

BFG

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Fungus Group*

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fig.43 *Amanita nivalis* as illustrated by Greville in his book "Scottish Cryptogamic Flora" Vol.1, 1823 p.18
 "This elegant, and in appearance delicate, *Amanita*, is the most alpine species of fungus I am acquainted with. It grows at the bleak summits of the loftiest Grampians, and really enlivens the few turf spots which occur in those desert regions, by its symmetry and extreme whiteness."

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The BFG Newsletter is published annually in August or September by the Buckinghamshire Fungus Group. The group was established in 1998 with the aim of: encouraging and carrying out the recording of fungi in Buckinghamshire and elsewhere; encouraging those with an interest in fungi and assisting in expanding their knowledge; generally promoting the study and conservation of fungi and their habitats.

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Membership costs £4.50 a year for a single member, £6 a year for families, and members receive a free copy of this Newsletter. No special expertise is required for membership, all are welcome, particularly beginners.

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Cover photo: *Lentinus tigrinus* photographed beside the lake at the Wotton House Estate, 4 Sep 2011 (DJS)

Tricholoma but are they really typically hairy? No connection here either with the recommended English name of Knight – that one remains a mystery to me. A third genus with this ending is *Hebeloma*, and I’ve failed to discover why it should be so named unless there is a link to the Greek Goddess of youth, Hebe. Derek suggests that the link to youth may be the presence of veil in young specimens of members of this genus.

I’m struggling a little to write a suitable conclusion to this piece which could clearly ramble on (dare I say it again) *ad infinitum!* I will therefore resist the temptation to continue, reserving further exploration into this vast and fascinating subject for another time.

Let me finish with a favourite epithet of Derek’s, self-explanatory if you know this species: *Lactarius chrysorrheus*. The genus name I have already covered. The species name? “That which lets the gold flow”.



fig.42 *Lactarius chrysorrheus*
photograph courtesy
Malcolm Storey

AN IDENTIFICATION CHALLENGE – THE ANSWER

Penny Cullington

This strange collection (figs.40 and 41 on pages 33 and 34) turned out to be nothing more exciting than the very common *Collybia butyracea* (Butter Cap)! (Now, of course *Rhodocollybia butyracea* – see Name Changes on page 19). Did you guess it? Under the scope the teardrop-shaped spores and occasional rather gnarled cystidia on the gill edge confirmed this, though the microscopic features didn’t ring any bells with me on first examination due to not previously having had reason to check this species with the scope before. I thought I knew it! Deformed specimens of fungi do occur from time to time, and on occasion I’ve come across singletons of the equally common *Laccaria amethystina* (Amethyst Deceiver) looking really weird and misshapen (for example, see the one illustrated in our Newsletter No. 8 of 2007 on p.14), almost unrecognisable but for the tell-tale colour. Presumably it must have been the mycelium which was responsible for producing my two extremely atypical *Collybia* specimens, as it can be seen that both are clearly developing in the same distorted way.

I’m very grateful to Geoffrey for solving the mystery even if it wasn’t quite the exciting solution I was hoping for, and this surely goes to show how much there is to learn from those with more experience at this game. If you come across strange malformed examples of fungi and would like to share your photos, do let us know. These could easily be displayed on our website or included in next year’s newsletter.

Psathyrella. Incidentally, Derek (Schafer) tells me that *Coprinus saichii* is a third example of Derek Reid's recourse to women's names for naming fungi. He married Pamela Saich in 1953, and the type material was collected by Mrs R. A. Saich two years later from a lawn in King's Langley, though the species was not described until 1958. We do not know if it was her lawn or her daughter but, presuming the latter, it may be a rare example of a fungus named after ones mother in law.

Collybia Thought to originate from the Greek for a small coin, *Kollybos*. This genus, like *Coprinus*, has recently been split up and reclassified (see page 19 for more on this). Considering what we have until now thought of as typical and common members of the genus, i.e. *Collybia butyracea*, *dryophylla*, *peronata* etc., these familiar species certainly would seem to have little resemblance to any sort of coin other than that their caps are indeed round! However, given that the three tiny white members of the genus, i.e. *Collybia cookei*, *cirrhatta* and *tuberosa*, are all that now remain in *Collybia*, is it wishful thinking on my part to suggest that their flat caps with slightly serrated edge do in fact have an affinity with a small coin? Joanna Dodsworth suggests this fanciful idea is unlikely to be true owing to the fact that the serrating of the edges of coins only came into existence in the late 18th or early 19th century. However, since the term *Collybia* was first introduced by Fries in 1821 it remains a possibility that these tiny caps did indeed remind him of the then innovative serrated coins just coming into circulation.

There are several genera names ending*cybe*, the Greek word for head being *Kybe* and thus for mycological purposes loosely translated as cap. The recommended English name for *Inocybe* is a straight translation from the Greek *Ina* meaning fibre thus giving us Fibrecap. The same applies to *Conocybe*, *Konos* meaning cone thus giving us Conecap, i.e. with a conical shape. Similarly the Greek *Kalos* meaning good or beautiful gives us *Calocybe*, i.e beautiful cap, though here the recommended English name, Domecap, presumably relates to the cap's shape rather than its beauty. The Greek *Hygros* meaning wet or moist gives rise to the epithet *Hygrocybe*, though Waxcap - our recommended name - describes the cap's often slippery surface slightly differently. The derivation of *Clitocybe* (Funnelcap) stems from the Greek *Klitos* meaning a slope, though I'd have thought the sloping involved here refers to the decurrent gills often occurring in members of this genus rather than to the cap. However, this feature does often cause the cap to become funnel-shaped as well.

There are several genera names ending*loma*, this meaning fringe or border in Greek. Literally translated the epithet *Entoloma* means with an inner fringe (*Entos* meaning inner), a genus created by Fries in 1838. As this date precludes any microscopic knowledge, it presumably must refer to the characteristic inrolled cap margin of some members of the genus. Its recommended English name of Pinkgill arises from a much more typical characteristic of this genus but of course does nothing to help us to isolate it from other pink-gilled genera such as *Pluteus* and *Volvariella*. Now on to *Tricholoma*, where the Greek *Tricho* means hairy thus the whole translating as hairy fringe, though I've not traced any convincing explanation why this should be an appropriate name for this genus. A truly hairy cap occurs in only a few of its British members, but maybe there exist many more hairy-capped members elsewhere? An alternative explanation might be a possible reference to the hairy notched gill margin - these might indeed be notched in

WELCOME!

Welcome all to our 2012 newsletter which we hope will fill you with enthusiasm for the coming foray season. Yes, autumn is almost upon us again after a very mixed summer which started as remarkably cold and wet though with some signs of a little sunshine as I write this in August. For those of us with an interest in mycology, it will surely be interesting to see what effects the unusual conditions are going to have on the main fungal fruiting season to come.

It has to be said that last autumn was pretty disappointing one for fungi compared to the bumper crop we witnessed in 2010, though that year was always going to be a hard act to follow and will I'm sure go down as one of the most remarkable on record for both quantities of fruit bodies and species new to Britain. As is always the case, however, Derek's report on the 2011 season below is full of interest and also lots of useful photos to help us all improve our identification skills.

BITS AND BOBS

Our membership remains fairly stable, some keen new members have joined recently but we are disappointed that a number of those from previous years have not yet renewed. We are keeping subscriptions at the rates they've been now for some years and would really like to see some old friends return and enjoy our forays!

Our group insurance also continues as before, provided free thanks to our affiliation with the British Mycological Society. Our website, run by Peter Davis, has now been in action for over a year and is proving a very beneficial resource for the group. If you've not made use of it yet, do take the time to have a browse. Any suggestions for improvements are always welcome. The address is given on page 2 and on the back cover. The site is well recognised by Google, so when you enter 'bucks fungi' we are listed as the first choice. It couldn't be easier to navigate thanks to Peter's considerable design skills. Some people to mention now: The group's officers remain unchanged and are listed on page 2; my thanks to them all for their continued support and contribution to the smooth running of the group's activities. As for contributors of articles for this newsletter, besides Derek's regular report, I would like to thank both Brian Murray for a fascinating and extensively researched piece on Roman Fungal History and Peter Davis for his account of the fruiting behaviour of the rare *Hericium erinaceus* at Naphill Common, also Nick Standing and Justin Long for photographs. Next year PLEASE can the rest of you do something about the unfortunate situation of having so few members contributing [Penny exhibiting her school Ma'am qualities - Derek!]. You do not need to be a fungi buff to 'qualify' to contribute; in fact I feel it's important to have a balance of articles, and many of you will have good photos of even common things which you could share with us, adding a sentence or two. That's all it would take, and is this too much to ask? Think about it, and if you want this newsletter to do what it says on the tin, i.e. provide members with news features, then *please*, I need you to start getting into the habit of sending some news in to me. Otherwise it'll be down to Derek and myself to fill the pages for you yet again, not the ideal situation either for you or for us! Another idea: Derek has

just suggested that when you read the articles here, why not send us an e-mail asking questions about things discussed (or indeed anything else) and we can introduce a Question/Answer section in future issues?

FORAY PROGRAMME – AUTUMN 2012

We have included with this newsletter an up to date printed copy of our programme. It is also available on the website, where a click on the OS number given with each venue takes you to a Google map of each location. May I take the opportunity to mention a few extra points here.

We kick off on September 9th with our Workshop Day at Ashridge joint with the Herts/Beds Fungi Group, the third year we've held this event. We are particularly pleased to welcome Alan Outen back from semi-retirement from mycology to head our team this year. We meet up at 9.30 (please note) starting with a foray for an hour or so when we shall be dividing up into small groups, each with a leader, in order to cover as much of this excellent site as we can in the time. Then it's back to the workroom provided by the National Trust to set up a display, where Alan will give an introductory talk. The rest of the day will be spent working on specimens aided by a good supply of books, keys and microscopes, and of course lots of discussion with help and tips from Alan together with several other experienced members. This is a day designed with the less experienced in mind, but there is bound to be something for everyone to learn and enjoy. Though early in the season, the last two years have proved very productive with some really exciting and rare things turning up. Coffee / tea will be available in the workroom; you can buy lunch on site or bring your own. Finish time is 3.30-ish. No dogs in the workroom please. Numbers are limited so please phone Steve Kelly for information and to book your place (£5 each) (01923-268689).

If you're a beginner and would like to like to learn about how to get started with identifying fungi, the next event is designed just for you. The Forest of Dean residential foray for BFG members has now been running for three years, and this time Derek is extending it and will be tutoring a weekend Beginners' Introductory Course, to run from Friday September 14th to Sunday 16th, price £120 per person sharing. The Royal Forest is renowned not only for its beauty but for its fungi too, with an excellent choice of local sites to visit, and following on from this course will be our untutored residential foray for members of BFG and a couple of other local groups. The dates for this are September 16th to 22nd, price £22.50 per night sharing (minimum 4 nights); both events are limited to 10 places only, and for the foray week there are now very few places left. For more information visit our website or contact Derek. Incidentally, if these dates don't suit you but you'd like to consider a beginners' course, there are two such events running at the same venue the following week – three days each – and run by the BMS. You do not have to be a member of the Society to attend, and I would highly recommended them - they were very popular last year. Derek can tell you more.

Sunday September 16th sees the start of our foray programme proper, with thereafter one every weekend until November 11th, then a gap till our Christmas foray, this year at Brill Common. Amongst the list of sites are some new venues, some old friends, and two forays which are open to the public. One of these, Penn Wood on Sunday October 7th, starts at 2.00 (please note, the change of start time

Muscari). In the case of the plant the name is thought to stem from the Greek *muschos* meaning musk or scent, thus a completely different source from that of the fungus. Can anyone shed further light on a possible connection between the two here?

Russula Probably derived from the Latin *russus* meaning red, our word *russet* coming from the same stem. *Russula* together with many other new genera was first created by the Dutch mycologist Christian Hendrik Persoon, who by the end of the 18th Century was further developing the first steps taken by Linnaeus into a much more coherent and ordered system for fungi. Though this huge genus comes in a multitude of colours, one can imagine that it was the red species of which there are many which might well originally have been placed together with a suitable name to describe them, before it was realised that those having other colours belonged here also. Many members of this genus were also at first included under the generous umbrella of *Agaricus* until Persoon recognised that their distinctive characteristics warranted a genus of their own.

Boletus As mentioned above the name *Boletus* was in existence pre Dillenius and Linnaeus, though I have not unearthed to what group of fungi this epithet originally referred. It is probable that the name stems from the Ancient Greek word *Bolus* meaning a clod or lump of earth. Linnaeus treated *Boletus* as a genus covering all species of fungi having pores, including the polypores (brackets). It was the renowned Swedish mycologist Elias Magnus Fries (pronounced 'freeze') who in the late 18th Century established the genus *Boletus* to include all stalked mushrooms having pores, though later several more genera were separated off, including *Xerocomus*, *Suillus*, *Leccinum*, *Chalciporus*.

Mycena Another ancient Greek word for mushroom is *Myces* from which our word mycology and also many other terms connected with fungi have arisen, such as *Basidiomycete*, *Ascomycete* etc. There must presumably be some link with this genus name to the ancient Greek city of Mycenae, and I recall hearing mention of a possible connection to the shape of helmets the soldiers from that city wore but have failed to uncover any substantial evidence for this. Having said that, however, looking at illustrations of the armour from this civilization on the web this seems to be a highly plausible idea as their helmets appear distinctly campanulate with a pointed top thus very similar to many members of this genus, for which the recommended English name is Bonnet Cap.

Coprinus The genus was first created in 1797, and as we've seen with other genera, members of this genus described prior to that were included in *Agaricus*. The Greek connection is clear here as the word *Kopros* means dung, *Koprinos* of dung, and though many members of the genus do not grow on this substrate clearly enough of them did to warrant the name. The main characteristic of the genus, though again not true of every species included in it - i.e. having gills which deliquesce (liquefy) on maturity - gave rise to our English name of Ink Cap. In recent years DNA studies have proved it necessary to split *Coprinus* into four separate genera with the lion's share of species now transferred into *Coprinopsis*, *Coprinellus* and *Parasola* (see page 19 for more on this). This leaves only two British species still retained in *Coprinus* itself, a genus now proven to be closely related to *Agaricus* whilst the three other genera are thought to be much closer to

strong objections at the time, Linnaeus with his newly accepted binomial system carried the day and thus these genus names took on their new identity, with their original meanings long since forgotten. Later, Fries in 1821 divided these gilled fungi into sub-genera but retained them all in *Agaricus*. Eventually the sub-genera were elevated to separate genera and our present day *Agaricus* (including the field and cultivated mushrooms) was placed in the genus *Psalliota*. This was re-established as *Agaricus* as we use it today under the naming rules on the basis that the original name had to be retained and used for the genus most typical of *Agaricus* in the Linnaean sense. Derek has supplied an apposite quote from Greville, in his book published in 1823, which reflects the differences of opinion at the time: "It is rather surprising that Fries should have united so distinct a genus as *Amanita* to *Agaricus*, already overwhelmed by sections, divisions and subdivisions, and containing above 800 species!" To digress at this point, these wise words come from a paper describing the newly discovered *Amanita nivalis*, which also contains his exceptionally beautiful watercolour of that species which is well worth reproducing here (see back cover, fig.43). This species may well be one you are unfamiliar with and certainly does not occur in the county. We cannot better Greville's words as a caption: "This elegant, and in appearance delicate, *Amanita* ... grows at the bleak summits of the loftiest Grampians, and really enlivens the few turfy spots which occur in those desert regions." This provides a neat link to my next fungus name.

Amanita Derivation unclear, but possibly from Mount Amanon in Syria, though the Greek for mushroom is *Manitare* which is clearly very similar and seems to me to be the likelier source. In the 19th Century this genus was split into *Amanita* and *Amanitopsis*, the latter used for those species which lack a ring on the stipe, i.e. *A. vaginata*, *A. fulva*, *A. crocea* etc. In reference books produced up to the 1960s the terms *Amanitopsis* and *Psalliota* were both still in use. Two well known toxins were first isolated from members of *Amanita* and were therefore named after them, these being muscarine found in *Amanita muscaria*, and the deadly a-Amanitin found in *Amanita phalloides* (Death Cap). In fact it is now known that the deadly poisonous members of the genera *Inocybe* and *Clitocybe* contain much higher amounts of muscarine than *A. muscaria*, and harmless trace elements of it also occur in some species of *Mycena*, *Entoloma* and even *Boletus*, *Hygrocybe*, *Russula* and *Lactarius*! As the names for these two poisonous *Amanita* species were in existence well before their specific toxins were discovered, one must look further back for the origin of their species names. The epithet *phalloides* one can assume stems from the phallic shape apparent in the young immature buttons as they emerge. It is thought that the epithet *muscaria* stems from the traditional use of this fungus as an early insecticide when it was sprinkled into milk – *musca* being the Latin for a fly. This must surely be the explanation for our rather unfortunate recommended English name for this fungus: It was Linnaeus who created the name *Agaricus muscarius* in 1753, and it took another thirty years before it was transferred to the genus *Amanita*. We have in this country, however, retained its traditional name of Fly Agaric (nowadays misleadingly implying the possibility that it could be related to edible mushrooms) - not wise in view of the toxicity of this member of the *Amanita* genus! Furthermore, I can't help but wonder here if it must surely be more than coincidence that Linnaeus used the same epithet for both our fungus and the bulbous plant *Hyacinthus muscari* (Grape hyacinth) in the same year, 1753, (though the plant became established a year later as the genus

requested by the Woodland Trust) and will be followed by a display in the Village Hall. We've not forayed this excellent site for quite a while apart from visiting late in the season when we've focussed on waxcaps which can abound here, so it will be good to have an opportunity to probe deeper into the extensive woodland area.

Hopefully there is something for everyone in this programme. Considering the size of our membership, the attendance at most forays is disappointing. We would be really pleased to see more of you this year.

REPORT ON THE 2011 SEASON

Derek Schafer

Thanks to Peter Davis' efforts in sorting out our web site, and Penny's diligent data entry and report writing, species lists and reports for each foray are now appearing soon after the event. I have therefore only selected a few examples from each foray of things that were rare, unusual or where we have a photograph worth sharing. This also allows me to bring the story closer to the present time, covering the period from January 2011 to June 2012.

Carpenters Wood 9 Jan 2011

In the absence of Kerry Robinson, our list of 49 species, whilst creditable enough for an icy January day, lacked some of the rarities Kerry so often finds. *Exidia plana* (see web site report for Hockeridge Wood 2012 for photographs), probably the species on our list with fewest previous records, is recorded more often than in the past now that Peter Roberts' keys to jelly fungi have clarified its differences from *Exidia glandulosa*. Other species included *Peziza micropus*, *Xylaria carpophila* (Beechmast Candlesnuff), *Byssomerulius corium* (Netted Crust), *Trichia affinis* (a Slime Mould) and *Lachnum niveum*, which provided a good subject for a micro photograph (fig.1).



fig.1 *Lachnum niveum*, Carpenters Wood 9 Jan 2011 – the larger disc in the foreground is 1.8mm diam (DJS)

Hockeridge Wood 13 Feb 2011

Another cold winter day but our keen group found 23 species to record. A sign of the times was having my identifications checked by one technologically adept member on his iPhone with the “Rogers Mushrooms” app. There were a few agarics such as *Melanoleuca cognata* (Spring Cavalier) and a range of Pleurotoid gilled fungi (those without or with only a rudimentary stem growing shelf-like on



fig.2 *Galerina subclavata*
Hockeridge Wood 13 Feb 2011
–the cap is about 4.5mm diameter (DJS)



wood) such as *Panellus stipticus* (Bitter Oysterling) which glows in the dark if you find it in North America but not in Europe, *Crepidotus cesatii* and *Crepidotus variabilis* (Variable Oysterling). Jenny Schafer collected a single tiny *Galerina* growing on moss, which, against the odds had a rather distinctive set of microscopic characters allowing it to be named as the rather uncommon *Galerina subclavata* (fig.2)

Stoke Common 29 May 2011

Penny’s article in last year’s Newsletter described the diversity of fungi found at this site and there is an illustrated report of the foray on our web site. One collection that provided some micro photographs is the very common *Coprinellus micaceus* (Glistening Inkcap, right and fig.3). I sliced a young cap across, so what is seen is a cross-section of the unopened cap showing that it consists almost entirely of gills crowded together and pushed against the hollow stem, with virtually no flesh above them. When the cap expands, the gills split down the middle, producing the characteristic plicate (pleated) surface. The glistening veil, consisting of spherical



Agaricus carolii, *Collybia dorothea* to name a few. Derek has kindly traced the origins of these names for us:

Lepiota cortinarius var. *audreae* Reid 1968 (elevated to species by Bon in 1981). Another example of Derek Reid using women’s names for fungi. The type was collected by Reid and Audrey Thomas (with whom he ran the Preston Montford fungus courses for many years) in 1966.

Cortinarius catharinae Consiglio 1997 [1996] “Dedico questa specie a mia moglie Caterina, amica e compagna” - I dedicate this species to my wife Catherine, a friend and companion. This beautiful species was new to Britain from Mousell’s Wood, Bucks in 2010.

Amanita ceciliae – *Agaricus ceciliae* Berkeley & Broome 1854 “The name is intended to record the services which have been rendered to Mycology by many excellent illustrations and in other ways by Cecilia E. Berkeley”.

Collybia dorotheae – *Agaricus dorotheae* Berkeley 1872 “On a dead stem from Jamaica, in a hothouse at Dangstein. Lady Dorothy Nevill”.

We owe our present system of taxonomy to the famous Swedish scientist Carl Linnaeus (1707-1778). Though Latin names were in use prior to this they tended to be long and unwieldy, were used inconsistently and also were frequently varied or changed. It was Linnaeus who in 1753 established the binomial system we follow universally today, whereby every living organism is given an international two-word ‘Latinised’ name with the species following the genus name, thus at last standardising a reliable international system for all naturalists, whatever their mother tongue. This was indeed timely, it being a period in history when such vast numbers of new species were being described worldwide through increasing exploration and travel.

The discussion amongst English mycologists over the sole use of Latin names to the exclusion of their English counterparts (when these exist) will no doubt rumble on *ad infinitum*(!), and it is not my purpose here to argue in favour of one camp or the other. What follows below is intended to provide some insight into the background behind just a few of these names, and is my own personal take on the subject with information gleaned from various websites.

Agaricus Probable origin is from the Greek *Agarikon*. Pre Linnaeus *Agaricus* was the name for what is now known as *Laricifomes officinalis*, a large bracket (not British and similar to *Fomes fomentarius* - Horseshoe Fungus) which was used by the ancient Greeks and also by indigenous North Americans for medicinal purposes. The term Agaric seems to have taken on its now familiar and entirely different meaning rather by chance. The process was started when the German botanist Dillenius (Johann Dillen), the first Professor of Botany at Oxford University in the 1720s, decided to transfer the already existing terms of *Boletus*, *Peziza* and *Amanita* to entirely different groups of fungi from their previous traditional use. Linnaeus, who spent some time with Dillenius, adopted these changes and also decided to transfer *Agaricus* from meaning a large bracket to become a general term for several groups of gilled mushrooms. Though there were

fig.41 An identification challenge



recognised it instantly and came straight back with the answer, which the microscopic characters then confirmed. He had seen similar strangely deformed specimens of this very common woodland species before, but can you guess what it is?! (Solution on page 39).

EXPLORING THE ORIGINS OF SOME LATIN NAMES

Penny Cullington

Have you ever wondered how the Latin genus and species names of fungi have originated? (The scientific term for studying the origin of words is etymology.) Some are fairly self-explanatory, such as *Cortinarius* – the Webcaps (a huge genus named after the cortina, i.e. partial weblike protective veil covering the immature gills, which its members possess – *cortina* in Latin meaning curtain), or *Lactarius* – the Milkcaps (another large genus named after the milky fluid which exudes from its members when damaged – *Lactarius* in Latin meaning ‘made of milk’). As with other fields of natural science, it is very common for names to be created in honour of an eminent specialist in that field. Examples of such genus names for fungi abound; I will quote just two, chosen because they form such attractive words: *Rickenella* after the German mycologist Adalbert Ricken who died in the 1920s, also *Oudemansiella* after the Dutchman Corneille Antoin Oudemans who died in 1906 – what a lovely name that makes. Even more common is the use of such surnames at species level; typical examples are *Hygrocybe reidii* after the renowned British mycologist Derek Reid who died only six years ago, or (another of my favourite names) *Phaeolus schweinitzii* after the German-American mycologist Lewis David de Schweinitz who died in 1834. How’s that for a memorable name?! There’s even a *Leucoagaricus marriagei* named by Derek Reid in honour of Mrs E.A.Marriage, and also *Postia wakefieldiae* where the genus is named after the 19th Century Swedish mycologist H.M. von Post and the species after Mrs E.M.Wakefield (an eminent British mycologist who died in the 1970s and who had no less than two genera and seven species named in her honour). In both the last two instances the ladies were responsible for collecting the type specimens in the 1960s. There are even instances of first names – usually women’s – being used for species names, such as *Lepiota audreae*, *Cortinarius catharinae*, *Amanita ceciliae*,

cells, can be seen on the outer surface of the cap. Cystidia are beginning to emerge from the gill face, which is still pale because the basidia have yet to mature and produce the dark spores.



fig.3 *Coprinellus micaceus*, Stoke Common 29 May 2011 – cross-section of young cap (DJS)

Bernwood Forest 28 Aug 2011

A list of 49 species included many of the larger boletes and agarics, including *Leccinum aurantiacum* and *Leccinum aerugineum*.

Wotton Estate 4 Sep 2011

Our list of 47 species included a rich variety of finds, such as *Lentinus tigrinus* (see front cover), *Boletus satanas* (Devil’s Bolete), *Boletus radicans* (Rooting Bolete), *Coprinellus saccharinus*, *Delicatula integrella*, *Leccinum duriusculum* (Slate Bolete), *Pluteus ephebeus*, *Simocybe sumptuosa* and the two polypores *Perenniporia fraxinea* and *Rigidoporus ulmarius* both, despite their names, on a (separate) Horse Chestnut stump/trunk. Penny’s report of the foray is on the web site.

Ashridge Workshop 10 Sep 2011

This joint event was tutored again in 2011 by Geoffrey Kibby and a large and enthusiastic group of participants (fig.4) split into two groups for the initial foray and returned to the Visitor Centre for the rest of the day. Penny has provided a full account for the web site. The list of almost a 100 species included many in the genera *Russula*, *Boletus* and *Amanita* such as *Russula amoenoides*, new to Britain, *Amanita battarrae*, *malleata* and *olivaceogrisea* and ten boletes. I was pleased to find a rather strange looking very early stage of, presumably, *Chlorophyllum olivieri* (fig.5), of which more mature fruit bodies were also found.

AN IDENTIFICATION CHALLENGE

Penny Cullington

As part of my survey of Stoke Common in the south of the county a couple of years ago I came across two fruit bodies (figs.40 and 41) growing in short grass under Oak, the largest with cap about 4cm across but with a really swollen and weird purple-black stipe. There was no distinctive smell, and the cap felt dry to ever-so-slightly greasy, and a sporeprint taken overnight was pale cream. I was baffled, and (in my usual over-optimistic way) thought I might have found something really interesting, maybe even new to science! Not so, of course – in fact very far from it! On emailing round the photos to various experienced colleagues for their thoughts, all were equally flummoxed except for Geoffrey Kibby who



fig.40 An identification challenge (PC)



fig.4 forayers at the Ashridge workshop 10 Sep 2011(DJS)



fig.5 Immature stages of presumably *Chlorophyllum olivieri* Ashridge 10 Sep 2011 (DJS)

Pulpit Hill/Granglands 11 Sep 2011

Our 11 forayers found fungi in abundance and the list of 78 species included lots of good finds. This was probably Amos Green's last foray and he, sadly, died later in the year. The list of species included *Psathyrella bipellis* (fig.6), *Amanita echinocephala* (Solitary Amanita, fig.7) and *Amanita strobiliformis* (Warted Amanita),



fig.6 *Psathyrella bipellis* Pulpit Hill 11 Sep 2011 (DJS)



fig.37 *Hericium erinaceus* 29 Jan 2012 hanging on by a stalk (PD).



fig.38 *Hericium erinaceus* 25 February 2012. As it falls away from the trunk of the tree one can clearly see the method of attachment to the tree itself (PD).



fig.39 *Hericium erinaceus* 11 March 2012 (PD)

* A comment on *Hericium erinaceus* conservation from Derek: Although this species is rare and widely regarded as deserving conservation in Europe, a species that goes under the same name in North America is cultivated as an edible and its spawn is sold for inoculating growth substrates. I do not know if there have been any studies on whether the North American and European fungi are interfertile or DNA studies on how they may differ. Since the spawn has recently been made widely available in the UK, I presume from North America, we do not have very long (and it may be too late) to find out if the local fungus is different and if it is interbreeding with introduced material. On the other hand, since there are almost certainly many more species of fungi in Britain than the 12,000 or so currently recognised, many other less distinctive species are probably becoming extinct here anyway.

fig.7 *Amanita echinocephala* at Pulpit Hill 11 Sep 2011 (DJS)



Cortinarius calochrous and *Cortinarius flexipes*, *Collybia calciphila* (= *Gymnopus calciphilus*) and *Lepiota erminea* (better known as *Lepiota alba*) and many others – it is a list worth perusing.

Mousells Wood 2 Oct 2011

This was one I was sorry to miss – as Penny’s report on the web site says, with Geoffrey Kibby as leader and 15 keen forayers, the day provided an impressive list of 118, including 7 *Lactarius*, 10 *Inocybe* and 15 *Russula* species. *Lactarius ruginosus* was only the second record in the County, *Russula decipiens* had also been found at this site the previous year, when it was new to the County (see BFG Newsletter 12, p.22) and one *Inocybe* is possibly new to Britain.

Chiltern Walk 9 Oct 2011

Roger Kemp led us around some of his favourite wildlife spots in the Cadsden and Brush Hill area. By this time the season was providing much reduced amounts of fungi fruiting and a hard-won list of 29 species was eventually produced, including *Clitocybe houghtonii*, *Stropharia aeruginosa* (Verdigris Agaric) and, growing on the wooden sleepers in the car park, *Coprinopsis romagnesiana* (fig.8).



fig.8 *Coprinopsis romagnesiana* in the White Cross car park near Cadsden 9 Oct 2011 (DJS)

Dancersend 16 Oct 2011

The dry weather continued and fungi were fruiting sparsely, our 14 forayers heading for the moister North slopes under the guidance of warden Mick Jones. A

fig.9 *Coprinopsis pseudonivea* found at Dancersend 16 Oct 2011, although this collection is from Brill Common on 12 Nov 2011 (DJS)

list of 50 species included *Coprinopsis pseudonivea* (fig.9), *Conocybe juniana*, *Ischnoderma benzoinum*, (Benzoin Bracket) *Typhula erythropus* (Redleg Club) and *Peziza succosa*.

Watlington Hill 22 Oct 2011

Fungi were a bit thin on the ground but around 20 attendees from the two (Bucks and Oxfordshire) recording groups managed a total list of 48 from this Oxfordshire site. Grassland species were well represented, if not abundant, including: *Clavulinopsis corniculata* (Meadow Coral) and *helvola* (Yellow Club) and the rarer *Clavulinopsis umbrinella* (Beige Coral) with one previous record from Oxfordshire; *Clitopilus scyphoides* (a new County record), *Entoloma bloxamii* (Big Blue Pinkgill), and four *Hygrocybe* (Waxcap) species. Other species found in the grassland were associated with Rock Rose, including *Amanita strobiliformis* (Warted Amanita), *Cortinarius epsomensis* (= *anomalus*), *Inocybe rimosa* (Split Fibrecap), *Lactarius evosmus* and *Tricholoma hemisulphureum*.



Ashridge 23 Oct 2011

The continuing dry weather meant that fungi were sparse but dividing the attendees into four groups produced a surprisingly large list of 117 species for the day. Finds were displayed on Steve Kelly's folding table after the morning and afternoon sessions and attendees seemed impressed by what we had found. The list included: *Amanita olivaceogrisea*; *Amanita muscaria* (Fly Agaric - so named because of its use in killing flies); *Bauvaria bassiana* (a fungus which does that job much more effectively by parasitising insects and in fact has been developed for use as a biological insecticide - the Ashridge specimen was found on a dead ladybird); *Hypocrea pulvinata* (following this theme of hosts, a fungus which grows on another fungus - *Piptoporus betulinus*) and *Mutinus caninus* (Dog Stinkhorn, fig.10 - back to insects, this is a fungus that uses flies to spread its spores).



fig.35 *Hericium erinaceus* 30 Dec 2011 becoming yellowish (PD).



fig.36 *Hericium erinaceus* 5 Jan 2012 yellow and covered in snow (PD).

The specimen continued to get darker in colour (fig.38). By 11 March 2012 (fig.39), although the fruit body has more or less completed its role of spreading the fungal spores and appears 'dead', the fungus continues to live within the wood of the tree and might possibly produce a new fruiting body next year.

Hericium erinaceus fruit bodies are large and often high on living tree trunks, they comprise a solid cushion, 5 – 40 cm in diameter, white to creamy at first discolouring to yellowish with age with hanging, long pendulous crowded spore-producing spines, 10-40 mm long.



The Naphill fruit body grew very slowly over the next month as can be seen from the photograph taken on 10 December (fig.34). By 30 December (fig.35), the colour was changing to yellowish, darker in places and this was very clear by 5 January 2012 (fig.36). By 14 January 2012 the specimen started to come away from the main body of the tree on a 'stalk' which can be easily seen in the photograph taken 29 January (fig.37).

fig.34 *Hericium erinaceus* 10 Dec 2011 about 30 cm from top to bottom with close up of spines below (PD).



Naphill Common 27 Oct 2011

In continuing poor conditions, our group of enthusiastic forayers listed 32 species. The most intriguing was initially thought to resemble *Agrocybe erebia* but on microscopic examination appeared to be a *Psathyrella*, possibly the extremely rare *Psathyrella caput-medusae*. It needs to be re-collected before that can be confirmed.

Sandwich Wood & Hampden Common 29 Oct 2011

Our foray to Sandwich Wood involved a brisk walk across fields into the wood and a return via an old orchard. A small group of forayers managed to find 47 species, including *Boletus ferrugineus*, *Craterellus cornucopioides* (Horn of Plenty) and *Hymenoscyphus fagineus*. We usually do not add any lichens to our foray lists, despite their being fungi (in symbiosis with algae), but Tony Marshall, who has taken a special interest in the biodiversity of this wood, recognised the rather fine specimen of *Baeomyces rufus* shown in fig.11. Also Penny looked at the material in fig.12 and sorted it out as *Chromelosporium ochraceum* – the imperfect stage of an *Ascomycete* in the family *Pezizaceae*.



fig.10 *Mutinus caninus* found at Ashridge 23 Oct 2011; this specimen photographed at Pulpit Hill in 2009 (NS)



fig.11 *Baeomyces rufus*, a lichen, at Sandwich Wood 29 Oct 2011 (DJS)



fig.12 *Chromelosporium ochraceum* from Sandwich Wood 29 Oct 2011 – the scale in the lower right hand photo is millimetres (DJS)

At Hampden Common in the afternoon, the cricket pitch being shown once again to be one of the more outstanding patches of unimproved grassland in the County, with no fewer than eleven Waxcap species, including *Hygrocybe calciphila* (a red data list, near threatened species), *fornicata* (Earthy Waxcap), *pratensis* (Meadow Waxcap, fig.13) and *reidii* (Honey Waxcap) as well as four *Clavulinopsis* species.



fig.13 *Hygrocybe pratensis* found at Hampden Common 29 Oct 2011 – this photo at Cliveden in 2008 (NS)

Hodgemoor Woods 30 Oct 2011

Our group of 10 forayers found some 81 species, including *Amanita phalloides* (Death Cap), *Amanita citrina* (False Death Cap) and *Lactarius fluens* (fig.14)

and diarrhoea, followed by a deep sleep – all these occurred in the various accounts.

So was it aconite, *A. phalloides* or *A. muscaria* that killed Claudius? The tragedy is that knowledge of the risks of poisonous mushrooms might have saved the life of an under-estimated Roman emperor. One thing is for sure – it is too late now!

HERICIUM ERINACEUS ON NAPHILL COMMON

Peter Davis

The rare *Hericium erinaceus* fungus, not seen on Naphill Common for about 5 years, was found there in November 2011 at about 15ft up the ‘Great Beech’ next to Dew Pond on the Common. In 2003 this species was red-listed in 13 of the 23 European countries in which it had been recorded.* There are an estimated 105 trees in Britain that are known to have supported fruiting of *Hericium erinaceus*. The photographs show the progress of the fruiting since it first appeared. It was first seen on 15 November 2011 (fig.33) and, since it was not seen on 6 November when I visited, must have been less than 10 days old at that time.



fig.33 *Hericium erinaceus* on the “Great Beech”, Naphill Common 15 Nov 2011 (PD). It is on the south facing side, in a damaged area of the tree where a branch has broken off many years before.

Deathcap (fig.31), placed amongst a dish of *Amanita caesarea* which (as its name suggests) was highly prized by Roman emperors and boasted a status in ancient Rome similar to truffles today. There is some circumstantial evidence to support this theory: a contemporary play describes Claudius being fed a poisonous mushroom rather than by poison added to a mushroom dish. Furthermore after Claudius's posthumous deification, Nero joked that mushrooms were 'the food of the Gods'. This modern theory lacks mycological detail and skirts over the fact that *A. phalloides* and *caesarea* look dissimilar in their adult stages, though the latter would probably have been eaten in its early volval stage, as today. Apparently deaths still occur in Southern Europe from confusion between these two species. Furthermore the traditional Roman preparation for mushrooms of stewing in olive oil or wine could well have disguised both the appearance and the prominent sickly sweet smell of *A. phalloides* (though some texts state that victims have claimed it tastes 'delicious' before dying!).

The central plank of this 1991 theory is the claim that the protracted course and symptoms of his illness are typical of *A. phalloides* poisoning, known to cause a quick illness initially, marked by gastro-intestinal symptoms over the course of 3 to 8 hours, followed by apparent recovery. So far this fits Tacitus's account well, but death occurs (usually from liver failure) between 3 to 7 days later, thus taking far longer than most Roman commentators indicate. The modern theory relies heavily upon the uncertainty created by the reluctance to announce Claudius's death, and fails to explain why symptoms of liver failure (delirium, tremor and jaundice) are never described.

A further theory is that Claudius was served *Amanita muscaria* (fig.32) amongst his *A. caesarea*. With the white flecks washed off, or in its early volval stage, this mushroom could appear similar to *A. caesarea*, arguably more so than *A. phalloides*. It is, however, rarely deadly poisonous unless one is predisposed to kidney disease, a condition which Agrippina could not have known about. Tacitus tells us, however, that the conspirators were attempting to initially confuse or sedate Claudius, then close in for the kill. Too quick-acting a poison would make their crime obvious, whilst too slow and the victim would have time for revenge. The symptoms of *A. muscaria* poisoning are highly variable but would include confusion, nausea



fig.32 *Amanita muscaria* (Fly Agaric) with scales washed off in rain (PC)



fig.14 *Lactarius fluens* Hodgemoor Woods 30 Oct 2011 (DJS)

West Wycombe Hill 6 Nov 2011

A cold November day produced a list of 36 species from this site which is new to the Group. Finds included an *Agaricus*, along a path with Yew, that keyed out to *Agaricus gennadii*, although the fruit bodies were rather young, leaving some doubt about the identification. A collection of *Clitopilus hobsonii* (fig.15) was growing on very old fruit bodies of another fungus, *Trametes versicolor*.



fig.15 *Clitopilus hobsonii* from West Wycombe Hill 6 Nov 2011, growing on old fruit bodies of *Trametes versicolor* (DJS)

College Wood 18 Dec 2011

After two failed attempts to visit College Wood in 2009 and 2010 because of snow, we were delighted to get there this year for our traditional Christmas foray. A worthy list of 35 species rewarded our efforts, including *Crepidotus epibryus*, *Hygrocybe psittacina* (Parrot Waxcap), *Macrotyphula fistulosa* (Pipe Club), and *Mycena pseudocorticola* - a very rare species in the South East previously only known in Buckinghamshire from a record by Nick Legon at Rushbeds Wood.

Carpenters Wood 15 Jan 2012

Our first foray of the 2012 season produced a list of 55 species, many of them crust fungi on wood, small *Ascomycetes*, such as *Lachnum virgineum* (Snowy Disco, fig.16), small *Myxomycetes* and one small thing looking like but not a *Myxomycetes* (see Penny's article below on p.22). A number of gilled agarics, such as *Pseudoclitocybe cyathiformis* (The Goblet), *Crepidotus luteolus* and *Phaeogalera dissimulans* (also known as *Pholiota oedipus*, *Meotatomyces dissimulans* and many other things - basically no one knows where to put it).



fig.16 *Lachnum virgineum* found at Carpenters Wood 15 Jan 2012 on Beech - this specimen is from the Forest of Dean in April 2012 and is growing on Bramble - the size of the discs can be judged against the thorn to the left of the photo (DJS).

Hockeridge Wood 11 Mar 2012

This joint event with the Herts / Beds Fungi Group was followed by a buffet lunch and HBBFG AGM nearby, possibly helping our attendance at the foray to reach 17. A list of 35 species and Penny's report is on the BFG web site. I would just like to give an account of one of the finds to illustrate how we sometimes get to names after a foray. This was found by Joanna Dodsworth, a group of pinkish mounds on a fallen branch, similar to the common Slime Mould *Lycogala terrestris* but on closer inspection with tiny pimples all over (fig.17). This suggested a *Hypocrea* (several species of which I have collected before) and I photographed

written on by scratching the underside. A distinctive feature of *G. applanatum*, however, is that it can be infected by fly galls. When in passing I (mistakenly) said to Derek that the above Latin message was from the Gauls, he seized upon the opportunity for a good pun here (until I later remembered it was not from them but from the Buri). *Sic transit gloria fungi?*

And finally: Cassius Dio and other historians write of the Emperor Claudius and his fondness for mushrooms which proved his undoing. Apparently Agrippina, his fourth wife, fed the hapless Emperor a poisoned mushroom during a banquet in order to effect her son Nero's accession, even consuming other (harmless) mushrooms in the same dish to allay suspicion. Tacitus writes a detailed account of Claudius's symptoms, including intoxication (possibly caused by wine at the feast) and diarrhoea. Others describe his pain and suffering lasting up to 24 hours, though as Agrippina and other plotters contrived to keep his death secret until they had consolidated their position, this remains uncertain. Apparently at one point Claudius appeared to be recovering, whereupon his own physician Xenophon allegedly administered the *coup de grace* via a feather dipped in quick-acting poison applied to the throat, purporting to help Claudius vomit.

Both authors above state that poison was added to the mushrooms rather than using a poisonous mushroom as such. Was this poison fungal in origin or not? Modern poisons such as strychnine and arsenic were unknown to the Romans who generally favoured plant poisons for their dastardly deeds, the most popular being henbane, hemlock and aconite. However, none of these quite fit the bill. Henbane when consumed produces dramatic psychiatric symptoms; hemlock causes numbness and paralysis. Surely contemporary writers would have sensationalised their accounts of his death thus had Claudius displayed any of such symptoms. (In fact hemlock was a popular poison of execution, its effects vividly described in Plato's description of the death of Socrates.) Aconite is quick-acting if consumed in large enough doses, and causes burning pain and diarrhoea, both of which Claudius suffered, amongst its symptoms. The lethal dose is approximately 5 to 15 grams, but it is questionable whether a sufficient quantity to guarantee a quick death could have been administered by Claudius's physician using a feather to the throat.

An influential 1991 article in the *Classical Quarterly* suggests that Claudius was killed by *Amanita phalloides*, the appropriately named



fig.31 *Amanita phalloides* (Death Cap) (JL)

develop a strong smell of fenugreek or curry powder which lasts for years in herbarium material.' I have the dried specimen next to me as I write months later and can confirm that this smell is still distinct and unmistakable. So in conclusion I've learnt much about how to recognise this unusual fungus, and hope I've succeeded in passing this on to you, but without someone to tell me what this species was in the first place I doubt if I'd have worked it out for myself.

On reading this account, Derek put my final statement to the test, and writes: "I tried Mykokey, admittedly already knowing the answer. If you know it is a *Basidiomycete* (clamps), gasteroid because the spores are inside the head, with a head, hymenophore buff to cinnamon (picked from a palette), habitat on wood and spores globose to sub-globose, you get to a choice of either *Lycoperdon* and *Phleogena* and comparing the two provides a photo of *Phleogena faginea*. I then tried again – quick key to gasteroid fungi, spores as powder in a dry ball, fruit body height 3 to 6 mm came to *Phleogena* immediately! The synoptic key is sensitive to this size measurement, 5 to 10 mm gives no answer, but playing with dimensions gets you there."

ROMAN FUNGAL HISTORY:

The part played by fungi in the decline and fall of the Roman Emperor

Brian Murray

The Romans were by all accounts big fans of fungi. For this article I explore three stories about their relationship with these organisms, covering in typical Roman style the extremes of sex, war and murder.

One fungus favoured by the Romans was *Phallus impudicus* (Stinkhorn). This produces a gel on its tip, foul-smelling to humans though irresistible to flies which then carry its spores on to fresh sites. Despite its smell *P. impudicus* is edible, but is best enjoyed in its young 'egg' stage, when my informants tell me it has a pleasant hazelnut or radish taste. The Romans' interest, however, was purely in its aphrodisiac properties, and they assumed that its excitable appearance hinted at its ability to boost one's sex life. The story is given credence by contemporary accounts from various parts of Europe where *P. impudicus* is still so used – although mostly for farm animals. Victorian gentlewomen were known to go around ripping the offending fungus out of the ground for fear of them corrupting the locals. Freud would have had a field day. The question on everyone's loins is, does it work? Too delicate a topic to broach with my informants, and with little about this aspect in the scientific literature, the scientific consensus is that most traditional aphrodisiacs do not work though there is thought to be a strong placebo effect: it is the *idea* of an aphrodisiac that is the aphrodisiac.

The Roman writer Cassius Dio describes the war of the Emperor Trajan against Dacia (roughly corresponding to the modern Dalmatian states) as follows: 'When Trajan in his campaign against the Dacians had drawn near Tapae, where the barbarians were encamped, a large mushroom was brought to him on which was written in Latin characters a message to the effect that the Buri and other allies advised Trajan to turn back and keep the peace.' The most likely fungus candidates for such an inscription must surely be the brackets *Ganoderma australe* and *applanatum* (Southern Bracket and Artists's Fungus); both species can be drawn /

and collected it and started an initially inconclusive debate about what tree the branch might have fallen from (fig.19). *Hypocrea* species are *Ascomycetes* that have an alternate (anamorph) *Trichoderma* form sometimes growing with them, – a powdery green mass – a fact which I knew but had forgotten. Fortunately, this was recognised by Anthony Burnham, allowing me to photograph it (fig.18) and collect a sample for study at home along with the pink mounds, which are referred to as the holomorph or perfect stage, producing the Ascospores that result from two individual fungi mating.



fig.17 *Hypocrea* on fallen branch at Hockeridge Wood 11 Mar 2012



fig.18 Green *Trichoderma* stage (DJS)



fig.19 Tree from which the substrate branch probably fell (DJS)

Back home under the stereo microscope, the pimples were easily seen to be openings (ostioles) leading out from the chambers beneath, where spores are produced (fig.20). But not always! In this case they were immature, so no ascospores. But I did measure the spores of the green *Trichoderma* stage.

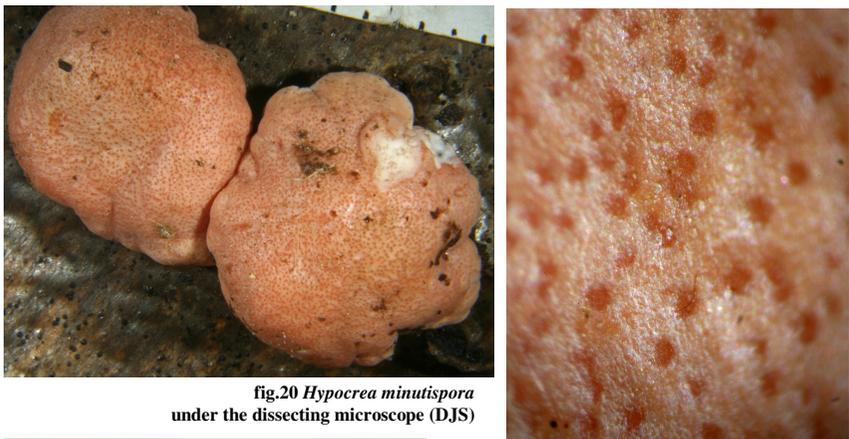


fig.20 *Hypocrea minutispora* under the dissecting microscope (DJS)



I had been to a BMS workshop a few weeks before and learnt about *Hypocrea* species from Walter Jaklitsch of Vienna University the European expert on *Hypocrea*. There are lots of them (*Hypocrea* species, not experts!). There is also a magnificent monograph and key that Walter has produced, the size of a large book but which can be downloaded from the internet for free and I had a copy. Without any information on the ascospores, I assumed it would not key out but thought I would try anyway. As it happened, the key led to one species, *Hypocrea minutispora*, the small spores referring to the anamorph stage and matching the Hockeridge species. This species was first described only eight years ago in America when it was realised that what mycologists have previously been determining as the fairly common *Hypocrea rufa* is in fact this new species, whereas *H. rufa* exists but is considerably rarer. I sent all my photographs to Walter who replied immediately: “Yes, *H. minutispora*, without doubt. The trees you show may be *Populus tremula*”.

Other finds in 2011 - 2012

Penny found these rather fine specimens of *Cortinarius torvus* (Stocking Webcap) on 29 Sep 2011 at Burnham Beeches (fig.21), of a tiny, pure white *Amanita* species on 10 September 2011 at Kings Wood (fig.22) and of an unidentified *Cortinarius* species on 25 August 2011 at Stoke Common (fig.23).



fig.29 Spores of *Phleogena faginea* (PC)

fig.30 Clamp from *Phleogena faginea* (PC)

give-away signs that it was not a Slime Mould were (a) the large size and (b) the presence of clamps. Though not really rare this species occurs in the south of the country usually on deciduous wood, though ours was in fact on Larch. Now at least I had a name to look up, but the only coverage I could find in the general handbook-type literature was in the Complete Guide to British Mushrooms & Toadstools (Sterry and Hughes 2009) where it comes under the section ‘Rare and unusual fungi’. In fact coverage was little better even with specialist books – I found a picture of it in Cetto volume 7 and it’s also covered in Nordic Macromycetes vol 3, a book of keys to *Basidiomycetes* which lack gills: brackets, stomach fungi, jelly fungi and the like. From this last text I discovered the reason for another fact that had been bothering me: If this was a *Basidiomycete* why couldn’t I find more microscopic evidence pointing to this other than just the clamped hyphae? Nordic Mac, however, clearly stated that the basidia are difficult to see, and in fact as the diagram showed they looked nothing like what I would have recognised as basidia, the reason being that this is a *Heterobasidiomycete* – basically one of the “jelly fungi”, although in this case not at all gelatinous!

There are plentiful pictures of *Phleogena faginea* online which makes up for the dearth of them in available literature, but one needs to be able to recall the name to get at them, so no use for the ‘flipping through pictures’ method of identification which all of us – even the most experienced - resort to from time to time.

One last piece of useful information came to light in CBIB (Checklist of British & Irish *Basidiomycota* 2005), where the entry for this species states ‘Basidiomes resemble large fruit bodies of the *Myxomycete* genus *Physarum*. When dried they



fig.28 Fruit bodies viewed through the dissecting microscope (DJS)

Under the scope I found the typical tight mass of round spores seen in most Slime Moulds; they were entirely smooth, pale brown and measured around 6-9 microns across (see fig.29). The shape of the fruit bodies suggested to me the genus *Physarum* or *Didymium*, but any likely candidates had spores which were either bigger or ornamented, and also as I'd suspected when I first saw our collection the specimens were too big. I found one further clue which also put a spanner in the works: there appeared to be long thin cylindrical cells (hyphae) which were clamped, i.e. had a kidney-shaped extension linking the two cells, giving each section the appearance of a dog bone (see fig.30). As far as I knew this never occurred in Slime Moulds, nor in *Ascomycetes*, so this surely had to be some strange form of *Basidiomycete*?

I drew a blank when attempting to get any further with the books in my possession but was determined to get to the bottom of this puzzle. So the next obvious move was to pick someone else's brains, and in this case it took the form of friend and Slime Mould expert Bruce Ing. His response to my emailed photo and description proved that both my initial instincts and Derek's recollection had been on the right track: This was indeed no Slime Mould but a species of *Basidiomycete* loosely related to the rusts and called *Phleogena faginea*. Bruce confirmed that the



fig.21 *Cortinarius torvus* (Stocking Webcap) Burnham Beeches 29 Sep 2011 (PC)



fig.22 *Amanita* sp. Kings Wood 11 Sep 2011 (PC)



fig.23 *Cortinarius* sp. Stoke Common 25 Aug 2011 (PC)

MORE ON THE ROCK ROSE AMANITA STORY

Penny Cullington

You may recall discussion in my articles from both last year's and 2010's newsletter – also in *Field Mycology* 8(4) and 11(4) – about an intriguing species of *Amanita* which occurs often in quantities at Watlington Hill, a chalk downland site just into Oxfordshire on the Chiltern escarpment. The genus *Amanita* is known to be almost totally mycorrhizal (in this country both *A. strobiliformis* and *A. solitaria*, probably better known as *A. echinocephala*, are the only exceptions), but it is only in relatively recent years that we have become aware of the occurrence of species associating not with trees but with both *Cistus* and (in this country) *Helianthemum* = Rock Rose.

My connection with the story started back in 2002 when at Coombe Hill – another Chiltern escarpment site some 10 miles north of Watlington as the Red Kite glides – my attention was first drawn to the strange phenomenon of mycorrhizal species apparently growing with Rock Rose in place of trees. Two years later I first visited Watlington Hill and came across quantities of these fungi (from several different genera) associating with the same host, and in 2006 found my first *Amanita* there. This fairly tall beige/grey species (see last year's newsletter on page 24) which loses its cap scales of veil early on, has striations on the cap edge, and has no ring on the relatively unmarked stem which roots deeply with a large but easily damaged volva at its base, can sometimes occur here in 50s or more as was the case when I took Geoffrey Kibby to experience this amazing site for himself – thus his photo in *FM* 11(4) on page 143. My first records of it here are named *A. vaginata* as at that time I could find nothing else which fitted with it though that species was not known to occur away from deciduous trees.

It might be useful and interesting to put events into chronological order, with the latest development at the end.

- 1988 Roy Watling, in his presidential address to the BMS, encourages further study of both *Dryas* and *Helianthemum* as mycorrhizal hosts, following the discovery of *Boletus luridus* growing with Rock Rose in Derbyshire.
- 1988 Derek Reid (Head of Mycology at Kew) records an *Amanita* growing with Rock Rose at Watlington Hill, named as *A. lividopallescens*.
- 2006 My first collection from Watlington Hill, named as *A. vaginata*.
- 2007 Neil Barden writes in *FM* about his discovery of many fungi growing with Rock Rose in Derbyshire, with a photo of an unknown *Amanita* featured on the back cover – undoubtedly our species again.
- 2008 Following a visit to Watlington Hill with Martyn Ainsworth I send material to Marco Contu in Italy who by chance is researching possibly two very similar Italian species also growing with Rock Rose.
- 2010 Following a visit to Watlington Hill with Geoffrey Kibby, he consults with world *Amanita* authority Rod Tulloss and they conclude this species is most likely to be *A. malleata*, but have some reservations.
- 2012 Following preliminary molecular studies in Italy (Contu and Vizzini) a new species, provisionally named *Amanita helianthemicola*, is shortly to be described.



fig.26 When is a Slime Mould not a Slime Mould? The fruit bodies. (PC)

During our discussions at the time Derek mentioned that he recalled a species which looked exactly like a Slime Mould but was in fact completely unrelated, being a fungus (myxos are in fact not true fungi at all but form part of *Mycetozoa*,



fig.27 When is a Slime Mould not a Slime Mould? The fruit bodies. (PC)

another kingdom entirely, though are traditionally studied and recorded along with fungi). The name of Derek's intriguing look-alike fungus and the source of his information eluded him, however, so I was going to have to do some detective work if this proved not to be a Slime Mould on examination at home.

measurements would give me a fighting chance of getting to a name. My first port of call was to flip through the latter pages of Fungi of Switzerland vol. 1 (covering ascos). Two genera of *Pyrenomycetes* therein, *Diatrype* and *Eutypa*, also had allantoid spores, but (a) my spores were too big for any mentioned in the book, and (b) none of the photos looked like my 'blackheads'. So onward to more specialised territory in the form of Ellis & Ellis Microfungi on Land Plants, considered by many as the Bible of ascos though in some areas now a bit outdated as it was first produced in 1985. If you are not familiar with this book, it is not for the faint-hearted having no pictures but numerous fairly technical keys leading to short descriptions of no less than some 3500 species, together with excellent line drawings of salient and microscopic characters of over 2000 of them. It took me several years to get to grips with this text as to begin with virtually every word in the keys had to be looked up in the glossary, and I admit I still find it daunting. Anyway, I located a key which covered 'Other *Ascomycetes* (i.e. not *Discomycetes*) on Beech' and which included both *Diatrype* and *Eutypa*, so I felt reasonably confident I was at least in the right area. The spore size led me straight to a species named *Quaternaria quaternata* which of course I'd never heard of, but turning to the species description and line drawings I was relieved to find that this all fitted fine as well. What's more, it was described as 'very common on freshly fallen branches and trunks of trees blown down by gales, sometimes completely colonising them – Nov. to May.' Perfect! Knowing my doubtful skills with identifying ascos I'd have been much less happy if the determination had proven to be something really rare, but this sounded so plausible and likely. Though with over 300 national records, this species appears in the BFG database only once previously, recorded by Kerry Robinson from Ashridge in 2009, no doubt reflecting our sparse knowledge of such species locally.

Incidentally the fancy Latin name relates to the fact that under the black crusty bump of each fruit body there are four tiny cavities which when fresh are filled with soft black gunge (see fig.24, lower right). Not a bad name for a crop of little blackheads!

WHEN IS A SLIME MOULD NOT A SLIME MOULD?

Penny Cullington

Answer: when it looks for all the world like one but isn't!

Explanation: During our foray at Carpenters Wood, Chorleywood, joint with the Herts/Beds Group back in January this year Steve Kelly presented me with what he thought had to be some form of Slime Mould – a *Myxomycete* (myxo for short), and to me in the field it appeared to tick all the boxes for this apart from its rather unusually large size. On a small piece of rough bark was a cluster of fruit bodies with long thin stalks (they're officially called stalks and not stipes in myxos) and greyish circular heads (see figs.26 to 28) – this being a fairly typical shape for such organisms. Their complete height was, however, between 5 to 10mm, and the heads were about 2mm across – not exactly very large but decidedly larger than any other Slime Mould of this shape that I was familiar with.

In conclusion, it would appear that after a period of nearly 25 years this species is about to get its own name and at last I shall be able to put the definitive name to my Watlington Hill photos which go back over the last six years. No doubt it has been growing there for centuries, maybe longer, and I suspect that it will now be found in many more sites over the country where chalk downland with Rock Rose occurs.

SOME MORE NAME CHANGES

Penny Cullington

The inexorable changes to the names of fungi continue unabated. A major change to what were then all *Coprinus* species (the Inkcaps) followed DNA - based studies in 1999/2001 and eventually were adopted in the British checklist in 2006. Proposed changes to another common and well-known genus, *Collybia* (the Toughshanks), date from as long ago as 1997 but have only recently been accepted in Britain following published DNA studies. Each of these two genera as we knew them is now split into several different genera. *Coprinus* into four: *Coprinus*, *Coprinellus*, *Coprinopsis* and *Parasola*; *Collybia* into three: *Collybia*, *Rhodocollybia* and *Gymnopus* (not to be confused with the already existing *Gymnopilus*) plus one species, *Dendrocollybia racemosa* (Branched Shanklet), put into a genus of its own.

The new *Collybia* names will begin to appear in lists, books and journals as the *Coprinus* names have already. It might be a good move to annotate your favourite books with the up to date names and a very convenient way to check what a species in one of these two genera should now be called is to make use of the current British Checklist attached to the Fungal Records Database for Britain and Ireland (FRDBI) online. A few really easy steps are all it takes:

- Enter www.fieldmycology.net/GBCHKLST/gbchklist in your browser
- In the green box which appears, enter the name of your genus, then click on "Search for genus" just underneath.
- Look for the line "Genus, Family, Order, Class, Subclass, Phylum" and under that line click on your genus name on the left.

This brings up the complete alphabetical list of all species in your genus, with names either in blue underlined or in black. Scroll down to find your species. If in blue you know this is still the correct name; if in black it has changed to the blue underlined name that follows it in brackets. E.G.

Coprinus atramentarius (= [Coprinopsis atramentaria](#))

Now you have the correct name for your fungus, we suggest you continue your check by clicking on the blue name to bring up the details for that species. Here you will see in blue "FRDBI summary data" followed by the number of records for that species in brackets in black. If that number is less than 100 you should be thinking of alerting Derek or myself that you've found an interesting and unusual species which might be new to the county (this can also be checked on the site) and that we might like to look at in order to confirm and enter the record.

FRDBI is a very handy but much underused online resource, and we would encourage everyone to make use of it. There are, however, on-going issues re adding the last two years' records, but this does not affect the value of the current checklist of names in FRDBI, which is fully up to date.

HAVE YOU SEEN THIS FUNGUS?

Penny Cullington

Continuing the 'online' theme from the previous piece of news, I'd like to bring to your attention a national survey in progress in which anyone with an interest in fungi can participate. It is being promoted by the BMS and run by Bruce Ing, and is based upon six of the most common and easily recognised species focussing upon their specific habitat. If you feel comfortable recognising any or all of the following, Bruce would really like to hear from you: Fly Agaric, Jelly Ear, Stagshorn, Birch Polypore, Blushing Bracket, Stump Puffball (Latin names: *Amanita muscaria*, *Auricularia auricula-judae*, *Calocera viscosa*, *Piptoporus betulinus*, *Daedaleopsis confragosa*, *Lycoperdon pyriforme*).

These six have been carefully chosen with two criteria in mind: firstly they are common and easy to recognise and secondly they are often found in association with only one or mainly one type of tree. We know, however, that they can occur in other situations but would like to discover more about this, and this is where you come in. All the information you need is easy to find on the BMS website. On the home page you are presented with three choices; choose the right hand one "Field Mycology and Conservation". On the next page you will find a list of topics on the left hand side; click on the last but one: "Have you seen this fungus?" All is here explained, with a clearly worded pdf file which tells you about the six species, their various habitats, and the address to send the information to. Derek and I would be pleased to hear from you about any of these records as well.

SOME INTERESTING BLACK DOTS ON STICKS

Penny Cullington

As most of you probably know, my preferred stomping ground for studying fungi is the world of agarics (gilled mushrooms in general), and when there are plenty of them about it takes quite a bit of persuasion to drag me away from them to work on other things (unless, of course, it's a Slime Mould!). So this is, I think, the first time I've been tempted to write about an asco, and - even more surprisingly - one of these crusty black blobs found on wood and included in the Class of fungi known as *Pyrenomycetes*. The reason for my interest was that, on the particular foray in question, there were virtually no agarics to be seen, it being March and also very dry!

During our foray at Hockeridge Wood near Berkhamsted, Claudi Soler had handed me this Beech stick covered in tiny individual black bumps - 0.5mm across at most - erupting through the bark (see fig.24) and I couldn't recall having seen their like before. A bit like small versions of another *Pyrenomycete*, *Bertia moriformis* (which we'd already collected that day) but less obviously bumpy and also isolated rather than growing in a tight mass, they reminded me of a crop of little blackheads! At home I took a thin slice off the top of one of them (like preparing a boiled egg to eat) to look for spores in the hopefully moist 'goo' underneath: without spores I knew I'd no chance of an identification. Several slide preparations later (having as usual cracked some cover slips) I found amongst the



fig.24 Black dots on sticks collected at Hockeridge Wood March 2012, determined as *Quaternaria quaternata* (PC)

black crusty gunk one spore! As with swallows and summer, one is not enough to make a determination, so I ploughed on with the decapitation till I eventually struck lucky. Though I could find no signs of an ascus (the typically long and thin, spore-containing sausage which characterises *Ascomycetes*), one preparation revealed abundant spores thankfully proving that the singleton I'd spotted earlier had not just been randomly floating around on my slide as I'd suspected. The spores (see fig. 25) were hyaline (colourless) and distinctively allantoid in shape (like long thin bendy frankfurters with rounded ends), and I was hopeful that this information together with their



fig.25 Spores from *Quaternaria quaternata* collected at Hockeridge Wood March 2012 (PC)