

**GRAMPIAN  
FUNGUS  
GROUP**

**NEWSLETTER No.7**

**Dec. 2003**

## **Grampian Fungus Group: Aims**

- To record the fungi of North East Scotland.
- To encourage an interest in the importance of fungi in everyday life, wherever possible.
- To develop a greater understanding of fungi through forays, talks and workshops open to members of the Group.
- To increase the awareness of fungi through contact with local members of both professional and amateur groups which have environmental interests.
- To promote the conservation of fungi and of threatened habitats of rare fungi.

## **Committee Members**

### **Chairperson**

Dr. Geoff Hadley  
74 Don St.  
Old Aberdeen  
Aberdeen

### **Group Leader, Foray Organiser, Newsletter Editor**

Mrs. Liz Holden  
Allanaquoich  
Mar Lodge Estate  
Braemar  
Ballater  
Aberdeenshire  
AB35 5YJ  
Tel: 013397 41410 Email: holdens@clara.co.uk

### **Secretary, Recorder**

Mrs. Rosemary Smith  
Mill of Cranna  
Aberchirder  
Huntly  
Aberdeenshire  
AB54 7SS

### **Treasurer, Membership Secretary**

Mr. Denis Bain  
17 Gleneagles Drive  
Bridge of Don  
Aberdeen  
AB22 8NH

## Editorial

After all the excitement in 2002, the very dry weather in 2003 meant that fungi were few and far between in the central Highlands and north east of Scotland. Sites that are normally full of rare and interesting fungi were dismally bare! A few species fruited towards the end of the season but the fruit bodies of waxcaps and tooth fungi were both almost completely absent from their usual haunts. The species lists from some of the group forays will be a bit shorter than usual!

*Bankera violascens* (Spruce Tooth) found last year in Inver wood (see editorial 2002 and 'Surveys' below) failed to fruit in 2003 and the search for more colonies had to be limited to a hunt for suitable habitat. Forestry Commission Scotland have removed some of the spruce from the site but, following our recommendations, have left areas to maintain host continuity for the fungus. One fungus that was stimulated to fruit this year is the little stalked puffball, *Tulostoma niveum* (White Stalkball). I am involved in monitoring this fungus for SNH to see whether the population is expanding or contracting and this year, the site produced three times as many fruit bodies as last! Not conclusive proof that the fungus is expanding of course – most of the fruit bodies were in the known core area of fruiting but certainly encouraging!

The fungi might have been resting but 2003 has been a busy year for me personally. In between enjoyable group forays I have been surveying for fungi as far away as North Wales and Northern Ireland. I was also involved in a very interesting project to put together 1000 recommended English names for fungi. I have written in a bit more detail about this project below – certainly not everybody thinks that it is a good idea but on the public forays I was getting tremendous support from those meeting fungi for the first time. A copy is available on the BMS website – look under 'Resources'. Paper copies are available from Plantlife or from myself - just say the word.

Now that the group actually own some books and microscopes, following a suggestion at the AGM, a list of GFG assets has been included in the newsletter. There is information on how to borrow the equipment and the list will be updated as necessary. Here's wishing you all a very happy New Year and looking forward to seeing everybody next season.

*Liz Holden*

## Membership

Just a reminder that **annual subscriptions are due on January 1<sup>st</sup>** for 2004. The subscriptions have been kept at £3.00 and cheques should be made out to the Grampian Fungus Group and sent to Denis Bain at the address above.

N.B. if you have recently changed your email address or house address, please could you let Denis know so that we can update our records.

### Grampian Fungus Group: Members

There were 38 paid up members on Sept. 20th; the following is a list of those who have already paid their 2004 subscription – apologies if you have paid between Nov and now. Note – if your name is not on the list below and you wish to remain a member, please send your cheques off before you forget!!

Mary and Denis Bain

Bill Burns

Ann Burns

Norman Defoe

Peter Fayers

Jenny Gate

Dave Genney

Lorna and Walter Henrickson

Liz and Peter Holden

Janet Imlach

John Ingle

Rosemary Smith

Marysia Stamm

## Diary Dates

A full list of forays and events will be sent out in the spring. Here are a few dates for your diary however, the first being our spring foray which will take place on **Sunday May 2<sup>nd</sup>**, meeting at 1.30pm. A venue is yet to be decided.

### Mar Lodge Foray / Workshop

There will not be a separate microscope workshop this year as we are going to repeat the foray / workshop at Mar Lodge that was so successful in 2002. This will run from **Thurs Sept 9<sup>th</sup> – Sunday Sept 12<sup>th</sup> 2004** and will be based at the recently converted bunkhouse accommodation at the National Trust for Scotland property of Mar Lodge near Braemar. The self-catering accommodation includes a workroom, sitting room and a well-appointed kitchen. There are bunk beds for 12 but the workroom is large enough for 20 people so that it would be possible for some attendees to make their own accommodation arrangements in Braemar and pay a nominal amount for use of the workroom facilities.

It is hoped that the weekend will again provide an informal opportunity for folk interested in fungi at any level to get together, foray, identify, share their knowledge and just enjoy the wonderful fungi of this area. The amount of time spent in the field or back in the lab will be entirely up to the interests of

those who come but in 2002 we found that half a day in the field gave us plenty of material for the rest of the day. Help with keys and microscopes will be available, if required. An introductory talk and slide show will be given on the Thursday evening and other evening activities (for those not wishing to work with the microscopes all the time) could include a visit to the Stag Ballroom and public rooms of Mar Lodge itself. Places will be limited so if anybody is interested in attending please could they fill in the booking form included in the newsletter or contact Liz Holden on 013397 41410 or [holdens@clara.co.uk](mailto:holdens@clara.co.uk) AS SOON AS POSSIBLE! Allanaquoich, Mar Lodge Estate, Braemar, Ballater, Aberdeenshire AB35 5YJ.

The date of the next AGM was agreed, this being **Sat. Nov. 13<sup>th</sup>** starting at 2.00pm in the Dept of Plant and Soil Sciences, University of Aberdeen.

## GFG - Foray, Meetings, and AGM Reports 2003

The full species lists for the forays will follow in the spring; the following comments are just to give a flavour of each event:

**Sun May 4<sup>th</sup>** Six hardy souls spent the afternoon on Mar Lodge Estate and found a good selection of the spring specialists including lovely material of *Discina perlata*, a rare cup fungus that likes the large old conifer stumps of the policies here. *Dumontinia tuberosa* (Anemone Cup) was also fruiting – another cup fungus that is attached to the dead corms of wood anemones. The site for *Calocybe gambosa* (St. George's Mushroom) didn't produce anything until May 13<sup>th</sup>.

**Sat. June 14<sup>th</sup>** was the start of a busy weekend. We began in Aberdeen University with a microscope workshop in the morning, followed by a fascinating talk from Professor Roy Watling, recently retired from the Royal Botanic Garden Edinburgh (RBGE). Roy's talk took us from the jungles of the Amazon to the sand dunes of Australasia and from the mushroom-farming termites of East Africa to the Moguls who planted poplars along their military routes so that they could harvest the fungi that then grew with the poplars! Fascinating to hear that *Russulas* can have rings in some countries and yet the diagnostic features that make a Scottish *Russula* a '*Russula*' remain the same wherever you are on the planet. A little closer to home, Roy told us about the work that is going on at Heron Wood Cryptogamic Sanctuary – a specialist garden run by the RBGE at Dawyck in Tweed-dale. Intensive studies are being done on the organisms that live in the soil and are revealing some interesting interactions between nematodes and fungi.

**Sun June 15<sup>th</sup>** Roy Watling joined members of the GFG for a morning foray at Blackhall Plantation near Banchory. Unfortunately the very dry weather conditions were beginning to have an effect and agarics were few and far between. Roy was able to

keep us entertained with his wealth of mycological knowledge that could make even the driest 'crust' seem interesting. We did find two *Russula* species and some fine material of *Phallus impudicus* and everybody enjoyed the morning.

**Sat Aug 23<sup>rd</sup>** saw us foraying at Dinnet Oakwood. There are some interesting records of early fruiting fungi that Liz is keen to relocate but they were not playing ball this year. We did find *Epichloe typhina* (Choke) growing on grass stems and Rosemary's sharp eyes found a tiny fungus growing on a piece of damp oak. We think that this might be the rarely recorded *Hemimycena cephalotricha* but are still waiting to get it confirmed.

**Sun Aug 31<sup>st</sup>** saw us dodging heavy showers at Clyans Dam. This was a new site for the group and proved to be a delightful spot. The wetter areas of alder and willow were most productive with troops of small brown *Naucoria* species growing in association with the alder. Ann found a rather interesting bolete – *Boletus queletii* (Deceiving Bolete) – looking very much like *B. erythropus* (Scarletina Bolete) but with claret colours in the base of the stipe. *B. queletii* is usually recorded in the south – it obviously liked our dry summer as it also turned up at Morrone this year.

**Sun Sept 7<sup>th</sup>** Shannel gave us a beautiful day and a beautiful site but the fungi were again rather lacking. Marysia located material of *Leccinum roseofractum* (Blushing Bolete) and *Entoloma mougeotii* and Liz found *Peniophora lycii* on a hawthorn. We were also fascinated by finding a *Fomes fomentarius* (Hoof Fungus) that was sheltering a batch of insect chrysalis all wrapped up in a silken web. The bracket was undoubtedly forming a handy shelter from the rain (what rain?!) and hungry birds.

**Sat Sept 13<sup>th</sup> – Sun Sept 14<sup>th</sup>** Speyside Weekend Foray. We were delighted that Dave Savage (our member from Thurso) was able to join us for the weekend and also Susan Rae who has recently left Aberdeen and moved down south. We had a wonderful morning at Coylumbridge finding a whole range of *Leccinums*, *Russulas* and other interesting fungi. Ann and Tom Andrews (local group members from SE England) spent the Saturday afternoon with us. And after lunch we went looking for a well-known site for tooth fungi – the path is usually lined with a range of these rare and beautiful fungi. This year we found two small fruitbodies – one *Bankera fuligineoalba* (Drab Tooth) and one *Sarcodon imbricatus* (Scaly Tooth). Some genera seemed to skip a year completely in some areas – the Upper Deeside sites were similarly unproductive for tooth fungi. Presumably the dry weather had some effect – it will be interesting to see what happens next year.

In the evening we were lucky enough to be offered the use of the Forest Enterprise study room at Glen More – this proved an excellent place to have a look at our collections. Denis and Mary brought along some of the GFG microscopes so everybody that wanted to could have a look.

On the Sunday morning Val and Ern Emmett met us at the start and brought with them the amazing samples of wool that had been dyed using fungi on a Scandinavian foray that they had just returned from. Then we explored the delightful aspen wood at Tomnagowan. Fungi were thin on the ground and after lunch we set off for Nethy Bridge to look at an interesting forest site there. The highlight was finding *Hygrocybe turunda* (see photo page) fruiting in some numbers. This is one of the scaly-capped *Hygrocybe* and the scales contain a dark pigment, which is clearly visible on some specimens. Other fruit bodies, apparently from the same mycelium, appear to have virtually colourless scales – perhaps DNA will solve the question of whether the dark scales are a diagnostic feature.

**Fri Sept 27<sup>th</sup>** Lorna and I attended the launch of the Scottish Wild Mushroom Code. This code, was created by the Scottish Wild Mushroom Forum and funded by SNH, the Millenium Forest for Scotland Trust and Moray, Badenoch and Strathspey Enterprise. The event that was held at Banchory Lodge Hotel. Three short introductory talks, on attitudes to fungi, their importance and increasing public awareness of them – including their edibility and the commercial exploitation, hugely expanded over the past decade. The event was given good coverage on GTV News that evening with most aspects of the subject covered. Lorna and I were warmly received and enjoyed some discussion with the participants. In all we thought it a worthwhile exercise, the coffee was good too! (Report by Walter Henrickson)

**Sat Sept 20<sup>th</sup>** As for the last three years GFG members met in the morning at Culbin Forest. This year we were again in the eastern end and fortunately, Culbin seemed to be the only site in the NE of Scotland where fungi were flushing. The sides of the track were lined with *Suillus flavidus* and many other interesting pinewood species. After lunch group members continued foraying in the middle part of the forest whilst Liz met a large group of people for the public foray and had a very enjoyable expedition along the track from Cloddymoss. At the end of the public foray both groups came together to compare notes. Having access to the study room at Cloddymoss meant that we could put up our display boards which gave a nice focus for the end of the foray.

**Sun Sept 21<sup>st</sup>** Working with the FE Ranger in the Bin Forest, Huntly we found over 30 species. The ground was still very dry but and *Armillaria gallica* (Bulbous Honey Fungus) and *Hygrophoropsis aurantiaca* (False Chanterelle) seemed to be in great numbers everywhere this season. *Hygrophorus agathosmus* (Almond Woodwax) and *Clitocybe fragrans* (Fragrant Funnel) were interesting for their smell of almonds and we found the Ergot, *Claviceps purpurea*, which has been there before. Large fruit bodies of *Amanita muscaria* (Fly Agaric) are always of interest to the public and lead to plenty of chatter. (Report by Rosemary Smith)

**Sat Sept 27<sup>th</sup>** Owing to lack of publicity no members of the public turned up for the foray at Aden Park, so the Ranger, Pam, Geoff and Maggie Hadley and myself had a walk around ourselves. It was extremely dry there with not a single waxcap on the old lawns and very little elsewhere. The best specimens were a clump of bright orange *Gymnopilus junonius* (Spectacular Rustgill) growing at the base of an ancient beech, the velar remains still covering all the gills. (Report by Rosemary Smith)

**Sun. Sept 28<sup>th</sup>** Members of the GFG joined members of the public for an afternoon foray at Haddo House. A quick trip around the lawns to talk about the waxcaps that can sometimes (!) be seen there and then on into the country park where some of the small plantations were producing good quantities of *Armillaria gallica* (Bulbous Honey Fungus). The enormous beech stumps had spectacular displays of wood decomposing fungi including *Meripilus giganteus* (Giant Polypore) and there was plenty to keep everybody entertained.

**Mon Sept 29<sup>th</sup> – Fri Oct 3<sup>rd</sup>** Five different primary schools from the NE of Scotland attended the interactive day ‘The Good, The Bad and The Fungi’ developed by the Ranger Services and members of the GFG.

**Sat. Oct 4<sup>th</sup> ‘Autumn Bounty’ Weekend at Drum Castle.** In the morning Marysia and Rosemary lead a joint foray with the Scottish Wildlife Trust but it was very cold and still very dry underfoot so not many species were found. The biggest was a very large, old *Fistulina hepatica* (Beefsteak Fungus). It seems that this year there are whole genera not bothering to fruit. (Report by Rosemary Smith)

**Sat Oct 4<sup>th</sup>** The GFG were invited back to put up their display boards at the ‘Autumn Bounty’ weekend. Thanks to Rosemary Smith for talking to the public at this event.

**Sun Oct 12<sup>th</sup>** The last organised foray of the season was to Cotton Hill woods in the morning and Crannach Hill, Cullen in the afternoon. These sites produced a fair number of fungi for this dry year but still far less than in previous years. The scurfy cap of *Inocybe hystrix* (Scaly Fibrecap) was a good find and *Amanita rubescens* var. *annulo-sulphurea* is the norm there rather than the Blusher with its white ring. This wood is beside Norman’s house where he had a good crop of *Russula chlorides* (Blue Band Brittlegill) growing on his lawn. Crannoch Hill was drier but we found a few interesting species, another *I. hystrix*, *Cantharellus cibarius* var. *pallens* and *Tremella foliacea* (Leafy Brain). (Report by Rosemary Smith).

**Sat Nov 1<sup>st</sup> AGM and Slide Show.** Twelve members were present and six apologies sent. Denis Bain presented the accounts and reported that there were 33 paid up members at the time of the AGM. This number of subscriptions enables the group to cover its main costs of printing and posting

the newsletter and also maintaining its insurance premium. It was agreed to hold the subscription at £3.00 although this will be reviewed next year as finances have been tight following the purchase of two books and three second-hand microscopes for the group. A full list of the group's assets is given on the back page and members are encouraged to make use of them whenever possible.

Liz Holden then reported on the various forays and surveys in which members had been involved. The detail of this report is reproduced in this and the following sections of the newsletter.

Norman Defoe proposed that the standing officers be re-elected and, as the officers were happy to continue, the proposal was agreed.

Foray venues were discussed and it was agreed not to attend the Drum weekend display as there were not enough people who felt able to stay with the boards.

Following a tea break, members contributed some of their photographs. Many thanks to Mary Bain, Liz Holden and John Ingle for sharing their photographs.

A full set of minutes is available on request.

Thanks are once again due to Geoff Hadley who organised the venue and to Mary and Denis who provided tea.

## Survey Reports 2003

### **GFG Survey of Kincardine District Plantations for the Forestry Authority**

This is an ongoing informal survey that is generating species lists and highlighting, for the Kincardine District, unusual finds and sites with a good diversity of species. In September 2003 I visited Inver Wood to try and establish the extent of the *Bankera violascens* (Spruce Tooth) colony / ies. The foresters needed advice, as they were keen to progress the restructuring of the forest to try and reduce the number of exotic trees present; they were also anxious not to damage the site for the *Bankera*. This species might be considered an alien as it is thought to be a mycorrhizal associate of the spruce, itself an alien species. It is not clear whether the fungus arrived with the seedling spruce or whether it has subsequently colonised the trees from wind blown spore source. The fungus is however considered to be rare in a European context and is worthy of conservation concern.

The *Cortinarius violaceus* did not fruit there this year.

### **Monitoring Biodiversity Action Plan Species (BAPS)**

Very little to report about BAP species in that very few of them fruited this year. Inverey wood produced one small *Hydnellum caeruleum* (Blue Tooth) in August and two small *Hydnellum ferrugineum* (Mealy Tooth) in Sept but nothing else. The survey of waxcap lawns was cancelled as there

were no waxcaps worth recording. A reminder of how important it is not to rely on one year of survey work only – a dry year such as 2003 (and in Scotland it was dry rather than hot) will suppress fungal fruiting almost completely.

The one fungus that was stimulated to produce more fruiting bodies was the *Tulostoma niveum* (White Stalkball). As mentioned in the editorial it produced nearly three times as many this year as in 2002. It will be fascinating to see what the next few years bring as most of the extra fruit bodies were in the known core area of fruiting. I am trying to establish whether the colony is expanding or contracting but

### **Waxcaps in Northern Ireland**

2003 was the second year of the above survey of waxcap grasslands in Northern Ireland and found me looking at sites along the north Antrim coast. Rachel King came over for a week and helped with the survey – next year will be the last chance so if anybody else fancies helping out let me know. Antrim is a fascinating area of white chalk topped off with a thick layer of basalt and producing an interesting mix of acidic and base rich soils. Two sites were outstanding – one on a heavily grazed chalk grassland and the other in a forgotten corner of streamside grassland beneath the dam of a large reservoir. The first site was just covered in waxcaps and produced *Hygrocybe calyptriformis* (Pink Waxcap) and acres of *H. laeta* (Heath Waxcap); the second site proved to be the second known site for *H. ovina* (Blushing Waxcap) in Northern Ireland. Even more exciting was Rachel saying 'Oh, by the way I also found this funny thing that looks like a very peculiar *Cystoderma*...' and getting a fright when I leapt up and down demanding to be shown! Sure enough she had found the rarely recorded (new to Northern Ireland?) *Squamantia paradoxa* (Powdercap Strangler). This is a strange fungus that parasitizes *Cystoderma amianthinum* (Earthy Powdercap), replacing the normal brown cap with a grey one all of its own. This is why it looks vaguely like a *Cystoderma* – I described my only collection as looking like a 'frosted *Cystoderma*'. Many thanks for this one Rachel!

*Liz Holden*

## British Mycological Society

### News

### **British Mycological Society Recording Network (BMSRN) News**

As mentioned in the last newsletter, I took on the role of national co-ordinator of the above network at the beginning of 2003. This has presented me with a steep learning curve and an intimate knowledge of the different ways of getting to London by public transport for various meetings!

There will be a group leaders meeting at Keele in June 2004; this should be an interesting meeting as there is much to discuss and catch up on.

## **BMS Spring Foray May 17<sup>th</sup> – 24<sup>th</sup> 2003**

The BMS organises a number of forays and workshops every year including residential events - a Spring Foray, an Autumn Foray, an Upland Foray and an Overseas Foray. These forays are open to anybody with an interest in mycology; they provide a wonderful opportunity to visit interesting mycological sites in other parts of the country (and beyond for the overseas foray!) and learn from the range of experience that manifests itself at these meetings.

The 2003 spring foray was based quite close to home at Kindrogan Field Centre and Rosemary and myself were asked to do the groundwork for it. Many of the sites in Perthshire are known to us from attending Alan Outen's excellent courses at Kindrogan but running a foray meant looking at them from a different perspective – how many cars could safely park at the entrance and how exactly do they get there – is the foot access adequate – where are the nearest loos etc. etc. This provided an excellent excuse to spend time exploring some of the delights of Perthshire. Sites such as the Birks of Aberfeldy, Black Wood of Rannoch, Ballinluig, Struan Wood and Killiecrankie were all on the programme. We were however, despairing of the dry weather as far back as February and March – it's no wonder that the waxcaps refused to fruit later on!

With the sites sussed and the room allocations sorted, Rosemary and I arrived at Kindrogan on the 17<sup>th</sup> and helped to set up the lab so that everybody would have microscope space. Derek Schafer, the BMS foray secretary, brings along the relevant sections of the BMS library so there are all sorts of wonderful texts available. Despite our concerns about the dryness, Perthshire and Upper Deeside gave us a wonderful week with a resupinate (*Tubulicrinis propinquus*) new to Britain and fourth British site for *Cytidia salicina* (Scarlet Splash) (see photo page). Lovely material of *Cudoniella clavisa* var. *grandis* (see photo page) and *Helvela* (= *Paxina*) *acetabulum* (Vinegar Cup) were memorable for me, amongst many other collections.

The only disappointment was there being no significant snow lie so that it was not worth climbing up to the snow patches for the snowline myxomycetes (slime moulds). These extraordinary organisms (not strictly fungi but that's another story), that are a speciality of the Cairngorm massif, need at least three months of snow cover to become established.

It is worth noting that the autumn foray in 2005 will be based on Speyside – this would be a wonderful opportunity for group members to meet other field mycologists from around the country. Day visitors are always welcome at these events but I really would recommend staying over – I will be!

## **Benefactor's Medal**

I am delighted to report that Stephen Ward, who retired from his post as Lower Plants Officer with SNH in October, received the above medal at the BMS AGM in recognition of the tremendous effort that he put into fungal conservation in Scotland. We would like to wish Stephen all the best in this new stage of his life and hope to catch up with him on one of the workshops. We would also like to welcome his successor when they start in the New Year.

*Liz Holden*

## **Contributions from GFG Members and Friends**

**Editor's note.** This year there has been a bumper crop of interesting articles. Many thanks to those who have contributed – please keep up the good work

## **Hidden Fungi – Who, Where and When?**

Many of the basidiomycete fungal fruiting bodies we collect on our forays form intimate, mutualistic associations (ectomycorrhizas) with roots of the trees under which they grow. These fungi play an important ecological role by providing nutrients for their host trees, which they obtain by breaking down organic matter in the soil. In return, the fungi are provided with a supply of carbon, for their own growth, from the tree. As much as 20 % of the carbon a tree obtains through photosynthesis from the atmosphere can be transferred to its ectomycorrhizal fungi – clear evidence for their importance to the tree! Although not as easy to see as fruiting bodies, if you look for instance under decomposing logs or mats of moss, you will often see stunted ectomycorrhizal root-tips, which are usually highly branched and often obviously sheathed in woolly hyphae. Have a look at [www.abdn.ac.uk/~soi452/ectomycorrhiza.jpg](http://www.abdn.ac.uk/~soi452/ectomycorrhiza.jpg) for an example. Some of the more common ectomycorrhizal fungal genera in our woods include *Amanita*, *Suillus*, *Cortinarius*, *Russula* and *Boletus*, and 5000-6000 species of fungi are thought to be ectomycorrhizal worldwide. There are often surprisingly large numbers of ectomycorrhizal fungal species within even small areas of woodland - as can be seen from our GFG forays!

The question, 'Why are there so many different species of ectomycorrhizal fungi?' has fascinated ecologists for a number of years. Many believe it is because each species has a slightly different strategy, or specialisation, to survive in an ecosystem. For example, some species specialise on pine and others on beech; some may specialise at obtaining nutrients from fresh leaf litter while others obtain their nutrients better from well decomposed

litter; some may form ectomycorrhizas mainly with young trees, while others only associate with mature trees. Some fungi may invest large amounts of energy into the production of exploratory hyphae that cover large areas of the forest floor in search of fresh nutrient sources. Others may remain close to their host roots and find fewer new sources of nutrients, but minimise the risk of being cut off from their precious supply of plant derived carbon. Some species may also avoid competition with other fungi by growing at different times of the year or by growing at different depths in the soil profile. The list goes on...

So how do we go about measuring spatial and temporal patterns in the distribution of ectomycorrhizal fungi in our woods? With some practice (!) we can identify ectomycorrhizal fungal fruiting bodies and plot their occurrence throughout the year. However, these fruiting bodies are like apples on a tree, and like apples, their absence does not mean the tree no longer exists! Some fungi may only produce fruiting bodies every few years when the conditions are right – this does not mean the fungus is not present in between these fruiting events. Others, such as members of the Thelephoraceae or Corticeaceae, produce cryptic resupinate fruit bodies which are easily missed unless you are an expert and are looking for them! Likewise, only small sections of the below-ground fungal network may produce fruiting bodies at any one time. Fruiting bodies are obviously not reliable measures of fungal distribution. With detailed descriptions of ectomycorrhizal root-tips (and a lot of patience!) it is possible to identify the fungi that form different types of root-tip. However, here again there are problems because we don't know how much the fungus grows away from the ectomycorrhizal root into the surrounding soil or how the seasons (and hence growth of the host tree) alter the number of ectomycorrhizal root-tips in relation to the fungal hyphae in the soil.

I've been working on mycorrhizas at Aberdeen University for the past seven years, and have just started an exciting new project (with Prof. Ian Alexander at Aberdeen University and Dr Ian Anderson at The Macaulay Institute) to investigate patterns of ectomycorrhizal fungus distribution in pine-forest soil (Culbin Forest soil to be precise). In order to overcome the problems of measuring the actual distribution of fungi in the soil, we will use recently developed molecular techniques to identify and quantify fungi as hyphae in the soil. To do this, we will compare genetic signatures of fruiting bodies and ectomycorrhizal root-tips found in Culbin Forest with the fungal genes we extract from small quantities of the forest soil. This will allow us to look at the *real* distribution of fungi throughout the year and across a relatively wide area... so we really will be able to find out who occurs where and when!

Another interesting application of the methods we will develop during this project is the ability to find out how rare the rare fungi really are. Perhaps some of the fungi we consider to be rare because we don't find their fruiting bodies very often, are in fact

widely distributed but hidden underground? We'll keep you posted! If you'd like any more information about what we're doing, you're welcome to contact me at [d.r.genney@abdn.ac.uk](mailto:d.r.genney@abdn.ac.uk) or at School of Biological Sciences, Cruickshank Building, University of Aberdeen, St. Machar Drive, Aberdeen, AB24 3UD.

*Dave Genney*

11/12/03, Aberdeen

### ***On first straying from the path ...***

... or maybe 'a babe in the wood'? As a beginner who is just about learning to keep his balance while stumbling around in the Kingdom of the Fungi, I thought this might be a good time to record some of my early impressions and experiences before the 'newness' wears off. I also thought it might serve as a way of saying 'thank you' to some of those who have stopped me from falling over along the way.

I suppose I would have to admit to coming to mycology rather late in life. Well, as I'm well into my 60s and sometimes feel a bit middle-aged, that's late enough. It isn't that I was not aware of mushrooms (sorry, fungi); as a fairly keen walker over hills and dales and through the woods, I had seen plenty of them and knew there were quite a few different kinds – certainly more than a dozen, maybe as many as twenty. But it was only when I started seeing the regular adverts for 'fungus foray' in the 'what's on' section of the local press that my interest was aroused to the point of deciding to find out what it was all about. Besides, it seemed like a pleasant way to spend an hour or two strolling through the woods on a balmy autumn afternoon.

So it was that in September of last year (2002) my wife and I joined up with a Forest Ranger on a Sunday afternoon in a wood near Banchory. Two other people turned up as well. We spent the next couple of hours wandering round the wood and must have covered a good three or four hundred yards. I have since come to realise that, in mycological terms, that is roughly the equivalent of a half-marathon. The fungi were not particularly thick upon the ground (or the trees) that day but it was a very enjoyable outing and I was definitely hooked. The Ranger told me "If you want to take it further, you really should talk to Liz Holden". "Who is Liz Holden?" "She runs the Grampian Fungus Group". That sounded pretty heavy but, well, I'll talk to anybody.

I phoned Liz and she very kindly invited me (and my sister-in-law, Ann) to join the GFG members in a foray in Glen Tanar a few days later. That day was something of a revelation for me. With no fewer than eighty recorded species, it quite literally opened my eyes to what I had really been missing in my wanderings. An added bonus was in meeting the members of the group – without exception very friendly and helpful and, surprisingly, quite normal (to all outward appearances, at least). It is always a pleasure to meet people who are knowledgeable and

enthusiastic about their interests and who are so ready to share that with complete strangers who know nothing! Liz, of course, provides a running commentary on every discovery and is very prone to saying “here, taste that”, proffering a piece of some discoloured, decomposing fungal growth. “Smell the almonds? Flour? Isn’t that hot and acrid?” No, thanks. Actually, most of them smell quite mushroomy to me; I suppose it’s like good wines, you have to develop a nose for them. Liz’s enthusiasm is boundless ... and infectious. “Isn’t that lovely?” is her oft-repeated refrain – and she’s always right (though sometimes, when she’s pointing to a twig with some black gunge on it, I wonder what she had instead of dolls as a child).

Anyway, on the basis of that day’s experience, Ann and I became paid-up members of the GFG. A couple of weeks later we went on the final foray of the season to Castle Fraser. It rained. All the time. Soaked to the skin, we had a great afternoon. But who cancelled the ‘balmy autumn’ bit? I think the GFG should adopt “the wetter the better” as its motto.

The AGM in November, held on Aberdeen University premises, was an opportunity to meet other members of the Group as well as to extend my limited knowledge. Huddled in a blacked-out room with Hedda, I learned about bioluminescence. Thank you, Hedda. (I told you I was middle-aged). Earlier this year, in June, we had a microscope workshop, also at Aberdeen University. Never having had the opportunity or occasion to use a microscope, this was an introduction to yet another ‘whole new world’ for me. It was absolutely fascinating and, judging by the cries of “that’s amazing” or “yuck, it’s moving”, I wasn’t the only newcomer to microscopy. Since then, I have been fortunate enough to obtain a microscope of my own and am just beginning to take my first steps in developing this new outlook on life (maybe that should be inlook).

So a new autumn season of forays has begun and I have been back out ‘in the field’. I find it vaguely amusing that I have already come to accept as ‘normal behaviour’ the sight of a bunch of adult people crouched around a muddy patch of ground, poking around with twigs and uttering expressions of glee or surprise at what is turned up – like some primeval gathering to worship Mother Earth ... or maybe like a bunch of overgrown kids, secure in the knowledge that no-one can tell them off for messing around in the mud. Or the muffled cries of group members, dispersed around the wood: “wow, look what I’ve got!”, “show me, show me”. Is this why forays are generally held in places which are out of sight and earshot of the general public? (Remember what I said about ‘outward appearances’?).

I suppose I can’t really close these few comments on my encounter with the world of mycology without a reference to what is generally accepted as one of the major hurdles for the newcomer: nomenclature. It’s all in Latin. “So? You use Latin

all the time, don’t you? You don’t have any trouble with your garden flowers ... *Begonia? Petunia? Leucantheropsis pectinata?*” Yeah, right. And you don’t have to worry about pronunciation because all the ancient Romans are dead so nobody can point and laugh at you. I have no problem with any of that. But there’s one little niggling concern ... maybe I have a soft spot for *inocybe* because it was my first identification using a KEY! Accepted pronunciation has relegated poor innocent, innocuous, inoffensive *ino-* from the *cybe*-league and I feel it should be reinstated – you can just hear it clamouring ‘I’m a cybe, I’m a cybe’ (it’s a dead giveaway). Anyway, my mate, Caius Boletus Maximus, says that’s what it should be. And he should know.

So, I have completed my first annual cycle on the threshold of the fungal kingdom. I don’t know if I will ever be a ‘mycologist’; but I do know that I have been introduced to an amazing new world of knowledge with the help and tolerance of some pretty nice people. They’re not all weirdos.

*Bill Burns, September 2003*



### **And another thing ...**

This is by way of being a sort of PS to the above ramblings ... sorry, that should be *postscriptum* – I still forget at times that you guys speak Latin. It has only been a few short weeks since I first put finger to keyboard and already the autumn forays are past and another AGM come and gone.

I was able to join the Group on several outings this year and thoroughly enjoyed all of them. I have learned lots of new smells this time round, like aniseed and chloride and radishes and emulsion paint – that’s right, emulsion. No doubt a delicate shade of mushroom. It seems to be odour of the season this year. I reckon ‘emulsion paint’ is the mycological equivalent of the wine-taster’s ‘sweaty saddle’ (yes, I’ve often wondered about that, too).

And the things you hear. ‘Look, bums in the air, that means they’ve found something’. Well, I hope that’s what it means. Or ‘It’s amazing what you find down here’. This is usually muffled and accompanied by much fumbling and scraping. Not all of the burrows in soft earth are made by rabbits.

In spite of the long, hot summer playing havoc with fruiting, there have still been many (for me) memorable discoveries. Culbin Forest, especially, was quite literally another revelation. I have never seen so many fungi; we didn't have to look for them, they simply lined the footpath on both sides, almost throwing themselves at us. I felt like a kid in a toyshop. I can understand now why Culbin is such a favourite foraging ground – as Denis said, 'you should see it in a 'good' year, they're hanging from the trees then'. (I think that's what he said).

The magic of mushrooms has certainly taken hold. And I'm not talking about *Psilocybe semilanceata* ... talking of which, I have it on good authority that if you pop one of those into a cup of tea, it gives it a pleasant spicy flavour. How do people find out things like that? It's surprising how quickly you get into the way of using Latin names; I have already reached the point of asking 'what's that?' 'Oh, that's honey fungus'. 'No, what's its *real* name?'. But it will be a long time before I get rid of my LL plates (i.e. ... oops!, *id est*, Learning Latin) and I don't suppose I'll ever be able to write whole articles in Latin like Liz does. But at least I don't have to flick through the pages so quickly any more.

So I can't claim to be an absolute beginner any more, but still a novice, and as familiarity grows there is an increasing sense of 'lost innocence' as I find my way around the Fungi Kingdom. Funny how we always look back on lost innocence with a feeling of nostalgia ... but seldom with regret! As Herrick put it 'Gather ye fungi while ye may ...' or words to that effect.

*Bill Burns, November 2003*

### ***Suillus (Boletinus) cavipes***

On 14<sup>th</sup> September, I joined the Moray Coast Ranger and about 9 members of the public for a foray at Quarrel Wood, Elgin. This is lovely woodland with areas of beech and other hardwoods and blocks of pine and larch. At the top of the hill there is the remains of a henge from Neolithic times and a viewpoint with fantastic views over the Moray Firth. It had obviously been a little damper where we forayed and we found over 30 species but mostly common ones except for one amazing find. Beside the track flanked by larch on the right and pine on the left I suddenly became aware of huge numbers of fungi looking like a brown furry carpet, mostly on the larch side and realised that it was the uncommon *Boletinus cavipes*, a smallish bolete with a very scurfy cap and bright yellow pores (see photo page). One lady offered to count them a couple of days later and came up with the staggering total of 1,210, mostly with dark brown caps but also a few var. *aurea* with yellow caps.

This species has rarely been recorded in Britain and I can only find two other Scottish records, from Torridon and Achnashellach and three sites in England – Northumberland, Kent and Somerset. It grows with larch plantations either European or

Japanese but it is not known whether it arrived with the seedlings or by airborne spores. It is so distinctive with its woolly looking cap that it cannot be mistaken for anything else. The large angular pores are bright yellow, the upper stipe yellowish with a white ring and the lower stipe red-brown. In 2002 I found four fruitbodies beside the henge half a mile away – so this is a second site for this woodland. Prof. Roy Watling was up north at the time and was able to visit the site to his delight as he had never seen them in Britain before.

*Rosemary Smith*

### **Recommended English Names for Fungi**

*The text below is based on an article that I wrote for the Dec. 2003 issue of British Wildlife. Liz*

Many people must give up after their first encounter with fungi thinking 'I could never get to grips with fungi – the names are so difficult'. In fact it may not be as bad as they think (after all, everybody copes with *Tyrannosaurus* and *Chrysanthemum*) but the initial overload means that they never give it a chance. With this in mind, a partnership of interested organisations (British Mycological Society, English Nature, Plantlife and Scottish Natural Heritage) have put together a project to produce a list of recommended English names for 1000 fungi including most of the commonly recorded and easy to recognise species, as well as those of conservation concern.

Despite the lack of vernacular 'folk' names, there has long been a tradition of trying to create English names to ease this much-neglected group of organisms into the collective consciousness. Even in the 18<sup>th</sup> century, authors of books on fungi gave English names for many of the species included, for example Bolton's 'Fungusses of Halifax' written in 1788. In 1964, E.C. Large, then President of the British Mycological Society, proposed a list of 200 English names for some of the common and easy to recognise species. Some of these names have since been adopted by popular field guides but other authors have created many new names in recent years, contributing to a situation that is confusing rather than helpful.

Working to an agreed set of guidelines, I produced a draft list of names. The guidelines suggest that in most cases, two names offer enough flexibility to describe the fungus without becoming unwieldy. Thus the first part of the name will usually be an adjective (roughly equivalent to a species name) whilst the second part of the name will be a noun (roughly equivalent to a genus or group name). Some of the genera that have characteristic macroscopic features have been given a name of their own, for example Milkcaps for the genus *Lactarius*. Other genera have been lumped together based on a shared macro character that can give distantly related fungi the same 'group name'; 'Bracket' thus includes a range of shelf-like wood

decomposing genera. The specific names have been inspired by the characters of the fungi themselves including colour, texture, smell, traditional use, folklore, habitat and a little bit of imagination! Blushing Waxcap, Fragrant Funnel, White Knight, Tinder Bracket and King Alfred's Cakes are but a few of the listed names.

Latin names are of vital importance for the study of fungi, classifying like with like and presenting evolutionary relationships as far as our current understanding permits, but many people come across these organisms through a more general interest in natural history or as a part of their work. For these people an introductory English 'handle' could be a godsend and it is hoped that they will prove a valuable tool in raising the public profile of fungi. The English names are not an attempt to duplicate the scientific names and will not offer any kind of short cut to learning the Latin!

Once the final list is agreed, it is intended to be made available to all those with an interest in promoting fungi as well as the conservation organisations who wish to include fungi into their land management plans.

*Liz Holden*



### ***Amanita muscaria's magical ways***

[ The following article is an extract from *Magical Mushrooms, Mischievous Molds* by George W. Hudler, published by Princeton University Press. It is reproduced by kind permission of Professor Hudler].

One of those [hallucinogenic mushrooms] with a rich and colourful history was the fly agaric, *Amanita muscaria* .....

The hallucinogenic properties of this mushroom were first brought to the attention of the Western world in the mid-eighteenth century. It was then that a Swedish traveller, Philip Johann von

Strahlenberg, wrote about his journeys in Russia and Siberia. From his pages, we learned for the first time of the Korjak tribesmen of Kamchatka and how they consumed the fly agaric for its intoxicating effect. He wrote:

Those who are rich among them lay up large provisions of these mushrooms for the winter. When they make a feast, they pour water upon some of these mushrooms and boil them. They then drink the liquor, which intoxicates them. The poorer sort, who cannot afford to lay in a store of these mushrooms, post themselves on these occasions round the huts of the rich and [wait for] an opportunity when the guests come down to make water. Then, they hold a wooden bowl to receive the urine, which they drink off greedily.

Even reindeer were reported to be attracted to the fungus or to the urine that smelled of it. On more than one occasion, a person intoxicated with *A. muscaria* would step outside and be trampled to death by reindeer trying to get at his urine.

The sensation induced by eating *A. muscaria* is apparently quite different from that of the magical *Psilocybe*. Wasson\* reported the experience of one user this way: "On eating the mushrooms, a period of exaltation ensues in which the chewers of the raw mushrooms shout and rage. Then, they engage in feats of prodigious physical exertion and experience illusions of radical changes in all dimensions, of miraculous mobility attributed to witches and werewolves". And another:

The usual way to consume Fly Agarics is to dry them and then swallow them at one gulp, rolled up into a ball, without chewing them. Chewing Fly Agarics is considered harmful, since it is said to cause digestive disturbances. The narcotic effect begins to manifest itself about half an hour after eating, in a pulling and jerking of the muscles. This is gradually followed by a sense of things swimming before the eyes, dizziness and sleep. During this time, people who have eaten a large quantity of mushrooms often suffer an attack of vomiting. The rolled up mushrooms previously swallowed whole are then vomited out in a swollen, large, gelatinous form. Even though not a single mushroom remains in the stomach, the drunkenness and stupor nevertheless continue, and all the symptoms of Fly Agaric eating are, in fact, intensified. The nerves are highly stimulated, and in this state, the slightest effort of will produces very powerful effects. Erroneous impressions of size and distance are common occurrences. A straw lying in the road becomes a formidable obstacle and affected people will make a jump like

that needed to clear a barrel just to get past the straw.

Obviously this mushroom has some powerful effects.

But why is *A. muscaria* called the fly agaric? Ostensibly, it is because flies that feed on the mushroom die soon afterwards. And, indeed, some people in Eastern Europe and in the Orient set out dishes with liquid extracts of the fly agaric on their windowsills in the hope of keeping their housefly population in check. Perhaps the fungus does have some insecticidal properties, but if it does they are most certainly limited, for it is not at all unusual to find specimens in the forest that have been riddled by insect larvae and fed upon by other invertebrates – especially slugs. Moreover, on several occasions I have left an *A. muscaria* mushroom on a table top or lab bench for several days only to return to a well-eaten mass of mycelium and a thriving population of maggots that didn't appear to have been poisoned by the fungus in the least.

Wasson offers another explanation for the name. People who have eaten the mushroom exhibit behaviours similar to those of a person or animal going crazy from an incessant swarming of mosquitoes or other insects. Such insect-induced insanity was apparently common among the people and animals in the tundra of Europe. Uncontrollable convulsions, violent jerking of the limbs, and a sensation of one's body being overrun by insects were also symptoms of *A. muscaria* intoxication. Visitors to New York's Adirondack Mountains during black-fly season or to Minnesota's canoe country on a calm, mosquitoey summer night [[*or the West Highlands of Scotland?*]] can well appreciate the feeling. Furthermore, people of the seventeenth and eighteenth centuries still believed that mental problems were caused by animals trapped in one's head; thus the phrases "a bee in her bonnet", "a bug in your ear", "bats in the belfry" to indicate some abnormal brain activity. *A. muscaria* intoxication would most assuredly evoke similar commentary. Explanations along these lines that link the mushroom to flies seem to make at least as much sense as its purported insecticidal properties.

*A. muscaria* has another special place in cultural history. Wasson and several others believe the mushroom to be Soma, a mysterious life force worshipped since the beginnings of ancient Hindu culture and a factor in the genesis of modern-day religions. Soma was the sole subject in 120 hymns (in a collection of 1000) known as the *Rigveda* and is often mentioned in others. While the Soma has not been specifically identified, it was said to have one foot and a red and white head and is passed from one person to another through urine. These descriptions, among others, are evidence pointing to *A. muscaria*, according to Wasson.

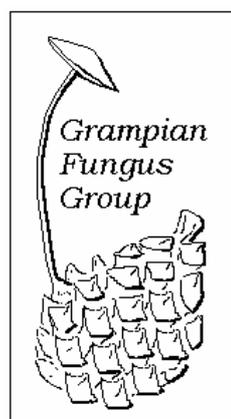
..... If humans did indeed migrate from Siberia (the part of the world with the best-documented use of *A. muscaria*) across the Bering Strait to North

America, then it is logical that mushrooms, light in weight but heavy in spiritual value, would be carried along on the trip. And some trip it must have been!

Today, human use of *Amanita muscaria* for religious purposes, even among cultures still deemed 'primitive', seems to have diminished to almost nothing. Recreational use, at least in the civilised world, is equally unpopular. That's probably just as well, because the few reliable contemporary accounts of *A. muscaria* intoxication describe a most unpleasant journey. While one does apparently experience unusual visions and the senses do reach new limits, most of one's trip is spent being nauseated, in a drunken stupor, or unconscious, and one is always faced with the threat of attack by horrifying creatures. No wonder that those trying to keep drugs out of our veins and minds have not bothered with the issue of the fly agaric: its poison far outweighs any imagined short-term benefits.

\* Gordon Wasson, a New Yorker, and his Russian wife, Valentina, spent most of their lives travelling the world to study the interrelationships between human cultures and mushrooms, founding what they considered to be a new branch of mycology, 'ethnomycology'.

[I recommend Professor Hudler's book to members of the Group. Although it is essentially an academic work, the scientific information is nicely counter-balanced with fungal folklore and other anecdotal accounts, with light touches of humour throughout – Bill Burns].



## Useful Fungal Information

The information given below is not exhaustive. If you know of any other relevant contacts, please let Liz know.

### **Books and Other Publications**

There is a wide range of material available for all levels of mycological interest - the only limit really being one's purse! Many books for beginners are available in good book stores but there are other sources that are useful to know about, especially as one progresses beyond the limits of beginners guides.

**NB For those of you who have been on the look out for the reprinting of Marcel Bon's excellent field guide 'Mushrooms and Toadstools of Britain and North-Western Europe' Collins Pocket Guide – it was advertised as 'New' in the latest Subbuteo catalogue – price £16.99.**

Paul Nichol has produced an excellent simple key to genus called '**An Initial Guide to the Identification of Mushrooms and Toadstools**'. The new, improved second edition, cost £3.00, is available direct from Paul at Strawberry Howe, 14, Horncastle Rd., Woodall Spa, Lincs. LN10 6UZ

The **BMS** have produced an excellent range of 'Guides For The Amateur Mycologist'.

The titles at present are '**Guide for the Beginner**'; '**Guide to Identification with a Microscope**'; '**Guide to Recording Fungi**'; '**Guide for the Kitchen Collector, Preservation and Cooking of Fungi**'; '**Downy Mildews, Powdery Mildews, Smuts and Rusts**'. Each costs £2.00. Individuals can order directly from Mrs. Valerie Barkham, c/o The Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AB. (There is also a set of 16 postcards of larger fungi costing £3.00 plus 50p post available from the same address).

The BMS also publish **KEYS** which is a series of papers containing a range of keys and checklists details of which are available from Liz Holden. There are now eleven issues of this publication and the cost for a full set is £17.25 plus £2.55 post. They are available from Archie McAdam, Silverdale, Raikeswood Crescent, Skipton, North Yorkshire, BD23 1ND.

Many of the more advanced books and sets of identification keys are available from Retail Postal Book Sales Department, **The Richmond Publishing Co. Ltd.**, PO Box 963, Slough SL2 3RS. It is certainly worth comparing their catalogue with those of other natural history book specialists such as Subbuteo and the Natural History Book Service.

**Association of British Fungus Groups** produces a quarterly journal containing a range of material of interest to field mycologists. The subscription is £11.00 per annum and is available from Michael Jordan, Harveys, Alston, Nr. Axminster, Devon EX13 7LG.

### **Residential Courses on Fungi**

A number of field centres run courses on various aspects of mycology: -

**Kindrogan Field Centre**, Enochdu, Blairgowrie, Perthshire PH10 7PG Tel: 01250 870150.

**The Field Studies Council**, Head Office, Preston Montford, Montford Bridge, Shrewsbury, Shropshire SY4 1HW Tel: 01743 850674. The FSC has centres located across England and Wales.

**Losehill Hall**, Peak District National Park Centre, Castleton, Hope Valley, Derbyshire, S33 8WB Tel: 01433 620373

### **Other Items of Mycological Interest**

For those who wish to take their mycology a little more seriously and tackle some of the more advanced identification keys, a microscope is essential. The following three companies are those that I know of who will send out catalogues with products suitable for our needs:

**Meiji Techno UK Ltd.** Hillside, Axbridge, Somerset, BS26 2AN Tel: 01934 733 655 E-mail: [enquiries@meijitechno.co.uk](mailto:enquiries@meijitechno.co.uk) Web Sites: [www.meijitechno.co.uk](http://www.meijitechno.co.uk) [www.microscopes.co.uk](http://www.microscopes.co.uk)

**Brunel Microscopes Ltd.** Unit 12 Enterprise Centre, Bumpers Way, Bumpers Industrial Estate, Chippenham, Wilts. SN14 6QA Tel: 01294 462655

**Optical Vision Ltd.**, Unit 2b, Woolpit Business Park, Woolpit, Bury St. Edmunds, Suffolk IP30 9RT Tel: 01359 244200

**Mycologue** - a catalogue of accessories for mushroom collectors available from 47, Spencer Rise, London NW5 1AR

**Quekett Microscopical Club** – the club magazine often has second hand microscopes for sale and accepts 'items wanted' adverts too.

### **Photographs**

The page of photographs that have appeared in this edition of the newsletter could not have been produced without the help of Mary and Denis Bain. Mary took all of the photographs apart from *Cytidia salicina*, *Entoloma corvinum* and *Cudoniella clavus var. grandis* that were taken by Liz Holden. John Ingle must take responsibility for everything else – thanks John!

## **Grampian Fungus Group – books and equipment Nov. 2003**

The following is a list of the books and other equipment that the GFG can supply / lend to its members.

The books and chemicals are stored by Liz Holden and can be obtained by ringing or emailing Liz, preferably just before a meeting or foray. Books can be posted if the recipient doesn't mind reimbursing Liz in 'stamp' form but chemicals and glass wear will have to be collected.

The microscopes are stored by Mary and Denis Bain and can either be collected by arrangement or handed over at forays or meetings.

### **Grampian Fungus Group Library**

**Nordic Macromycetes Vol. 2** (1992). A set of keys (in English) for Polyporales, Boletales, Agaricales and Russulales – not intended for beginners this is really what you need when you start identifying fungi with a microscope.

**Keys to Agarics and Boleti** (1978). A set of keys (in English) for Polyporales, Boletales, Agaricales and Russulales) – as above but a little older – still a very useful text.

**Mushrooms of Britain and Europe** (1999). A pocket sized photographic field guide by Regis Courtecuisse in the Collins Wildlife Trust Guide series, published by HarperCollins

**Waxcap-Grassland Fungi – Keys to Hygrocybe, Camarophyllopsis, Dermoloma and grassland Leptonia species in Britain** (1996) Alick Henrici – a set of photocopied keys using microscopic characters

**A key to the genera of the Agarics and Boleti (1950)** AA Pearson. Rather out of date but still a useful key to genus using microscopic characters

**Guides for the Amateur Mycologist 2. Guide to Identification with a microscope** (1994) JVR Marriott Full of useful information about working with a microscope

**Flora of British Fungi Colour Identification Chart** (1969) A colour chart, referred to in some British texts.

**The Mitchell Beazley pocket guide to Mushrooms and Toadstools** (1982) DN Pegler – a small fieldguide arranged by habitat.

**Chatto Nature Guides British and European Mushrooms and Fungi** (1977) A. Neuner – not very many species included but some very nice photographs

**Fungi of Britain and Europe** (1989) Stephan Buczacki – pocket field guide illustrated with drawings – a good range of species included

**A Colour Guide to familiar Mushrooms** (1978) M. Svrcek – a pocket field guide illustrated with nice drawings although not many species included

**Mushrooms** (1996) M. Svrcek a pocket field guide – illustrated with photographs – a much better range of species

**The new field guide to fungi** (1978) E. Soothill and A Fairhurst – reasonable amount of text and species although photographs are rather disappointing

**A handbook of Mushrooms** undated A. Pilat. Not very many species included: illustrated with drawings

**Les Champignons de France** (1946) A. Maublanc. Not very many species included: illustrated with rather nice drawings

**Fungi** (1998) P. Starosta and C Epinat A photographic essay – coffee table book

**Colour Encyclopedia of Mushrooms and Toadstools** (1979) G. Kibby – a photographic essay – coffee table book

**The Wonderful world of Mushrooms and other fungi** (1977) H. Pursey – a photographic essay – coffee table book

**I Funghi** A collection of cards – each card illustrating a species (text in Italian)

### **Grampian Fungus Group Microscopes**

1 x Wessex compound binocular microscope with built in light source and mechanical stage

3 x Watson compound monocular microscopes with built in light source and mechanical stage

### **Equipment - mostly for working with microscopes**

NB the chemicals come with health and safety information and are supplied in appropriate dispensers. There is a charge of £1.00 a bottle.

Glass microscope slides

Glass cover slips

Melzers Reagent

10% Ammonia solution

10% Potassium hydroxide solution

Congo Red in ammoniacal solution

Ferrous crystals