



Herefordshire Fungus Survey Group

News Sheet N^o 26: Autumn 2013



Hyphodontia barba-jovis - Queen's Wood, Dymock (15/5/13)

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Welcome to the Autumn 2013 News Sheet

We are now nearly at the end of the Autumn foray season (my apologies - again!), having held our first UK Fungus Day - a slight misnomer, as events around the UK spread over the whole weekend and more!

HFSG ran a very successful joint event with Herefordshire Council Parks & Leisure Services at Queenswood Arboretum and it seemed appropriate, therefore, to include some memories of it in this issue of the News Sheet.

More importantly, there are three other articles here which I can commend to you:

- Ted has written about the reappearance of *Podoscypha multizonata*, initiated by a photograph which Cherry Greenway sent to him.
- Jo has contributed a report about her exciting finds of *Piptoporus quercinus* at Croft Castle, a site that we visit at least once each year as a Group. We are used to finding Oak Polypore at Moccas Park, but another location is great news indeed.
- Debbie has again written a very useful piece, this time on Thistle rusts - a topic touched on previously by Stephanie Thomson and Ray Bray in 2004 (Autumn issue, No. 8).

Returning to the subject of the UK Fungus Day, more generally..... It was/is a welcome step in taking Mycology to the public at large and the UK Fungus Day organisers should be congratulated on the initiative. Only by holding this sort of event, and by somehow persuading the media (especially, radio and television) to produce more **informed** programmes and articles, will people become aware of the relevance and importance of the fungal kingdom to our lives.

However, as there is to be another UK Fungus Day in 2014 - the weekend of the 11th/12th October - it would be wise for us all (ie the wider Mycological community) to learn from this year's event so that next year's is even more successful.

I think that one key area to address is publicity - a skill that many naturalists and scientists (especially mycologists) are notoriously bad at, but upon which much of their research funding depends!

In the UK there is a wide public interest in the natural world, as exemplified by the number of TV programmes on

it. However, those who are concerned with animals and plants are often very much better than we are at promoting their events and in drawing in the media. Since such organisations as RBG Kew, RBG Edinburgh, NBGWales, RHS and others are partners in UK Fungus Day, maybe they would, for instance

- use their influence to help get more publicity in the national and local media - some of the naturalist 'Television Stars' might also be roped in?
- help to promote, not only their own UK Fungus Day activities, but also those of neighbouring local fungus groups, who are apt to be somewhat left out on a limb.

Some central strategy and co-ordination in the publicity field would, I think, work wonders and we should then have a greater public awareness of what we are about and have to offer in October 2014.

From next year onward, there will be a slight change in the format of the News Sheet. The plan is

- to have just a Recorder's Report (with photos) in Oct./Nov.
- and then a 'normal' one (ie with articles as well) in May/June.

However, as this will not be effective until next Autumn, don't forget that the Editor is always looking for **your** contribution(s) to the News Sheet and the deadline for the next issue is March 20th. I shall do my best to send it out it 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

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Arcyria obvelata - The Flits (10/7/13)

This myxomycete (slime mould), *Arcyria obvelata*, found on our foray at The Flits Nature Reserve, is not by any means uncommon. However, on maturity it presents rather a nice appearance - a bit like a small sponge - each 'finger' being about 0.3 - 0.5 mm diameter and 4 - 12 mm long after expansion.

FORAYS

Blackhill, Malvern Hills, March 27th

Cancelled owing to the snowy conditions.

**Croft Castle Estate & Fishpool Valley, April 17th
(32 spp.)**

Not a long list, but much cannot be expected of a meeting in April following a hard winter and a drenching autumn - particularly, as a number of the specimens collected proved to be immature.

The most notable of the larger fungi were *Strobilurus esculentus*, an agaric which occurs in spring on cones (but not on pine cones) and a fine group of *Disciotis venosa*.

Anthostomella appendiculosa is a nationally uncommon species of bramble stems where it occurs as an often shining, black patch - just one previous 19th century Herefordshire record.

Capronia nigerrima - a 5th County record for a very small species with prominent ostioles, which occurs primarily on the stroma of certain pyrenomycetes.

Ceriporiopsis gilvescens is a white resupinate fungus with pores. Determining factors included encrusted hyphae which stained red when mounted in a blue stain (perverse behaviour known as metachromatic) and this is the 3rd Croft record, but only known from one other site in the County and probably under-recorded.

**Queen's Wood, Dymock, May 15th
(34 spp.)**

We followed the main track down through conifer plantations, foraging in the broad-leaved fringes. Trees along the edges included mature beech and oak with hazel and willow.

Among the ascos, *Discocistella* (formerly *Dasyscyphus*) *grevillei*, a pale straw-coloured disc with incurved margins, is a very common species, especially on dead stems of Umbelliferae. *Rhizodiscina lignyota* is a species of decorticated broad-leaved wood and is less common nationally (or less frequently found) than the preceding species. In Herefordshire it has been recorded just seven times since 1900. The first *Xylaria carpophila* of the year was found.



The two agarics recorded were both of interest.

Oudemansiella mucida was unusually early, in general appearing on newly dead beech branches from September onwards – the wood must have been exceptionally well-soaked!

Three fruit bodies of *Hydropus subalpinus* were found. With five sites now, Herefordshire would appear to be a hot spot for this uncommon fungus, which has been collected in Somerset, West Kent, E. Sussex and Middlesex, but only at single sites. Almost all UK collections have been made in the spring.



The surface of the corticioid *Hyphodontia barba-jovis* is densely covered with fringed teeth, hence the fanciful allusion to Jove's beard (see front cover).

An interesting dark jelly on the cut end of a Pinus? log is still awaiting identification.

**Hampton Court, June 12th
(47 spp.)**

Mostly common species recorded, the greatest interest being in the 'tinies'. *Protomyces macrosporus* only the third Herefordshire record, but the fungus is probably ignored as the knobbly patches it forms on ground elder petioles suggest insect rather than fungal infestation.

Ascospores included

- *Orbilbia curvatispora* - 1st record since 1984;
- *Lachnum nudipes* - at its 3rd County site;
- *Hyalinia* (formerly *Mollisia*) *dilutella* var *dilutella*, which is a new vice-County record;
- *Scutellinia umbrorum* is one of the beautiful eyelash fungi of which there are several, often looking very similar but differing in detail of spore and 'eyelash'.

The downy mildew *Peronospora conglomerata* is a new VC 36 record - with few national records, but is probably another generally overlooked species. Its occurrence on *Geranium phaeum* is interesting, most other records being from *G. molle* and *G. pusillum*.

Stripe rust *Puccinia striiformis*, common in the natural environment on a range of wild grasses, is a virulent

pathogen of wheat and other cereal crops. It is thought to be increasingly resistant to current controls.



The Flits National Nature Reserve, July 10th (19 spp.)

A short list, but fungi are never jumping in July and the team are to be congratulated for their efforts. This is the Group's first visit to this prime wetland site of damp to waterlogged pasture and woodland, which should in time yield an interesting suite of species.

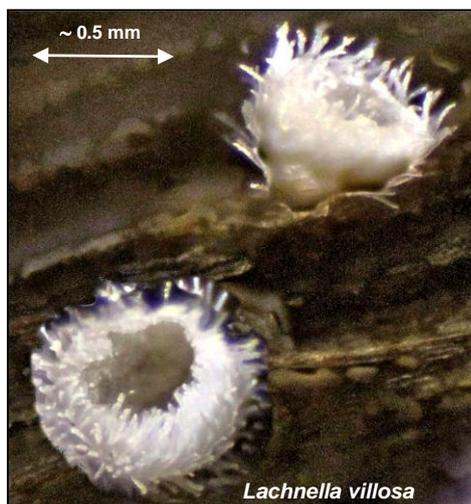
Although common, many species were new records. The gloriously named asco *Kirschsteiniothelia aethiops* is, however, new to the County and has only a few entries on the national database. According to Ellis and Ellis it occurs as a black (hence the specific name which means Ethiopian) conical mound just 0.5 to 0.8mm across on decorticated wood of broad-leaved trees.

Humber Marsh, August 7th (40 spp.)

We forayed mostly in the scrub near the entrance, in and around the unimproved meadow and in a dried up pond, the last area being the most productive.

Recent rains had triggered an abundance of *Psathyrella candolleana*, to the bemusement of members deceived by the variation in colour of the hygrophanous cap.

Lachnella villosa, 6th VC 36 collection, is a charming small white disc, densely hairy at the margin.



Lachnella villosa



& *Pholiota conissans* - Humber Marsh (7/8/13)

While burrowing in long vegetation I was rewarded with a fungus-infested insect, perhaps a fly. We are grateful to Ted Blackwell who has identified the fungus as an *Ophiocordyceps* in the *Hymenostilbe* state. It has been sent to a specialist who may be able to determine which species was present.

Pholiota conissans is a small, golden species lacking scales on the cap that can be found on and among the woody debris of willows in dried-up ponds. This is the 3rd VC36 record for an agaric that is widespread, but relatively uncommon in the southern half of England.

Puccinia magnusiana has been recorded just once before in the County, in the Sturts, where it was found on its alternative host *Ranunculus repens* - presumably in the aecial stage (not noted by the collector). This collection is therefore the first for VC36 in the second, uredinal stage, when it occurs on common reed *Phragmites communis*.

A month-by-month selection of fungi recorded on other occasions between January 1st and August 31st:

On the whole, spring fungi were scarce with only limited finds of species that might have been more generous in fruiting. There were no records of any of the morel group.

January – the first Scarlet Elfcup, *Sarcoscypha* sp. (Kinsham Court) and the orange, tripe-like *Serpula himantioides* (on dead conifer Croft Castle).

February – *Geastrum fornicatum* (Ashperton churchyard) and *Ciboria amentacea*, a brown goblet rising from old alder catkins, (Richards Castle).

March – more elfcups and Jelly Ear *Auricularia auricula-judae* on Buddleia, an unusual host (Orleton).

April – elfcups still doing well and also *Encoelia furfuracea* (4 records). Records include St George's mushroom, *Calocybe gambosa* (Ashley Moor), *Dumontinia tuberosa* a small brown goblet parasitic on wood anemone corms (Holywell Dingle), *Disciotis venosa* (my garden - lucky me!) and *Mniaecia jungermanniae*, an extremely minute blue-green disc on a minute liverwort (Oakley Hill Wood, 2nd County site).

May – *Pluteus romellii* - very large examples thriving on a compost heap (Queenswood Arboretum) and *Polyporus tuberaster* (Widow's Wood, Bogmarsh).

June – not a productive month, but pleasing to record *Taphrina tosquinetii*, which infects and grossly distorts the living leaves of alder, seeming to prefer very young trees.

July – the Orange Peel Fungus *Aleuria aurantia* (Bodenham Moor); in response to

rain, an abundance of *Psathyrella candolleana* and, under conifers, which are not known for interest before late autumn, a mighty honking of Stinkhorns, *Phallus impudicus*.

August is the month when we can normally expect a good flush of mycorrhizal species. After last year's dismal performance, a quiet stirring this year gives hope of better things. Records show Russulas (15 common spp.) of which one, *R. pseudointegra*, was abundant (Mary Knoll valley), boletes (10 spp.) including *Xerocomus engelii* - the one with red dots in the flesh at the stipe base - and at Shobden *Gyroporus castaneus*, *Boletus luridus* and *B. radicans*. *Lactarius* spp. were still asleep and Amanitas little better but *A. battarae* did wake up in Mortimer Forest, so a 4th County site. *Ganoderma resinaceum* was magnificent on a Red Oak at Shobden and, on the Croft Castle Estate, *Limacella illinita* was under-sized and broken but a first for VC36.

Finds with voucher specimens deposited in the Herbarium (Fungarium) at Kew:

Endophyllum euphorbiae-sylvaticae, Stages O and III. Locally abundant in Wellington Wood (12 & 22 May) on *Euphorbia amygdaloides*. Some ill-fated plants were also hit by *Melampsora euphorbiae*, Stage II. Light was cast on this confusing aggregation of stages and species by Martyn Ainsworth at Kew. *Endophyllum*, Stage III was also recorded on Croft Castle Estate (31.05.13).

Gymnosporangium confusum on *Juniperus sabina* (?) - Margaret Hawkins noted the large, orange, jelly-like Stage III growth on her Juniper in May and in August reported the horn-like aecia of Stage 1 also in her garden on the alternative host, Hawthorn.

THE REAPPEARANCE OF ZONED ROSETTE, *PODOSCYPHA MULTIZONATA* IN HEREFORDSHIRE

Ted Blackwell

It is pleasing to note a report of the distinctive rare fungus, *Podoscypha multizonata*, occurring again in Herefordshire, in August 2013.

It was found by Tim Beaumont on the bank verge below his garden hedge, near his home at 'Sheepcote' nr. Putley at SO 648 383 - not far from Mains Wood.

It appears to be associated with the roots of old oak trees. CBIB says "living roots", which implies a mycorrhizal association. But another account, in *The Mycologist* 10(4) p.108, mentions "around old oak stumps" which suggests dead roots.

The fungus was first described by Berkeley & Broome in 1865 under the name *Thelephora multizonata*. Both Miles Berkeley and C.E. Broom attended forays of the Woolhope Club in Victorian times, and it is interesting to



observe that Broome found this fungus at Moccas Park on a Woolhope Club foray on 23rd October, 1873, as reported in the *Transactions of the Woolhope Naturalists' Club* for 1873, p.109. Furthermore, Jo Weightman has pointed out that Broome's specimen was then painted by Dr. Bull under the caption *Thelephora multizonata*, and today is conserved amongst Bull's folios of fungus paintings at the Royal Botanic Gardens, Kew.

It then remained unreported in Herefordshire until 1966 when the celebrated West Midlands naturalist Fred Fincher found it

Hymenoscyphus repandus (22.02.13), on dead damp *Hydrangea* stems in a vase, Orleton (det. Ted Blackwell). A common species but there are no other known records on this host.

Piptoporus quercinus Croft Castle Estate from 19.07.2013. See article in this issue.

Podosphaera (formerly *Sphaerotheca*) *fugax* - 07.06.13, a first County record - a powdery mildew on leaves of *Geranium phaeum* in my garden (det. EB); also found at Humber Marsh during the foray when it was on *G. sylvaticum*.

Ramularia daronici on leaves of *Doronicum* sp., escaping from a garden on the Croft Castle Estate (29.05.13).

Trimmatostroma salicis (21.04.13), at Bodenham Lakes, a black powdery cushion; the only other VC36 record is pre-1904 when recorded as *Coniothecium amentacearum* (FRDBI).

OUT OF COUNTY

The only out of County record received was for *Schizophyllum amplum* in the Sherridge/Crowfoot area of Worcestershire, collected and determined by Cherry Greenway (14.01.13) and written up in the last News Sheet [No. 25, page 10].

Yes, there is a northern tilt to these non-foray records. As always, I live in hopes that more of you will send in a note of what you have seen, however ordinary. My thanks to the four members who have contributed records this half-year. The crown for most goes to Margaret Hawkins.

In all 614 records have been added to the database.

on a foray at Garnons.

Once again, many years elapsed before it was reported, firstly at Croft Castle by John and Denise Bingham in 2005, and then at Moccas in 2006 by Dave Shorten and in 2007 by Jo Weightman.

Conservation Status: BAP species; Listed on Schedule 8 of the Wildlife and Countryside Act 1981. Legal protection covers picking and destruction; [Biodiversity Action Plan](#)

The distribution map for the Oak Polypore, *Piptoporus quercinus*, shows just two dots along the English/Welsh borders, with nothing further west into Wales and with most collections being sited southwards and eastwards from the Marches.

Monmouthshire has one site and the other lies in Herefordshire in Moccas Park, where the fungus has been known since 1994 and seems to be well established. Now another star has risen - this summer, fruit-bodies have been found on the ancient oaks on the Croft Castle Estate.

Description

Just as in human families, one child can be no more than ordinary, while its brother or sister wins all the prizes: so it is with the two British *Piptoporus* species.

Piptoporus betulinus, the Birch Polypore is so common that we pass it by without a second look. *Piptoporus quercinus*, on the other hand, is the object of determined searching.

Is there a family resemblance? Up to point, yes.

Both are bracket fungi with very precise requirements; both are annual; both are thick and chunky..... and that is about it, macroscopically.

Birch Polypore

- is white to dingy white, unchanging on handling,
- only slightly flexible to firm,
- has tiny pores
- and is restricted to birch, where it grows in solitary state - often sharing its unfortunate host with its brethren, but keeping well apart from them.

Oak Polypore

- is distinctly yellow, briefly bruising a faint violet, then turning wine-red on handling or with age,
- soft to squishy when young, hardening later,
- has small pores only initially, but developing enlarged ones, especially at the margin,
- and is restricted to oaks, often of great age. Further, it appears in the summer months, usually July and August, sometimes singly, but equally often in small connate tiers.

As *Piptoporus quercinus* grows within the heartwood of its host it only gets the opportunity to emerge and fruit when the tree develops a conveniently placed crack, or becomes hollow and splits open, or drops a large branch.



Tiers of *Piptoporus quercinus* with red patches where touched, showing large pores at the margin

Consequently the host is usually ancient and the most ancient trees are often pollards.

At Croft Castle the most conspicuous ancient trees are its pollard sweet chestnuts in the pleasure grounds and in the pasture near the Castle. There are maiden oaks a-plenty in other pastures near the Castle and ancient, maybe medieval, pollards further west in a less visited spot, many buried in conifer plantations. This spring, I became aware that a substantial area of conifer above Fishpool Valley had been cleared as a first step to the restoration of wood pasture. I knew the oaks were there, but the area had always been impenetrable. My summer project was born – check out these oaks for *Piptoporus quercinus*.

The Head Ranger kindly provided me with maps showing the location of ancient pollards. There are three main areas – existing wood pasture some distance west of the Castle; Ladyacre Plantation, further west again; and the newly cleared area above Fishpool Valley. In addition, some trees were indicated in the Croft Ambrey area.

On July 12th I was exploring Fishpool Valley with a grand daughter and telling her of my plans. The words were still spilling out as we approached the only ancient oak pollard in the valley itself. I could see that a fallen branch lying alongside sported something yellow. Never have I got up the very steep slope that fast before.

And, lo and behold... there IT was! In fact, there were seven of them.

The branch, which fell years ago, has long been decorticated and has cracks all along in the wood allowing the fruit bodies to emerge. What a beginning!

In the days following, I surveyed all three main areas.

- The trees in the wood pasture gave a nil return on the day of the visit.
- Of the 75 or so trees investigated in Ladyacre Plantation, 6 were colonised by *Piptoporus quercinus* – demonstrating between them the well-documented habitat range - inside a fallen, split open, hollow trunk; inside a standing hollow tree; on the outside of a fallen trunk; in cracks low down on the outside of a dead standing tree; on the outside of another living tree. In the newly cleared area, of the trees I was able to reach - bracken and conifer brush putting up spirited resistance tactics – of some 30 trees 3 had fruitbodies, including one emerging through a crack in the bark of a living tree and some on a fallen branch.
- None were found in the Croft Ambrey area,
- and none on the 30 or so maidens in the pasture opposite the car park on the 6th August when I made my last visit.
-

I did not check all the maidens in the adjacent pastures.

Nil returns do not mean that the trees were not host to the fungus – merely that there were no brackets to be seen on the day of the visit. They may have fruited later in August, or not at all. All in all, it is clear that this rare fungus is well established on the Croft Castle Estate.

Who will discover the 3rd Herefordshire site?

Next July –August please will you inspect any big oaks of your acquaintance – inside, outside, up, down and fallen bits.

There is another yellow, summer fruiting bracket – the Chicken of the Woods, *Laetiporus sulphureus*. This normally grows in tiers of relatively thin, narrow-edged rather fiery orange-yellow brackets and is firm to the touch, not squishy.

There is a post-script to this tale. One of my host trees, a fallen decorticated trunk, bore fruit-bodies on its flank. As I pushed my way round the `head end` to check the far side, I would have fallen over with shock had I not been thoroughly entangled in surrounding undergrowth. This tree was a beech – the stumps of long gone upper branches still had their bark, which was clearly beech bark.

This was my moment of greatest glory – a new and never before noted host for *Piptoporus quercinus*! I enjoyed my glory for a few days and sent wood samples from the fruiting flank and upper storey to Kew. The answer came back:

wood ⇒ Oak; bark ⇒ Beech.

A subsequent hands and knees crawl and much squeezing of large parts of me into small gaps in tree told all. This was a Siamese twin of a tree. The pollard oak had, in age, become hollow and a beech had taken root and grown inside. This then filled the hollow and sent its branches aloft, above the crutch of the oak pollard. In extreme age the oak had fallen, still in this close embrace and later both oak and beech had lost their tops, as I had lost mine in that mad moment. A lesson to mind one's P's and Q's!



Piptoporus quercinus emerging from deep fissures in decorticated wood



A young specimen of *Piptoporus quercinus* coming through cracks in the bark of a living tree

RECORDING RUSTS ON THISTLES – A PRICKLY PURSUIT

Debbie Evans

Many members of the Compositae can be infected by a range of rust species. For the purpose of this article I intend to focus on the rusts that are found on various species of Thistles and Sow-thistles [see also News Sheet No. 8, Autumn 2004, pp 9-11 - Ed.]. Most of these are fairly common and can be easily recorded, so they are ideal for the beginner to rust recording. However, it's a prickly pursuit so care is needed!



One of the easiest to find, yet most interesting, is the thistle rust, *Puccinia punctiformis*, on Creeping Thistle, *Cirsium arvense*. In spring, look for noticeably paler and often narrower, or distorted leaves at the top of the plant stems. Before even looking closely at the leaves, have a good sniff. A sweet, 'honey-like' smell can be detected, (although I find it very sickly) and this smell comes from the yellow pycnidia (spore stage 0) on the underside of the leaves. These contain the pycnidiospores, which are released in smelly, sugary droplets attractive to flies and other insects. The rust thus uses vectors to disperse the spores to different plants where cross-fertilization can occur, mimicking the way that a flowering plant uses smell and nectar to disperse the pollen to achieve cross-pollination. These infected plants generally do not flower. Later brown uredinioid aecia¹ and brown uredinia are found covering the leaves and finally darker-brown telia containing the 2-celled teliospores.

This rust completes its life cycle on a single host (autoecious) and is specific to *C. arvense*. It can thus be named with confidence, without need for critical examination, although it is always useful to record the spore stages present. *P. punctiformis* has been tested as a bio-control agent for the thistle, but was unsuccessful, mainly due to the growth rate of the thistle rhizomes, which was faster than the rust development.

Spear Thistle, *Cirsium vulgare* and Woolly Thistle, *C. eriophorum* are both hosts to *Puccinia cnici*. The rust can be found in summer and autumn, mainly on the upper sides of the leaves rather than on the downy undersides. Look carefully for small brown uredinia and minute dark-brown telia on the often mottled leaves, whilst carefully

avoiding the vicious prickles. The aecial stage of *P. cnici* is apparently rather uncommon and I have not recorded aecia myself.

The Marsh Thistle, *Cirsium palustre* is host to 3 rust species, but it is fairly easy to differentiate them by their appearance on the leaves. *Puccinia calcitrapae* is probably the most frequent species encountered and is usually found as small brown uredinia and dark-brown telia scattered over the underside of older leaves. Rust infected leaves can appear paler and mottled alerting the ruster to examine them. This common rust can occur on many other thistles in the genera *Carduus* and *Cirsium* and on Carline Thistle, *Carlina vulgaris*, (very evil spines!). It also infects plants in the genera *Arctium* (Burdocks) and *Centaurea*, e.g. Knapweed, *C. nigra*. However, there may be different races or forms of the rust involved.

The second rust on *C. palustre* is *Puccinia cnici-oleracei* and is also fairly common in my experience. This is a microcyclic species², unlike the previous autoecious rust. The telia are very dark-brown and together form larger, discreet groups sitting on yellow spots, mainly on the underside of the leaves, especially around the edges and with a corresponding pale area on the upper side.

These two rust species can often be named with confidence in the field, but identification can be confirmed by examining the spores microscopically. They have different shaped, 2-celled teliospores; those of *P. calcitrapae* are round-ended, broader and less elongate, (urediniospores will also be seen), compared with those of *P. cnici-oleracei*. (See photo next page & References at end for spore details). The latter rust can

¹ Aecia in which the aeciospores are produced are very similar morphologically to the uredinia

² Has a reduced life cycle, only forming telia containing the teliospores

also be found on Melancholy Thistle, *C. heterophyllum* and a few other members of the Compositae. I record it occasionally on Yarrow, *Achillea millefolium*, present as little brown pustules on the feathery leaves, and I have a single record of this rust on a Mayweed, not listed as a host species. So it is well worth keeping an eye open for the rust on similar plant species.

The third rust on *C. palustre* (and also on Meadow Thistle, *C. dissectum*) is *Puccinia dioicae* var. *dioicae*. Unlike the previous two rusts this is a heteroecious species³ and alternates with Dioecious Sedge, *Carex dioica*. The yellow aecial cups are found on both surfaces of thistle leaves and the brown uredinia and telia are formed on parts of the sedge. The rust should be looked for wherever the two hosts occur together. A pale area on the upper side of the thistle leaf alerts the recorder to examine the leaf and when aecia are found I would advise looking at any nearby *C. dioica* for the other stages, although these may be produced later in the year. I have relatively few records myself on *C. palustre* and *C. dioica*, collected mainly from wet areas on upland sites, and I consider it to be uncommon or under-recorded.

Sow-thistles, the *Sonchus* species, can be infected by the two rusts, *Coleosporium tussilaginis* and *Miyagia pseudosphaeria*; both species are the only representative of their genus in the UK. The former species infects a large range of hosts across a number of different plant families, making it very common, although there may be race differences between the rusts. Corn Sow-thistle, *Sonchus arvensis*, is commonly infected with the bright-orange uredinia and urediniospores, sometimes covering the lower leaf surfaces. The telia are sub-epidermal, forming small waxy orange-red crusts and therefore not readily visible. It can also be found on all the other *Sonchus* species. This is a heteroecious rust and the alternate hosts are 2-needled Pines, *Pinus* species. However, *C. tussilaginis* can survive over winter on leaves in the urediniospore stage, so the presence of infected pines is not always necessary.

I record *M. pseudosphaeria* readily on Smooth Sow-thistle, *Sonchus oleraceus* and, in some seasons, most plants I examine seem to be infected, even early in the year. The leaves and stems can be covered with the uredinia as small pale orange-brown pustules, often surrounded by a brown ring composed of the paraphyses⁴, which are thick-walled, dark-brown and club-shaped. (The aecia are uredinioid and similar in appearance to the uredinia). The telia have brown, clavate paraphyses and are found late in the summer. I find these most frequently on *Sonchus arvensis*, where the leaves can be covered underneath with the dark-brown, almost black telia (see inset). The pale-brown teliospores are 1-septate, (2-celled), but are sometimes together with 1-celled spores and these can occasionally be the main form found. In contrast, *C. tussilaginis* does not have paraphyses and the teliospores are 3-septate, colourless and in a single layer. I occasionally find Sow-thistles exhibiting both rust species on the same leaves.



Further information on the microscopical features of all the rusts described, including drawings or photos of the spores, etc. can be found in the listed References below.



Puccinia crnici-oleraceae (stage III) on *Cirsium palustre*



Puccinia dioicae var. *dioicae* (stage I) on *Cirsium palustre*



Coleosporium tussilaginis on *Sonchus arvensis*



Miyagia pseudosphaeria (stages I, II, III) on *Sonchus arvensis*

³ Uses 2 hosts to complete the life cycle

⁴ Sterile hyphae

Finally White Rust or Blister, *Pustula* (was *Albugo*) *tragopogonis* can occasionally be found as whitish pustules on the leaves of *Cirsium* species, while searching for rusts. This species is an Oomycete or 'Water Mould' and, although not a rust, it is still worth recording. I see it most frequently on Groundsel, *Senecio vulgaris*while recording its rusts.

Happy rusting!

References and useful texts:

Ellis & Ellis (1997). *Microfungi on Land Plants- An Identification Handbook* Richmond Publishing
 Henderson, D. M. (2000). *A Checklist of the Rust Fungi of the British Isles* BMS
 Henderson, D. M. (2004). *The Rust Fungi of the British Isles- A Guide to Identification by their Host Plants* BMS
 Termorshuizen, A.J. & Swertz, C.A. (2011) *Roesten: Roesten van Nederland* (Dutch Rust Fungi)
 Wilson, M. & Henderson, D.M. (1966). *British Rust Fungi* Cambridge University Press



SOME MEMORIES OF OUR HFSG EVENT FOR UK FUNGUS DAY, AT QUEENSWOOD ARBORETUM





photograph by James Bisset



photograph by James Bisset

This was a joint event with Herefordshire Council Environment & Culture, Parks, Countryside & Leisure Development Service, who own and manage Queenswood Arboretum. 2013 is, incidentally, also the Diamond Jubilee of the Arboretum, so our event fitted in very well with their own celebrations during the year.

We organised a series of activities for the day (10.00 - 3.30), based at the Woodland Gate entrance to the Park:

- i a 'rolling programme' of walks throughout the day - approx. every hour, for an hour, led by HFSG members;
- ii a display of named fungi on tables - including those found in i. above;
- iii a 'Name that Fungus' competition for visitors;
- iv a continuous Powerpoint presentation and display boards of photographs, etc.;
- v childrens' ('mycological') games, run by the Park's staff - for their Adventure Club in the morning and for visitors after lunch;
- vi visitors were also encouraged to bring along their own specimens for identification.

There seemed to be a large number of people who attended (we were well sited, at the entrance to the Arboretum!) and there was a very satisfactory level of interest. We shall have a clearer indication of how many were actually there in a month or so (when Herefordshire Council have their car park figures for the day in), but it was probably around 300 or so.

Feedback was very positive, especially about the fungus walks and also the childrens' games. Thanks to all who helped in what seems to have been a very successful Day.

Our HFSG event for UK Fungus Day 2014 is likely to be on Saturday 11th October