



BFG

Buckinghamshire Fungus Group

Newsletter September 2005 No. 6

Secretary and Recorder
Newsletter Editor

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Penny Cullington

WELCOME ALL

We are now coming up to the BFG's eighth season. After the two very disappointing - in fact well-nigh depressing - autumn seasons of 2002 and 2003, last autumn proved to be one of the best for foraging and recording fungi in this country for quite a few years. So fingers crossed we are in for a repeat showing this autumn, although things have been moving pretty slowly through the Summer months. We certainly hope many of you will be able to attend the forays Derek has arranged for us over the next few months - they are spread far and wide over the county in the hope that all members will have at least one or two conveniently in their vicinity. Some sites are old friends and some are welcome newcomers, thus adding variety and depth to our knowledge of what Bucks has to offer the keen amateur mycologist.

A particular welcome also to those new members for whom this will be the first newsletter. As you will discover, our membership covers a wide range of fungal expertise and experience, including those who are recognised as the country's leaders in certain genera, also those whose main interest is collecting to eat, as well as complete novices. However, the Group's aim is to cater for all, however great or small their knowledge; enthusiasm for fungi is the one thing we all have in common, together with a love of the outdoors and all things natural. It's amazing how there always seems to be someone at forays who can name that flower, tree, bird, beetle, butterfly etc.

FORAY PROGRAMME

Members will have already received our current foray programme from Derek in June, so the enclosed is purely a prompt. I'd like to bring to your attention several events on the programme which are not just bog standard forays:-

- Thurs / Fri / Sat, Sep 29th / 30th / Oct 1st

The Saturday event will be our fourth annual all-day public display at Aylesbury County Museum, and this previously has been a most rewarding day and very popular with the public, especially children. It is hoped that Thursday's forays will supply lots of interesting material both for Friday's identification afternoon and Saturday's display. Do please attend on all or any of the days: if coming just for the pm foray on Thursday please phone Derek the day before to confirm a meeting place and time; feel free to bring any material from elsewhere for identification on Friday (again phone Derek if you are coming); any help / contributions would be most welcome on Saturday, good material of anything however common, and especially eye-catchers that people will have noticed on walks, will be needed to create a good showing. Aim to arrive around 10.00 on Saturday as it does take quite a time to sort out, set out and label all the material, and we open at 11.00.

- Sat Oct 8th is a new untried format which we are confident will prove a most interesting and informative day. Having attended Martyn's excellent BMS weekend workshop on this topic last April, I can highly recommend this "Talk and Walk" to anyone with a serious interest in understanding the fungi of Beech woodland. Make sure you book a place as this event will be advertised amongst other mycologists, and bring a packed lunch. (There is a fee of £2.50 for members, £5 for non-members, payable on the day).

- Sun Nov 6th is an all-day public Fungi Roadshow - again a novelty! After last year's foray at Stowe where the number of attendees forced us to divide into two barely manageable groups, Derek has come up with this format which should prove very enjoyable and entertaining. We shall need members to take small groups off to collect as well as some expertise for setting out the display, so do please come along. NB **start time is 11.00 am**, and bring a packed lunch.

GROUP INSURANCE

For several years we have been insured through the British Trust for Conservation Volunteers (BTCV), the cost of this being the main use to which your subscription is put. Thanks particularly to the efforts of Liz Holden, insurance has become available through our affiliation to the British Mycological Society at considerably reduced cost and we have now taken advantage of this offer (your subscription will unfortunately not go down, since the cost of printing and postage will be realistically charged in the future!).

MEMBERS' ADDRESS LIST

Also enclosed is an up-to-date address list. Please check you are included and all details are correct, and let Derek know of any changes, additions (eg email address) etc. As previously this information is circulated solely for the purpose of enabling members to contact one another, and is therefore *not* to be handed out further afield without a member's consent.

RECORDS

We are again not planning to send out last season's complete record lists to everyone, but do please ask if you would like one. However, after a couple of forays last year I emailed the completed list of fungi recorded for the day to those who had attended, and this proved very popular. So we would like to introduce this on a regular basis. If you are not online and would like to receive a copy of any particular foray list please prompt Derek or me at that foray to post you one.

AGM

This year's AGM was held at Duck End House on Sunday afternoon, May 15th, and for the first time we made it into double figures beating previous numbers by six! Having discussed and decided upon foray dates and venues from the list of suggestions provided by Derek, and dashed through the prepared accounts for the year, we hurriedly moved on to the serious business of tea and delicious cakes supplied by Jenny, accompanied by an impressive slide show of fungi photos taken during the year in the county and supplied by various participants. A good time was had by all – it was a very sociable occasion and several members there for the first time were heard to say they'd be back next year if only for the excellent catering! Perhaps even more of you will brave it next time, after all, Derek lives conveniently in the middle of the county. Don't let the label of AGM put you off, in this case the letters more suitably stand for Another Gathering of Mycologically-minded friends!

AN INOCYBE ALMOST NEW TO BRITAIN

Last September I was asked by the Tylers Green Primary School to give an introduction to fungi with a

display in the classroom followed by a foray for two large classes of eight-year-olds (thankfully not both classes at once!). Common Wood, much mentioned in the last newsletter, is owned by the Tylers Green Residents' Association, and I had taken a class to foray here the previous year with much success, so I was a little surprised and taken aback when the school declared it was too far to walk to Common Wood and we'd be visiting the much nearer King's Wood instead. Despite my protestations that Common Wood was a proven site for interesting fungi and that I'd no idea whether we were likely to find anything in King's Wood as I'd never been there, had no idea of the tree diversity or of the suitability for hordes of children with regard to paths, nettles, brambles etc I could not dissuade them.

So to King's Wood we went with the first class, and pretty uninspiring it was. (This is leading somewhere, by the way!) Stony paths with brambles either side prevented much exploration, rather a limited range of deciduous trees plus much evidence of dog-walking as it was overlooked by houses, and very few fungi to be found despite the fact that it was bang in the middle of a very good season. My classroom display had included lots of showy Amanitas and milky Lactarius, but the lack of birches prevented any examples of Fly Agaric – always a favourite with children – in fact we found no Amanitas, very few Lactarius, only two Russulas, and the final list reached just 67 species. BUT for some inexplicable reason it was amazing for Inocybes – they popped up in numbers along path edges under the beech and oak, and although many were collected with broken stems and were the worse for wear despite my attempts to instil the basics of good collecting techniques – children will be children - I later checked through and added ten different Inocybe species to our list, including lovely specimens of *I. jurana* and *I. splendens* var *phaeoleuca*, neither of which are common.

At one point a lad thrust a rather broken specimen under my nose with the usual "What's this one, is it really *DEADLY* poisonous or can I take it home for my mum to cook for tea?!" One whiff of it told me instantly it came from the group of Inocybes smelling of pears (although Derek always insists that, for some of them at least, the smell is nearer to loo cleaner!), but the cap was like no Inocybe I'd ever seen and certainly didn't match with any I knew from this group. I puzzled for ages at home over it, going through various keys, and eventually gave up because microscopically it matched well with *I. fraudans* (= *pyriodora* as generally understood) but had a creamy cap with rough dark brown scales instead of a smooth mid-brown one.

The next week I took the second class out to the same wood and this same species turned up again. This time I was determined to sort it out, as it was obviously not

just a one-off, the smell of pear was staggeringly strong – there had to be an answer. The only key I had to which I'd not yet referred was Anne Andrew's translation of Bon – a very long-winded affair and full of non-British species to cloud the issue, but it produced the answer: it keyed out perfectly to *Inocybe erinaceomorpha*. (There's a nice picture of it in Cortecuisse and Duhem, no 1027, compare with *pyriodora* no 1028 and *corydalina* no 1026.) Looking it up on the BMS database I discovered that there was one previous British record back in 1957 – Derek then probed further for me and discovered the source of the record was the much revered Dr RWG Dennis, who sadly died last year. The record was originally recorded under the name *Inocybe pyriodora var. scabra*. This taxon's name has an interesting history going back to 1828 when it was first named *Agaricus erinaceus* by Persoon. In 1938 Lange called it *Inocybe scabra* (a nice neat name meaning rough with projecting points – very apt). In 1953 Kuhner deemed it *I. pyriodora var. scabra*. In 1979 Stangl & Veselsky reverted to Persoon's idea, calling it *I. erinaceomorpha*, but in 1985 Kuyper considered it was linked to *I. corydalina* and renamed it *I. corydalina var. erinaceomorpha*. The Kew voucher details had actually been changed to the latter when Kuyper later examined this collection.

I obviously needed expert confirmation of my determination and this was supplied by Alan Outen, my *Inocybe* mentor. He also supported my opinion that this distinctive species has enough separate characters to stand on its own and, following Bon and Courtecuisse, should not be regarded as a variety of *I. corydalina* (which has a smooth mid-brown cap with green tinges). It appears to me to be one of the very few *Inocybes* one can safely identify in the field, so given that it has not been recorded here since 1957, is it really rare or is there another reason? This could be due to the fact that the key in Kuyper's book does not include the variety (although it is described in the text). [Whatever the reason, this is a species well worth looking for now that Penny has found it again after almost 50 years! - DJS]

LATIN NAMES AND THEIR MEANING

When I asked for ideas for newsletter articles at the AGM it was suggested that this might be a popular and useful topic with members. So as it is an enormous subject I thought it might be a good idea to make a start here, with further instalments to follow in future if feedback is favourable. Having myself found the memorising of fungi names so much easier if one has a meaning or connection to hang them on, and knowing of so many beginners who are seriously daunted by this aspect of studying mycology, I hope this will help a little. I am in no way a Classicist, although my father was and I now much regret having ignored the subject as a child. Thanks are due to Michael Miner, whose

book *Basic Fungi for Beginners* supplied much of the information.

COMMON SUFFIXES WITH EXAMPLES

- -aceus, -(o)ides, -opsis, -otus = resembling (micaceus, satanoides, tricholomopsis, melanotus)
- -alis, -aris = pertaining to (horizontalis, nebularis)
- -ascens / escens, -icans = becoming (aeruginascens, rubescens, nigricans)
- -aticus, -estris = place (silvaticus, campestris)
- -bilis = ability, capacity (mutabilis)
- -cola = inhabiting (silvicola)
- -ceps, cybe, -pilea = head or cap (cordiceps, calocybe, conopilea)
- -folia, -phyllus = gills (densifolia, xanthophyllus)
- -formis = the shape of (tubiformis)
- -gena, -genus = arising from (terrigena, fructigenus)
- -myces = fungus (dacrymyces)
- -olens = smelling of (brassicolens)
- -oma = margin, fringe (dichotoma)
- -osus, -ulentus = abundant (squamosus, pulverulentus)
- -otis = ear (disciotis)
- -pes, -pus = foot (longipes, erythropus)
- -phila = lover of (hydrophila)
- -trichum, -thrix = hair (cephalotrichum, xanthothrix)

COLOURS

SHADES OF RED

armeniacus = apricot; aurantia (ca) = orange; coccinea, cramescinus = bright red; cruenta, haemacta, punicea, sanguinea, sanguinolente = blood red; cuprea = coppery; erubescens = reddening; erythropus = red foot; ferrugineus, rubiginosa = rusty; haematopus = bloody foot; hysginus = scarlet; incarnata = flesh-coloured; lateritius, testaceus = brick red; rosea, rosella = rose coloured; rubella = reddish; ruber; rubescens = becoming red; rufus, rufescens, rutilans = becoming brownish red; vinosa = red wine coloured

SHADES OF PURPLE

atropurpurea = purple with black; ianthus, ionides = violet; ionochlora = violet with greenish yellow; phoenicus = purple-red; porphyria; purpurascens = becoming purple; purpurea

SHADES OF BLUE

azurea, caeruleus = sky blue; caesiocyanus = pearl grey with dark blue; caesius; cyanascens = becoming dark blue; cyanoxantha = dark blue and yellow; glaucopus = blue foot; lazulina = ultramarine; venetus = sea blue

SHADES OF GREEN

aereus = green as in copper rust; aeruginea; chlorantha = green flower; chloroides; chlorophana = pale green; smaragdina = emerald green; prassinus, porraceus = leek green; virescens = becoming green; viride

SHADES OF GREY

argyraceum = silvery; cinerea = ashen; fumosus = smoky grey; grisea = pearl grey; lividus, plumbea = lead coloured; murinus – mouse grey;

SHADES OF YELLOW

aurata, aurea(us), aureola = golden; auricomus, chrysocomus = golden haired; aurivella = golden fleece; birrum; chrysenteron = gold intestine (within); chrysophaeus = dusky gold; chrysorrheus = gold and flowing; cinnabarina, cinnamomeus = cinnamon coloured; citrinus, limonius = lemon yellow; claroflava, junquilla = bright yellow; crocata, crocea = saffron; croceofolius = saffron-gilled; crocipodium = yellow-footed; flava; flavescens = becoming yellow; flavidus = yellowish; flavovirens = yellowish-green; gilva; gilvescens = becoming pale yellow; helvola = pale yellow; icterine = jaundiced; isabellinus = dirty yellow; lutea = golden yellow; luteotacta = yellow when touched; luteovirens = yellowish green; ochroleuca = yellowish white; straminea = straw coloured; vitellina = yolk yellow; xanthocephalus = yellow head; xanthoderma = yellow skin; xanthothrix = yellow hair

SHADES OF BROWN

argillacea = clay coloured; avellanea = hazel; badius = bay brown; brunneoincarnata = brown flesh coloured; castaneus = chestnut; cervicolor = deer coloured; ferrugineus = rusty; fulva = tawny; helvus = light bay; hepaticus = liver brown; hinnuleus = like a young stag or fawn; mellea = honey coloured; spadiceus = date brown; umbrina = umber brown; vaccinus = cow coloured; xerampelina = colour of withered vine leaves (dull reddish brown)

SHADES OF WHITE

alba(um); albidus; albobrunneum = white and brown; albonigra = white and black; albioviolaceus = white and violet; candicans, candida = shining white; eburneus = ivory; ermineus = yellowish white; galochroa, lactea = milk white; galopus = milk foot; leucogala = white milk; leucophylla = white gilled; leucosarx = white fleshed; leucothites; niveus = snow white

SHADES OF BLACK

ater; atra; atramentarius = black ink; atrocinereum = ashy black; melaleuca = black and white; melanophyllum = black gilled; melanosporus = black spored; melanotus; nigellum = blackish; niger; nigrescens, nigricans = becoming black; picinus = pitch black

MISCELLANEOUS

bicolor, dichrous = two toned; ochracea = pale; polychroma = many coloured; versicolor = changeable in colour

When preparing this list I was quite staggered to find how many words involving colour there are. I did in fact leave a few really obscure ones out, but please let me know of any others you think should be included.

By the way, two days after I completed this article the July edition of *Field Mycology* dropped onto the doormat, and as usual I needed no excuse to stop washing up and discover what new delights it contained. Amongst the many interesting articles I found one by Anne Andrews at which I blinked in surprise before laughing out loud. Entitled “Hinnuleus and Smaragdina – colourful hidden treasures” it covered precisely the same topic as mine, albeit in amusing prose rather than my rather dry list. I had a good laugh with her over the coincidence, and promptly added a few of her discoveries to my article – with her permission, of course! – including both hinnuleus and smaragdina, neither of which I had any idea referred to colour! So apologies to those who take *Field Mycology* for repeating much of the same ground here, but to those who are not familiar with this excellent magazine my advice to you is “Order it today!” – it’s a must for anyone with an interest in amateur mycologist. Either Derek or I can tell you how to get hold of it.

THE NEW 2005 CHECKLIST

The Checklist of the British and Irish Basidiomycota, to give it its full title, has now been published. Authored by Nick Legon and Alick Henrici with Peter Roberts, Brian Spooner and Roy Watling, this magnificent compilation lists not only all of the currently recognised agarics and boleti, updating for the first time the 1960 checklist, but also covers the remaining basidiomycetes, including bracket fungi, corticioids, gasteroid fungi (puffballs, stinkhorns etc.), club and coral fungi, jelly fungi and the rusts and smuts - covering a total of more than 3500 taxa. The list is based on a database at Kew which is intended to be freely accessible via the internet and which will be continually updated. Details are given of nomenclature (with reference to more than 16,500 names which have appeared in British literature), habitat and associations, distribution and frequency, references to descriptions and illustrations, conservation and other information.

The authors are to be congratulated for what has clearly involved an enormous amount of work. The checklist will be an essential first reference in so much of what we do. Equally important, since current views change all the time, is the commitment to note changes and new information and provide a continually updated picture.

REPORT OF THE 2004 SEASON

By Derek Schafer

After two poor seasons in 2002 and 2003, caused by very dry conditions, probably in combination with a bit of cold weather at the wrong time, 2004 was splendid for fungi. Throughout the year, and especially during the autumn, the fungi fruited prolifically - lots of well known species along with a great variety of new or rare

things were found. What this means for the well being or otherwise of the fungal organisms is less clear. Perhaps the fungi are sensing that their habitats are under stress and are putting their energies into sending out spores to establish themselves in a new home. Little do they realise that the new habitats aren't there. The same message might be delivered to those who think that conservation may be best served by stopping people picking fungi, and only succeed in diverting attention from the real danger of habitat loss.

The lists of what was found in 2004 are also longer as members of the Group, notably Penny, become increasingly expert at identifying the more difficult genera. Penny is now among the best of the Country's identifiers of genera such as *Russula*, *Inocybe* and *Psathyrella* and continues to expand her reach! The notes below are just a few examples of the many and varied fungi that were found during 2004.

Dancersend 30 May 2004

Mick Jones, the Warden of Dancersend, joined us for our first foray of the season. The usual microscopic spring specialities on substrates like dead stems of nettles were in evidence, including *Acrospermum compressum* (fig.1) with a fruit body shaped like an elongated bishop's hat. This has spores that are four hundred times longer than they are wide, which must be some sort of record. *Anthracobia maurilabra* was found on a burnt site (B&K 1 species 95) and Ted Brown collected *Panus torulosus*, (Phillips p.187) identified at Kew by Nick Legon. We were surprised to see a *Hygrocybe* species so early in the season in the form of *Hygrocybe persistens* var. *Konradii* forma *subglobispora* (= *Hygrocybe subglobispora* of P.D. Orton, Phillips p.65). Rather attractive material of *Pluteus salicinus* (Phillips p.119) was found on an old deciduous log.



Fig. 1 *Acrospermum compressum* on dead stem of a nettle (the fruit body is about 1-2 millimetres high) © Derek Schafer 2004

Weston Turville Reservoir 27 June 2004

Searching among the herbaceous stems around the lake edge produced a few of the expected microfungi, such as *Calyptella capula* (fig. 2), *Lachnum virgineum* (fig. 3; known as *Dasyascyphus virgineus* in Ellis & Ellis) and *Resinomyces saccharifera* (C&D species 614). Other finds included *Phellinus pomaceus* on dead branches of Blackthorn, *Laetiporus sulphureus* (Phillips p. 223) and *Conocybe lactea* (Phillips p. 155). Summer forays are a bit of a lottery and this year none of the *Coprinus* species of the previous year were found.



Fig. 2 *Calyptella capula* on dead herbaceous stem. © Derek Schafer 2004.



Fig. 3 *Lachnum virgineum* on dead stem of nettle. The stalked cups are approximately 1-2 millimetres across. © Derek Schafer 2004.

County Museum, Aylesbury 25 September 2004 - "Mushroom Magic - Mysteries of the Fifth Kingdom"

The display organised by Mike Palmer at the Museum included freshly collected fungi, photographs provided by Nick Jarvis, books, posters etc. The exhibition was well attended throughout the day and the help provided by all of the BFG members who attended, contributed to the displays and answered questions from members

of the public is much appreciated. A number of new members joined following their visit.

College Wood 3 October 2004

Finds included *Volvariella caesiotincta* (C&D species 895 but paler than illustrated), *Stropharia caerulea* (C&D species 1268), *Psathyrella prona forma prona* (C&D species 787), *Psathyrella pseudogracilis*, *Pluteus nanus* (C&D species 881) and *romellii* (Phillips p.120 as *lutescens*) and six *Coprinus* including *C. picaceus* (fig. 4), *hiascens* and *cortinatus* (C&D species 771).



Fig. 4 *Coprinus picaceus* (the Magpie Inkcap) photo taken at Bradenham by new member Toni Standing © 2004

Bradenham Estate and Naphill Common 17 October 2004

The Bradenham Estate, extending across to Naphill Common in the east, is one of Buckinghamshire's richest sites for fungi (as it is for plants). Our foray identified a number of rarities among a list of just under 100 species. *Cortinarius anomalus* (= *lepidopus*) identified by Geoffrey Kibby, *bolaris*, *delibutus*, *elatior* (now *lividoochraceus*) and *sanguineus* are not rare but point to a rich mycorrhizal mycota. *Hygrophorus penarius* (C&D species 234) is new to the County and rare in Britain. Among four *Inocybe* species, *Inocybe brevispora* (*soluta* in the 2005 checklist) is rarely recorded but apparently widespread in Britain. The distinctive dark, scaly bolete *Strobilomyces*

strobilaceus (= *floccopus*, Phillips p.206) is a regular find at this site. *Stropharia squamosa* (Bon p.251; C&D species 1279) had not been recorded for some years from Buckinghamshire. Other fungi found during the year included a record (by John Tyler) of *Phallus impudicus* var. *togatus*, a fungus featured in the October 2004 issue of *Field Mycology*.

Rushbeds Wood 20 October 2004 am

We thought it would be worth including a mid-week event in the programme and the two forays held at the BBOWT reserves at Rushbeds and Whitecross Green on the 20th were quite well attended. I appreciate that some members are only able to get to weekend forays but do let us know which you prefer.

At Rushbeds, *Lactarius controversus* (Phillips p. 77) is one of the less common members of the genus and associates with *Salix* and *Populus*. *Pholiota limonella* is a recent split (in the monograph by Holec) from the commonly recorded *Pholiota aurivella* (Bon p. 257 as *cerifera*). *Entoloma hebes* (C&D species 921), *Hydnum repandum* (fig. 5) and *Pholiota squarrosa* (Phillips p. 145) were among a total of 54 species found.



Fig. 5 *Hydnum repandum* (specimen photographed in Scotland) © Derek Schafer 2005

Whitecross Green Wood 20 October 2004 pm

Radulomyces molaris was found on a fragment of fallen oak branch blown down by the wind. According to Alick Henrici who identified it, this typically grows on dead attached branches high in the tree and, although fairly common, tends to be recorded only after storms blow down the branches. Other finds included *Coprinus radiatus* (on rotting straw), *Clavulinopsis helvola* (Phillips p. 259), *Lepiota castanea* (Phillips p. 29) and *Macrotiophula juncea* (Phillips p. 257 as *Clavariadelphus junceus*) in a list of 66.

Hodgemoor Woods 31 October 2004 am

Hodgemoor is revealing itself to be one of Forest Enterprise's richest fungal sites, thanks particularly to Penny's frequent visits through the year. The BFG foray produced a list of over 100 species during the morning. Finds included *Collybia fuscopurpurea* (Phillips p. 56 as *Collybia obscura* although the identity of these two taxons is not universally accepted), the distinctive (for a *Psathyrella*) *Psathyrella cotonea* (fig. 6), *Craterellus cornucopioides* (Phillips p. 190), five *Cortinarius* including *Cortinarius anthracinus* (C&D species 1125) and eight *Russulas* including *Russula faginea* (Phillips p. 105 upper right image, as *Russula xerampelina*). Many other interesting finds turned up on other visits by Penny, including the rare *Rhodocybe gemina* that was featured in the April 2005 issue of *Field Mycology*



Fig. 6 *Psathyrella cotonea* among beech leaf litter © Derek Schafer 2004

Burnham Beeches 31 October 2004 pm

Foraying at two of the richest sites in the County on the same day was perhaps not the most sensible plan and the fungi would have justified a whole day at each. The afternoon produced a list of more than 100 species. Eight *Russulas* included *Russula amoenolens* and *risigallina* (C&D species 1493). The tiny *Mycena smithiana* was found on an oak leaf and we also found the rarely recorded *Mycena diosma* (C&D species 602). *Phellodon confluens* is a toothed fungus included in various Biodiversity Action Plans (BAPs) and one of several regularly found at Burnham Beeches. Other finds included *Stropharia squamosa* (see comments on Bradenham above) and *Fistulina hepatica* (Phillips p. 224). Recent studies at the Beeches by Martyn Ainsworth have identified the presence of many rarely recorded species that are associated with, and useful as indicators of ancient and important beech wood-decaying fungal habitats. Our programme this year includes a day with Martyn at Burnham Beeches learning more about these fungi and their habitats.

Stowe Landscaped Gardens 7 November 2004

This was a public foray with the National Trust and a rather overwhelming number of attendees turned up. We managed to divide the party into a more manageable two groups and a display of finds was held at the end of the morning. Species found included *Lepiota cortinarius*, *Agaricus augustus* (Phillips p. 164) and *Amanita echinocephala* (fig. 7). However, the most dramatic find was an area of grassland where we found no fewer than ten species of waxcap (*Hygrocybe*) - this would place the site somewhere between of regional and national importance as waxcap grassland, and certainly worth further study and conservation. *Hygrocybe calyptiformis* (the Pink Waxcap and a BAP species, Phillips p. 62), *Hygrocybe citrinovirens* and some particularly splendid specimens of *Hygrocybe punicea* (Phillips p. 62) are worth particular mention.



Fig. 7 *Amanita echinocephala* (specimen collected in September at Pulpit Hill) © Penny Cullington 2004

Penn Wood 14 November 2004

Our regular forays here include, besides the Wood itself, the exceptional grassland area (in part used as a cricket pitch) between the road and the wood, along with the churchyard and vicarage lawn. The cricket pitch produced a fine array of grassland species, including eight *Hygrocybes*, four species of *Clavulinopsis*, *Handkea excipuliformis* (Phillips p. 246 as *Calvatia*). Other finds included *Clitocybe houghtonii* (with pinkish cream gills and a smell of crushed tomato leaves, Phillips p. 50 and *Field Mycology* Jan 2005 rear cover), *Hygrophorus lucorum* (C&D species 272), *Spathularia flavida* (fig. 9) and *Pholiota lenta* (fig. 8) in the wood and *Pholiota highlandensis* (Phillips p. 146 as *carbonaria*) on a burnt patch on the vicarage lawn. Other interesting species turned up at Penn at different times of the year, including the rarely recorded *Psathyrella spintrigeroides* amongst Rhododendron litter.



Fig. 8 *Pholiota lenta* specimen collected in Common Wood in October © Penny Cullington 2004



Fig. 9 *Spathularia flavida* specimen collected in Penn Wood in July © Penny Cullington 2004

Common Wood 14 November 2004

Finds included (more or less appropriately for the time of year) *Clitocybe decembris.*, *Hericium* (= *Crelophus*) *cirrhatum* (Phillips p. 246) is an important indicator of beechwood fungal habitat, *Flammulaster carpophilus* on beech masts, and *Helminthosphaeria clavariarum* on *Clavulina cinerea*.

USING GILL ATTACHMENT AS AN IDENTIFICATION AID

So you've collected this gilled mushroom you don't recognise and haven't a clue what it is, and as usual it's on a day when you're not going to see any mycologists for ages! So you're either going to have to write a good description and send it to someone perhaps with a photo, or work it out for yourself. So where to start?

The first step is to determine the genus and, although sometimes not at all straightforward, there are lots of field clues to help, eg size, shape, colour, stipe with a ring or a volva or not, distinctive smell, etc, and gill attachment. Often it's a problem knowing which clues are important pointers for which genus, but being able to differentiate between the four basic gill attachments is a big step in the right direction and also vital information for any good description.

Does that feeling of "Oh help, I'm out of my depth again with all these complicated words!" overwhelm you when you hear people banging on about *Decurrent* or *Adnate*, let alone *Adnexed* or *Sinuate*? Well, grit your teeth and hang on in there because here is an attempt to explain it, and also to show why it is useful to know.

- ◆ The term "gill attachment" refers to how the inside edge of the gill inserts (or not) into the stipe.

The most obvious attachment is ***FREE***. Look at the underside of a large open cultivated mushroom and note how the dark gills **never** reach the stipe but finish well short leaving a clear gap, ie free of the stipe. It shows up really well in *Agaricus* because of the contrasting colour of the gills versus the flesh and stipe. Not many genera have *Free* gills:- *Amanita*, *Lepiota* (including *Macrolepiota*) and immature *Pluteus* with white gills; mature *Pluteus* and immature *Agaricus* with pink gills; mature *Agaricus* and some *Coprinus* with purple-black gills. So once you've noticed your mushroom has this attachment you are well on your way to identifying it to genus, and can safely eliminate a vast number of genera straight away.

Also easy to recognise is ***DECURRENT*** where the inside edge of the gill extends to a greater or lesser degree in a curve down the stipe. Look at a cultivated Oyster mushroom, i.e. *Pleurotus*, to see this clearly. Genera with this attachment:- most *Armillarias* and *Clitocybes*, *Clitopilus*, *Lyophyllum*, *Pleurotus*, some *Lactarius* and a few *Mycenas* with white, cream or yellow gills; *Hygrophoropsis* with orange gills; *Paxillus* with rusty brown gills; *Tubaria furfuracea* with pinky brown gills; a few *Hygrocybes* - various colours - also have this type.

- ◆ Tip:- "De current of water runs down de river, and decurrent gills run down the stipe!"



FREE



ADNEXED



ADNATE



SINUATE



DECURRENT

The remaining types of attachment tend to cause the most confusion. Firstly **ADNATE**. The word *Adnate* means joined, and in mycology is used to describe both a type of gill attachment and a type of cuticle (cap skin) attachment. (We will not deal with the latter here.) An *Adnate* gill attachment is one where the inner edge neither stops short of the stipe (as in *Free*) nor runs down it (as in *Decurrent*) but continues straight until it meets the stipe more or less at right-angles. This is a common form of attachment, and is found in *Russula* and *Marasmius* with white, cream or yellow gills; *Collybia* and *Agrocybe* with variously coloured gills; *Galerina* and *Conocybe* with rusty gills; *Psathyrella* and some *Coprinus* with grey to purple-black gills.

(You may also meet the term **ADNEXED** in some literature, meaning similar to *Adnate* but sloping upwards a bit just before joining the stipe, ie somewhere between *Free* and *Adnate*. It is not normally necessary to distinguish between *Adnate* and *Adnexed*, and most people consider the term *Adnate* sufficient to separate this sort of attachment from *Free*.)

Lastly **SINUATE**. The word *Sinuate* - like sinuous - comes from the Latin sinus - to bend, and this bend or "notch" in the gill occurs just before insertion into the stipe. Firstly it bends up as if going to be *Free* or *Adnexed*, but then appears to change its mind and turns sharply downward at the last moment as if in a last ditch attempt to be *Decurrent*. Genera with this attachment:- *Tricholoma* with white gills; *Cortinarius*, *Hebeloma* and *Inocybe* with beige to rusty brown gills; (mature) *Hypholoma* and *Stropharia* with purple-black gills.

- ◆ An easy way to see the gill attachment is to slice your mushroom in half through the cap and stipe and open it like a book.

Of course, there are far too many genera to cover in an article such as this, especially when some may have a variety of attachment types and gill colours, but my intention was to select the commoner ones where the attachment is clear, and to encourage those of us new to this concept to start looking at gill attachment with more confidence in order to improve their identification and description skills.

[Recognising these different types of gill attachment is very important in distinguishing different genera of toadstools. But do bear in mind that fungi don't always behave as we would try to make them. Variations and intermediate shapes occur, sometimes on the same fruitbody! The terms have also been used to mean different things to different people - sinuate for example is used by some to refer to a shape rather close to adnate, with emarginate (with or without decurrent tooth) used to describe what others call sinuate. - DJS]

For further discussion, information and diagrams try www.ilmyco.gen.chicago.il.us/Terms/attac501.html

TECHNICAL DESCRIPTIONS RELATING TO GILLS

Whilst writing the above I found myself wondering if a short glossary on gill shape might be a useful appendix. I have often found all the different terminology used in the literature somewhat confusing, so have boldly made the assumption that others might have also; apologies if this is not the case.

(* = microscopic term)

anastomosing – having cross connections between gills

arcuate – with a concave edge, like a new moon

basidium(a) - a club-shaped cell producing spores*

cheilocystidia – a cystidia found on the gill edge as opposed to the flat surface*

ciliate – edge eyelash-like, fringed with hairs

collar(ium) – a ring around the stipe apex (top) to which

the gills attach, forming a cogwheel

concolorous – having the same colour as the cap

crenate – edge scalloped, with rounded teeth

crenulate – minutely crenate

crowded – lying very close together, opposite of distant

cystidia – a sterile cell, variable in shape, found on the edge or flat side of a gill*

deliquescent – becoming liquid after maturing

dentate – edge having toothlike pointed projections

denticulate – finely dentate

distant – lying relatively far apart, opposite to crowded

emarginate – notched near the stipe, ie very sinuate

entire – edge straight, smooth and even

eroded – edge irregular, uneven

face – the flat surface of a gill as opposed to the edge

fertile – edge with basidia only, no cystidia *

fimbriate – edge fringed, with regular hair-like projections

folds – gills rounded, as ridges, not sharp-edged

furcate – forked (when viewed from above)

heterogeneous – edge both with basidia and cystidia*

infertile – as sterile*

interveinose – with veins between gills, not necessarily fully anastomosing (see above)

lamella(ae) – gill(s) which extend(s) from cap margin to stipe

lamellule – a short incomplete gill, not reaching the stipe (often found alternately between gills)

margin – the thin edge of a gill

mucilaginous – (edge) sticky, with a slimy coating

notched – attachment as in sinuate

pleurocystidia – a cystidia found on the flat side of a gill as opposed to the edge*

pruinose – floury, covered with a fine powder or bloom

rudimentary – underdeveloped, poorly differentiated

seceding – attachment to stipe pulling away in maturity

segmentiform – edge straight (linear) but upper edge (attached to flesh) concave

serrate – edge jagged, toothed like a saw

serrulate – minutely serrate

sterile – edge with cystidia only, no basidia*

transvenose – flat surface with vein-like ridges
ventricose – with a convex edge, swollen, wider in the middle than at either end near cap or stipe.

Enough about gills! Now for something completely different

DESCRIBING THE BOLETACEAE GROUP

By Alan Hills

Throughout the year I receive many *Boletaceae* fungi sent to my home, at other times it may be a telephone call with whoever, endeavouring to describe their find to me. The very worst(!) are the people describing the find they collected last week that was put on the compost heap some days ago. With this in mind I have put together this article, hoping to make everybody's life (mostly mine) a little easier. So now read on to find what is required from a description; even 50% of this information would help.

Firstly give the date found, then the location adding the OS grid reference. Now state the host tree or plant¹, the habitat (was it woodland / parkland / ditch / woodland edge?), and finally the substrate (was it on soil / wood / leaf litter / moss / in an acid or alkaline area?).

Now for the fungus itself, describe as much of the following as possible.

STAGE OF MATURITY:- This is vital information, so start here, using a scale of 1 to 5, eg 1 (button stage) to 5 (mature stage). NB 5+ is the dustbin stage and I don't want to know about it!

CAP / PILEIPELLIS

- **Size:-** diameter in cms.
- **Shape:-** campanulate / convex or part so / flat / undulating at the edge.
- **Texture:-** smooth / cracking / tomentose / tacky / firm or remaining indented when pressed / having an overhanging cuticle.
- **Colour:-** include fine detail of hues or combinations of hues often present in many of the larger boletes / any change when handled / any change where eaten by mice, slugs or insects / any sheen² present.

PORES

- **Shape and size:-** round / irregular / large or small
- **Colour:-** overall / around the orifice (hand lens) / colour change when bruised / different colour looking into the tubes³

TUBES

- **Colour** change when cut
- **Decurrent** or not
- **Length** in cms (cut out a segment of cap for this).
- **Detachability:-** whether possible to pull out a single or small amount of tubes completely with tweezers.

STEM / STIPE

- **Dimensions:-** length and width in cms
- **Shape:-** tapering upward or downward / cylindrical / clavate / subclavate / rooting / curved / scurvy⁴.

- **Markings:-** network or mesh present / ribbed / minute spotting / scabers (squamules) present; (note to what extent these characters reaches down the stem)
- **Colour:-** of (back)ground / of any network, ribbing, etc if contrasting / any change when handled / any change where eaten by mice, slugs or insects.

CONTEXT / FLESH

- Note the colour immediately on cutting and again after five minutes; in many the colour will differ in the cap area to the stipe, and again the stipe may differ throughout its length or width⁵.
- Firm flesh or soft
- Colour change with pressure (this could take up to 30 minutes in *Leccinum* species)
- Note any black at the very base
- Note any smell from the base
- **Maggot activity:-** This is important - see⁶

MYCELIUM COLOUR This is very important in the *Xerocomoid Boletus* group, where it will range between white / off white / pale cream / cream / pale yellow / yellow / mustard. (Collect with care not to miss it.)

Most of the *Boletaceae* fungi can be named from a good description with the exception of the *Leccinum* species which require the dried material to be examined fully. Therefore if you are sending me the material (preferably dried) answers to the above questions should be sufficient to enable a conclusion to be reached.

Yes, it is a lot and takes one much time to do, but it can be worth it if the fungus you have is important. Remember, we have rarities out there such as *Boletus fragrans*, *Boletus regius* and *Boletus torosus*, not to mention an as yet undescribed species of *Xerocomoid Boletus* which we know from only two sites, one in the UK and one in Italy, which must I feel have more as yet undiscovered sites.

¹ The host is important and is deceptably not always the closest tree. A few days before writing this article I encountered *Tapinella atrotomentosa* (previously *Paxillus atrotomentosus*) appearing to fruit from *Fagus*, it being close to the cleft of the buttress, but *Pinus sylvestris* roots could just be seen above the surface going down below the *Fagus* making me sure of this host. Other hosts easily overlooked are the two miniscule *Salix* species, *S. herbacea* (Dwarf Willow) and *S. repens* (Creeping Willow); I remember finding *Boletus ripariellus* fruiting on a flood plain far away from trees, but *Salix repens* was present, and both these willows will also host many *Amanitas* and other genera. Another unlikely host plant to look out for is *Helianthemum* (Rock Rose) which we now know will interact with many *Boletus* species as well as other genera. Therefore if in doubt mention all possible hosts in the vicinity.

2 A sheen is present in *Leccinum pseudoscrabrum* which when young will show glistening on the crown of the cap; I have also found *Leccinum palustre* with a sheen that was hard to describe, but it was this feature that caught my attention. (palustre = inhabiting marshland ed.)

3 In some of the *Xerocomoid Boletus* it is possible to see the spores by looking up the pores with a x10 lens, and these are noticeably browner than the pore colour.

4 Scurvy is a word I've acquired from Ted Green, and to my knowledge is absent from any glossary, but please inform me if you know otherwise. When a stem is becoming dry it will at times break away in places and curl upwards or downwards. This is a good character, *Boletus subtomentosus* always curls upwards, others will curl downwards, some will never do this at all.

5 Context colours are important, and the blues in particular should be fully described, e.g. blue black / deep blue / full blue / sky blue. The sky blue of *Boletus satanas* never covers the whole area of flesh. *Boletus impolitus* is often one that catches people out, but will always show somewhat yellow in the flesh, with the outer edges a very good deeper yellow.

6 Maggots, or rather the colour change caused around their tunnels, are good at helping with identification and should always be noted; this will range from black / not so black / reddish / yellow concolorous with the flesh, the latter being a give-away for *Boletus moravicus*, and an easy way to identify it in the field.

FUNGUS FEASTING!

For many members the main interest in foraging – at least to start with - is to learn to recognise the edible species (and the poisonous ones) and to collect for cooking and eating. I for one certainly started out with this priority in mind, although I soon got bitten with the amazing diversity of the fungal world and pushed my culinary interests into the background. However, given the opportunity and space in the basket I really enjoy collecting to eat and always have a good supply of dried edibles to dive into at home.

It seems wrong, therefore, that we should overlook this topic in the newsletter, so I propose that we should start a section devoted to edible fungi including tips on collecting, drying, cooking, favourite recipes etc supplied NOT just by me but by all of us! That means YOU! It would be the ideal place to swap ideas and pass on experiences. So I'll start the ball rolling with a few bits and bobs, and I look forward to receiving any ideas you may like to volunteer as the season progresses. Do email me even if it's only to disagree with me, it'd be nice to get some feedback.

DRYING FUNGI TO EAT

I use this method a lot, and find the airing cupboard every bit as good as a proper dryer although it does take longer. Cooking with dried fungi does change the appearance and texture when compared to fresh, but the flavour is often concentrated and therefore improved. So far I've dried Ceps, Bay Boletes, Chanterelles, Horn of Plenty, Yellow Legs, Hedgehog Fungus, Fairy Ring Champignons, Cauliflower Fungus and Jelly Ear, and they seem to last indefinitely – certainly several years – without deteriorating. Has anyone tried drying Field Mushrooms, Parasols, Field Blewits or *Lactarius deliciosus*?

1. If *really sure* of your identification remove stipe base, dirt, slugs, bugs, or damaged areas in the field.
2. Slice up larger caps and stipes into evenly sized pieces (about 5mm thick), I like to remove pores of boletes and hedgehog spines as well. Discard any parts with maggot holes! Leave Jelly Ear and Fairy Ring Ch'non whole; tear Chanterelles, Horn of Plenty and larger Yellow Legs lengthwise to remove the last few bits of lurking debris; Cauliflower Fungus is often dirty so break it up and blow with a hair-dryer.
3. Spread out the fungi on a fine meshed cake rack or similar (to facilitate good air circulation) avoiding any bits touching each other, and place in the warmest bit of your airing cupboard.
4. Check after 24 hours, turn over any bits not dry, and preferably leave for a few more days – you can't over-dry them but storing before they're ready makes them go mouldy.
5. Remove and leave to cool before storing in tightly sealing glass jars or plastic containers. (Some people recommend giving them a spell in the freezer at this stage.)

RECONSTITUTING

- Soak for between 30 minutes to an hour before use.
- Use the minimum amount of hot water (not boiling) to cover, pressing the fungi under well. Use the water afterwards as well, to avoid wasting any flavour.
- If using wine in the recipe, use this heated up in place of the water, again for added flavour.
- Add to slow cooking recipes with no alteration to cooking time; if using in quicker cooking recipes they will need slightly longer than fresh fungi.

Tip Grind up Boletes or Jelly Ear, once dried, in a food processor and store as powder, then add to any dish using fungi to really bring out the flavour.

CAUTIONARY THOUGHTS ON EATING FUNGI

Derek Schafer

There are some extremely poisonous species of fungi and there is **NO** simple method to distinguish poisonous species from edible ones. You should only eat fungi that are well established edibles that you are absolutely certain are correctly identified (see comments below).

Fungi can contain some very unusual chemicals. The Deathcap (*Amanita phalloides*) contains a mixture of chemicals with a ring-like structure, called Amatoxins, which make consuming even quite modest amounts of the mushroom lethal. After a latent period of usually 8-12 hours, symptoms of poisoning appear and, although an apparent recovery follows, death several days later is caused by extensive damage to the liver. Other Amanitas, especially the Destroying Angel (*Amanita virosa*) contain the same poisonous mix.

Some Cortinari species such as the Deadly Webcap (*Cortinarius speciosissimus* or *rubellus*) are also deadly poisonous. Here the lethal chemical is Orellanine. Poisoning is followed by a very long latent period of 2 to 17 days, when the chemical's damage to the kidneys becomes manifest.

Some Ascomycetes, especially the False Morel (*Gyromitra esculenta*) contain the chemical Gyromitrin which releases methyl hydrazine on cooking or in the digestive tract. Methyl hydrazine is used as rocket fuel and is also poisonous in itself. Poisoning follows a pattern similar to the Deathcap and can cause death in serious cases. Strangely, this fungus is regarded as a good edible species in Finland and perhaps the quantity of toxins, which are rather unstable, can be reduced if the correct recipe is followed.

Another example of poisoning by a fungus regarded as edible involves the Brown Rollrim (*Paxillus involutus*). This is a traditional Eastern European edible and is responsible for a number of gastrointestinal poisonings, many due to eating raw or inadequately cooked material. However, there is a greater danger with this fungus. Paxillus syndrome is a reaction in people who have eaten the Rollrim before but who develop a strong allergic reaction on repeated consumption, leading to haemolytic anaemia and sometimes death. So it is really a case of an allergy rather than poisoning, but there is clearly something in the Rollrim which can produce this reaction very strongly.

There are many other examples of toxic fungi and many more whose effects when eaten are unknown. There is also a risk of contamination from toxic or radioactive metals in the soil, since some fungi are good at concentrating these in the fruit body.

Finally (from me, what else?) to Coprinus syndrome. The Common Inkcap (*Coprinus atramentarius*) contains a chemical Coprine, which destroys an enzyme in the liver responsible for metabolising alcohol. This leads to a build up of acetaldehyde in the blood, producing severe hangover-like symptoms, if alcohol is drunk when the fungus is eaten or for several days afterwards. Of course, alcohol itself is a toxin, but eating the fungus is not recommended as an aid to abstinence since Coprine has other toxic effects.

So, what to do? The safe advice is generally not to eat wild fungi. But for those who find that advice too

disheartening (and one could advise similarly against winter sports, bunji jumping and many other risky activities), then:

- Stick to a few edible species that are widely eaten and get to know them extremely well.
- Learn to identify fungi through direct contact with experienced and competent field mycologists and never eat anything that you have identified only by using a book. Seek confirmation from someone more experienced but do develop your own identification skills before collecting wild fungi to eat. While you shouldn't rely entirely on what someone else tells you, a cautious and not overconfident approach is needed.
- Learn to recognise the toxic species that present a special danger to the collector.
- Don't eat other fungi just because they are all that turned up on the day. The label "edible" may mean no more than "has been eaten by some without causing obvious signs of poisoning". Even the widely eaten species can cause surprises - let someone else do the personal toxicity experiments on the rest.
- Collect carefully and check every fruit body. The Deadly Webcap has poisoned people collecting Chanterelles (*Cantharellus cibarius*), which it doesn't look like at all, but it does occur in the same places. Perhaps a case of lapse of concentration rather than misidentification?
- Always cook fungi thoroughly (but be aware that this will **NOT** make any difference with the most poisonous species) and never eat raw fungi.
- Don't eat large quantities of wild fungi - in moderation and occasionally is better. Keep back some of what you collect in the fridge in case it needs checking.
- As with all food collected in the wild, eat only fresh material in good condition, avoid decomposing fruit bodies with added danger of bacterial infection, and don't collect in places like the edges of car parks where dogs relieve themselves.
- Make sure you have permission to collect to eat - many landowners are happy to encourage fungal recording but not gastronomy! And if I still haven't put you off, - enjoy!

(For further reading, "A Colour Atlas of Poisonous Fungi" by Andreas Bresinsky and Helmut Besl provides excellent coverage of this subject.

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