaret Hawkins

As you will see from the Jo's 'Recorder's Report', there have been two finds of particular interest in Herefordshire during the period covered:

- the first British collection of *Coltricia cinnamomea*, found by Susan Hunter on the Barnett Wood foray and identified by Dr. Martyn Ainsworth at Kew. We are very grateful to him for allowing us to use his photographs of this specimen (see page 3).
- the first County record of *Clathrus archeri*, on Brockhampton Estate, collected by James Clay and determined by Sheila Spence. We are very grateful to him also for allowing us to use his photographs of this specimen (see pages 4 & 9).

In addition, Jo has again treated us to another of her entertaining and educational articles on some uncommon relatives of well known species – prophetically including, but written before the *Clathrus archeri* was found at Brockhampton.

Roger discusses *Plasmopara obducens*, the cause of the Busy Lizzie downy mildew and of some concern to the UK horticultural industry whilst, in contrast, Debbie enthuses about rusts on our garden plants. Never let it be said that your News Sheet does not give a balanced picture!

Ted has continued to delve into the *Transactions* of the Woolhope Field Naturalists Club and has used snippets of these to give us a picture of how the members 'enjoyed' fungi in the early days of foraging. We are indebted to Peter & Christine Thwaites for allowing us to use some of Peter's lovely illustrations of fungi as a background to the text (although, unfortunately, they are not all mentioned in the article). He is well-known for his paintings of fungi and has illustrated several of the BMS publications.

Two points of general information:

- I shall shortly be updating the Index to our News Sheets. This covers all the issues since it started in 1999 and will include references to over 1300 species. If you are not already on the circulation list and would like to be, please do let me know.
- Don't forget that the Editor is always looking for **your** contribution(s) to the News Sheet and the deadline for the next (Spring 2012) issue is February 20th. I shall do my best to send it out it more expeditiously, but it does help if you can send me your articles, photos, etc. as far as possible in advance of the deadline!

Happy reading!

Mike Stroud
e-mail: mikestroud1@btinternet.com

CAPTION COMPETITION
(Suggestions to the Editor by Feb. 20th, please)



RECORDER'S REPORT FOR 2011 UP TO AUGUST 31ST

Most meetings so far have been dogged by the dry condition of the ground, the summer rains seeming to soak through or evaporate rapidly, leaving our woodlands crunchy and dusty. Nonetheless a pleasing total of 287 species has been recorded, including 149 new site records and 7 new vice county records. Following the meetings reports is a sample of records made at other times by members. Once again, I am appealing to everyone to send me a note of the fungi they see in the county, no matter how humdrum.

Queenswood Arboretum SO 506514 30.03.2011
58 records. There was a pleasing number of new site records (13), given that this location has been forayed over since the 1840's. An arboretum is bound to throw up interesting associations – this visit yielded *Ganoderma applanatum* on the Southern Beech, *Nothofagus dombeyi* and *Daedaleopsis confragosa* on a Magnolia. The ascomycete *Chaetosphaeria callimorpha*, which has shining black perithecia nestling in black hairy colonies, is a new vice-county record. Two species associated with wood anemone were recorded – the brown goblet of *Dumontinia tuberosa* and the rust *Tranzschelia anemones*.

Barnett Wood SO399676 20.04.2011
Dry conditions. 37 records. Conifer plantation and relict broad-leaf woodland. The most interesting ascus were *Diaporthe strumella*, a pyrenomycete occurring on dead currant stems, wild gooseberry *Ribes uva-crispa* in this instance and the *Apomelasmia* state of *Diaporthopsis urticae* on dead nettle stems. A number of spring rusts and slime moulds were recorded - all common, but several were nonetheless new site records. A collection on dead bracken of the nationally rare Coelomycete *Pycnothyrium litiginosum* by our President Ted Blackwell is now deposited in the Herbarium at Kew. Susan Hunter found a number of very dry but curious thin-capped, stalked and pored fungi, much swathed in gingery 'fur', nestling beneath a fallen branch. This was identified by Dr Martyn Ainsworth at Kew as *Coltricia cinnamomea* and occasioned a review of the (few) packets under this label in the herbarium. All proved to be misidentifications of the relatively common *Coltricia perennis*, making this the first British collection of a species widespread on the continent. When fresh, *C. cinnamomea* has a more silky surface than its common cousin, but microscopic examination is necessary as spore size and the nature of the tips of the cuticular hyphae are critical diagnostic characters.



Coltricia cinnamomea – Barnett Wood (24/4/11)
(Photographs by Dr. Martyn Ainsworth)

The 'fur' was no more than mycelium and not a helpful feature. We are very grateful to Dr Ainsworth, not only for his diagnosis and the many hours spent working on this collection, but also for permission to print his photograph of this exciting find.

Little Doward SO533163 11.05.2011
Rather dry. 37 records. Nearly all were new site records, so a useful gap-filling spring visit: notables among them included *Pyrenopeziza petiolaris* on dead Sycamore petioles and *Haglundia elegantior*, a grey disco with dense pale hairs on the underside.



Haglundia elegantior – Little Doward (11/5/11)

Suillus grevilleiae made a surprise early appearance. Two separate collections were made of the litter/debris species *Hydropus subalpinus*. This was the third County record for a nationally rare species and has been deposited in the herbarium at Kew. *Endophyllum euphorbiae-sylvaticae* III was also collected. It is a nationally rare rust occurring on wood spurge *Euphorbia amygdaloides*.

Croft Castle: Fishpool Valley SO451655 01.06.2011
40 records, most, understandably given the time of year, were of ascus and other very small species - notably the var. *flagicola* of *Lachnum fuscescens*,

the black dots of *Mycosphaerella rhododendri* on rhododendron leaves and the powdery mildew, *Puccinia difformis* on Goosegrass, *Galium aparine*. The uncommon *Hypoxylon intermedium (fraxinophilum)* was again collected. A few agarics were recorded, even *Mycena acicula* sheltering under litter and *Pluteus cervinus*, perhaps stirring into life after the genus kept such a low profile last year.

Lady's Coppice SO452388 27.07.2011
 Dry conditions. 29 records. Broad-leaf woodland with conifer plantation above.
 Most records related to the broad-leaved woodland, where the bramble cover daunted all but the most intrepid. There was a thin scattering of early season mycorrhizal species and a nice example, albeit small, of *Pluteus hispidulus*, a pale agaric with a coating of dark hairs (see front cover). The collection of a red-cracking bolete occasioned some dismay when it came home that the very familiar name *Xerocomus chrysenteron* is no longer a useful handle. *X. chrysenteron* is now considered to be much less common than previously thought, with flesh that scarcely blues and a distinct association with conifers (possibly also with beech). The much more common species that readily flushes deep blue (sometimes slowly) is *X. cisalpinus*. And, sorry, but it should be *Xerocomellus* now for both species! Neither of the above has orange dots in the base of the stipe. If you see orange dots, it will be *X. engelii* or *X. rubellus*. A spiky mat collected by Seb Bacon from a conifer log was identified by Ted Blackwell as *Stilbella byssiseda*. It was parasitising a myxomycete, possibly *Cribraria argillacea*, certainly a *Cribraria*.

Nether Wood SO518337 10.08.2011
 38 records. Dry conditions. We hugged the valley bottom in the hope of some moist ground but were not, on the whole, rewarded. It was, however, a good day for powdery mildews. The stars of the day were the gelatinous club *Calocera furcata* and *Dasyscyphella crystallina*, both County firsts and rare (or under-recorded) everywhere.

Upper Grange, Bacton SO360324 31.08.2011
 48 records. Still dry, but as this is a new survey site, it was possible to carry out some useful baseline recording. No mycorrhizal species were seen, but saprophytes on dead wood and litter were present. Among the more interesting species seen were *Pholiota tuberculosa*, which is widely distributed in England but never common and *Pulcherricium caeruleum* (latest name *Terrana caerulea*) which forms often large inky blue patches on fallen branches, frequently on ash, but in this instance on hazel. It appears to be a rather 'western' species in Britain.

Other records

Boletus impolitus under oak, near Richards Castle old church 15.06.11, Jo Weightman; 9th VC36 record since 18xx.

Clathrus archeri Brockhampton Estate 09.08.2011, collected by James Clay, determined by Sheila Spence. A new vice-county record [see also p9 for photograph & description].

Leucoagaricus leucothites, in a recently mucked arable field, Canon Frome area 04.09.11, Seb Bacon.

Mitrophora semilibera in a garden at Bodenham Moor, 20.04.11, Margaret Hawkins

Pseudoclitocybe cyathiformis, fresh as a daisy after five weeks under snow, Bircher Common 2.1.11, Jo Weightman

Puccinia vincae, grounds of Orleton Village Hall, on *Vinca major* Ted Blackwell 13.06.2011. K

Russula curtipes, in beech woodland, Fishpool Valley Jo Weightman 04.08.11, K

Steccherinum cf ochraceum, on the underside of a fallen *Ulmus glabra* 16.06.11 Stapleton Castle, determined by Alick Henrici.

Tricholoma orirubens, Haugh Wood north, on wood ants' heap (a most unusual habitat); Cherry Greenway 29.08.2011



Calocera furcata – Nether Wood (10/8/11)



Dasyscyphella crystallina – Nether Wood (10/8/11)



Pholiota tuberculosa – Upper Grange, Bacton (31/8/11)

Jo Weightman – Recorder

BUSY LIZZIE PLAGUE HITS THE BORDERS

When on holiday on the west coast of France in August my wife bought a Daily Telegraph. Although I am not one who craves British newspapers when abroad, I did skim through it and an article headed, "Busy Lizzies being wiped out by mildew disease," caught my eye. It reported that a downy mildew disease was having a devastating effect on Busy Lizzies in the UK.

I thought little more about this until, on returning to my home near Abergavenny, I saw what had been a pot of Busy Lizzies, which was a mass of pink flowers two weeks earlier, now reduced to a skeleton of branches, there was not a single flower left and only one or two leaves.



Downy mildew reduced a pot of healthy Busy Lizzies to a skeleton of branches

On removing one of the leaves I saw a white felty deposit on the undersurface which is typical of a downy mildew disease. Subsequent examination of this material under a microscope confirmed the presence of *Plasmopara obducens* the fungal like organism that causes downy mildew of Busy Lizzies.



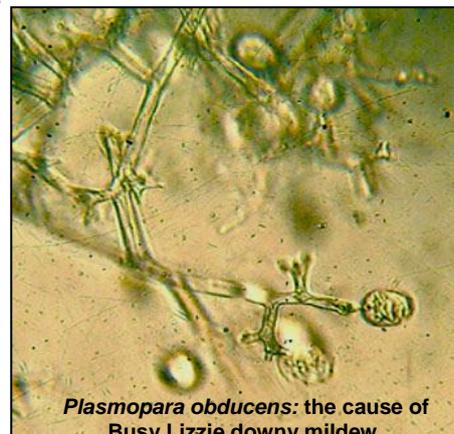
White layer on Busy Lizzie leaf.

In all downy mildews the spores (actually sporangia) are very easily detached from the spore bearing structures (sporangiophores), so in the slides one prepares they are not usually found attached. However, the highly branched tips of the sporangiophores typical of *Plasmopara* can be easily seen. The spores will germinate in a film of water on a leaf to give rise to zoospores, which swim rapidly and accumulate at stomates, the gas exchange openings, (sometimes incorrectly called 'breathing pores' in popular literature). These are mostly present on the under surface of a leaf. At least one of these will germinate and pass a tube through the opening into the leaf: from this, hyphae will grow between the cells. Soon, new sporangiophores grow out through stomates and produce a new crop of spores, so giving the white appearance to the underside of

the leaf. The spores are dispersed by wind and rain and the leaves then soon die. This is an asexual stage in the lifecycle of the 'fungus'. A tough, resistant sexual spore, which can survive in leaf debris and the soil is known but, to the best of my knowledge, has never been found in the UK.

So where did this disease come from? It was first found in the UK in 2003 and was thought to have come into this country on cuttings from Europe: some authorities believe that it had earlier arrived there from Guatemala. However, the disease appeared to be quite well controlled for several years by metalaxyl, a systemic fungicide used in horticulture and agriculture to control downy mildews and potato and tomato blight. This year, a new isolate of the pathogen, resistant to metalaxyl appeared and this seems to be the cause of the present problem.

Like their close relatives potato and tomato blight, downy mildews are devastating diseases. There are no fungicide treatments available to amateur gardeners and the best course of action is to uproot and burn infected plants to prevent further spread. Many horticulturalists are of the opinion that the disease spells the end of the Busy Lizzie in the UK. This, of course, will be a great shame since the plant is invaluable for providing colour in those shaded areas of the garden. S.Coutts, of the British Bedding and Pot Plant Association, estimates the value of the Busy Lizzie to the UK horticultural market to be nearly £40 million. Fortunately, the disease does not appear to attack other species - not even other *Impatiens* species, such as the New Guinea Busy Lizzie. Doubtless, some conservationists will be saddened that it does not attack Himalayan Balsam, that related alien species which is colonising our riverbanks, to the detriment of native species!



Plasmopara obducens: the cause of Busy Lizzie downy mildew.

Roger Evans

GARDENING FOR RUSTS

Gardening is one of the nation's favourite past-times, yet how many gardeners either notice or record the rusts and other fungi in their gardens, unless they are actually killing their host? Even if they are seen, the first thought is probably, "How do I get rid of it?", rather than to take samples or make a list. So, even the more common 'garden' species are relatively under-recorded.

Anyone beginning a study of rust fungi could do no better than to take a walk around their own garden and will probably be surprised at what they find growing on both cultivated trees and plants and on the so called 'weeds'. It may be possible to discover new hosts and even a rare or new rust species, with the wealth and variety of plants available and grown by keen gardeners. I managed to find 4 new VC records, (1 rust and 3 hosts) in gardens during 2011. Places to look include

- trees and shrubs - native, ornamental and fruit;
- the vegetable plot;
- herb garden;
- flowerbeds

and do encourage friends and neighbours to give you samples!

The best book to use for identifications is Ellis & Ellis, which is conveniently arranged by host names, with all known rust species listed for each. It briefly describes macroscopic and microscopic details of each rust and how to differentiate them where necessary. In this article I am going to highlight a few common and not so common 'garden' species, to try and tempt would be rusters to take a look.....



In spring this year I was sent a picture of a fantastic *Gymnosporangium clavariiforme* infection of a Juniper tree, *Juniperus communis* growing in a Menai Bridge garden. It showed the gelatinous, orange telial horns poking out through the bark and extending right down the trunk. This was the first Anglesey record of any *Gymnosporangium* species and the owner was left with instructions to monitor nearby Hawthorn, which is the alternate host for the rust, (see Brand and Shattock 2006; Evans 2007).

In May, a couple of old trees in the garden were showing a heavy infection, demonstrated by the strange brown aecial horns on leaves, petioles and fruits. The spores of these rusts are carried in the wind and quite often the 2 hosts are growing a long distance apart and only a few infected Hawthorn leaves are seen, so this demonstrated how heavy an infection can be when the 2 hosts are close-by. There are 4 *Gymnosporangium* species using mainly *Juniperus sabina* or *J. communis* as their primary host and variously Hawthorn, Rowan, Pear, Quince or Medlar as the second host, (see refs.).

Pear rust, *Gymnosporangium Sabinae*, alternates with *J. sabina* and is indicated by bright orange spots on the upper surface of the Pear leaves and later by the brown aecial outgrowths on the underside. Reports of this rust have increased in Britain over the last 10 years, although I have yet to record it. It should be checked for during spring and summer in gardens and orchards. Records should be sent to the RHS, who are monitoring the spread, (see refs.). Leaves of the other hosts can also be

examined for similar symptoms indicating other *Gymnosporangium* species.

This year I recorded the aecial stage of a common rust for the first time. Buckthorn, *Rhamnus cathartica* and Alder Buckthorn, *Frangula alnus* are the alternate hosts of *Puccinia coronata* which is a very common rust affecting many grass species and grain crops including barley and oats. The infected grass can be covered with orange uredinia containing the urediniospores and this is the repeating stage during the spring and summer as the spores infect more plants. Later in the year the telia, containing the teliospores, are formed and these are characteristic in having small projections on the top of the 2-celled spores looking like little crowns. They germinate in spring to produce basidiospores, which in turn infect the secondary hosts and little aecial cups are formed on the leaves of the 2 tree species, which are often planted in gardens.

Spindle, *Euonymus europaeus*, can be one of the aecial hosts of another common rust *Melampsora epitae* var. *epitae* and I recorded this infection for the first time in 3 gardens (see photo on next page). The aecia found on the flower buds, petioles and leaves of the Spindle are caemoid, (without a definite structure) rather than cup like. The rust is extremely widespread on the many *Salix* species, both wild and garden trees that it uses as a second host. Infected leaves look more yellow and can be covered on the underside with yellow uredinia. Garden records on *Salix* species should include the specific variety and name if known.



Plum trees, including a Victoria in my garden are occasionally infected by *Tranzschelia discolor*. The leaves appear mottled yellow and tiny brown uredinia can cover the undersides. With a heavy infection there may be some premature leaf fall but I have not noticed any lasting effects and infection on my tree has been sporadic. Suggested other trees and shrubs to investigate include old Box, Poplars, especially *Populus x canadensis*, Rhododendrons, Hypericums, *Mahonia aquifolium* and Rose, *Rosa* species.

Many Rose cvs. have now been bred to be rust resistant, but old varieties are often prone to one of the rose rusts. I find that the Japanese Rose, *Rosa rugosa* commonly grown in gardens near the coast here, is often severely infected by *Phragmidium tuberculatum* despite the rose being supposedly quite disease resistant.

The next area to check is the vegetable plot and here common rusts include *Uromyces viciae-fabae* var. *viciae-fabae* on Broad Beans, *Vicia faba* and *Puccinia porri* on Leeks, *Allium porrum*. (A similar rust, *Puccinia allii*, can infect other *Allium* species like Chives and Garlic and Onion). On Broad Beans the leaves, stems and pods may become covered with the brown uredinia and later black telia but the leaves usually remain alive. Despite the rust being a nuisance, it is still possible to harvest the beans. With Leeks, both sides of the leaves show orange uredinia and if the infected ones can be removed the remaining leek is still usually edible. Typically, only the single celled urediniospores are found, but telia and the 2-celled teliospores should be checked for and recorded if present.

On the coast I regularly see the brown uredinia and telia of *Uromyces beticola* on the leaves of Sea Beet, *Beta vulgaris* ssp. *maritima* and domesticated *Beta vulgaris* relatives like Spinach Beet and Beetroot can also carry the rust. *Uromyces appendiculatus* occasionally occurs on Runner and French Beans, *Phaseolus* species. As with Broad Beans, brown uredinia and later blackish telia are formed on the leaves. Infection tends to occur later in the summer so it may not affect yield too much. It is a rust I have only seen once on a sample sent to me and I would be interested to know how widespread and common it is.

Puccinia menthae is the rust infecting many species of Mint, both wild and cultivated and can be a nuisance in the herb garden. The leaves may become covered with the brown uredinia and telia and often drop prematurely. In my experience the hairy species like Applemint tend to show symptoms later than the less hairy mints. '*Puccinia menthae*' is thought to actually be a series of races and the rust on one *Mentha* species cannot infect another

species and vice versa. It is possibly systemic and can appear on leaves again in the following year. Marjoram, *Origanum vulgare* can also be infected by this rust, although I, personally, have only seen the infection on Wild Marjoram and my garden plants remain clean.

The attractive, aniseed smelling Sweet Cicely, *Myrrhis odorata* is a common plant on the road verges of parts of Northern England where I have regularly encountered the rust *Puccinia chaerophylli*; first as aecial cups and later as brown uredinia and telia. Adjacent plants of Cow Parsley, *Anthriscus sylvestris* are also sometimes infected. This herb does not grow wild locally, but I have recorded the rust on individual plants in a few gardens. I have yet to find infections on the other *Umbellifer* here.

Another herb to investigate is Comfrey, *Symphytum* species, commonly grown by organic gardeners. It can be infected by *Melampsorella symphyti*. I have not seen this rust in NW Wales but it is prevalent in some parts of Britain.

In the flowerbeds, pots and greenhouses Fuchsias and Zonal Pelargoniums are both sometimes prone to rust infections and where specimen plants are used to provide cuttings this can be a problem. Fuchsias can succumb to *Pucciniastrum epilobii* infection. This is a common rust found on many wild Willowherbs, *Epilobium* species so there is a huge reservoir of rust spores around to infect susceptible garden plants. Infected Fuchsia leaves show pale or yellow spots and inspection of the underside of the leaves reveals the pale yellow uredinia. Leaves may die and drop prematurely but generally the plants do not appear to suffer lasting damage. *Puccinia pelargonii-zonalis* originates from South Africa and only became established in Britain in 1965. It has become a problem for growers of *Pelargonium zonalis* and hybrids, both in greenhouses and outdoors. Infected leaves have yellowish spots on the upper surface and the cinnamon-brown uredinia on the corresponding lower surface. The urediniospores produced will infect more plants and the disease may be systemic and thus difficult to eradicate and infected plants should not be used for cuttings.



Puccinia pelargonii-zonalis

Puccinia distincta is thought to have been introduced from Australia on Daisy, *Bellis perennis* cultivars and the first verified record in GB was in 1973. In 1997, it suddenly appeared on wild daisy, *Bellis perennis* and is now very common on both wild and cultivated plants. Council flowerbeds I see with *Bellis* cvs. are rarely free of infection and, in severe cases the plants look very sick and may die, yet they continue to be used. Many gardeners will see this rust in their own gardens, most commonly as the aecial stage with yellow cups on leaves, petioles and buds. In lawns infected wild daisies are first noticed by their more erect, paler leaves.

A few other garden flowers to investigate include Hollyhock, *Alcea rosea*, infected by the microcyclic rust *Puccinia malvacearum*; *Oxalis* species with the yellow uredinia of *Puccinia oxalidis*; Snapdragons, *Antirrhinum majus*, with *Puccinia antirrhini*, mainly found on older plants; and *Iris* species, especially *Iris foetidissima* infected with *Puccinia iridis*. In the latter I think the elongated yellow, brown-rimmed spots on the leaves actually enhance the appearance of the leaves!

In the soft fruit garden, (and hedgerows), there are the ubiquitous Blackberry rusts. Raspberry leaves may be infected with *Phragmidium rubi-idaei* although this isn't usually a serious problem and there are resistant varieties available. Occasionally Blackcurrant, *Ribes nigrum*, leaves are found with strange, brown, thread like growths on the underside. These are the uredinia of *Cronartium ribicola*, a heteroecious rust, using a *Pinus* species as the second host. This rust causes the serious White Pine Blister disease on Pine trees. In 2006 I recorded this rust on Blackcurrant leaves in 2 gardens, but have not seen it since and I failed to find any infected Pine trees nearby.

And, finally, before returning to the house, don't forget the weeds! I have been known to crawl across my patio with a lens in hand, looking for brown pustules on the leaves and stems of the tiny Procumbent Pearlwort, *Sagina procumbens* growing between the paving slabs. These are the telia of the microcyclic rust *Puccinia arenariae* more often seen on Red Campion, *Silene dioica*. Many other common garden weeds can be found with rust infections.

There is only room and time here to mention some of the rusts that might be encountered in an average garden and many more plants may carry rusts. A few hours spent wandering round could produce some interesting and exciting finds.And we haven't even thought about the potential Downy and Powdery Mildews, Smuts and Albugos, (White Blister), which could be recorded. Happy hunting!

References and useful texts:

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- Ellis & Ellis (1997). *Microfungi on Land Plants- An Identification Handbook* Richmond Publishing
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Wilson, M. & Henderson, D.M. (1966). *British Rust Fungi* Cambridge University Press
 Pear Rust Survey: <http://www.sylva.org.uk/treewatch/>



Puccinia distincta on Wild Daisy



Puccinia iridis on *Iris foetidissima*



Cronartium ribicola on Blackcurrant leaf

Text & photographs - Debbie Evans

LOOK OUT FOR LESSER KNOWN RELATIVES!

The following three fungi are related or similar to well-known species but may be unfamiliar to readers:

To start with ... a bad smell! Stratagems adopted by plants to attract insects for pollination are varied and numerous – less frequently do fungi play similar spore dispersal games. The phalloids, however, play a dirty game, emitting an irresistible – to certain flies - odour of carrion.

They appear first as 'eggs', with a thin dingy skin over a thick gelatinous layer. A slice through at this stage will show that 95% or more is taken up by the 'head', the stipe (where there is one) being compressed to a millimetre or so. Once the spores are ripe, the head pushes through the soft shell, the stipe expands and the smell is trumpeted abroad. If the right kind of fly is in the neighbourhood of the smell (and it

always seems to be), it homes in on the fungus - the perfect place to lay ones eggs if one is a fly.

The second part of the stratagem now comes into play. Whereas most of the larger fungi produce dry spores that can be wafted away by the merest current of air, those of the phalloids are embedded in a thick, moist and stinking paste, known as the gleba, which coats the fruiting head. By the time the fly had discovered its mistake and flown away, it has become the unintentional vector, depositing spores here and there, wherever it lands.

One photo shows the common stinkhorn *Phallus impudicus*, a familiar presence in our woods. The other shows *Clathrus archeri*, an Australasian species well-established in West Kent, where it profits from the heat inside wood chip piles, and fruiting in abandoned multitudes when the mulch is spread. The fungus has invested in colour as well as smell in its ploy of mimicking rotting flesh, having several scarlet octopus-like arms which bear the gleba on the upper side. It seems likely that sooner, rather than later, we will see this fungus in VC36 since sacks of mulch cover the miles more rapidly than the fly. All bar one of the GB records are from the most southern counties but a



Phallus impudicus

collection in Gloucestershire in 1994 suggests it is creeping up on us.

I must be psychic! Since writing the notes above, news has come in of the first sighting in Herefordshire. The find was made and photographed by James Clay in the Brockhampton Estate, near Bromyard. [Many thanks for the picture! I have used it here - Ed.]

The Blushing Bracket, *Daedaleopsis confragosa*, is a very common sight on dead, often propped-up branches and poles, usually of Hazel or Willow. The pores become more and more elongated and interlinked with age, the labyrinthine pattern reminiscent of the maze built by Daedalus, for whom it was named. Much less common is a laminate version, *Daedaleopsis*



Clathrus archeri – photograph by James Clay

tricolor, photographed here in Kent on dead wild cherry, *Prunus avium*, and strikingly red on the cap.. It has been recorded just once in Herefordshire, at Leeping Stocks, in 1996, when it occurred on beech. CBIB and the FRDBI agree in doubting the authenticity of this species in Britain, considering it to be no more than *D confragosa* in a reddened and partially lamellate form. Certainly, the common Blushing Bracket can itself have a strongly red pileus,

so no case for separation can be made on that ground alone. However, as the photograph shows, the underside can be fully laminate. Should you find any material like this, please would you keep it and get in touch with me.



Daedaleopsis tricolor

My last is a morel-like species, *Gyromitra infula*. It is not, in fact, a morel as such, but it does bear a broad similarity to one, having a large brown folded head borne on a stout stipe. The lobes of the head are not separated by paler

ridges as happens in morels – actually, the resemblance is rather to a *Helvella*, as the fertile hymenium is somewhat saddle-like and folded. If surrounding vegetation constricts development, folding can be less than perfect but, when perfect, the cap is divided into into two horns. The photograph shows one of a dozen or so that were growing on a pile of branches of cut birch *et al* in Kent.

This is a predominantly Scottish species and rare even there, meriting a Vulnerable listing on the Red Data list. There are historic records from East Anglia and Yorkshire, getting nearer to us in Caernarvonshire in 1977. Most records are from coniferous litter but the 2010 Kentish collection was definitely on broadleaf.

Text & photographs (except *C. archeri*) by Jo Weightman



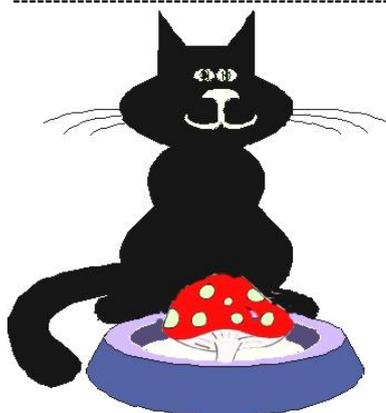
Gyromitra infula

FUNGAL FRAGMENTS

Musical Slime Moulds

Professor Eduardo Miranda is a prolific composer and researcher into artificial intelligence based at the University of Plymouth. Some of his compositions use sound generated by electrical signals passing through networks of neurons in the brain. He has recently turned his attention to the slime mould *Physarum polycephalum*, an organism easily grown in pure culture in the laboratory. It has a bright yellow plasmodium and students are usually fascinated to see that this can move over the surface of agar in a Petri dish. By placing electrodes in a plasmodium, Miranda has been able to detect electrical activity that he is able to convert into sound. Since *Physarum* responds to light, he now plans to expose it to various light stimuli and to use the electrical activity which may be generated to produce 'music'. Next year he is writing a piece for an ensemble of slime moulds together with traditional instruments.

Roger Evans



Ted Blackwell has come across a somewhat surprising note about a cat eating fungi. It occurs in a paper by the renowned Victorian Shropshire naturalist and mycologist, the Revd. William Houghton ¹(1829-1895), Rector of Preston-in-the-Wild Moors, near Wellington, 1860+. After commenting that various boleti and agarics often bear the impress of the teeth of small Rodentia, such as squirrel

and rabbit, and noting that he knew that rabbit will eat *Amanita rubescens*, he reported that he had offered his white Persian cat a variety of fungi as food. It had eaten 'with evident relish' *Hygrocybe pratensis* & *H. virginea*, *Armillaria mellea*, *Lepista saeva*, *Marasmius oreades*, *Collybia butyracea*, *Coprinus comatus*, *Boletus edulis* & *B. scaber* and *Hydnum repandum*. But it refused 'some known unwholesome and poison kinds', such as *Stropharia semiglobata* & *S. aeruginosus*, *Amanita muscaria*, *Boletus luridus* and some *Cortinarius*. He reported his other cat, a 'common variety', refused all fungi and seemed to say to its Persian companion "Hey, Persian lad, I dislike what's on offer".

More recently over a century later, in a veterinary article ² on why dogs eat fungi (sometimes with fatal results) the author contrasts the behaviour of dogs with that of cats. Whereas a dog is naturally 'nosy' and 'mouthy', and having located by its strong sense of smell what may be an interesting item of food, the next canine-logical step is to put it into its mouth. In contrast, a cat is a more 'finicky' eater, and will not eat what its sense of smell does not recognise as acceptable and will reject novel offerings, tending to investigate the unfamiliar with paws rather than mouth. It has been found that some cats appear strangely attracted to unusual odours (its fondness for Catnip *Nepeta cataria* is a well known phenomenon) and when cats do sometimes eat poisonous fungi, it is thought that they are able to detect, and are attracted to, psychoactive compounds which may be present in certain fungi.

¹ Houghton, W. *Notices of Fungi in Greek and Latin Authors*. Ann. Mag. Nat. Hist. Ser. 5. 15:22-49. pp.153-4. (1885).

² John P. Aldridge. DVM. *Why Dogs Eat Mushrooms*. Mclvainea Vol 13. No.1. pp.20-29. (1997).

THE ENJOYMENT OF FUNGI, VICTORIAN STYLE

The Woolhope Club of Hereford is known today as the originator of fungus forays that began in 1868 with an invitation to the members to a 'Foray among the Funguses' (see HFSG News Sheet No. 19, p10). The members' enthusiastic foraying coupled with a relish for good food in which fungus dishes were de rigueur, are revealed in snippets from the Transactions from several years. Interest in wild fungi was thought to be a little odd, and to eat them was even more daring and unconventional than today. It is salutary to realise that the state of fungus knowledge was at a very much earlier stage and species, which were novel and full of interest to them, are today what may often seem to us to be rather tame and unremarkable.

In 1869 after foraying at Merryhill and Haywood Forest (sites today no longer wooded and long ago converted to agriculture) they dined on 'The Maned Agaric', what we know today as the Shaggy Inkcap or Lawyer's Wig (*Coprinus comatus*), which three gentlemen thought the cook had not done justice to; the Giant Puffball (*Calvatia gigantea*) 'sliced and fried with yolk of egg and fine herbs'; 'Vegetable Sweetbread, *Agaricus orcella*,' - which we know as The Miller (*Clitopilus prunulus*) - and 'The Champignon', the Fairy Ring Champignon, both 'served in a white sauce'.

'Several thought the *Orcella* and the *Oreades* excellent, but the chief merit was unquestionably awarded to the Puffball — "How do you recognise it? — Can you be sure of it? — How is it cooked? &c. &c." were questions asked over and over again. It was fortunate that on the table a small specimen still remained to show them how easy it is to distinguish it from every other kind of fungus'.

In 1871 they forayed at Dinmore Hill and from details of the foray report it was in woods to the east of the A49, to the south of Hampton Court.

'The last of the Field Meetings was held on Tuesday last.¹ The attendance was numerous, the weather was beautiful, the scenery of the district selected for the hunt was very fine, yet above and beyond all for the object of the days' excursion, Funguses were abundant.

'The sun shone brilliantly as the visitors left the Dinmore station² to wend their way up the hill to the tower on the top,³ but the admiration of the varied foliage tints was quickly exchanged for the forms and colouration of the Funguses met with.⁴ The scarlet tints of *Hygrophorus coccineus*, *Peziza aurantia*, and *Ag. (Amanita) muscarius*; the amethyst and purple variety of

Ag. laccatus; the large white *Lactarius vellereus*, the delicate *Hygrophorus coccus*, and *Clavaria vermiculata*; the yellow wax-like *Hygrophorus ceraseus*, and hundreds of others in shades of yellow, brown, and black, mixed by Nature's art, with many a varied grace of form and texture.'

'Meanwhile, the way led on and whether it was due to the many attentions the Funguses offered, or to that old sad habit of keeping too long to the broad and easy path, the visitors found themselves on the turnpike-road to Leominster, without a sight of the tower. Away through the wood, side tracks were taken and baskets meanwhile were getting rapidly filled with the spolia of the day. In the hunt for the tower, which conceals itself wonderfully well in the woods of this wide-backed undulating hill, some found it, and some didn't, and the president was amongst the unfortunate. And so it came to pass that the business of the club was transacted under beech trees at the far side.'⁵

The report continues with more details of the foray, how in due course they crossed the private bridge over the river Lugg into Hampton Court Park.

'Mr. Arkwright had most kindly given the members of the Club full permission to trespass in all directions their fancy might lead them". After thoroughly exploring the park and gardens, the whistle was sounded for the return.

'The ascent of the hill was again made for the home journey, and the fungus hunt resumed all the more vigorously.... On the way through the woods many other Funguses were gathered, and by way of balancing the virtues of the edible kinds, it is well, perhaps, to mention, the virulently poisonous *Lactarius torminosus*, "the slayer" as it is sometimes called, was very abundant, and a very beautiful agaric it is with its rich orange zones and woolly margin.'

'One other agaric only shall be named and that because it is very rare and so very interesting. On a stump not far from the station *Marasmius foetidus*, the little foetid *Marasmius* were growing plentifully. More *Lactarii* and *Cortinari* were met with than could be named, for some were either new, or in a peculiar form, and it is possible they may be heard of again at the Fungus Exhibition at the Green Dragon.⁶ Suffice it to say now, that the tower was visited on the way back and the station duly reached in time for the train.'

By 1877, the Forays had become so popular that the meetings were being attended by mycologists from places far distant from Hereford, even attracting eminent

¹ 10 October 1871.

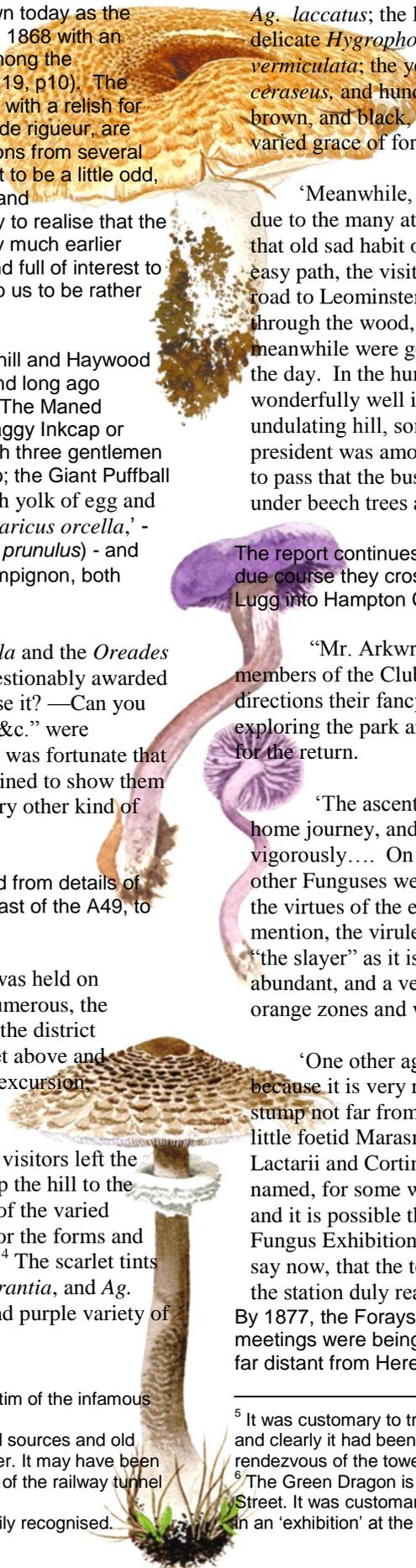
² SO513512, closed long ago, probably a victim of the infamous 'Beeching axe'.

³ Despite considerable searching of historical sources and old maps, I have found no references to the tower. It may have been a masonry structure surrounding an air shaft of the railway tunnel with a tower-like appearance.

⁴ The early synonyms of those times are easily recognised.

⁵ It was customary to transact day-to-day Club business *al fresco*, and clearly it had been intended the hold the meeting at the rendezvous of the tower.

⁶ The Green Dragon is the celebrated Hereford Hotel in Broad Street. It was customary to display collected fungi for discussion in an 'exhibition' at the hotel where they were dining..



specialists from abroad. Their foraging days were spent in the woods of local country estates, after which they dined well, on various fungus dishes, often followed in the evenings by learned discussions and the reading of scientific papers. There is an account in the *Transactions* of 1877 which provides some insight into the members' enjoyment of fungi, both as quarry of the hunt and in gastronomic appreciation.

'There were seventy-one Woolhopeans at the Green Dragon Dinner [notably, among other fungus dishes, part of the repast set before the guests was a dish of the Horn of Plenty]. *Craterellus cornucopioides* was a highly-relished novelty, cooked in honour of Monsieur Cornu.⁷ This fungus when prepared for the table, has a somewhat singular appearance, being jet black in colour, and in this resembles burnt onions. Its odour is highly inviting and its taste truly delicious.'

'Friday October 5th, was devoted to an exploration of Lyonshall Wood⁸ and neighbourhood near Titley.⁹ Amongst notable plants found here may be mentioned, *Uredo vacciniarum*, *Puccinia veronicarum*, *Nyctalis parasitica*, *N. asterophora*, *Ptychogaster albus*, *Lactarius glyciosmus*, *Agaricus vaccinus*, and many other rarities too numerous to mention. The Rev. J. E. Vize lighted on *Poronia punctata* growing on a discarded fragment of a rustic's corduroy breeches. After this district had been well searched, the Woolhopeans drove direct to Moor Court,¹⁰ where they were most hospitably received by the Rev. James and Mrs Davies. Here an excellent dinner had been prepared, and over this dinner, till dark, the fungus men discussed fungus subjects in a variety of languages. French was probably most pronounced, often mixed with English; when both failed, Latin came to the rescue, with, sometimes, a touch of Greek – when all languages fell short of a clear meaning, drawing, as a last resource, was resorted to. As an example, no one at our end of the table could remember the French for Cranberry-pie; whereas *Vaccinium Oxycoccus*-pie was common to all. And so, with many thanks to the kind host and hostess, the party drove off in the black darkness of evening, to the Titley station. Owing to the nature of the vehicles, and the quality of the quadrupeds, the party was late at the station, but such is the respect with which fungus-men are held in Herefordshire, that the station authorities detained the train for six minutes, till the arrival of the party.'

In 1883, they were dining at their customary venue, the Green Dragon.

'The agaric served up this year was the Chanterelle (*Cantharillus cibarius*), and so well did the *chef de cuisine* perform his part that he received a special

⁷ There is a punning joke here. *Cornu* is also the Latin word for horn.

⁸ SO3256

⁹ SO3360

¹⁰ SO3555. Not to be confused with Moor Park.

compliment from the Central Committee, and an additional one from the guests in the generally expressed regret that there was not more of it.'

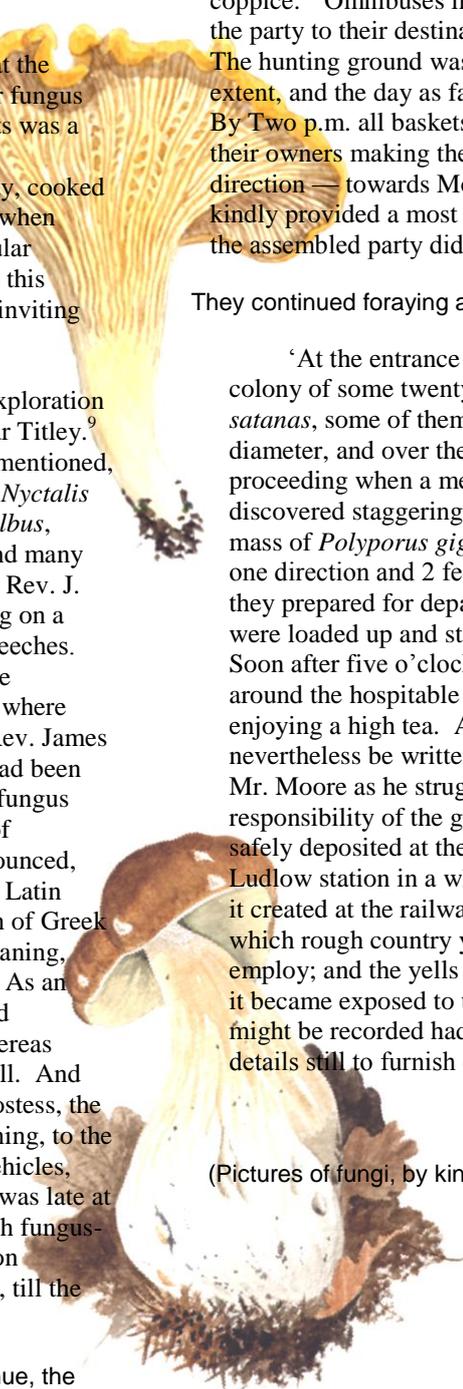
'The excursion for Tuesday [2nd October 1883] was by rail to Ludlow for Moor Park¹¹ and Woodseve's coppice.¹² Omnibuses in waiting at the station conveyed the party to their destination and awaited their return. The hunting ground was a good one, almost unlimited in extent, and the day as favourable as could be desired. By Two p.m. all baskets were filled to overflowing, and their owners making the best of their way in one direction — towards Moor Park, where Mrs. Foster had kindly provided a most substantial luncheon, to which the assembled party did ample justice.'

They continued foraging after lunch:

'At the entrance to the park flourished quite a colony of some twenty or thirty specimens of *Boletus satanas*, some of them being eight or nine inches in diameter, and over them some discussion was proceeding when a member of the party was discovered staggering along under the weight of a mass of *Polyporus giganteus*, nearly thirty inches in one direction and 2 feet in the other. [Eventually they prepared for departure.] The three wagonets were loaded up and started on their return to Ludlow. Soon after five o'clock the entire force collected around the hospitable table of Messrs. Fortey¹³, enjoying a high tea. A graphic account might nevertheless be written of the Herculean labours of Mr. Moore as he struggled under the weight and responsibility of the gigantic *Polyporus* till it was safely deposited at the Museum. How it travelled to Ludlow station in a wheelbarrow; what astonishment it created at the railway station; the suspicious remarks which rough country youths did not hesitate to employ; and the yells of sundry small boys whenever it became exposed to their gaze; — all this and more might be recorded had we not other more prosaic details still to furnish of the various expeditions.'

Ted Blackwell

(Pictures of fungi, by kind permission of Peter & Christine Thwaites)



¹¹ SO5071. The mansion and park are now occupied by Moor Park School.

¹² We know this today as Haye Park Wood.

¹³ The brothers Fortey were Woolhope Club members who are mentioned at various times in *Transactions* providing sustenance to the forayers either at their home in Ludlow or by large hampers taken on forays.