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### Welcome to the Spring 2011 News Sheet

As I write this, we have just eaten our first St. George's Mushroom: these regularly appear each year at the end of our garden. After that foul winter, spring must have arrived at last!

However, it is with great sadness that we begin this year's foraying without one of our most well-liked, stalwart and highly respected members, Stephanie Thomson, who died on March 11th. She was one of the founder members of HFSG and there were very few forays that she did not attend – always brightening up the day with her quiet, often self-deprecating humour (although her laugh was a good guffaw, to rival the best of them!). We shall very much miss her and the encouragement and expert, but unobtrusive help that she gave to so many of us just starting out on mycology, as well as others more experienced in the field. It is a very sad loss and there is a tribute to her by Ted on page 3.

Our heartfelt sympathy also goes to Jo Weightman for the loss of her husband, Bill, following a long and difficult illness. We hope that she and her family are able to put their lives back together again before too long. She has asked me to pass on her thanks to everyone who sent their condolences and kind messages.

In this issue, amongst other items:

- Ted muses on when the difference between Ascomycetes and Basidiomycetes was first recognised;
- Debbie, with her usual exuberant enthusiasm, treats us to a beginner's guide to rusts. Hopefully, there will be more of them on our foray lists, as a result;
- Jo reminds us to look out for some of the fungi which are parasitic on other fungi;
- Tom asks us to look out for and report sightings of white thistles - suffering from a bacterial disease, caused by a bacterium in the genus *Pseudomonas*.

Finally, I would urge anyone who has not already seen it, to have a day out and visit the exhibition, 'From Another Kingdom', which is at the National Botanic Garden of Wales until 28<sup>th</sup> February 2013. It has come down there after an extremely successful showing in Edinburgh last year. In any case, if you have not already been, Shelly & I can strongly recommend a visit to the NBGW, for its own sake!

Happy reading!

Mike Stroud  
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Another one of Cherry's beautiful photographs:



*Aleuria aurantia*

And, from our forays, three offerings from me:



*Kuehneromyces mutabilis* – Croft (29/9/10)



*Rutstroemia firma* – Queen's Wood, Dymock (27/10/10)



*Diderma hemisphaericum* – Bromyard Downs (13/10/10)

### STEPHANIE E. THOMSON, 1924 - 2011

I first met Stephanie at, appropriately, a foray she was leading in Brampton Bryan deer park nearly 30 years ago. Both of us, we discovered, were time-served members of the BMS and had a store of amusing anecdotes to swap about experiences of BMS forays. On such occasions there had been some of the larger-than-life BMS personalities and she recalled the often-dubbed "grand old man of mycology", Dr. John Ramsbottom, when offered small Agarics to identify, dismissing "little brown jobs" by throwing them over his shoulder. She had been inspired on forays by Dr. Bayard Hora (and the Latin of "Lange & Hora" was our common bond) and she recalled his foray party piece of the violet reaction of KOH on *Lactarius turpis*. She was amused to be teased that her dog Millie was a truffle-hound after its unbidden habit of sniffing-out and disinterring false truffles. From then on, we often compared notes on fungus and botanical topics.



When the national fungus database started, Stephanie enthusiastically gave me access to her Herefordshire fungus records to transcribe. These she had started in 1961, carefully preserved in a hoard of precious notebooks. We are greatly indebted to her, for these records formed the foundation of what is now the Herefordshire fungus database. Thereby she had brought light to the dark age of Herefordshire fungus recording that had prevailed for decades, following the cessation of the Woolhope Forays.

Her knowledge of local fungus sites proved invaluable in the planning of the celebrations of the 1996 BMS Centenary Forays in Herefordshire. She was one of the founding members of Herefordshire Fungus Survey Group attending from its first foray at Humber Marsh in August 1998 and thereafter had sustained her interest and remained strongly supportive, right up to her last foray at Lea & Pagets Wood on 24th November 2010. She was always ready to share her knowledge of fungi and plants, or of the Herefordshire countryside - although in a quiet way - and, as recently as last year, helped to resolve some hitherto puzzling details on the specimen sheets of Dr. Bull's herbarium in Hereford Museum.

She and husband Peter travelled widely across the world in pursuit of a shared interest in natural history and of Stephanie's particular interest in botany. But she will be best remembered for her work in Herefordshire. Her stalwart but unobtrusive help and support and her kindly nature will be sadly missed by her many friends, especially those who shared her interest in fungi.

Ted Blackwell

## RECORDER'S REPORT FOR AUGUST TO DECEMBER 2010

September was glory time in 2010: the days, though still long, were not long enough for all there was to see. But, by October, it seemed that most species had `given their all` and the dry conditions did not help. A few groups failed to impress, notably grassland species (please let me know if your area came up to scratch) and fungi of dead wood, notably species of *Pluteus*, were untypically scarce. Nevertheless, there is always something and it is rare to come away disappointed....

### FORAYS

#### Stapleton Castle 18.08.2010

Our thanks to Trefor and Margaret Griffiths for their invitation to record in their grounds. Although the site was probably not seen at its best, fungus-wise, nonetheless over twenty species were recorded, including the dramatic *Boletus pulverulentus* which blues instantly and all over at the merest touch.

#### Hampton Court 15.09.2010

A well-attended foray, rewarded with the longest list of finds this year (150). Records, mostly saprophytes from borders and shrubberies, included *Inocybe adaequata* (4<sup>th</sup> VC36 record), *Lepiota fuscovinacea* (3<sup>rd</sup> VC36 and rare nationally) and *Ramaria gracilis* (a Red Data List species and 3<sup>rd</sup> VC36).



*Lepiota fuscovinacea* – Hampton Court (15/9/10)

**Croft Castle 29.09.2010** also well attended. Again, few mycorrhizal spp were recorded (but they were abundant two weeks earlier). *Ramaria formosa* and *R. fennica* var. *griseolilacina* were spectacular (plus *R. botrytis* 11.09.2010 Jo Weightman). The good handful of new site records included *Hygrocybe irrigata* (in woodland), *Hygrophorus mesotephrus* and *Pseudoomphalina graveolens* (K), the last two also new VC36 records and rare species nationally.



*Pseudoomphalina graveolens* – Croft Castle (29/9/10)

**Bromyard Downs 13.10.2010.** The chosen site proved unexciting due in part to the very dry conditions but a hundred or so fairly run-of-the-mill species were nonetheless recorded. However, thanks to Cherry Greenway who opted to foray in the adjacent Hillfield Coppice, the day was saved by a find of *Cortinarius violaceus* a rare and beautiful fungus designated as Near Threatened in the Red List ed.2 and not recorded in Herefordshire since the 19<sup>th</sup> century.

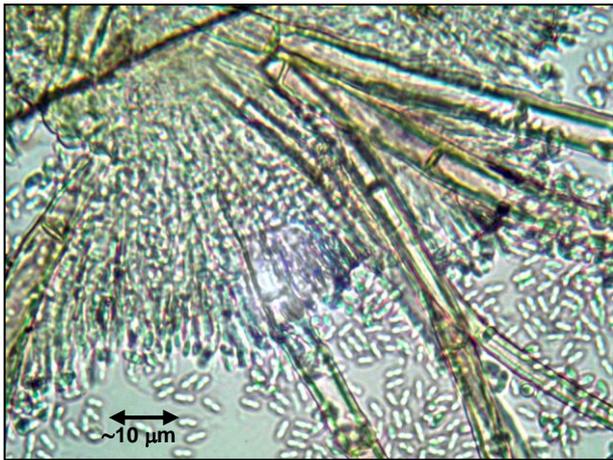


*Cortinarius violaceus* – Bromyard Downs (13/10/10)  
Photo by Cherry Greenway

**Queens Wood, Dymock 27.10.2010.** The site offers a range of habitats so both broadleaf and coniferous species were recorded, the latter including *Pseudohydnum gelatinosum*. There were 11 new site records, including *Lepiota magnispora* (= *ventriosopora*), *Orbilina alnea* and *Coprinus picaceus*, the last species fairly common in litter of broadleaved trees but here, unusually, under larch. A minute white `shuttlecock` on an ivy leaf proved to be *Volutella ciliata* (K), only the 2<sup>nd</sup> VC36 record (see cover photo & next page).



*Pseudohydnum gelatinosum* – Dymock (27/10/10)



*Volutella ciliata* – Dymock (27/10/10), showing conidia & (part of) the setae

**Brampton Bryan 12.11.2010.** Foraying was restricted to the permanent pasture with its copses and veteran trees. Grassland species were few, with finds mostly associated with litter and fallen branches. Among the more interesting were the scarlet parasite on larvae *Cordyceps militaris*, *Mycena bulbosa* restricted to *Juncus* spp, *Panellus mitis* on a fallen conifer branch and *Marchandiomyces corallinus* on an indet, lichen. An ascomycete occurring on old bracket fungi was identified by Ted Blackwell as *Melanospora lagenaria*- an exciting record for a rare (or under-recorded) species in Britain. This is the first VC36 record for this species. None of the records on the FRDBI mentions *Trametes* as a host.

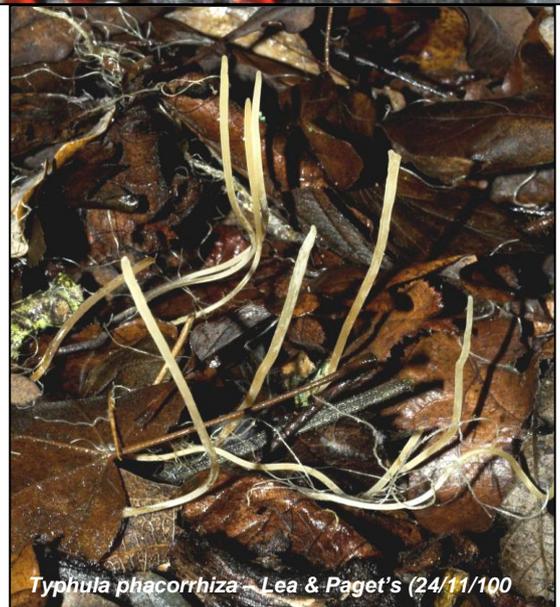


Top: *Mycena bulbosa* Bottom: *Melanospora lagenaria*  
Both at Brampton Bryan (12/11/10)

**Lea and Paget Wood 24.11.2010.** A handsome 14 new site records for this much visited site, including *Nectria magnusiana* on *Diatryella favacea*, *Mycena smithiana* on a rotting oak leaf and *Typhula phacorrhiza* arising in fine threads from broadleaf litter.



*Nectria magnusiana* – Lea & Paget's (24/11/10)



*Typhula phacorrhiza* – Lea & Paget's (24/11/10)

#### OTHER MEETINGS

The Group has also run a Study Day and an all day public foray for the Woodland Trust at Credenhill.

Part of the Study Day was spent foraying in the Haye Park area of Mortimer Forest. Although the woodland was desperately dry overall, damper areas near the car park provided sufficient fungi for our purpose. *Helvella elastica* was locally frequent under Douglas fir and a dozen or so examples of the old man of the woods *Strobilomyces strobilaceus* was spotted by one of the attendees. The find was particularly pleasing as there are records from the 1970s for this species in this part of the complex and it is good to know that it was not destroyed when the car park was created.

The open day at Credenhill was well attended by the public, over 60 species being identified by members who led the three foraying parties. Of this number, almost half were new site records, making this a very fruitful exercise for the Group. Among these were *Hygrophorus nemoreus* (4<sup>th</sup> VC36), *Xylaria filiformis* (3<sup>rd</sup> VC36) and *Peziza saniosa* (3<sup>rd</sup> VC36).



*Hygrophorus nemoreus* – Credenhill (14/11/10)

### OTHER NOTABLE VC36 RECORDS

*Amanita ceciliae* 19.09.2010 Haugh Wood North, not recorded in the county before 1967 (yes, the old names *A. inaurata* and *A. strangulata* have been checked), and since then only 9 records, Stephanie Thomson.

*Amanita virosa* 14.09.2010 Downton Gorge, 3<sup>rd</sup> VC36 record, Jo Weightman.

*Boletus satanas* 10.08.2010 Leeping Stocks. A second station on the Doward. A Red Data List and BAP species, Cherry Greenway.

*Cortinarius bolaris* 12.10.2010 Fishpool Valley (part of Croft Estate), Roy Mantle. Only 4 sites county-wide for this dramatic species with fiery red scales.

*Cortinarius cinnabarinus* 11.09.2010 with beech Fishpool Valley (part of Croft Estate), only the 5<sup>th</sup> VC36 record since the nineteenth century and a first ever sighting for me, Jo Weightman.

*Entoloma jubatum* 16.09.2010 garden in Bacton, only the 7<sup>th</sup> VC36 record since 1900, Charles and Susan Hunter, det. Jo Weightman

*Hebeloma radicosum* 14.10.2010 Fishpool Valley – this very untypical *Hebeloma* (almond-smelling, scaly-capped)

arises from underground latrines or rotting carcasses of small mammals via a stout root-like structure. Easy to identify but shy and rarely fruiting, Jo Weightman.

*Illosporopsis christiansenii* 14.10.2010 on broadleaf twig Woolhope churchyard, Ted Blackwell.

*Lycoperdon mammiforme* 12.10.2010 Fishpool Valley, an puffball which seems to have a stronghold along the Welsh/English borders but never common, Jean Wynne-Jones, det. Ted Blackwell.

*Mycena pseudocorticola* 12.12.2010 Holywell Dingle, Mike and Shelly Stroud.

*Ramariopsis tenuiramosa* 13.10.2010 Brockhampton Park, 1<sup>st</sup> VC36 record, designated as Vulnerable on the Red Data List ed. 1. Cherry Greenway, det. Peter Roberts.

*Schizophyllum commune* 13.11.2010 on haylage bales Turnstone Court, Jo Weightman

*Spathularia flavida* 13.09.2010 in sheets under larch Haye Park Wood, 2<sup>nd</sup> VC36 site), Jo Weightman

### OUT OF COUNTY RECORDS

*Xeromphalina fellea* (*X. caudicinalis* in CBIB) 10.10.2010 Glangrwyney, Isabel Winstanley. First recorded here in 1995. A rare Scottish species with only a few outposts south of the border. Vulnerable in Red Data List ed.1.

*Agrocybe rivulosa* 17.08.2010 on wood chips in garden Cwmdu Crickhowell, Mike and Shelly Stroud.

My thanks to everyone who sent in foray records and helped with identifications. Thank you also to those who additionally passed on their personal records, every single one of which is very much wanted, the crown for sheer numbers going this year to Stephanie Thomson. The grand total (so far) for the second half year 1759 and for the whole year 2106.

K = deposited H erb. Kew.

## **CYTTARIA DARWINII**

I was able to see this rare fungus in Argentina last November. It grows on the Southern Beech (*Nothofagus* spp.) only and only in South America. Its local name is Llao Llao and a very up-market hotel is named after it. I was in the north of Patagonia. Charles Darwin collected samples in 1832 from Tierra del Fuego on his voyage on the Beagle. He sent them to the Reverend Miles Berkeley, the Northamptonshire vicar who was the foremost mycologist of his day - he identified and named some 6000 fungi.



Berkeley named the fungus after Darwin. Part of Darwin's original collection is held today in the herbarium at the Royal Botanic Gardens, Kew.

The orange fruit bodies are edible! Wildlife eat them after they have dropped to the ground. The fungus is a member of the Ascomycotina and is a perennial. When mature they resemble orange golf balls, the dimples in the golf balls are apothecia lined with asci, a new layer of these is produced each year.

Text & photo by Bill Catling

## A HITCH IN THE PROGRESS OF SCIENCE

To anyone regularly checking fungi microscopically, it may be of interest to know that the clear microscopic distinction between Ascomycota and Basidiomycota - and what today we may think is obvious - was not at first apparent to earlier mycologists.

I recently had the opportunity to read an early fungus book first published in 1847, entitled 'A Treatise on the Esculent Funguses of England'. My particular interest is that Dr. Henry Graves Bull (of "Forays amongst the Funguses" fame - see News Sheet No. 19, pp7 - 9) used it and clearly had been influenced by certain sentiments of the author, Dr. Charles Badham. The book was published only two years after the great Irish famine of 1845 caused by potato blight, a fungus-like mould (the Chromistan *Phytophthora infestans*) ruining the potato crop. Dr. Badham, when referring to edible fungi not being used as food by the needy, wrote (p150) that in autumn 1847 he had witnessed

"whole hundredweights of rich wholesome diet rotting under the trees; woods teeming with food and not one hand to gather it; and this perhaps, in the midst of potato blight, poverty and all manner of privations, and public prayers against imminent famine."

Dr. Bull had quoted from this book partly in justification for introducing the arcane topic of fungi to the Woolhope Club in 1867. He referred to Badham's aphorism of "manna of the poor", namely, wild fungi, as free food if the poor would only recognise it.

An aspect in Badham that interested me arose from the fact that the early mycologists' elucidation of the microstructure of all macro-fungus fruit-bodies (including Basidiomycetes) was in the belief that 'sporidia' (spores) occurred in thecae (which at that time was the term meaning 'asci'). In other words, the microscopic difference between Ascomycetes and Basidiomycetes had not been recognised.

Both Ramsbottom\* and Ainsworth\*\* describe how all the leading workers at that time (Brongniart, Chevalier, Desmaziseres, Duby, Greville, Klotzsch, Krombholz, even Persoon) continued to believe this until, quite suddenly, around 1836 to 1840, a number of workers (including Rev. Miles Berkeley) quite independently began to draw attention to the fact that, in fungi we now know as Basidiomycetes, "instead of being contained in asci their

spores stand on small stalks on cylindrical structures, usually four. (B. Ascherson).

Ramsbottom says, "The facts just related appear to be a remarkable illustration of the way knowledge advances. It is perhaps more usual for someone more discerning or more brilliant than his fellows to make some discovery. If his contemporaries are in a receptive state the controversies which arise consolidate the position and knowledge advances: if not, the matter remains either a curiosity or is for the time forgotten. In the present

instance one cannot pretend that the discovery required anything beyond exact observation: the facts are such that they can be, and indeed are, confirmed in a first year's practical botany course. But simultaneously - for apparently none knew of any other investigations until his own was complete - Ascherson, Berkeley, Corda, Klotzsch, Leveille and Pheobus startled their own coteries by what was an epoch-making discovery, as revolutionary in its effects on the understanding of the structure and

classification of fungi as it was simple to confirm. It is of little consequence to assign priority in the discovery; a statement by Berkeley in 1842 puts the matter in its proper perspective. 'The eyes of modern mycologists were for years blinded by Link's celebrated paper, or the real structure would long since have been recognised. The modern re-discovery is due to Ascherson; at least he is the first who made it known.'

In the light of this I was interested to note that Badham had found it necessary to add a correction and disclaimer on his final page (p152 - see above).

However, in quoting Montagne, he was still continuing along the lines that spores emerge from basidia as they might do from asci, namely, "that during the first stage of their development they are lodged within the sporiferous tubes, to the mouths of which they afterwards adhere by means of short spiculae or branchlets".

If, instead of spores, Montagne had said "nuclei", he would have been nearer modern concepts.

\*Ramsbottom, J. *Proceedings of the Linnean Society*. Session 151, 1938-39. Pt. 4. 14 May 1941. P344.

\*\*Ainsworth, G.C. *Introduction to the History of Mycology*. 1976. CUP. P74

Ted Blackwell

## SCARLET ELFCUP

Spring is in the air and our thoughts turn to the 2011 foraging season. Our early 2010 foray saw a Scarlet Elfcup and it has come to be regarded as an indicator of Spring. But we are to be reminded that we are catching the Scarlet Elf Cup at the end of its fruiting season since it actually starts fruiting in December, maturing beneath the winter snow.

Worldwide there seems to be a tendency to maintain the English name Scarlet Elfcup or Scarlet Cup. Perhaps this is because of confusion in the development of Latin names, the species being known in the scientific literature since 1772. It belongs to the *Sarcosyphaceae* family of the *Pezizales* order and is an Ascomycete, spores forming in asci (sacks just below the surface).

There are, in fact, two species with this same English name - ie *Sarcoschypha coccinea* and, more commonly (at least, on the FRDBI), *S. austriaca*. The two can be distinguished microscopically by

- the hairs on *S. austriaca* are corkscrew-shaped (see photo above), whilst those on *S. coccinea* are not;
- the spores of *S. austriaca* are rounded at the ends, whereas those of *S. coccinea* are elliptical.

The Scarlet Elfcup is found all over the northern hemisphere, as well as in Australia and South America. It may lack pigmentation sometimes, hence rendering it orange, yellow or even white. It grows on the rotting branches of broadleaved trees, but you may have to scratch around for it in leaf litter or soil to find it. However, it can often be seen for quite a distance – the only bright thing around. (Tom Volk).

Whereas the Scarlet Elfcup is regarded as edible, it is also not regarded as worthwhile eating. To be truthful hardly anyone ever gathers enough of it to eat: when they do, lots of butter, salt and pepper are recommended. One text suggests adding it to fresh fruit salad, whilst adding Kirsch to the cups. (Davidson et al 2006). Scarlet Elf Cups provide food for the animal kingdom. Rodents eat them during the winter months and slugs tackle them throughout the summer. These fungus-animal observations were made during studies in North Wales during the late 1970's. (Brown 1980).



The striking scarlet colour of the traditional Elfcup is caused by a group of carotenoid pigments, including beta-carotene. There is a view that pigmentation hastens heat absorption, thereby assisting ascus development and spore discharge. The pigment has also been used in the production of dyes, colouring yarn and cloth a "Scarlet splash" colour (Book of Fungi).

Medicinal uses of the fungus were developed by Oneida Indians and perhaps other

Iroquois tribes. Scarlet Elfcups are dried and ground into a powder and applied, especially, to the navels of newborn children. Similarly, it has also been used beneath deer skin bandages.

Gareth Morgan.

### References:

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- Davidson, J.L. et al 2006. The Oxford Companion To Food. Oxford.
- Phillips, R. 1994. Mushrooms. Macmillan. London and Basingstoke.
- Scarlet Cup ([www.itsnature.org/plant\\_life/vegetation-plants/scarlet-cup/](http://www.itsnature.org/plant_life/vegetation-plants/scarlet-cup/))
- Tom Volk's Fungus of The Month for April 1998 ([http://botit.botany.wisc.edu/toms\\_fungi/apr98.html](http://botit.botany.wisc.edu/toms_fungi/apr98.html))

[Ed: readers who would like to pursue the subject further can consult the article in *Mycologist* vol 9 part 1 February 1995 by G.B. Butterfill and B.M. Spooner]

**SPRINGWATCH FOR ..... RUSTS - A Beginner's Guide**

Spring is now just around the corner and will have already arrived by the time this article is in print. This is an excellent time to start looking for and recording rust fungi as many of our common Spring plants and flowers may have one or more associated rust growing on them. For the dedicated rust collector it is possible to record throughout the year and even in the depths of winter I can usually find at least one or two rusts every week; however, Spring is a very bountiful season and rusts give plenty of scope for recording when other larger fungi are few and far between.

In bleak February the leaves of Bluebell, *Hyacinthoides* species are starting to appear and a careful search may reveal the tiny dark-brown telia of *Uromyces muscari* on yellowish spots on the leaves, often arranged in a diamond pattern. This is a 'microcyclic' rust so only telia



*Uromyces muscari*



*Puccinia tumida*

yellow aeciospores on the Celandine. It is a 'heteroecious' rust forming its uredinia and telia on a second, 'alternate' host and both hosts are required to complete the life-cycle. The alternate hosts in this case are various grass species including *Poa* and *Festuca*. *U. dactylidis* also

containing brown teliospores are found. I have already seen my first examples on *H. non-scripta x hispanica* in early February. (It is usual and helpful to record the host species as accurately as possible rather than just 'Bluebell'). In general, the plants do not seem to be affected detrimentally by this infection and it is common to find huge stands of Bluebells where only a few individuals have obvious lesions. It is possible that some plants may carry the infection yet show no symptoms or, alternatively, that only certain plants are susceptible within a population

infects other species of *Ranunculus* and both rusts are very common. You may additionally see pale spots on the leaves caused by a smut fungus, *Entyloma ficariae* (see photo next page) and, where whole leaves are pale and sick looking, check for a furry coating on their underside which is the common downy mildew *Peronospora ficariae*. This is easily confirmed by a quick microscopic slide to look for the distinctive DM sporangiophores and sporangia.

Pignut, *Conopodium majus* often grows alongside Bluebells in woodland glades and in heathy situations and may be infected by *Puccinia tumida*, an 'almost' microcyclic species as uredinia containing urediniospores are rarely found. Look closely for blackish telia on the tiny leaves and petioles. This is a gall provoking species of rust and very often the petioles are swollen, contorted and bent as a result of the infection. A second rust, called *Puccinia bistortae*, also infects this host, but I have yet to see it myself. This species produces aecia on the Pignut and alternates with *Persicaria* species, where the uredinia and telia are produced, and is described as scarce in GB.



*Uromyces ficariae*

The bright-yellow flowers of Lesser Celandine, *Ranunculus ficaria*, are very common Spring flowers. The date that the first flowers open is one of a series of nature events recorded every year by phenologists monitoring responses to an increase in our average temperatures. However, I am more interested in the first sign of rust infection on the leaves! Two species of *Uromyces* affect the plant, occasionally simultaneously, and they are easily differentiated from each other with no need for a microscope. *Uromyces ficariae* is a microcyclic species producing groups of dark chocolate-brown telia on both sides of the leaves and petioles, whereas *Uromyces dactylidis* only produces yellow aecial cups containing



*Uromyces dactylidis*



*Entyloma ficariae*



*Puccinia adoxae*



*Puccinia albescens*



*Ochropsora ariae*

Moschatel, *Adoxa moschatellina*, (also known as Townhall Clock), is a very small Spring plant growing in shady hedgerows and woodland. It appears early in the Spring, before it is overgrown and shaded by other bigger and more aggressive plants, so the window for recording the two main rusts which infect it is fairly short. *Puccinia adoxae* is a microcyclic rust producing tiny dark-brown telia on the leaves, stems and flowers and *Puccinia albescens* is an 'autoecious' species producing all the main spore types on the single host. Most commonly found are the beautiful little aecial cups which are yellow with a white 'frilly' margin and can occur on all parts of the plant and these are followed later by the uredinia and telia. By looking specifically for the host plants I have found both rusts to be fairly common and I have occasionally recorded both species infecting the same plant.

Large stands of Wood Anemone, *Anemone nemorosa* may have to be carefully searched to find just a few plants infected by the microcyclic rust, *Tranzschelia anemones*, which forms dark-brown telia on the underside of the leaves. Irrespective of the number of host plants present, I have rarely found more than a few plants visibly infected with the rust. Again, it could be possible that plants carry the infection without showing outward signs. Infected plants are usually paler green in colour and 'meaner' looking or etiolated, growing slightly taller than their neighbours, presumably in an effort to reach the light and the trained eye can spot these abnormal plants while scanning a large stand. This rust was only recorded for the first time in VC49, (Caernarvonshire) in 2004, but careful searching (plus determination!) has found it to be quite common occurring in many places where the host grows in both VC49 and VC52 (Anglesey). A second, genuinely much rarer rust, called *Ochropsora ariae*, produces similar pale, etiolated plants, with pretty pale-yellow, white fringed aecial cups instead of telia found on the undersides of the leaves (see Evans 2008). Wood Anemones are also commonly infected by a smut fungus, *Urocystis anemones* and silvery blisters or swellings may be found on the leaves which split to release the black spore balls (see photo next page). One of the most commonly recorded downy mildews *Plasmopara pygmaea* additionally attacks the host; the infection being indicated by pale, sick plants and a furry coating on the underside of the leaves, (best viewed with a hand lens). It often causes the demise of large stands of the host later in the season.

One of the first rusts I find in Spring is *Puccinia lapsanae* on Nipplewort, *Lapsana communis* (see photo next page). This is not a typical Spring plant, but its leaves are some of the first to appear. The rust is easy to spot due to the purple reaction on the leaves and closer inspection reveals the orange aecial cups on each purple spot. Later in the season these are followed by small brown uredinia and blackish-brown telia which may cover the whole leaf surface.

Alexanders, *Smyrniololus atrum*, are thought to have been introduced by the Romans as a foodplant and it is a common hedgerow plant locally with a mainly coastal distribution. Early Spring growth quickly exhibits the bright-yellow aecial cups of *Puccinia smyrnii* and these are soon accompanied by the blackish-brown telia, (uredinia are not formed). This very common rust can be found all year round but is especially obvious at this time.

Another common plant of hedgerows and walls Navelwort, *Umbilicus rupestris*, is also growing vigorously in Spring and I regularly find plants infected with the microcyclic rust *Puccinia umbilici*. The upper leaf surface often shows pinky-purple or yellow spots and closer inspection reveals the tiny dark-brown telia which occur on both sides of the leaves and on the petioles. When I first began recording rust fungi seriously in 2002 this was thought to be uncommon locally with few recent records, (probably due to a lack of recording effort). It was one of the rusts that I targeted and now consider to be a very common species, which can be found throughout the year and within half a mile of my home. A very 'attractive' rust because of the plant reaction and one of my favourites!

Other plants to check for rusts are Lords and Ladies, *Arum maculatum* and Ramsons, *Allium ursinum* which are commonly infected with the aecial cups of *Puccinia sessilis*, (a heteroecious rust alternating with Reed Canary Grass, *Phalaris arundinacea*); and two autoecious species where the aecial cups can be found on their hosts in Spring- *Puccinia violae* on Violets, *Viola* species and *Puccinia saniculae* on Sanicle, *Sanicula europaea*.

Finally, look out for Primrose, *Primula vulgaris*, (and Cowslip, *P. veris*), infected with the yellow aecial cups of *Puccinia primulae*. Recording this rust would be a bonus as it appears to be genuinely uncommon if not rare despite the widespread distribution of the host plant, (see Evans 2008).

With regard to texts to use for identification, 'Microfungi on Land Plants' is without doubt a "must have" for anyone wanting to study the various fungi infecting plants and trees. It lists all the possible host species and describes the microfungi including rusts and mildews which may be found in association with them. Not a cheap book but "a bible" in my opinion.

These are just a few examples of the scope for rust recording in the Spring and it should be quite possible to record several of these species and others on a single outing..... and one Spring spent recording could form the beginning of a lifelong obsession with these interesting fungi – like mine! Happy hunting.

#### References and useful books

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*Urocystis anemones*



*Puccinia lapsanae*



*Puccinia umbilici*

Text & photographs by Debbie Evans

## DOUBTFUL FRIENDS AND PARASITES

How often I have peered hopefully at white mycelium spreading over the cap of an elderly *Clitocybe nebularis* dreaming of my lifetime's find. How often has that dream of finding the parasitic *Volvariella surrecta* come to nought.

I had seen 'it' in my green days when a fellow student produced a specimen collected from Richmond Park. My slide of this rather dry object has featured in many a talk, accompanied by a stern request to let me know immediately if sighted. It was 13 years before I did see it again, but

a) I did not find it myself  
and b) it was in France and, therefore, did not really count.

In the autumn of 2010 I was forced to swallow my pride and rejoice when a colleague discovered it in my patch in Kent. Not only fully developed, but also very immature fruitbodies were found, so I was able to observe the appearance of the host before the invader really got going.



Forget the expected delicate white mycelium nonsense. In its birth pangs, the step parent-to-be had all but turned itself inside out, raising a side (or sides) of the cap, fan-like, to the vertical. A few days later, in a different wood, I found my very own *Volvariella surrecta* by homing in on that very conspicuous host behaviour. When mature, picture half a dozen - maybe even more - rather chubby (cherubic?), whitish fruitbodies, sitting in deep saucers (volva), usually within, but sometimes under the up-turned edges of the contorted *Clitocybe*. Your challenge - no records yet in VC36!

Other parasitic fungi can be even more elusive or, conversely, quite common. In the first category fall species of *Squamanita* which parasitise a number of genera, causing a club-footed or galled effect at the stipe base. Again, there has been as yet no Herefordshire collection of any species, although tantalising finds in nearby Shropshire in 2004 from the Clee Hill and Wyre Forest were reported by Ted Blackwell in the Newsletter and splendid photographs appeared in *Field Mycologist* 6(1). I did see *S. paradoxa* which attacks *Cystoderma amianthinum* just once many years ago in unimproved calcareous grassland in Kent - a find of any *Squamanita* is now top of my wanted list.

In the second category fall such as *Asterophora parasitica* and *A. lycoperdoides*, which usually colonise *Russula*

*nigricans*. Other *Russulas* in the *Compactae* group and large spp. of *Lactarius* can also be invaded.



Again, *Pseudoboletus parasiticus* is not uncommon on *Scleroderma citrina*, usually producing small fruitbodies but occasionally dwarfing the adopted parent. The earthball is usually distorted and the normally more or less black gleba can be turned bright chrome by the presence of the parasite.



Some pairings where the partner appears to parasitise the mycelium of the host while not affecting the form of the fruitbody are well known. For example, *Gomphidius roseus* seems to occur only when *Suillus bovinus* is present. *Chalciporus piperatus* is in a similar relationship

with *Amanita muscaria* and, probably, *Buchwaldoboletus lignicola* with *Phaeolus schweinitzii*. Evidence is now coming to light suggesting that other Volvariellas may also be mycoparasites.

Fungi can also be saprophytic on other fungi. Examples here are the three small (true) Collybias which occur on a range of fungal hosts, some, like the Russulaceae, fleshy and often so far gone as to be unidentifiable or no more

than a damp patch, others tougher and more or less mummified. Rotting bracket fungi such as *Inonotus hispidus* and *Meripilus giganteus* may support large colonies and in Scotland the blackened remains of one-year-old hydroids are often colonised. These Collybias must be examined in the field for the presence of sclerotia – yellowish for *C. cookei*, blackish for *C. tuberosa*, none for *C. cirrhata*.



Text & photos (except *C. cookei*) by Jo Weightman

**THE WHITE THISTLE MYSTERY – or it may not be snow that you are looking at on thistles!**

For several years, dramatically pure white shoots of the Creeping Thistle, *Cirsium arvensis*, have surprised observers in some parts of Britain and America.

Common everywhere, so far the Thistle has not been seen to have white shoots either in the Midlands (Shropshire, Herefordshire) or in the Welsh Marches. It has been found in a variety of places in Kent and Suffolk – more recently, in Anglesey and Carmarthenshire too.

It is now certain that this is a symptom of a bacterial disease, caused by a bacterium in the genus *Pseudomonas*. It is not caused by a fungus but, if you



would let me know of any sightings of this white thistle phenomenon from anywhere, in Britain or abroad, they would be added to the records.

Nothing is known about how it spreads, but usually bacterial diseases of plants do so in obvious ways. However, so far, plant pathologists have not made sense of sheep-grazing, mowing, aphids, or any other possible method by which it could spread from A to B.

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